Islamic Perspective on Financial Derivatives: Demand for Instruments of Risk Management in Various Businesses of Pakistan

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ISLAMIC PERSPECTIVE ON FINANCIAL DERIVATIVES: DEMAND FOR INSTRUMENTS OF RISK MANAGEMENT IN VARIOUS BUSINESSES OF PAKISTAN

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A dissertation submitted in fulfilment of the requirements for the degree of Doctor of Philosophy at the School of Government and International Affairs
Durham University, UK

December 2012

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Abstract

This study was undertaken with the aim of exploring the legitimacy or otherwise of financial derivatives according to the Islamic commercial law, and ascertaining the demand for instruments of risk management in various business and economic sectors of Pakistan. The study drew the conclusion that forward contracts and futures contracts are allowed to benefit from. However, only hedgers can take advantage of them. These instruments can never be used for purely speculative purposes where making or taking delivery is not intended. Although it is not necessary to pay the complete price to the seller at the time of the contract yet some other precautionary measures such as a bank guarantee or a fair amount of money to be given to the seller should be taken to ensure that pure speculation is scrupulously forestalled and the delivery would certainly be made. If a large amount of money is given to the seller at the time of the contract the proscription of *bai al-kali bil-kali* would no longer be applicable because *bai al-kali bil-kali* comes about where the settlement by both parties is deferred to a future date, but that is not the case here. This amount of money would later on be adjusted to the total price. Options trading is also permissible because it is simply an extension of the fundamental concept of freedom and legitimacy given by the *Shari'ah* in relation to commercial transactions. However, those types of financial derivatives which involve *riba* such as interest-rate futures, interest-rate options, interest-rate swaps and swaptions are ruled out altogether and can never be taken advantage of. Similarly, those derivatives which proceed on gambling, inordinate uncertainty, alcohol, pork and other inadmissible commodities are precluded into the bargain.

To carry out the empirical part of the research, 600 questionnaires were randomly given out to the organizations operating in two commercial and industrial cities of Pakistan, namely Lahore and Faisalabad. The goal of the survey was to ascertain the demand for instruments of risk management in various business and economic sectors. The research findings indicated that there is demand for collateral, futures contracts, guarantee, and *hatt wa ta'ajjal* for credit risk management. As regards market risk management, *arbun* sale, *bai al-salam*, forward contracts, futures contracts, *istijrar*, *istisna*, and *khiyar al-shart* are in demand. In relation to currency risk management, foreign currency forwards, foreign currency futures, and foreign currency options are in demand. To mitigate interest-rate risk, forward rate agreements, interest-rate futures, and interest-rate options are in demand. The research findings further represented that a large number of the respondents want to use these instruments, if available, for hedging purposes.

The researcher learnt while administering the questionnaires that the respondents who do not want to utilize the instruments or techniques of risk management are either unacquainted with their structure or, quite often, not aware of their adequate and proper use. It was therefore proposed that the Islamic as well as conventional financial institutions had better provide their clientele and other business entrepreneurs with the required risk management counselling. Another issue is germane to the Islamic legal implications of foreign currency options, forward rate agreements and interest rate swaps permitted by the State Bank of Pakistan. The illicit features of these instruments *ipso facto* make them impracticable for those people who are desirous of using only *Shari'ah*-compliant instruments. It was thus suggested that the State Bank of Pakistan should also introduce other *Shari'ah*-compliant instruments, that is to say *istisna, salam, bai al-arbun, istijrar,* forward contracts, futures contracts, options and Islamic swaps, and allow Islamic as well as conventional banks to employ them for risk management. It is scrupulously hoped that some, if not all, parts of this research would be of benefit to and applied by the Islamic as well as conventional financial institutions in Pakistan and elsewhere.

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Declaration

I hereby declare that no portion of the work that appears in this study has been used in support of an application for another degree in this or any other university or institution of learning

Acknowledgements

Words cannot express my unassuming gratitude to Almighty Allah for His countless and unremitting Blessings on me. He bestowed aplomb, fervour and zeal on me to do this research. Sans His Help and Protection, it would not have been possible to accomplish this study.

I am deeply indebted to my supervisor, Professor Habib Ahmed, for his invaluable advices and suggestions during the process of this research. He gave me his precious time, assisted me a lot in the theoretical and empirical parts of the research, and above all magnanimously encouraged me to accomplish the aim of this study. It has, indubitably, been a great honour for me to carry out the research under his supervision.

I owe a debt of gratitude to my generous and righteous parents, Mr and Mrs Ehsan Ilahi, for their devout efforts and wishes for my success. Their heartfelt supplications have unquestionably been an enormous asset to and mainstay of my life. I humbly dedicate this study and all my erstwhile achievements to my affectionate mum and dad. I am much obliged to my brothers, Mr Arif Ehsan Malik and Mr Mubashir Ehsan, for giving me financial assistance throughout my research. They also helped me to administer the questionnaires. My warmest thanks are due to my sisters, kins, and pals as well for their moral support.

Last but not least, I am awfully grateful to my *fidus Achates*, soulmate and wife, Amna Rahat, for her incessant succour in the entire research process. She unflaggingly lent me a helping hand, eagerly egged me on, and gave me plenty of time to carry out the research work. I am also beholden to my little crony and son, Hadi Bi-Amrillah, for bringing enraptured and propitious moments for me whilst this research.

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June 2012

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Chapter 1

Introduction

1.1. Introduction

Gupta (2006) notes that the demand for various financial instruments has considerably increased. In financial markets, individuals and organizations deal in financial assets such as shares, bonds, foreign currencies, loans and so on. The prices of these financial assets often vary or fluctuate on account of drastic changes in market conditions. These fluctuations create uncertainty in financial markets regarding the future price of these assets, and expose the dealers to a great extent of diverse risks (Kevin 2007, p. 232). In order to hedge against such risks, new financial instruments have been developed in financial markets which are widely known as financial derivatives.

Al-Amine (2005) states that the significance of financial derivatives as tools of risk management is taken for granted in the modern financial system. New instruments such as futures contracts and options are regarded as very effective in minimizing risk. Counterparty risk is mitigated to the extent of almost non-existence (Gurusamy 2004, p. 568). Liquidity is added to the market through standardized futures contracts. Derivatives facilitate production planning in agriculture, industry and commerce, and provide efficient marketing facilities for high volumes of trade. These contracts allow producers and commercial operators to fix the price of assets in which they trade in advance of making or taking physical delivery (Kamali 1996, p. 198). Farmers and millers are usually apprehensive of the adverse movement of prices. The conventional remedy for this problem available to the buyer was to buy the commodity at the desired price and then keep it until he needed to use it. In this case, he had to incur the transportation and storage costs, and pay for what he bought in full. If the seller wished to keep the merchandise until a future date he had to incur the storage costs as

well. In both cases, storage costs would be a part of price which would expectedly be passed on to the consumer.

Derivatives instruments provide a mechanism that seeks to iron out these problems by enabling buyers and sellers to enter the market at reasonable prices. Futures markets ensure to provide a permanent venue for traders in commercial instruments and commodities where prices are determined on the basis of genuine market forces of demand and supply. In the absence of this facility, potential buyers and sellers would be unable to find an appropriate outlet for their needs. Contracts are concluded by qualified brokers and agents whose job is to ensure proper observance of market rules on a highly controlled and centralized basis (Kamali 1999b, p. 531). In order to guarantee the due performance of contracts in the future, clearing-house oversees the trading activities on the exchange, and takes care of the solvency of all traders (Gurusamy 2004, p. 568).

The modern application and innovation of the methodologies associated with financial derivatives have revolutionized the current global financial industry. Kleist and Mallo (2011) state that after contracting by 4% in the first half of 2010, total notional amounts outstanding of over-the-counter (OTC) derivatives rose by 3% in the second half, reaching $601 trillion by the end of December 2010. In view of the tremendous trading volume of financial derivatives, it can be said quite confidently that they have become *de rigueur* in international financial markets. However, despite their pivotal function, the use of derivatives in emerging countries in general and in the Islamic banking sector in particular has been limited due in part to the absence of legal provisions, insufficient technical frameworks, underdeveloped capital markets, and/or inadequate accounting, regulatory and disclosure standards.

This chapter is divided up into seven broad sections altogether. Section 1.2. discusses the problem statement. Section 1.3. states research aim and objectives. Section 1.4. highlights research questions and hypotheses. Section 1.5. traces the rationale for the research. Section 1.6. explains the research methods. Finally, Section 1.7. gives an overview of the entire research.

1.2. Problem Statement

Islam categorically declares trade practices permissible, and hankers after a tranquil and prosperous life for Muslims so that they can spend wholeheartedly in the way of Allah. However, Islam lays down certain rules and regulations with respect to financial matters that must be abided by. In this perspective, the debate on the permissibility or otherwise of financial derivatives in Islamic commercial law continues to invoke different opinions. Muslim scholars have generally taken the view that financial derivatives are not consistent with the *Shari'ah* on account of the following reasons:[1]

- The countervalues in forwards, futures and options are non-existent at the time of the contract. At that time, no goods are delivered and no price is paid. It is just a paper transaction which is concluded for the sole purpose of speculative profit. From the *Shari'ah* perspective, it is necessary for a valid sale that at least one, if not both, of the countervalues should be present at the time of the contract. *Salam* is a case in point wherein payment is made in advance by the buyer, and delivery of the goods is deferred by the seller to a later date. Hence either the price or the delivery of the subject-matter can be deferred to a future date but it is impermissible to postpone both of them.
- Financial derivatives consist of short selling in which the seller neither owns nor possesses the commodity he sells, even though it is existent.[2] The purpose of any sale is, of course, to transfer ownership of the item being sold to the buyer. If the seller does not own the underlying commodity he cannot transfer its ownership.
- Derivatives fall short of meeting the requirements of taking possession of the item prior to resale. Nearly all transactions in the derivatives markets take place without physical delivery.

[1] For further details of the reservations expressed by the Muslim scholars about financial derivatives, see Kamali 2002, pp 13-14; Al-Amine 2005, pp 76-77; International *Shari'ah* Research Academy for Islamic Finance 2011, pp 600-603; Sole 2007, pp 12-13

[2] Short selling means selling commodities, securities, currencies, etc, that one does not have. See Smullen & Hand 2005, p. 375; Naughton & Naughton 2000, p. 153; Kamali 2002, p. 110

- The deferment of both countervalues to a future date turns effectively these transactions into the forbidden sale of one debt for another (*bai al-kali bil-kali*).
- Financial derivatives involve speculation that verges on gambling (*maysir*) and uncertainty (*gharar*). It is also asserted that gambling causes volatility in the prices of commodities in the cash market.

Speculation is a mental activity in which a person formulates his judgement of the future course of the market (Khan 1988, p. 101). Every business transaction necessarily contains an element of uncertainty. Probably an important reason for finalizing a deal is the difference in individual expectations over what will happen in the future, and the perception of risk. A trader who buys a certain commodity to sell in due course takes a decision on the basis of his forecasts of future prices. Of course, there is no guarantee of the realization of such expectations. It is touch-and-go in almost every business activity whether one would make a profit or incur a loss. There is nevertheless an established link between the expected yield and the risk involved in investment activities. The more the risk due to the lack of certainty, the more the expected return is. It is, however, scrupulously emphasized that these activities should involve the production or exchange of real goods and services, and be devoid of pure speculation or gambling.

Kamali (2002) accentuates that a trader who picks out to benefit from derivatives might be a genuine hedger who buys or sells a contract in order to protect himself against drastic fluctuations in the prices of various commodities. The other and most likely possibility is that the trader might be a speculator who enters the market with the sole intention of making a profit on account of price movements during the contract period. Quite realistically, it is an uphill task to distinguish between hedgers and speculators in categorical terms because to some extent, hedgers are also speculators who take a certain kind of risk, and tend to speculate on the likely changes in prices. What a hedger does is to confine, rather than eliminating, risk, and he differs in general from a speculator because the variation in his outcome is, by and large, less. Apte (2007) opines that hedging is understood to mean a transaction undertaken specifically to offset some exposure arising out of the firm's usual operations,

whereas speculation refers to the deliberate creation of a position for the express purpose of generating a profit from exchange rate fluctuations, accepting the added risk. Therefore a decision not to hedge against an exposure arising out of operations is also equivalent to speculation.

Since derivatives do not involve physical movement of commodities, and deals are concluded on the basis of a low margin deposit they remain quite open to excessive risk-taking. The presence of speculators in the market enables hedgers to hedge because speculators assume risk that the hedgers want to refrain from. When speculators enter the market, the number of ready buyers and sellers increases, and hedgers are no longer limited by the hedging needs of others. The issue of legitimacy or otherwise of derivatives instruments incorporates all these facets of trade practices, and necessitates a thorough deconstruction of the aforementioned objections.

1.3. Research Aim and Objectives

The research done by economists and scholars on derivatives trading from Islamic perspective exists in embryo. Careful and thorough analysis of these instruments is still to be carried out. Therefore the aim of this research is to explore the admissibility or otherwise of financial derivatives according to the Islamic commercial law, and to ascertain the demand for instruments of risk management in various business and economic sectors of Pakistan.

The following are the objectives of the research which need to be achieved in order to accomplish the aim.

1) *To canvass the Islamic position on the legal and jurisprudential issues of financial derivatives.*
2) *To ascertain various kinds of risk faced by commercial organizations of Pakistan.*
3) *To explore the demand for instruments of risk management in different business and economic sectors of Pakistan.*

4) *To investigate the possible constraints and problems in order to use instruments for risk management in Pakistan.*

1.4. Research Questions and Hypotheses

The following are the research questions which need to be addressed in order to achieve the objective 1.

1) *What is the Islamic stance on business and commercial transactions in general?*
2) *What are the contentions of contemporary Muslim jurists and scholars with respect to financial derivatives?*
3) *Is hedging against different kinds of risk consistent with the directives and objectives of the Shari'ah?*
4) *Are financial derivatives akin to and congruent with the basic principles and modalities of traditional Islamic contracts?*

The following is the research question which needs to be addressed in order to achieve the objective 2.

5) *What is the risk exposure of different business organizations?*

The following are the research questions which need to be addressed in order to achieve the objective 3.

6) *Are the business entrepreneurs apprised of the structure of and Islamic legal stance on several Islamic as well as conventional concepts and contracts, including financial derivatives?*
7) *What will the business entrepreneurs use financial derivatives, if available, for?*
8) *What is the use of and demand for instruments of risk management in various business and economic sectors of Pakistan?*

9) *What factors do influence the use of and demand for various instruments or techniques to mitigate the severity of credit risk, market risk, currency risk and interest-rate risk?*

The following is the research question which needs to be addressed in order to achieve the objective 4.

10) *What are the possible constraints and problems with reference to the use of instruments for risk management in different business and economic sectors of Pakistan?*

In addition to these research questions, the following are the non-directional hypotheses which need to be tested in order to achieve the objective 3.

3.1) There is a difference in the severity of credit risk across various organizational features.

3.2) There is a difference in the severity of market risk across various organizational features.

3.3) There is a difference in the severity of currency risk across various organizational features.

3.4) There is a difference in the severity of interest-rate risk across various organizational features.

3.5) There is a relationship between the awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of credit risk.

3.6) There is a relationship between the awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of market risk.

3.7) There is a relationship between the awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of currency risk.

3.8) There is a relationship between the awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of interest-rate risk.

1.5. Rationale for the Research

Until now Islamic financial products have essentially been based on classical modes of finance developed centuries ago. These modes were developed in order to meet the needs and requirements of those societies. They undoubtedly set out useful guidelines for contemporary Islamic contracts but there is no reason to restrict ourselves to those modes of economics and finance only. Current financial markets are becoming more and more sophisticated and competitive. In order to minimize the inherent risk factors in financial transactions, there is a greater need to invent a range of products and hedging instruments that could unleash much-needed innovation in structured products. The importance of financial derivatives, for example, as tools of risk management is admitted in the modern financial system. If financial derivatives turn out to be congruent with the injunctions of the *Shari'ah* or the impermissible elements are removed therefrom then it is highly desirable for Muslims to exploit them in order to mitigate various forms of risk. To protect the farmer or the producer of essential goods against violent price fluctuations, and to facilitate efficiency and good planning through the intelligent use of derivatives come within the purview of the measures that are of the essence in realizing the public interest (*maslahah*).

Even the Islamic state might need to utilize derivatives instruments for risk mitigation. When the central bank, commercial banks and other financial institutions actively participate in a regulated derivatives market, they are expected to exert a powerful influence on market direction, and ensure the observance of prudent risk management procedures by the market participants. This would optimistically discourage inordinate and unnecessary speculation that does not result in genuine commercial transactions and beneficial business activities.

1.6. Research Methods

Derivatives instruments are at bottom a new phenomenon of this age which have no precedent or parallel in the conventional law of transactions (*mu'amalat*). The research from scholars on derivatives trading is in its initial stages. Extensive and thorough study of these instruments is still to be made. So, this is a combination of

exploratory and descriptive studies in which primary and secondary data are used. Published sources like articles from various journals and books are employed, and relevant websites on the Internet are accessed. Also, the demand for financial derivatives in Pakistan is investigated by administering questionnaires to varied business as well as financial institutions. Since the aim of this research is to explore the validity of financial derivatives according to the injunctions and rulings of Islamic commercial law, and to ascertain the demand for instruments of risk management in various business and economic sectors of Pakistan this study is based on qualitative research.

The research entails an inductive approach to the relationship between theory and research in which the emphasis is placed on the generation of theories. It involves interpretation of data whereby the researcher analyzes the information provided by various business and financial institutions of Pakistan. Moreover, the study harnesses purposive sampling in order to accomplish the research aim, and utilizes a quantitative method, namely questionnaires in order to collect primary data.

1.7. Overview of the Research

This doctoral dissertation consists of ten chapters. The following is an overview of each chapter to come.

Chapter 2 discusses the meaning of financial derivatives, deals with various types of derivatives, that is to say forward contracts, futures contracts, options and swaps, and examines the operations of derivatives markets. It describes different types of traders, namely hedgers, speculators and arbitrageurs. The chapter also emphasizes a number of advantages as well as critiques of financial derivatives, goes through the regulatory policies on derivatives, and sets forth the conclusion.

Chapter 3 goes through the principle of permissibility. It discusses the concept of *riba*, its kinds, namely *riba al-nasi'ah* and *riba al-fadl*, and dilates on some forms of financial contracts and transactions which involve *riba* such as *bai al-inah, bai al-wafa, hatt wa ta'ajjal*, indexation of loans, *tawarruq* and *bai al-kali bil-kali*. The

chapter further canvasses the concept of *maysir*, speculation, *gharar*, and its two kinds, that is to say *gharar fahish* and *gharar yaseer*. It also looks into some common forms of *gharar* like two sales in one, *arbun* sale, contingent sale, future sale, uncertainty about genus, etc, etc, and briefly highlights the consequences of *gharar* on contracts. Finally, the chapter sets forth the conclusion.

Chapter 4 goes over the Islamic point of view on forward contracts, gives a long explication of various Islamic injunctions in relation to *salam* and *istisna*, and discusses *bai istijrar* and foreign currency forwards. It deals with futures contracts, and addresses the controversial issues of non-existence of the subject-matter, sale prior to taking possession, *bai al-kali bil-kali* and speculation. The chapter also goes through options, currency options, *khiyar al-shart* and *bai al-arbun*, analyses swaps, and presents the conclusion.

Chapter 5 gives an overview of the financial system in Pakistan. It discusses the current state of banking system, goes through the progress of the Islamic banking industry, and tersely looks into the risk management guidelines laid down by the State Bank of Pakistan (SBP) for Islamic banking institutions. The chapter minutely examines the operations of derivatives market in Pakistan, highlights the Financial Derivatives Business Regulations (FDBR) formulated by the State Bank of Pakistan to permit, regulate and supervise the financial institutions entering into derivatives transactions, and sets forth the conclusion.

Chapter 6 discusses the research methodology that is used by the researcher in order to answer the research questions outlined earlier. It deals with the research design and strategy, gives an overview of the research methods and data collection methods, and presents a detailed explication of sampling, sampling designs and sample size. The chapter goes through pilot study and the evaluation of research. It also canvasses the process of data analysis, and sets forth the conclusion.

Chapter 7 analyzes the information provided by various business and financial institutions of Pakistan. It reports on descriptive statistics, that is to say frequencies in order to interpret data culled from the seven-page demand side questionnaire. The pattern of statistical analysis closely follows the sequence of various sections in the

questionnaire. The chapter investigates general information about the organizations, ascertains the structural and legal awareness of several Islamic as well as conventional concepts and contracts, including financial derivatives, and goes through risk exposure and management. Finally, the chapter sets forth the conclusion.

Chapter 8 is a continuation of the previous chapter. It employs inferential statistics, and harnesses a number of non-parametric techniques, e.g. chi-square test for independence, Kruskal-Wallis Test, Spearman Rank Order Correlation (rho) and logistic regression to analyze and interpret the data. The chapter ascertains the sector-wise attitude to banking services, the sector-wise use of financial derivatives, and the sector-wise risk exposure. It explores the use of and demand for the instruments of risk management, and discusses risk exposure and organizational features. The chapter also analyses the conceptual and contractual awareness and risk exposure, investigates various factors influencing the use of and demand for the instruments of risk management, and sets forth the conclusion.

Chapter 9 contextualizes and explains the research findings set forth in the preceding chapters. It canvasses the Islamic position on financial derivatives, deals with risk exposure and management, and investigates risk exposure and organizational features. The chapter examines conceptual and contractual awareness and risk exposure, and ascertains various factors influencing the use of and demand for the instruments of risk management. It also goes through the constraints of the use of instruments for risk management in Pakistan, and sets forth the conclusion.

Chapter 10 ponders over the research findings, and laconically recapitulates the salient conclusions drawn from them. The chapter explores various limitations of the study, puts forward several recommendations for the future research, and sets out the epilogue.

Chapter 2

Financial Derivatives: Nature and Trading Mechanism

2.1. Introduction

The growth and extensive use of financial derivatives in conventional finance are a cogent testimony to the numerous benefits that business organizations procure from their utilization (Bacha 1999, p. 9). Theoretically, derivatives instruments are supposed to distribute risk among market participants in accordance with their ability to assume them. If such distribution is achieved, each party would be better off. Derivatives are therefore the main instruments to hedge against various types of risk but, on the other hand, they are widely used for speculative purposes as well. Speculation in contrast to hedging, involves creating positions deliberately in order to profit from exchange rate and/or interest rate movements. Speculators believe that markets' forecasts as reflected in forward rates and the term structure of interest rates are wrong. Hence they hope to profit by taking open positions at these prices. How to eschew the noxious and sinister repercussions of excessive speculation is a great matter of concern for Muslim economists and scholars.

Bhalla (2007) is of the opinion that the past decade has witnessed an explosive growth in the use of financial derivatives by a wide range of corporate and financial institutions. This growth has run in parallel with the increasing direct reliance of companies on the capital markets as the major source of long-term funding. In this respect, derivatives have a vital role to play in enhancing shareholder value by ensuring access to the cheapest source of funds. Gupta (2006) holds that financial derivatives have changed the face of finance by creating new ways to understand, measure and manage risks. Ultimately, financial derivatives should be considered a part of any firm's risk management strategy to ensure that value enhancing investment opportunities are pursued. Hull (2007) takes the view that one of the exciting developments in finance over the last 25 years has been the growth of derivatives

markets. In many situations, both hedgers and speculators find it more attractive to trade a derivative in an asset than to trade in the asset itself.

Saunders and Cornett (2007) argue that contingent credit risk is likely to be present when financial institutions expand their positions in forward, futures and option contracts. This risk relates to the fact that the counterparty to one of these contracts may default on payment obligations. This type of default risk is much more serious for forward contracts than for futures contracts. This is so because forward contracts are non-standard contracts entered into bilaterally by negotiating parties, and all cash flows are required to be paid at one time (on the maturity of the contracts). But if a counterparty were to default on a futures contract, the exchange assumes the defaulting party's position and payment obligation. Thus unless a systematic financial market collapse threatens the exchange itself, futures are essentially default risk-free.

This chapter is divided up into nine broad sections altogether. Section 2.2. discusses the meaning of financial derivatives. Section 2.3. deals with various types of derivatives, that is to say forward contracts, futures contracts, options and swaps. Section 2.4. examines the operations of derivatives markets. Section 2.5. describes different types of traders, namely hedgers, speculators and arbitrageurs. Section 2.6. and Section 2.7. emphasize a number of advantages as well as critiques of financial derivatives respectively. Section 2.8. goes through the regulatory policies on derivatives. Finally, Section 2.9. sets forth the conclusion.

2.2. Meaning of Derivatives

Derivatives are financial instruments whose prices are dependent upon or derived from one or more underlying financial assets (Gurusamy 2004, p. 566; Hull 2007, p. 1). Derivatives have no intrinsic value rather their value is determined by fluctuations in the prices of underlying assets. Gupta (2006) states that the underlying assets or instruments can be equity shares, stocks, bonds, debentures, treasury bills, foreign currencies or different market indices such as stock market index, consumer price index, etc. For example, a stock option's value depends upon the value of a stock on which the option is written. Similarly, the value of a treasury bill of futures contracts

or foreign currency forward contract depends upon the price or value of treasury bill or foreign currency. In addition to the foregoing underlying variables, some other underlying variables are also getting popular in the financial derivatives markets such as creditworthiness, weather, insurance, electricity, etc. In fact, there is no limit to the innovations in the field of derivatives. The price of derivatives instruments is not arbitrary. Instead, it is linked to the price of underlying asset that automatically affects the price of financial derivatives. These instruments have been designed to provide protection for participants in financial markets against adverse movements in the prices of the underlying assets (Kevin 2007, p. 233). Hence the transactions being carried out in the derivatives markets are used to offset the risk of price changes in the respective assets. The efficient allocation of risk in the economy is a significant function of derivatives (Gurusamy 2004, p. 566). It is quite pertinent to spell out that derivatives do not eliminate risk. They indeed facilitate to transfer risk from those who want to avoid it to those who are willing to accept the same (Gupta 2006, p. 3).

In the 1980's, financial derivatives, *inter alia*, were also known as off-balance sheet instruments because no asset or liability underlying the contract was put on the balance sheet. Since the value of such derivatives depends upon the movement of market prices of the underlying assets they were treated as contingent assets or liabilities, and such transactions were not recorded on the balance sheet. It is, however, a matter of considerable debate whether off-balance sheet instruments should be included in the ambit of financial derivatives or not (Gupta 2006, p. 5).

2.3. Types of Derivatives

A number of intricate types of financial derivatives are being used extensively all over the world. However, we will restrict ourselves to the most common and widely practiced types available to investors and traders in different financial markets.

2.3.1. Forward Contracts

Gupta (2006) describes that a forward contract is a simple customized form of derivatives instruments. It is a contractual obligation between a buyer and a seller at

time 0 to buy or sell a specified quantity of an asset, which can be of any kind, at a certain future date for a certain price (Hull 2007, p. 3; Saunders & Cornett 2007, p. 296). The price of a forward contract remains fixed over the life of the contract. It is noteworthy that a forward contract is for forward delivery only; it is not a contract for immediate or spot or cash delivery. The spot price of the underlying asset when the contract expires is called future spot price. Since it is uncertain at the time of the contract market participants take a position in forward contracts. Hull (2007) states that one of the two parties to a forward contract agrees to buy the underlying asset and is said to have a long position. The other party that agrees to sell the same underlying asset is said to have a short position. The seller is obliged to deliver the asset, and the buyer is also obliged to buy the asset.

The price specified in a forward contract is called delivery price, and the time specified is called delivery date or expiration date. Forward contracts do not require an upfront payment. Hence no money is exchanged between the counterparties until delivery. Unlike futures, forward contracts are not traded on an exchange. Instead, they are traded in over-the-counter (OTC) market, usually between two financial institutions or between a financial institution and one of its clients (Hull 2005, p. 38). Thus the buyer and the seller involved in a forward contract deal and negotiate directly with each other in order to set the terms of the contract.

Let us consider the following simple example of hedging using a forward contract. A farmer who cultivates wheat would like to sell his wheat, when it is ready, in the market at the highest possible price. During the harvest, the market can be fraught with wheat due to good produce, and this oversupply might dampen down the price of wheat. Under the circumstances the farmer would be compelled to sell his wheat at the market price which is less than his expectations. Now he wants to hedge against the risk of loss in order that he can enjoy a reasonable profit. This risk can be avoided by making a forward contract for sale of wheat at a high price. He, for example, believes that the price of a sack of wheat should be £10. During the harvest, the price goes down to £9 per sack on account of oversupply. As a result, he will have to incur a loss of £1 per sack in the spot market. In order to ward off this loss, he can conclude a forward contract to sell a sack of wheat for £10 when it is ready for delivery. If he finalizes such a deal the counterparty would be obliged to buy wheat from the farmer

for £10 at the predetermined time. So, the farmer will ensure a good price for his wheat, and mitigate the risk of potential loss owing to the fluctuation in the market price of wheat.

Wheat processing companies such as a bread manufacturer or a flour mill need large quantities of wheat throughout the year. Sometimes these companies are, due to fluctuation in the market price of wheat, forced to buy wheat at high price if they operate in the spot market. It leads to an increase in the cost of production and a reduction in the profit margin. In other words, these companies also face risk, i.e. possibility of reduction in their profit. These companies face uncertainty regarding the future price of wheat. So, they want to procure a steady supply of wheat at a reasonable and certain price throughout the year. This objective can also be achieved by entering into a forward contract to buy wheat at a predetermined price. By concluding varied forward contracts maturing at different periods, a regular supply of wheat at a fixed price can be ensured.

Forward contracts can be used for speculation as well. Hull (2005) gives an example that an investor who believes that the British pound will increase in value against the USA dollar can speculate by taking a long position on pound sterling in a forward contract. Similarly, an investor who feels that the pound will fall in value can speculate by taking a short position on it in a forward contract. Suppose that a 90-day forward exchange rate of the British pound is $1.8381 while its actual spot exchange rate in 90 days proves to be $1.8600. An investor who has a long position in a 90-day forward contract would be able to purchase pound sterling at a rate of $1.8381 when they are worth $1.8600. Hence he will realize a gain of $0.0219 per pound. Similarly, an investor with a short position in a 90-day forward contract will have to incur a loss of $0.0219 per pound.

2.3.1.1. Forward Rate Agreements

A Forward Rate Agreement (FRA) is an over-the-counter agreement between two parties in which one party (the seller of the FRA) agrees to lend a specified amount of money for a specified period to the other party (the buyer of the FRA) in a specific

currency at a fixed interest rate (Apte 2007, pp 449-450). In practice, actual lending or borrowing of the underlying principal does not take place; only interest rate is locked in. An FRA removes all uncertainty from cost of borrowing or rate of return on investment.

Say that for a three-month FRA written today with a notional value of £1 million and a contract rate of 5.70 per cent, the buyer of the FRA agrees to pay 5.70 per cent (the current three-month LIBOR rate) to borrow £1 million for three months. The seller of the FRA agrees to lend £1 million to the buyer at 5.70 per cent for three months. If interest rates rise in the next three months, the FRA buyer would benefit from this agreement. He can borrow £1 million at the rate of 5.70 per cent rather than the higher market rate (Saunders & Cornett 2007, p. 297).[1]

2.3.1.2. Foreign Currency Forwards

Gupta (2006) points out that a foreign currency forward is an agreement between two parties to exchange some amount of one currency for another at a specified time in the future. The exchange rate is fixed at the time the contract is entered into. The market in which such forward transactions in foreign currencies are carried out is called forward exchange market.

The cash flow in the foreign currency forwards takes place at the time of maturity, that is to say when the foreign currencies are to be delivered. More than 90 per cent of the forward contracts are settled by the delivery of currencies (Gupta 2006, p. 301).[2]

2.3.1.3. Disadvantages of Forward Contracts

Kevin (2007) points out that forward contracts have the following two major disadvantages:

[1] For details, see Hull 2005, p. 40; Hull 2007, pp 87-88; Gurusamy 2004, pp 572-573; Smullen & Hand 2005, p. 168; Gupta 2006, pp 67-68

[2] See Kevin 2007, pp 237-238; Hull 2007, pp 112 ff.; Saunders & Cornett 2007, pp 234 ff.

1) This kind of contract involves credit risk or default risk. It means that there is a likelihood that one of the counterparties to the contract may default and fail to fulfill its contractual obligations. Even the forward price of an asset is merely an estimate of the expected spot price at the time of delivery. In case of *force majeure*, adverse changes occur in the future movements of spot prices. Consequently the realized or actual spot price at the time of delivery of the asset may differ from the forward price already predetermined by the counterparties. If the actual spot price is higher than the forward price, the counterparty taking delivery of the asset (buyer) will be in an advantageous position because he will get the asset at a cheaper price than the market price. However, the other party (seller) will have to incur a loss because he has to deliver the asset at a price which is certainly lower than the market price. On the other hand, if the spot price is lower than the forward price the buyer would be at a disadvantage, and the seller will get profit. In this case, the buyer might default and turn down to fulfill the terms of the contract. The more the gap between the spot price prevailing at the time of delivery and the forward price, the more the incentive to default. Since a forward contract is a private deal between two parties, there is *ipso facto* no mechanism to prevent default by either party. An importer, for example, finalizes a deal of forward contract to purchase £100 000 after three months at a rate of $1.44570. If, at the settlement date, the spot exchange rate is $1.46570 per pound sterling the importer will be in an advantageous position because he is getting the pound at a rate of $1.44570 when the exchange rate in the spot market is higher. However, the foreign exchange dealer who is obliged to sell the British pound to the importer at a lower rate may default. On the contrary, if the spot rate of exchange turns out to be $1.42570 the importer will have an incentive to default because he can purchase £100 000 in the spot market at a cheaper rate.
2) The second disadvantage of forward contracts is illiquidity. A forward contract cannot be cancelled except with the consent of both the counterparties. The obligations of a counterparty under the contract cannot be transferred to a third party as well. Thus a forward contract has no liquidity and marketability. It is normally settled at maturity by the counterparties through fulfillment of mutual obligations.

Although forward contracts are useful in order to hedge against the risk of parties trading with one another, their inherent disadvantages limit the scope of their usage in many markets. Anyhow, they are being used extensively in foreign exchange markets all over the world to mitigate foreign exchange risk exposure (Kevin 2007, p. 240).

2.3.2. Futures Contracts

Saunders and Cornett (2007) and Hull (2007) define that a futures contract, like a forward contract, is an agreement between a buyer and a seller at time 0 to deliver a specified asset at a certain time in the future for a certain price. For a successful futures market, the supply of and demand for the underlying commodity must be large, prices must be volatile, the commodity being traded must be quantifiable to allow standardization, and the market must be competitive. Futures contracts constitute an important instrument for managing or hedging against risk in financial markets due to price fluctuations. These contracts are now actively traded all over the world. Futures contracts are normally traded on an organized exchange (Saunders & Cornett 2007, p. 297). The exchange sets up certain standardized features of the contract. As the counterparties do not necessarily know each other the exchange provides a mechanism that gives a guarantee to both parties that the contract would be honoured. Two largest futures exchanges in the United States of America are the Chicago Board of Trade (CBOT) and the Chicago Mercantile Exchange (CME). The largest exchanges in Europe are the London International Financial Futures and Options Exchange (LIFFE) and Eurex. Other large exchanges include the Tokyo International Financial Futures Exchange (TIFFE), the Singapore International Monetary Exchange (SIMEX) and the Sydney Futures Exchange (SFE).[3]

The essential nature of a futures contract is the same as that of a forward contract. However, the features and modalities of both contracts are so distinct that forwards and futures have become two different types of instruments used for risk management. In fact, futures contracts have been designed to remove the disadvantages and shortcomings of forward contracts. Kevin (2007) states that the first disadvantage of forward contracts, namely default risk is removed by the margin system and the

[3] For more details, see Hull 2007, p. 6

clearing-house acting as the counterparty in each transaction while the second disadvantage of illiquidity is removed by trading on organized exchanges with the facility for cash settlement.

Generically, financial futures are not different from commodity futures except the underlying assets of them differ from each other. For example, a particular commodity like metals, vegetables and so on are traded in commodity futures whereas in financial futures, diverse financial instruments like equity shares, debentures, bonds, treasury securities, currencies, etc are traded.

Hull (2007) asserts that many participants in futures markets are hedgers. They want to use futures contracts in order to reduce a particular risk which they face. This risk might relate to the price of a certain commodity, the level of the stock market, foreign exchange rate or some other variable. A perfect hedge is the one that could completely eliminate the risk. Although hedgers make every endeavour to have a perfect hedge, it is few and far between.

Let us consider the following example of hedging using a futures contract. An investor holding a portfolio of securities may be anxious that the prices of shares might go down. He therefore faces a risk of reduction in the value of his portfolio on account of adverse movements in share prices. He can effectively hedge against this risk by taking a position in the stock index futures which will provide him with a gain on the occasion of a fall in share prices. For instance, the investor holds a portfolio of shares having a value of Rs.100 000. The National Stock Exchange (NSE) index Nifty on which futures contracts are traded now stands at 2 000. The investor needs to take a short position (seller) so that he can sell Nifty futures contracts in order to hedge against the risk of falling prices. The monetary value assigned to Nifty futures is Rs.1 per index point and the value of one Nifty futures, in this case, would be Rs.2 000. As the value of the investor's portfolio is Rs.100 000 he needs to sell 50 Nifty futures to hedge against the risk. We posit that the investor sells 50 Nifty futures for Rs.2 000 per contract. If there is a decline in equity prices in the stock market there would be a reduction in the value of his portfolio, and also a decline in the value of the stock market index. Say there has been a general fall in share prices to the extent of 10 per cent over a period of one month. This means that the value of the investor's portfolio

has declined by Rs.10 000, and the stock index is at Rs.1 800 by the end of the month. Now the investor can close out his position in the index futures by buying 50 Nifty futures at the current price of Rs.1 800. This transaction would be equal to Rs.90 000. The selling price will be higher than the buying price viz. Rs.200 per contract. So, he will receive Rs.10 000 (Rs.200 × 50 contracts) on buying 50 Nifty futures. This gain from the index futures trading would make good the reduction in the value of his portfolio.

Kevin (2007) notes that a long position (buyer) in index futures can also be used as a hedging tool. For example, a mutual fund company has announced an investment scheme and is hopeful to receive Rs.5 000 000 within a month for investment in the stock market. The company estimates that the prices of equity shares in the market would rise considerably. It therefore faces a risk of buying the shares from the market at higher prices. In order to hedge against this risk, the company can take a long position in index futures. Suppose the NSE index Nifty stands at 2 000. The company needs 2 500 Nifty futures to safeguard its investment. It can buy 2 500 Nifty futures for Rs.2 000 per contract. If, by the end of the month, Nifty rises to 2 200 on account of a general increase of 10 per cent in equity prices the fund can close out its long position in Nifty futures by selling 2 500 Nifty futures at the current price of Rs.2 200 per contract. This transaction will amount to Rs.5 500 000 and the mutual fund would receive an excess amount of Rs.500 000. The additional funds could be used to compensate for the 10 per cent increase in the prices of shares in the stock market.

Speculators may take short or long positions in index futures in order to benefit from the future movements in the stock index (Kevin 2007, p. 252). For example, a speculator who opines that there would be a decline in share prices can take a short position in the index futures by selling the index futures at its current price. Once the share prices have gone into a decline, he may close out his short position by buying an equivalent number of index futures at the lower price prevailing in the market. In this way, he will make a profit from this transaction.

Similarly, a speculator who expects a general rise in share prices can take a long position in index futures. Suppose that he buys 100 Nifty futures for Rs.1 800 per contract when the Nifty value is at Rs.1 785. If share prices increase and the Nifty

value rises to, say, Rs.1 965 within a month, the speculator can close out his long position by selling 100 Nifty futures at the current price of Rs.1 965. As a result, he would enjoy a profit of Rs.16 500.

2.3.2.1. Types of Financial Futures Contracts

Gupta (2006) discusses different types of financial futures. A cursory introduction to these types is as follows:

2.3.2.1.1. Interest Rate Futures

It is one of the significant financial futures instruments. Both borrowers and lenders face interest rate risk. The borrower, for example, has to notch up a heavy loss if the interest rate increases whereas the lender has to incur a loss in decreasing trend of interest rate. This instrument assists to reduce interest rate risk of lenders and borrowers. There are some interest-based securities like treasury bills, notes, bonds, debentures, euro-dollar deposits and municipal bonds. In this category, three-month maturity instruments like treasury bills and euro-dollar deposits are traded on the Chicago Mercantile Exchange (CME) whereas British Government Bonds are traded on the London International Financial Futures and Options Exchange (LIFFE).

2.3.2.1.2. Foreign Currency Futures

This kind of financial futures, as the name indicates, is traded in foreign currencies. Therefore it is also known as exchange rate futures. The rate of exchange changes continuously; different firms are exposed to the exchange rate risk. The assets, liabilities or cash flow of a firm undergo a change in value with the passage of time due to variation in exchange rates. So, exporters, importers, bankers, financial institutions and large companies use foreign currency futures as a hedge against the exchange rate risk.

2.3.2.1.3. Stock Index Futures

These futures contracts are based on stock market indices. In the US markets, various futures contracts consist of different indices like Dow Jones Industrial Average, New York Stock Exchange Index and Value Line Index, etc. One of the most striking features of these contracts is that they do not insist upon actual delivery. Traders are bound to fulfill their obligations only by a reversing trade or settlement by cash payment at the end of trading.

2.3.2.1.4. Bond Index Futures

Like stock index futures, these contracts are also based on particular bond indices such as Indices of bond prices. The most important example of such contracts is the Municipal Bond Index futures based on the US Municipal Bonds being traded on Chicago Board of Trade (CBOT).

2.3.2.1.5. Cost of Living Index Futures

These futures contracts are also known as inflation futures. These are based on a specified cost of living index such as consumer price index, wholesale price index, etc. Futures contracts based on American Consumer Price Index are traded on International Monetary Market (IMM) in Chicago. These contracts are used to hedge against unanticipated inflation which is unavoidable. Thus such futures contracts can be very advantageous to some investors like provident funds, pension funds, mutual funds, large companies and governments.

2.3.2.2. Forward Contracts versus Futures Contracts

Both forward and futures contracts specify a transaction to take place at a future date, and incorporate precise requirements for the commodity to be delivered, its price, its quantity, the delivery date and the place of delivery, but nevertheless the *modus*

operandi of these contracts is different from one another as the following points categorically exude:[4]

- Futures contracts are always traded on an organized stock exchange. Forward contracts, on the other hand, are traded over-the-counter or between two parties who could sign a forward contract directly or indirectly through a dealer.
- The terms and conditions of futures contracts are standardized. The quantity of the asset, future period and future place are determined by the exchange whereas forward contracts are customized rather than standardized. These are tailor-made contracts in which the terms are mutually decided by the counterparties. There is no standard contract size or standard delivery arrangements. A single delivery date is usually specified.
- Futures contracts are regulated by the respective exchange where they are registered. On the other hand, forward contracts are self-regulating which do not require any registration. Hence forward contracts are riskier than futures contracts.
- Futures contracts are settled through a clearing-house which takes the guarantee to fulfill the contract. In other words, it mitigates the potential for default of the counterparties whereas forward contracts are subject to default risk.
- Futures contracts are highly liquid whereas forward contracts have no liquidity.
- Futures contracts are marked to market daily. This means that the contract price is adjusted every day as the future price for the contract changes and the contract approaches expiration. Therefore actual cash settlements occur every day between the buyer and the seller in response to these price changes. This process is called marking-to-market, and it ensures that both parties to the futures contract maintain sufficient funds in their accounts to guarantee the eventual pay-off when the contract matures. In forward contracts, price remains fixed over the life of the contract. Moreover, cash payment from buyer to seller takes place at the end of the contract only.

[4] For further details, see Hull 2007, pp 40-41; Bhalla 2007, pp 913-917; Apte 2007, pp 222-225; Gupta 2006, pp 65-66; Click & Coval 2004, p. 292; Haugen 2005, pp 495 ff.

- In futures contracts, a margin ranging from two to ten per cent of the face value of contract is paid by both parties. This is not a partial payment of the price. Instead, it is paid in good faith to guarantee the fulfillment of the contract. Forward contracts do not necessitate any margin.
- Futures contracts are available for delivery on a few specified dates in a year whereas forward contracts can be delivered on any date in accordance with the consent of the counterparties.
- Most of the futures contracts, approximately 95 per cent, are settled without delivery. On the contrary, more than 90 per cent of forward contracts are settled by actual delivery of the assets.

2.3.3. Options

In forward and futures contracts, the buyer and the seller or the long and the short have certain rights as well as obligations. The buyer has the right and the obligation to take delivery of the underlying asset at the specified price on the expiry date, whereas the seller has the right and the obligation to deliver the underlying asset.

Say on the 15th of June, a firm enters into a three-month forward contract to sell £100 000 at a price of $1.44570 quoted by a bank. The delivery date is set to be the 17th of September. On the 15th of September, the firm finds out that the spot rate is $1.45570. Can the firm ask the counterparty to forget about the forward contract and sell the pound in the spot market? The answer is ‘no’ and such an action would constitute a legal default because the forward contract has not only given the right to the firm to sell the pound at a rate of £1.44570 but also imposed an obligation on it to do so. Now take the same example from another aspect. On the 15th of June, the firm takes the view that after three months, the pound would appreciate and its rate will increase more than the forward rate quoted by the bank viz. $1.44570. Thus the firm is not willing to accomplish the deal. Can the firm structure such a deal wherein it could derive additional benefits if the value of the pound increases and avoid losses if it depreciates. The solution to this problem lies in options.

Options are the most versatile and unique financial instruments that find their competitor nowhere. An option is a contract that gives the holder the right, but not the obligation, to buy or sell an underlying asset at a predetermined price for a specified period of time (Gupta 2006, p. 350). American options give the option-holder the right to buy or sell the underlying asset at any time before or on the expiration date of the option. European options, on the other hand, give the option-holder the right to buy or sell the underlying asset on the expiration date only (Saunders & Cornett 2007, p. 306). European options are therefore cheaper than American options (Smullen & Hand 2005, p. 295). Most options being traded on exchanges in the USA and abroad are American options.[5]

Apte (2007) states that options are available on a large variety of underlying assets like common stock, currencies, debt instruments, interest rates and so on. Options on stock indices and futures contracts, in which the underlying asset is a futures contract, are also traded on organized options exchanges. The largest options exchange is the Chicago Board Options Exchange (CBOE). Some other exchanges that trade in options include European Options Exchange (EOE), London International Financial Futures and Options Exchange (LIFFE), American Stock Exchange (AMEX), New York Stock Exchange (NYSE), Philadelphia Stock Exchange (PB), Chicago Mercantile Exchange (CME) and Pacific Stock Exchange (PSE). In addition to these exchanges, various financial institutions, corporate treasurers and fund managers trade in options in over-the-counter market as well. Hull (2007) points out that the main disadvantage of over-the-counter market is that the option writer (seller) may default. It means that the buyer is subject to credit risk. In order to overcome this problem, market participants adopt a number of measures such as calling for some collateral from the counterparties. Although the market participants are free to trade in options using their own requirements, standard terms and conditions for OTC options and guidelines for trading practices are governed by International Currency Options Market (ICOM) or International Swap Dealers Association Incorporation (ISDA).

[5] It should be noted that the terms American and European do not refer to the location of the option or the exchange. Some options to be traded on North American exchanges are European (Hull 2007, p. 6).

2.3.3.1. Call Options

A call option gives its holder the right but not the obligation to buy an underlying security at a predetermined price called the exercise or strike price on or before a specified date (Saunders & Cornett 2007, p. 306). In this case, the buyer of the call option pays the writer (seller) an upfront fee which is known as call premium. This premium is an immediate cash outflow for the buyer of the call option. However, the buyer potentially stands to make a profit if the price of underlying security is greater than the exercise price when the option expires.

Suppose that an investor buys an European call option to purchase 10 000 shares of a certain company at a strike price of £20. The current stock price is £18, the expiration date of the option is six months hence, and the price of an option to purchase one share is £2. It means that the upfront fee is £20 000. Since the option is European the investor can exercise it only on the expiration date. If the share price on this date is less than £20 the investor will categorically choose not to exercise the option. In this situation, he will have to lose the whole initial investment viz. £20 000, but if the share price is above £20 on the expiration date the option would certainly be exercised. For instance, the share price is £25. If the investor exercises the option he will buy 10 000 shares for £20 per share. If these shares are sold without further ado the investor will make a profit of £5 per share, or £50 000, ignoring the transaction costs. If the initial cost of the option is taken into account the net profit to the investor will be £30 000.

Sometimes an investor exercises an option but makes a loss overall. Say that the stock price is £21 on the expiration date. Since it is above the strike price the investor would exercise the option making a profit of £10 000 but losing £10 000 as well when the initial cost of the option is taken into consideration. It is interesting to argue that the investor should not exercise the option in this situation, but it would result in a loss of £20 000 which is, however, worse than the first loss of £10 000. So, it can be inferred that call options should always be exercised on the expiration date if the stock price is above the strike price (Hull 2007, p. 182).

2.3.3.2. Put Options

A put option gives its holder the right but not the obligation to sell an underlying security at a predetermined price on or before a specified date. In return, the buyer of the put option pays the writer an upfront fee which is known as put premium. If the price of underlying security is less than the exercise price on the expiration date the buyer will purchase the underlying security (e.g. a stock) from the stock market at current price and sell it then and there at strike price by exercising the put option. On the other hand, if the price of the underlying security is greater than the exercise price when the option expires the buyer of the put option will never exercise it, and the option will expire without being exercised (Saunders & Cornett 2007, p. 308).

Suppose that an investor buys an European put option to sell 10 000 shares of certain company at a strike price of £20. The current share price is £18, the expiration date of the option is three months hence, and the price of an option to sell one share is £2. The initial investment is £20 000. Since the option is European it can only be exercised on the expiration date if the share price is below £20. On the expiration date, the share price is £17. The investor buys 10 000 shares for £17 per share, and according to the terms of the put option sells the same shares for £20 making a profit of £3 per share, or £30 000, if the transaction costs are ignored. If the initial cost of the option viz. £20 000 is taken into account the investor's net profit would be £10 000. There is, of course, no guarantee that the investor could make a profit because if the stock price is above £20 on the expiration date put option will expire, and he will have to lose £20 000 eventually.

Options can also be used for speculative purposes. The price of an option contract or the premium depends upon the intrinsic value and the time value of the option. This premium keeps on changing as the price of the underlying asset changes. Ceaseless fluctuations in the premium provide speculators with an opportunity to make a profit from options trading. A speculator might buy an option at a low premium and sell it later on at a higher premium in order to enjoy short-term gains.

It has been clear from the preceding discussion, as Hull (2005) states, that there are two sides of every option contract. One investor is on one side who takes a long position whereas the other investor is on the other who takes a short position. Therefore option positions can be elucidated in the following manner:

- A long position in a call option
- A long position in a put option
- A short position in a call option
- A short position in a put option

2.3.3.3. Foreign Currency Options

A foreign currency option is a contract giving the right either to buy or to sell a specified currency at a fixed exchange rate within a given period. The price agreed is called the exercise price or strike price (Smullen & Hand 2005, p. 102; Gupta 2006, p. 440). Foreign currency options have assumed a vital importance in the financial markets all around the globe. They are primarily traded at the over-the-counter market. Hull (2007) states that European and American options are traded on the Philadelphia Stock Exchange in the United States, but the exchange-traded market is much smaller than the over-the-counter market.[6]

Foreign currency options are a good alternative to forward contracts for a corporation wishing to hedge against a foreign exchange exposure. For example, a certain amount of pound sterling is to be received by an American company at a certain time in the future. The company can hedge against foreign exchange exposure by buying put options that mature at that time. Similarly, a certain amount of pound sterling is to be paid by an American company at a certain time in the future. The company can hedge against foreign exchange risk by buying call options that mature at that time (Hull 2005, p. 298).[7]

[6] See also Click & Coval 2004, pp 300-307; Strong 2006, pp 374-376; Gupta 2006, pp 439 ff.
[7] For further details of hedging with currency options, see Apte 2007, pp 390 ff.

2.3.3.4. Interest-Rate Options

It is an option enabling traders and speculators to hedge against future changes in interest rates (Smullen & Hand 2005, p. 215). A call option on interest rate gives the holder the right to borrow funds for a specified duration at a specified interest rate without an obligation to do so, whereas a put option on interest rate gives the holder the right to invest funds for a specified duration at a specified return without an obligation to do so. In both cases, the buyer of the option pays the seller an upfront premium (Apte 2007, p. 454).[8]

2.3.4. Swaps

A swap is an agreement between two parties to exchange a sequence of specified cash flow over a period of time in the future (Hull 2007, p. 149). Swaps give the facility to the financial institutions to manage their interest rate, foreign exchange and credit risks. Swaps are frequently used by large corporations to arrange complex and innovative financing which decrease borrowing costs and increase control over other financial variables (Gupta 2006, p. 325). The swap market grew enormously in recent years (Saunders & Cornett 2007, p. 318).

2.3.4.1. Interest Rate Swaps

Apte (2007) defines that an interest rate swap is an agreement between two parties in which each party closes a deal with the other party to make payments on particular dates in the future in same or different currencies until a predetermined termination date. One party, called ‘fixed rate payer’, agrees to make fixed rate interest payments to the other party, called ‘floating rate payer’, which, in return, agrees to make floating rate interest payments. Fixed and floating rates are multiplied by a notional principal. This notional amount is generally not exchanged between the counterparties. Instead, it is merely used for calculating the size of cash flow to be exchanged.

[8] For a thorough analysis of interest-rate options, see Hull 2005, pp 390-407; Strong 2006, pp 330 ff.

Suppose there are two firms A and B. Firm A borrows £100 million from a bank for five years, and invests it in a certain business that yields 8.50 per cent biannually. Firm A is not a highly rated firm; it is funding its assets through a floating rate loan linked to six-month London Inter Bank Offered Rate (LIBOR) plus 50 basis points (i.e. 0.5 per cent). It means that the profitability of firm A depends upon the actual level of the floating interest rate in the future. If the fluctuation in interest rate is high the interest expense of firm A will increase and consequently its profit will decrease. On the other hand, if LIBOR exceeds 8 percent firm A will have to incur a loss because its investment yields 8.5 per cent but it has to pay more than this percentage. Another firm B also borrows £100 million for five years at a fixed rate of 6 per cent. Its investment yields LIBOR plus 75 basis points (i.e. 0.75 per cent). It means that the profitability of firm B depends upon the actual floating interest rate that is to be received on its investment. If LIBOR is less than 5.25 per cent firm B will make a loss.

In order to eliminate interest rate risk, firm A may enter into an agreement of interest rate swap with any bank. Say that 6.50 per cent is to be paid by firm A to the bank for five years with payments calculated by multiplying 6.50 per cent by some notional principal, e.g. £100 million. In return, the bank will pay the firm A six-month LIBOR over a period of five years. A summary of this process with respect to firm A is as follows:

Investment yield	8.50 per cent
Disbursement to the bank	6.50 per cent
Receipt from the bank	LIBOR
Payment of loan	LIBOR + 50 bp
Actual cost	6.50 + 0.50 = 7 per cent
Locked in spread	1.50 per cent

Similarly, firm B enters into a contract with a bank in which it agrees to pay six-month LIBOR to the bank on some notional principal, i.e. £100 million, for five years, and the bank, in return, will pay the amount based on some predetermined rate, i.e. 6.40 per cent. A summary of this process in respect of firm B is as follows:

Investment yield	LIBOR + 75 bp
Disbursement to the bank	LIBOR
Receipt from the bank	6.40 per cent
Payment of loan	6.00 per cent
Actual cost	LIBOR – 0.40 per cent
Locked in spread	0.75 + 0.40 = 1.15 per cent

In this swap deal, the interest of the bank is yet to be analyzed. It is quite obvious that, in both transactions, the risk of loss on account of interest rate fluctuations has been transferred from both firms to the bank. The bank will only be interested to enter into such a deal with firm A and firm B if it is also in beneficial position. In this contract, the position of the bank is as follows:

Receipt from firm A	6.50 per cent
Payment to firm B	6.40 per cent
Receipt from firm B	LIBOR
Payment to firm A	LIBOR
Net profit	6.50 – 6.40 = 0.10 per cent

Thus the net profit received by the bank will be equal to £100 000 biannually for the next five years on £100 million swap deal.

2.3.4.2. Currency Swaps

Apte (2007) notes that in a currency swap, two streams of payment to be exchanged are denominated in two different currencies viz. both the principal amount and the interest on a loan in one currency are swapped for the principal and the interest on a loan in another currency. The parties to a swap contract normally hail from two different countries. This allows the counterparties to borrow easily and cheaply in their home currency. Cash flow being exchanged is determined at the spot rate. Such a cash flow is supposed to remain unaffected by subsequent changes in the exchange rates (Gurusamy 2004, p. 571).

Hull (2005) cites the simple example of how currency swaps can be used to immunize or hedge against exchange rate risk. Suppose that there are two companies A and B. Company A wants to borrow £10 million at a fixed rate of interest for five years whereas company B wants to borrow $15 million at a fixed rate of interest for five years. Both companies have been offered the following rates:

	US dollar	British pound
Company A	8.00%	11.6%
Company B	10.00%	12.00%

Now company A borrows US dollars at a rate of 8.00 per cent while company B borrows the British pound at a rate of 12.00 per cent. Through some financial intermediary, currency swap provides company A with the pound interest rate of 11.00 per cent per annum and company B with the dollar interest rate of 9.4 per cent per annum. This strategy brings about 0.6 per cent concession for both companies. The financial intermediary will gain 1.4 per cent per annum on its dollar cash flow and lose 1.00 per cent per annum on its pound cash flow. However, it makes a net profit of 0.4 per cent per annum. A currency swap requires a principal amount to be specified in each of two currencies. In this example, principal amounts may be £10 million and $15 million which would be exchanged at the beginning and at the end of swap agreement. Primarily, company A will pay $15 million and receive £10 million. Each year, company A will receive $1.20 million (8 per cent of $15 million) and disburse £1.10 million (11 per cent of £10 million). At the end of the swap contract, company A will pay a principal of £10 million and receive a principal of $15 million.

2.3.4.3. Credit Default Swaps

Hull (2007) asserts that the most exciting developments in derivatives markets since the 1990's have been in the credit derivatives area. In credit derivatives, the pay-off depends on the creditworthiness of one or more companies or countries. These derivatives enable banks and other financial institutions to manage their credit risks. They can be used to transfer credit risk from one company to another. The most popular credit derivative is a credit default swap (CDS). This is a contract that

provides insurance against the risk of default by a particular company. The company is known as the reference entity, and a default by the company is known as the credit event. The buyer of the insurance obtains the right to sell bonds issued by the company for their face value when a credit event occurs; the seller of the insurance agrees to buy the bonds for their face value when a credit event comes about. The face value of a bond is the amount of money that the issuer will repay at maturity if it does not default. The total face value of the bonds that can be sold is known as the credit default swap's notional principal. The buyer of the CDS makes periodic payments to the seller until the life of the CDS ends or the credit event occurs.

Suppose that two parties enter into a 5-year credit default swap on 1 March 2004. The notional principal is $100 million; the buyer agrees to pay 90 basis points (i.e. 0.9 per cent) annually for protection against default by the reference entity. If the reference entity does not default (i.e. there is no credit event) the buyer will receive no pay-off, and pay $900 000 on every 1st of March of five years to come. If there is a credit event a substantial pay-off is likely. Say the buyer apprises the seller of the credit event on 1 June 2007. If the contract specifies physical settlement the buyer will have the right to sell bonds issued by the reference entity with a face value of $100 million for $100 million. If the contract requires cash settlement and the bond is worth $35 per $100 the cash pay-off would be $65 million.[9]

2.3.4.4. Total Return Swaps

A total return swap is a type of credit derivatives. Hull (2007) defines that it is an agreement to exchange the total return on a bond for LIBOR, plus a spread. Total return swaps are often used as financing vehicles. A company, for example, wants to purchase a portfolio of bonds. It approaches a financial institution which will buy the bonds on its behalf. Then the financial institution would enter into a total return swap wherein it will pay the return on the bonds to the company and receive LIBOR. The advantage of this type of arrangement is that the financial institution reduces its exposure to default by the company.[10]

[9] For details, see Gupta 2006, pp 539-541
[10] See also Gupta 2006, pp 542-543

2.3.4.5. Swaptions

A swaption is an option on an interest rate swap (Hull 2007, p. 625; Strong 2006, p. 337). It gives the holder the right but not the obligation to enter into an interest rate swap at a certain time in the future. With a swaption, the company benefits from favourable interest rate movements while acquiring protection against unfavourable interest rate movements. Many large financial institutions that offer interest rate swaps to their corporate clients are also prepared to sell them swaptions or buy swaptions from them.[11]

2.4. Derivatives Markets

As far as the trading environment of financial derivatives is concerned, it can be divided into following two categories:

1) Derivatives that are traded via specialized derivatives exchanges or other exchanges are called exchange-traded derivatives.
2) Derivatives that are traded and negotiated directly between two parties without going through an exchange or other intermediary are typically called off-exchange or over-the-counter (OTC) derivatives.

The salient features of both derivatives markets in some detail are as follows:

2.4.1. Exchange-Traded Market

The primary purpose of exchanges is to aggregate a large number of participants in order to maintain liquidity in a contract. Hull (2007) finds that derivatives exchanges have been in existence for a long span of time. The Chicago Board of Trade (CBOT) was established in 1848 to bring farmers and merchants together. A rival futures exchange, the Chicago Mercantile Exchange (CME) was established in 1919. The Chicago Board Options Exchange (CBOE) started trading in call options on 16 stocks

[11] For more details of swaptions, see Gupta 2006, p. 333; Apte 2007, pp 493-495; Smullen & Hand 2005, p. 395; Hull 2005, p. 393; Gurusamy 2004, p. 574

in 1973. Though options were traded prior to 1973, the Chicago Board Options Exchange (CBOE) succeeded in creating an orderly market with well-defined contracts. The world's largest derivatives exchanges, in terms of transactions, are the Korea Exchange, Eurex (which lists a wide range of European products such as interest rate and index products), Chicago Mercantile Exchange, and the Chicago Board of Trade. There are some other exchanges as well which trade in futures contracts. Among them are the Chicago Rice and Cotton Exchange (CRCE), the New York Futures Exchange (NYFE), the London International Financial Futures Exchange (LIFFE), the Toronto Futures Exchange (TFE), and the Singapore International Monetary Exchange (SIMEX).

Traditionally, derivatives traders have relied on what is known as 'open outcry system'. It means that the traders meet physically on a designated floor of an exchange, shout and use a complicated set of hand signals to indicate trades they are desirous to carry out. The details of commodities on offer are already known. What is required is the agreement in principle and specification of the type and number of the contract. Exchanges are increasingly replacing the open outcry system by electronic trading. In electronic trading, a computer algorithm takes the place of traders, monitors bids and offers, and finds traders on the other side of the market. Usually the computer screen lists the bids and offers being quoted by traders. When an order matching a bid or offer enters the computer, the computer algorithm matches it automatically, sends the match to the clearing-house for clearing, and updates bids and offers displayed on the screen. Although American exchanges still rely on the open outcry system, many European and other overseas exchanges have turned to electronic trading.

2.4.2. Over-The-Counter Market

Not all trading is done on exchanges. The over-the counter (OTC) market is an important alternative to exchanges. It is a network of dealers who do not meet physically. Instead, they use telephone and computer. Deals are usually finalized between two financial institutions or a financial institution and one of its clients. Financial institutions often act as market makers for commonly traded instruments.

This means that they are always prepared to quote both a bid price (a price at which they are ready to buy) and an offer price (a price at which they are ready to sell). A key advantage of over-the-counter market is that the terms of a contract are not predetermined. Instead, market participants are free to negotiate any attractive deal. Financial instruments such as swaps, forward rate agreements and exotic options are almost always traded in over-the-counter market.

Both exchange-traded and over-the-counter markets are very huge. However, trading in over-the-counter market is typically much larger than that of exchange-traded market.[12]

Kleist and Mallo (2011) state that after contracting by 4% in the first half of 2010, total notional amounts outstanding of over-the-counter (OTC) derivatives rose by 3% in the second half, reaching $601 trillion by the end of December 2010. Notional amounts outstanding of credit default swaps (CDS) continued to contract, falling by 1% after the 7% decline in the first half whereas outstanding equity-linked contracts shrank by 10%. The notional amounts of foreign exchange derivatives increased by 9%. In commodity derivatives, amounts outstanding grew by 2%, driven mainly by a 15% increase in swaps and forward contracts for precious metals and other commodities. Table 3.1 shows the market condition of OTC derivatives.

[12] For further details, see Hull 2007, pp 1-3

Table 2.1: Global OTC derivatives market

Notional amounts outstanding in billions of US dollars				
	H1 2009	**H2 2009**	**H1 2010**	**H2 2010**
Grand total	594 553	603 900	582 655	601 049
Foreign exchange contracts	48 732	49 181	53 125	57 798
Interest rate contracts	437 228	449 875	451 831	465 260
Equity-linked contracts	6 584	5 937	6 260	5 635
Commodity contracts	3 619	2 944	2 852	2 922
Credit default swaps	36 098	32 693	30 261	29 898
Unallocated[1]	62 291	63 270	38 327	39 536

[1] Includes foreign exchange, interest rate, equity, commodity and credit derivatives of non-reporting institutions
Source: Kleist & Mallo 2011, p. 8

2.5. Types of Traders

Derivatives markets have a great opportunity for liquidity by attracting different types of traders. When an investor wants to take one side of a contract, he can find someone else quite easily who is prepared to take the other side (Hull 2007, p. 8). In this perspective, the following categories of traders can be identified:

2.5.1. Hedgers

Hedgers are traders who enter into derivatives contracts to safeguard their position from adverse movements in the prices of commodities concerned. Hedgers provide a cost-effective tool in order to manage price risk (Gurusamy 2004, p. 577). Various traders and producers can benefit from favorable price movements and hedge against price risk. For example, a miller and a grain farmer mutually conclude an agreement at time 0 for the delivery of a specified quantity and quality of grain at a certain time in the future. The important element of this transaction is that the price to be paid for the grain is fixed at time 0. The reason for the immediate price determination is to remove uncertainty concerning the future spot price of grain. Either party might take a great deal of gain or loss if the price movement is in his favour or against him. Since both parties face price risk in the opposite directions it is grist to their mill to agree on

a price in advance which suits the financial interests of both of them. Then the grain farmer can know very well how much production costs might safely be invested in order to make a profit, and the miller, on the other hand, can know as well at what lucrative price he should sell flour at a competitive market.

2.5.2. Speculators

Hedgers are aspirant to avoid an exposure to adverse movements in the price of an asset, speculators assume the role of either the bull or the bear depending upon their perceptions about the price movements (Gurusamy 2004, p. 577). They bet that the price will either increase or go down (Hull 2005, p. 8). Indulgence of speculators in the market is shaped by the expected future prices of the underlying assets. For instance, a speculator believes that a drug company will find a cure for cancer next year. If he buys the stock for £500 and it goes to £1 000 after the panacea is announced he will have a 100 per cent return. Speculators may trade with other speculators as well as hedgers. In derivatives markets, the volume of speculative trading is far higher than the volume of hedging. However, speculation is, as Strong (2006) observes, not the primary purpose of these markets.

2.5.3. Arbitrageurs

In economics and finance, arbitrage is the practice of taking advantage of a price differential between two or more markets. Arbitrageurs are averse to risk. They enter into such contracts that can give them risk-free profits. They always look for price imperfections in the markets. The presence of different prices in various contracts provides opportunities for arbitrage (Gurusamy 2004, p. 577). Arbitrage is not simply an act of buying a product from one market and selling it in another market for a higher price at some later time. Instead, the transactions must occur simultaneously in order to refrain from the risk that prices may change in one market before the completion of both transactions. Practically, it is possible in those securities and financial instruments which are traded electronically.

Say that there is a stock that is traded on both the New York Stock Exchange and the London Stock Exchange. The stock price is $172 in New York and £100 in London at a time when the exchange rate is $1.75 per pound. An arbitrageur can simultaneously buy 100 shares of the stock in New York, and sell them in London to obtain a risk-free profit of $300 in the absence of transaction costs.

Transaction costs may eliminate the profit of a small investor. However, a large investment house faces very low transaction costs in both the stock market and the foreign exchange market. It finds arbitrage opportunity very attractive and tries to take as much advantage of it as possible (Hull 2005, p. 12).

2.6. Advantages of Derivatives

Financial derivatives are supposed to have the following advantages:[13]

- The most important advantage of financial derivatives is to control, shift, and manage the risk exposure resulting from the volatile movement in the prices of underlying assets. Farmers, producers, and manufacturers are exposed to the risk of price fluctuation of the commodity they produce or have in their inventory. Derivatives assist them to shift or modify appropriately risk characteristics of their portfolios. New derivatives instruments such as futures and options are known to be very effective in mitigating risk exposure through various strategies like hedging and arbitrage (Gurusamy 2004, p. 568).
- Derivatives instruments are cost-effective which enable traders and producers to finance their supply requirements more efficiently. For example, in an attempt to ensure the raw material requirements for several months ahead, a miller might find that the future price of the commodity he needs is lower than the cash market price. It would therefore be cost-effective for him to utilize derivatives, and ensure necessary supplies at the right time. On the other hand, the same miller possesses a large quantity of a certain commodity but he fears a fall in prices in the future. Derivatives would, in this case, enable him to sell

[13] For details, see Gupta 2006, p. 15; Gurusamy 2004, p. 568; Strong 2006, pp 7-9

the commodity he possesses ahead of time and protect him against possible losses.

- Derivatives serve as barometers of the future trend in prices that is expected to prevail for a certain period of time. A derivatives market is necessarily concerned with anticipating a future price for the asset dealt in (Gurusamy 2004, p. 568). Such a price discovery mechanism plays a pivotal role in suitable and superior allocation of resources in an efficient financial system.
- In derivatives trading, no immediate full amount of the transaction is required to be paid because most of them are based on margin trading. As a result, a host of traders like hedgers, speculators and arbitrageurs operate in such markets. Hence derivatives trading enhances liquidity and reduces transaction costs in the markets of underlying assets.
- Derivatives assist investors, traders, and managers of large pools to devise such strategies through which they can make proper asset allocation decisions and achieve profitable investment goals.
- It has been observed from the derivatives trading that they smooth out price fluctuations, squeeze the price spread, integrate price structure at different points of time, and remove gluts and shortages in the markets.
- Derivatives instruments encourage competitive trading in the markets. Different risk-taking preferences of the market operators like hedgers, speculators and arbitrageurs are present in the markets.

2.7. Critiques of Derivatives

Apart from the benefits of derivatives outlined above, Gupta (2006) points out that there are some critical analyses of derivatives as well that rate financial derivatives a flagrant cause of destabilization, volatility, and oscillation in financial markets. In this section, a few of them are being canvassed:

- One of the most important arguments against financial derivatives is that they promote speculative activities in the markets. It has been observed from different financial markets throughout the world that hardly one or two per cent of traded derivatives instruments are settled by actual delivery of the

underlying assets (Gupta 2006, p. 16). Therefore speculation has become the primary purpose of the existence, evolution, and growth of financial derivatives. Sometimes these speculative trading practices by professionals as well as amateurs affect adversely genuine producers and traders. Some financial experts and economists believe that speculation causes better allocation of resources, reduces fluctuations in prices, restores equilibrium between demand and supply, removes periodic gluts and shortages and thus brings efficiency to the market, but it is to all intents and purposes unlikely to own all of these so-called assertions. Most of the speculative activities prevalent in the derivatives markets are professional speculations which trigger off instability in the markets. It is a reality that sudden and sharp variations in prices are normally due to common, frequent, and widespread consequences of speculation.

- Financial derivatives are supposed to be efficient instruments of risk management. This is indeed a one-sided argument. It has been observed that derivatives markets, specifically OTC market being particularly customized, are privately managed and negotiated and thus they are highly risky. In this respect, empirical studies have shown that derivatives used by the banks have not resulted in mitigation of risk. Rather some other types of risk have evolved from them. It is further argued that if financial derivatives are tools of risk management then why 'government securities' which are risk-free securities, are used for trading in interest rate futures which is one of the most popular derivatives instruments in the world.
- Financial derivatives may cause severe fluctuations in asset prices. They can be helpful in price stability if there exists a properly organized, competitive and well-regulated market. Unfortunately, this is not the case in real world and derivatives sometimes spark off the price instability rather than stability.
- Derivatives instruments have excessive risk not only for their users but also for whole financial system. The fear of micro and macro financial crises has led to the unchecked growth of derivatives which have consequently turned many market players into big losers (Gupta 2006, p. 16).

The huge losses incurred by the use of derivatives have made many financial institutions very wary. The stories behind the losses emphasize the point that derivatives can be used either to reduce risk or take a risk. Most losses came about when derivatives were used inappropriately. Employees who had an implicit or explicit mandate to hedge against risks faced by their companies decided to speculate instead.[14]

The key lesson to be learnt from the losses is the importance of internal controls (Hull 2007, p. 738). Gurusamy (2004) also observes that most of the episodes of losses in derivatives markets have arisen due to the lack of transparency and weak internal controls. Senior management should lay down clear and unambiguous guidelines in relation to the use of derivatives instruments.

2.8. Regulatory Policies on Derivatives

Saunders and Cornett (2007) highlight that derivatives instruments are subject to the following three levels of institutional regulations:

Firstly, regulators of derivatives determine 'permissible activities' that the institutions may engage in.
Secondly, once the permissible activities are determined, the institutions engaging in those activities are strictly monitored.
Thirdly, regulators attempt to judge the overall integrity of each institution engaged in derivatives trading by assessing the capital adequacy of the institution and by enforcing regulations to ensure compliance with capital requirements.

The Securities and Exchange Commission (SEC) and the Commodities Futures Trading Commission (CFTC) are often regarded as the regulators. The SEC regulates all securities traded on national securities exchanges, including several exchange-traded derivatives. The SEC's regulations of derivatives incorporate price reporting and margin requirements. The CFTC also regulates all national futures exchanges. It approves of new or proposed contracts to ensure that they have an economic purpose,

[14] For further details, see Abdelwahab 2007, p. 123

conducts economic studies of the markets, enforces rules set by individual exchanges, and provides regulatory surveillance for futures market participants. Its regulations include minimum capital requirements for traders, reporting and transparency requirements, antifraud and antimanipulation regulations, and minimum standards for clearing-house.

Main bank regulators like Federal Reserve and the Federal Deposit Insurance Corporation (FDIC) have also issued uniform guidelines for banks taking positions in forward and futures contracts. According to these guidelines a bank is required to establish internal guidelines regarding its hedging activity, establish trading limits, and disclose large contract positions that materially affect bank risk to shareholders and outside investors. The policy of regulators as a whole is to encourage the use of futures for hedging and discourage for speculation.

The individual futures and options exchanges also set and enforce many rules on their members designed to ensure smooth operations and financial solvency of the exchange. These exchanges are also responsible for setting trading procedures, hours of trading, contract characteristics, margin requirements and so on.

In contrast to futures and options markets, swap markets are governed by very few regulations. There is no central governing body which oversees the operations of swap markets. Since commercial banks are, however, the main swaps dealers swap markets are indirectly subject to regulations imposed by Federal Reserve, the FDIC and other bank regulatory agencies charged with monitoring bank risks.[15]

2.9. Conclusion

This chapter discussed the nature and trading mechanism of forward contracts, futures contracts, options and swaps. Theoretically financial derivatives are supposed to distribute risk among market participants in accordance with their ability to assume them. Derivatives assist investors, traders, and managers of large pools to devise such

[15] See Hull 2007, pp 37-38; Saunders & Cornett 2007, pp 670-671

strategies through which they can make proper asset allocation decisions and achieve profitable investment goals.

The chapter examined a number of objections to financial derivatives into the bargain. The most important argument against derivatives is that they promote speculative activities in the financial markets. Sometimes these speculative activities carried out by professionals as well as amateurs affect adversely genuine producers and traders. The huge losses incurred by the use of derivatives have made many financial institutions very wary. Most losses came about when derivatives were used inappropriately. Employees who had an implicit or explicit mandate to hedge against different kinds of risk faced by their companies decided to speculate instead. The key lesson to be learnt from the losses is the importance of internal controls. Senior management should lay down clear and unambiguous guidelines in relation to the use of derivatives instruments.

Chapter 3

Islamic Stance on Commercial Transactions

3.1. Introduction

The decrees (*ahkam*) of the *Shari'ah* are mainly divided up into two kinds. The first kind, called devotions (*ibadat*), governs the relationships between human being and Allah (God). The second kind, called transactions (*mu'amalat*), governs the relationships among the human race. The *Shari'ah* methodology in dealing with these two kinds is somewhat different. An exhaustive study of the Koran and the *Sunnah* reveals that devotions have been discussed in detail, whereas transactions have been dealt with in general terms. The general principle in case of *ibadat* is that they are sanctioned by the express injunctions of the *Shari'ah*. Hence all rituals are forbidden unless there is a clear text to validate them. In other words, what is not commanded cannot be acted upon. The rationale behind this principle seems that *ibadat* are held to be universal truths that are unaffected by time and space. They are not subject to any change or modification by means of *ijtihad* or otherwise.

On the other hand, the basic norm in case of *mu'amalat* is that of permissibility (*ibahah*) and absence of prohibition. So, everything is permissible unless there is a clear injunction to the contrary. The logic appears that *mu'amalat* are germane to individuals interacting with one another. The variety of this interaction is neither foreseeable nor capable of being complied with a regime of fixed rules and regulations. Besides, human needs and temporal circumstances invariably change within diverse geographical entities. The *Shari'ah* has therefore laid down some rules with respect to *mu'amalat* in general terms in order that people can seek guidance at contrasting places and in different epochs. This methodology adopted by the *Shari'ah*

provides people with a reasonable limit of liberty within the ambit of contracts and transactions.[1]

Mansuri (2005a) accentuates that all the injunctions of the *Shari'ah* are directed towards the realization of the following five objectives of the *Shari'ah* (*maqasid al-Shari'ah*):

1) Preservation of religion
2) Preservation of life
3) Preservation of progeny
4) Preservation of intellect
5) Preservation of wealth

It is blindingly obvious that the protection of wealth is one of the objectives of the *Shari'ah*. Failure to protect one's wealth in highly risky conditions is, according to the Islamic precepts, most reprehensible. The significance of financial derivatives, for example, as tools of risk management is admitted in the modern financial system. Obaidullah (2002) claims that public benefits or *maslahah* appear to be trivial in derivatives instruments because of the strong Koranic condemnation of *al-qimar* and *al-maysir*. The researcher puts forward the argument that to protect the farmer or the producer of essential goods against violent price fluctuations, and to facilitate efficiency and good planning through the intelligent use of derivatives come within the purview of the measures that are of the essence in realizing the public interest (*maslahah*). Therefore if the impermissible elements are removed from financial derivatives it would be highly desirable for Muslims to exploit them in order to mitigate various forms of risk.

Those who frown on financial derivatives overlook the fact that the pace of material development and the change in international relations, economics and finance have been unprecedented in many ways. Innovative techniques and new ideas have brought about completely new scenario that did not exist before, and that was not known to

[1] For an in-depth analysis, see Ibn Taymiyyah n.d., vol. 29, pp 13-14; Iqbal & Khan 2005, pp 2-3; Mansuri 2005a, pp 13-15; Ali 2008, pp 22-25; Al-Baraka Group 1992, p. 41; Ibn Hazm 1988, vol. 7, p. 403

the jurists of the past. To issue a prohibitive judgement on modern commercial transactions that have won international recognition with reference to the rulings of ancient jurisprudents without any decisive evidence is bound to prove detrimental to the Muslim community, and to retard the prospects for their development. Such a methodology is therefore inconsistent with the basic objectives of the *Shari'ah*.

This chapter explores the Islamic position on various forms of business and commercial transactions. The chapter is divided up into five broad sections altogether. Section 3.2. goes through the principle of permissibility. Section 3.3. discusses the concept of *riba* and its kinds, namely *riba al-nasi'ah* and *riba al-fadl*. This section also dilates on some forms of financial contracts and transactions which involve *riba* such as *bai al-inah*, *bai al-wafa*, *hatt wa ta'ajjal*, indexation of loans, *tawarruq* and *bai al-kali bil-kali*. Section 3.4. further canvasses the concept of *maysir*, speculation, *gharar*, and its two kinds, that is to say *gharar fahish* and *gharar yaseer*. This section also looks into some common forms of *gharar* like two sales in one, *arbun* sale, contingent sale, future sale, uncertainty about genus, etc, etc. This section briefly highlights the consequences of *gharar* on contracts into the bargain. Finally, Section 3.5. sets forth the conclusion.

3.2. Principle of Permissibility

Kamali (2002) describes that the principle of permissibility (*ibahah*) is generally upheld in commercial transactions by almost all schools of thought. A legal maxim states that the basic norm in relation to things is that of permissibility (*al-aslu fil-ashyaa al-ibahah*). This legal maxim is based on the following verses of the Koran:

> *And why should you not eat of that (meat) on which Allah's Name has been pronounced (at the time of slaughtering the animal), whereas He has explained to you in detail what is forbidden to you unless you are compelled thereto. But lo! many do lead (mankind) astray by their own desires through lack of knowledge. Certainly, your Lord knows best the transgressors (6:119).*

Say (O Muhammad): 'I find not in that which has been revealed to me anything forbidden to be eaten by one who wishes to eat it except it be carrion or blood poured forth or the flesh of swine. Surely it is impure or impious meat (of an animal) which was immolated to the name of other than Allah. But whosoever is forced by necessity without wilful disobedience nor transgressing due limits, (for him) your Lord is Oft-Forgiving, Most Merciful' (6:145).

The aforementioned verses spell out that all prohibited matters have been pronouncedly and unequivocally stated either in the Koran or in the *Sunnah*.[2] Thus permissibility and freedom become the fundamental presumptions that remain effective in the absence of categorical inhibitions. There are some other Koranic verses that tend to broaden the scope of *ibahah* and forbid to declare permissible things unlawful. In this regard, the Koran says:

O you who believe! Make not unlawful the good things which Allah has made lawful to you and transgress not. Verily, Allah does not like the transgressors (5:87).

O Prophet! Why do you forbid (for yourself) that which Allah has allowed to you (66:1).

Say (O Muhammad): 'Who has forbidden the adornment of Allah which He has produced for His slaves and the good things of food'? Say: 'They are, in the life of this world, for those who believe (and) exclusively for the believers on the

[2] All Muslim jurists have been unanimous for centuries that the *Sunnah* of the Prophet Muhammad (Peace and Blessings of Allah be upon him) is the second source of Islamic decrees and tenets. *Ahadith* are the exegesis of the Koran that give a detailed explication of the drift of its verses. This authority has axiomatically been given to the Prophet (Peace and Blessings of Allah be upon him) by Allah in the following Koranic verses:

With clear signs and scriptures (We sent the Messengers) and We have also sent down unto you (O Muhammad) the Message so that you can explain clearly to men what is sent down to them and that they may give thought (16:44).

And whatsoever the Messenger gives you, take it, and whatsoever he forbids you, abstain (from it) (59:7).

He who obeys the Messenger, has indeed obeyed Allah but he who turns away, then we have not sent you (O Muhammad) as a watcher over them (4:80).

Day of Resurrection'. Thus We explain Our revelations for people who have knowledge (7:32).

These Koranic proclamations have also been elaborated by the *Sunnah* on more than one occasion. According to one *hadith* (cited in Kamali 2002, p. 68):

'Allah Almighty has made certain things obligatory, do not neglect them. He has also laid down certain limits, do not overstep them. He has prohibited some things, do not violate them, and He has, out of mercy without forgetfulness, picked out to remain silent over certain matters, do not endeavour to be too inquisitive about them'.

The foregoing discussion boils down to the fact that the Koran and the *Sunnah* provide evident guidelines in respect of the normative principle of *ibahah*. This means that any attempt to declare something taboo or to impose rigidity and adversity upon people relying on merely speculative presumptions militates against the spirit of freedom and legitimacy strongly emphasized by the apocalyptic sources. Muslim scholars, as Kamali (2002) notes, have drawn the following conclusions from the *Shari'ah* rulings on the subject of permissibility:

- There is no need to delve very deeply into the divine sources, namely the Koran and the *Sunnah*, for an affirmative evidence in order to declare a transaction valid. The sine qua non for an ascertainment is whether an obvious and self-evident prohibition exists. If not then the relevant transaction would be regarded as lawful. It is quite pertinent here to refer to the Koranic verse which warns of dire ramifications in case of declaring something *halal* or *haram* falsely. The verse reads:

  And say not concerning that which your tongues put forth falsely: 'This is lawful and this is forbidden,' so that you invent a lie against Allah. Verily, those who invent a lie against Allah will never prosper (16:116).

- The permissible forms of commerce and transactions mentioned in the Koran and the *Sunnah* are by no means exhaustive, and do not turn down the practicability of new kinds of trade, if they are in sync with the basic principles of the *Shari'ah* in the epochs to come.
- The strenuous work done by Muslim jurists of various schools of thought in different times is, of course, grist to the mill and does signify the monumental efforts in the sphere of creativity, but with respect to modern transactions, it is not advisable to search for supportive evidences in the medieval corpus of Islamic jurisprudence. The *modus operandi* of modern finance is a far cry from what the jurists had to face. Under the circumstances the correct approach is to carry out *ijtihad* in the light of unambiguous guidelines of the Koran and the *Sunnah*.

3.3. *Riba*

Riba is usually translated as interest or usury into English. It is wrongly construed that the ambit of *riba* is merely limited to interest. *Riba* is at bottom a broader term that is of umpteen connotations. What is meant by interest and usury is only a part of *riba*. A number of transactions lie outside the purview of interest and usury but are sternly proscribed in Islam because of coming within the scope of *riba*. The correct approach to understand the full import of *riba* is to treat it as a technical term mentioned in the Koran and the *Sunnah* like *salah*, *sawm*, *zakah* and *hajj*, and to determine its meaning with reference to these two substantive sources of Islamic decrees and precepts. Some Muslim jurists such as Al-Asqalani (n.d.) have asserted that *riba* applies to all impermissible sales. Shaghil (1989) also observes that the practice of confining the application of the term *riba* to interest exclusively is both erroneous and misleading. It would be more pertinent to relate the scope of the term *riba* to other activities akin to it. Since the literal meaning of the word *riba* is excess, profiteering in any manner would come under the prohibited category.[3]

A formidable volume of literature on *riba* exists in Arabic, Urdu, English and other languages of the world. Muslim jurists and economists have taken great pains to

[3] For further explanation, see Shafi 1991, p. 14; As'adi 1994, p. 31; Iqbal & Khan 2005, p. 4; Usmani 2005a, p. 48; Fadel 2008, p. 655; Schaik 2001, p. 47; Islahi 1988, pp 128-129

explicate myriad aspects in respect of *riba*. *Riba* is an Arabic word which literally means increase,[4] growth and augmentation (Al-Jazeeri 1986, vol. 2, p. 245; Al-Zuhayli n.d., vol. 5, p. 3697). Technically, *riba* means anything, big or small, pecuniary or non-pecuniary, paid by the borrower to the lender over and above the principal as a condition,[5] predetermined or by custom, of the loan or for an extension in its maturity.[6]

Riba is strictly prohibited in Islam.[7] There is a complete unanimity among all schools of thought in Islam that the term *riba* stands for interest and usury, and incorporates their all types and forms (Siddiqui 1994, p. 18; Hasanuzzaman 1991, p. 70). All important contracts that involve financial transactions are affected by the provisions

[4] There is universal agreement on the issue that not all increases resulting from trade are subject to the restrictions of *riba*. See Fadel 2008, pp 656-657

[5] Hence any excess given by the debtor of his own accord and without the existence of a custom that compels him to give such excess is not *riba* and thus allowed. Abu Rafi narrates that the Prophet (Peace and Blessings of Allah be upon him) borrowed a young camel. When the camels of *zakah* came, he instructed me to give the young camel back. I said: 'I find only that camel among other camels that is of high quality'. The Prophet (Peace and Blessings of Allah be upon him) told: 'Give it to him because the best people are those who pay off their debts exquisitely' (Abu Dawud 2008, vol. 4, p. 70).

[6] Some people mistakenly believe that the Koran did not define *riba*. This assertion is not true. The Koran, as will be discussed later on, categorically describes: 'But if you repent, you shall have your principal (without interest)' (2:279). So, what is over and above the principal is, according to the Koranic statement, *riba*. It is, of course, a rip-roaring miracle of the Koranic parlance that it gave an overarching definition of *riba* in just a few words. However, the exegetes defined *riba* in different ways. The drift of their definitions is more or less the same. For a detailed description, see Rehman 1993, pp 9-18; Mansuri 2005a, pp 119-121; Usmani 2005c, pp 32-38

[7] It is interesting to note that Islam is not the only religion which prohibits the practice of interest. Rather it has always been considered unethical in almost all religions of the world and by the majority of ancient philosophers. In the Old Testament, many excerpts forbid interest charged on loans, and condemn the procurement of wealth by oppressing the poor with usury. Even El-Gamal (2008) spotlights that the rabbinical position on interest is stricter than the Islamic stance as the increment in the price of a credit sale above the cash price is considered to be forbidden in Judaism. The rabbis ruled that a business is not allowed to charge two prices (a lower cash price and a higher credit price) because the person who pays the higher price is actually paying an additional fee for credit. This is in stark contrast to Islamic jurisprudence wherein the jurists of all major schools of thought have validated to charge a higher credit price than the cash price. In the New Testament, although there is no direct precept on interest but these words of Jesus: 'Lend freely, hoping nothing thereby' (Luke 6:35) imply that it is, however, against the spirit of Christianity to charge interest. However, the Church gradually changed its doctrine about the institution of interest. Specifically, the dichotomy between the Church and the State after the Reformation opened the door for widespread practice of interest in Christian societies. Aristotle and Plato condemned interest as well in very strong words. Historically, it is worth noting that in AD 605, before the advent of Islam, the curtains of *Ka'ba* (the House of Allah in Mecca) caught fire on a tempestuous day. The resulting damage to the building was extensive. For its repair and maintenance, benevolent contributions were asked from the public living in the vicinity. It was, however, solemnly announced that the money earned with scrupulous honesty was to be donated. The earnings of courtesans and usurers were specifically debarred from this charitable venture. It is therefore obvious that even in the dark epoch of civilization, interest and usury were considered to be highly immoral and sinister among the pagans of Arabia. For a downright historical backcloth, see Siddiqui 1994, pp 1-5; Qureshi 1991, pp 1-39; Islahi 1988, pp 123-126; Ehsan 1998, pp 75-79; Usmani 2005c, pp 31-32; El-Gamal 2008, pp 605-606; Shirazi 1999, pp 6-17; Al-Qari 1996, pp 59-63; Noorzoy 1982, p. 8

and implications of *riba* in one way or the other. The phraseology of the Koranic verses in which believers are instructed to eschew interest and the severity of the reprimand to those who do not abide by the divine injunctions in this regard leave no doubt that *riba* is absolutely repugnant to the spirit of Islam. Therefore the need to eliminate it from all forms of exchange contracts is of the utmost importance. The relevant verses read:

> *And that which you give in riba (to others) in order that it may increase (your wealth by expecting to get a better one in return) from other people's property, has no increase with Allah but that which you give in charity seeking Allah's Countenance, then those, they shall have manifold increase (30:39).*[8]

> *O you who believe! Eat not riba doubled and multiplied, but fear Allah that you may be successful (3:130).*[9]

> *Those who eat riba will not stand (on the Day of Resurrection) except like the standing of a person beaten by Satan leading him to insanity. That is because they say: 'Trading is only like riba,' whereas Allah has permitted trading and forbidden riba.*[10] *So, whosoever receives an admonition from his Lord and stops*

[8] This verse, revealed in Mecca, is not of prohibitive nature. It simply says that *riba* has no increase with Allah, i.e. it carries no reward in the hereafter. Many expounders of the Koran hold that the word *riba* in this verse does not imply interest or usury. Instead, it means a gift offered by someone to a person with the intention that the latter would give, in return, a greater gift to the former. This opinion is ascribed to Ibn Abbas, Mujahid, Qatadah, etc. On the other hand, some exegetes take this word to mean interest or usury. This is the contention of Hasan al-Basri and Suddi. If it is taken to mean interest or usury it would suggest that the practice of *riba* had been declared abominable by the Koran even in Mecca. That is why a large number of scholars take the view that *riba* has never been allowed in Islam (Al-Zuhayli n.d., vol. 5, p. 3699). It was proscribed from the very beginning but the severity of prohibition was not emphasized during that period because Muslims were a persecuted and riled minority. At that time, the main focus was on the teachings of monotheism and apostleship. See Mawdudi 1973, vol. 3, pp 759-760; As'adi 1994, pp 62-68; Shafi 2006, vol. 1, pp 660-662

[9] Before the advent of Islam, it was customary in Arabia to charge compound interest on almost all debts. So, in the aforesaid verse, the Koran prohibited this practice in clear and unequivocal terms. Muslim scholars have given a detailed description of the types and forms of interest-based transactions prevalent among the Arabs before Islam. See Qureshi 1991, pp 52-60; Azid & Aslam 1996, p. 212

[10] Islam is certainly the only religion that gives a high and positive value to lawful economic activities. The gain accruing to the entrepreneur from these activities is considered to be a Bounty from Allah. Although trading is allowed, rather desirable, in principle (Al-Jazeeri 1986, vol. 2, p. 153; Al-Asqalani n.d., vol. 4, p. 357) but there are several restrictions in this regard as well. For example, the legality of subject matter is a sine qua non for the permissibility of business transactions being carried out. Thus it is absolutely forbidden to transact a deal of such things that the *Shari'ah* has declared *haram* like pork, intoxicant, prostitution and so on. The jurists have, however, differing views about the sale of hair of human beings and the milk of a woman (Al-Jazeeri 1986, vol. 2, pp 231-232; Ibn Rushd n.d., vol. 2, p. 96; Mansuri 2005b, pp 54-55). The *Zahiri* jurists believe that the sale of these things is permissible (Ibn

eating riba shall not be punished for the past; his case is for Allah (to judge), but whoever returns to riba, such are the dwellers of the Fire; they will abide therein. Allah will deprive riba of all blessings, but will give increase for deeds of charity. And Allah likes not the disbelievers, sinners (2:275-276).

O you who believe! Be afraid of Allah and give up what remains from riba (from now onward), if you are (really) believers. And if you do not do it then take a notice of war from Allah and His Messenger,[11] *but if you repent you shall have your principal (without interest). Deal not unjustly (by asking more than your principal) and you shall not be dealt with unjustly (by receiving less than your principal) (2:278-279).*

Likewise there are numerous *ahadith* that speak volumes for the severity of the prohibition of *riba*. For instance:

'The Messenger of Allah (Peace and Blessings of Allah be upon him) cursed the one who eats riba, the one who pays it, the one who writes it down and the two who witness to it,' and he said: 'They are all the same'.[12]

According to another *hadith*:

'Riba is equal to seventy sins. The slightest of them is that a man has an incestuous relationship with his own mother'.[13]

Hazm 1988, vol. 7, p. 524). In addition to the subject matter, the underlying cause must be legal into the bargain. So, the sale of grapes to someone who will extract wine from them is invalid because the ultimate objective is unlawful (Ibn Qudamah 2004, vol. 4, pp 159-161). Likewise to sell a weapon to a person who wants to slay an innocent man with it is illegal if the seller is apprised of this fact. See Mansuri 2005a, pp 35-46; Mawdudi 1991, pp 33-36; Islahi 1988, p. 168

[11] The severity of the chastisement is to be noted that those who take *riba* become the enemies of Allah and His Messenger (Peace and Blessings of Allah be upon him). On the basis of this objurgation, some exegetes such as Ibn Abbas and Hasan al-Basri are of the opinion that if someone takes and eats *riba* in an Islamic state he should be compelled to repent, and if he does not desist from it he ought to be killed. According to other jurists such a person needs to be incarcerated unless he shows sterling signs of repentance. See Muhammad 2000, vol. 4, p. 136; Mawdudi 1973, vol. 1, p. 218

[12] Al-Hajjaj 2007, vol. 4, p. 319

[13] Al-Qazwini 1995, vol. 3, p. 358. For an exhaustive anthology of *ahadith* concerning the prohibition of *riba*, see Shafi 1991, pp 68-98

On account of these Koranic and prophetic injunctions, there is a broad consensus of opinion in Islamic jurisprudence that *riba* is *haram* (Al-Jazeeri 1986, vol. 2, p. 245; Ibn Qudamah 2004, vol. 4, p. 3).

There is no denying the fact that moral and material growth of a society is, in the aggregate, stymied by *riba*. Moneylender is unconcerned with the operational results of the transactions conducted by the borrowed money. He appears to have become enslaved to greed and self-centredness. *Riba* necessitates exacting the wealth of the borrower sans any legal consideration or return. It creates an idle class of people by preventing the moneylender from getting involved in any productive business activity because he certainly finds it easy to earn money without labour and hardship. *Riba* siphons off wealth from the poor to the rich, increasing the inequality of the distribution of wealth. This is against social interest and contrary to the Will of Allah, Who likes an equitable distribution of income and wealth. Islam stands for cooperation and brotherhood. Interest negates this attitude and symbolizes an entirely different way of life (Siddiqi 1981, p. 63). Economically speaking, *riba* forms an essential component of cost of production. An entrepreneur adds, *inter alia*, the rate of interest which is to be paid by him to the cost of production. The rise in cost of production brings about an increase in price level which means that the purchasing power of people is reduced proportionately. This causes to all intents and purposes a decline in consumption, investment and employment.

Charity, on the other hand, hastens economic and psychological well-being of the poor and the needy. It nourishes a balance between ethical and material dimensions which are of paramount importance for the internal stability of a society. Ibn Taymiyyah (cited in Islahi 1988) opines that the right of the poor in the form of *zakah* on the property of the rich is like a debt owed to the poor. If someone is charging interest it means that he is not only denying what he owes to the poor but also indulging in further injustice by taking interest. So, it is the worst form of injustice.[14]

[14] Qureshi (1991) makes an in-depth study of the catastrophic effects of usury on western countries, government loans and business loans. Other Muslim economists have also vividly stated the role of interest in the economy, and traced its ethical, economic and social ramifications. See Siddiqui 1994, pp 25-29; Nadvi 1993, pp 192-201; Shahid 1993, pp 60-65; Usmani 2005c, pp 101-113; Iqbal 1988, pp 221-230; Khan 1999a, pp 11-13; Mawdudi 1991, pp 102-127; Ghazi 1996, pp 21-32

3.3.1. Kinds of *Riba*

There are two main kinds of *riba*.

3.3.1.1. *Riba Al-Nasi'ah*

This is the primary and substantive kind of *riba*. Since the Koranic verses have declared this kind of *riba haram* it is also called *riba* al-Koran. Similarly, only this kind was considered *riba* in the age of ignorance (*jahiliyyah*), it is called *riba al-jahiliyyah* as well. This kind of *riba* relates to loans, and refers to the premium to be paid by the borrower to the lender over and above the principal. The proscription of *riba al-nasi'ah* essentially implies that the fixing of a positive return on a loan in advance as a reward for wait is illegitimate in the *Shari'ah*. It makes no difference whether the return is to be got on the basis of fixed or variable percentage, an absolute amount is to be paid in advance or on maturity or a gift or service is to be received as a condition of the loan (Iqbal & Khan 2005, p. 4). The point in question is, in fact, the predetermined perk in the form of return. It is a baseless stance that *riba* refers to usury and not interest because the Prophet (Peace and Blessings of Allah be upon him) outlawed to take even a small gift, service or favour as a condition of the loan. He has been quoted as saying:

> *'When one of you extends a loan and the borrower offers him a gift or a ride on an animal, he should not accept it unless it has been a custom between them'.*[15]

Islam has fixed a zero rate of interest; any rate above the zero rate is a usurious rate of interest. There is no distinction between the interest on loans taken for consumption purposes and the interest on loans taken for commercial activities. Similarly, it does not signify that interest is between two Muslims or between a Muslim and a non-Muslim or between a citizen and a state or between two states.[16] Any kind of

[15] Al-Tabrizi 2001, vol. 2, pp 700-701. For details, see Muhammad 2000, vol. 4, pp 644-645; Al-Shawkani n.d., vol. 5, pp 245-246

[16] According to Imam Ja'far al-Sadiq there is no interest between a father and a son, a slave and his owner, a Muslim and a non-Muslim, and a wife and her husband (Al-Qummi 1996, vol. 3, pp 173-174). Likewise it had been a Jewish practice that interest or usury was forbidden among them, but a Jew could charge interest from a Gentile.

predetermined excess to be given over and above the principal in a loan transaction will constitute *riba* in all circumstances.[17]

Siddiqi (1991), Mawdudi (1973) and Noorzoy (1982) present a detailed analysis of the prohibition of interest on loans taken for consumption as well as business purposes. They espouse that the rationale behind the prohibition of interest on loans taken for consumption purposes is screamingly obvious. Such loans are usually taken by people of limited resources in order to meet urgent personal requirements. Taking account of the generic human traits of mutual sympathy, cooperation and succour, it is a worst kind of exploitation and oppression to trespass on the miserable condition of debtors. As far as the prohibition of interest on loans taken for production purposes is concerned, the rationale stems from the concept of justice among the human race which is the cornerstone of Islamic philosophy of social life. The outcome of a business enterprise is unlikely to be foreseeable. The occurrence of profit or loss and their magnitude can never be fully determined in advance. Therefore it is a sheer injustice if the lender is given a guarantee of a fixed and predetermined return while the borrower is left alone to bear the brunt of the uncertainty of economic conditions.

3.3.1.2. *Riba Al-Fadl*

Islam hankers for the sweeping elimination of not only the exploitative dispensation that is an intrinsic characteristic of loan interest but also those forms of dishonest and unjust exchanges of business transactions that breed social unrest and inequality. In this scenario, *riba al-fadl* relates to trade, and means an unequal exchange of two homogeneous commodities such as the exchange of wheat with wheat. Thus if two persons are to exchange wheat with one another the quantity must be equal on both sides. If there is excess on one side it would amount to *riba al-fadl*. According to the *hadith*:

[17] Muslim scholars have critically deconstructed various arguments as well as objections raised by the proponents of interest. See Usmani 2002a, pp 57-64; Siddiqui 1994, pp 19-24; Qureshi 1991, pp 101-116; Usmani 2005b, pp 38-155; Muslehuddin 1998, pp 128-132; Usmani 2005a, pp 65-83; Mawdudi 1991, pp 61-101; Ehsan 1998, pp 133-144; Ghifari 1989b, pp 173-180

> *'Gold for gold, silver for silver, wheat for wheat, barley for barley, dates for dates, and salt for salt, like for like, equal for equal and hand-to-hand. If the commodities differ then you may sell as you like, provided that the exchange is hand-to-hand'.*[18]

In another *hadith*, the Prophet (Peace and Blessings of Allah be upon him) said:

> *'Gold for gold, silver for silver, wheat for wheat, barley for barley, dates for dates, and salt for salt, like for like and hand-to-hand. Whoever pays more or takes more has indulged in riba. The taker and the giver are alike (in guilt)'.*[19]

The majority of Muslim jurists has been unanimous in the point that the prohibition of *riba al-fadl* is not restricted to the aforementioned six commodities only. Rather the injunctions apply to all commodities (Idara Tahqeeqat-e-Islami 1996, p. 43; Noorzoy 1982, p. 16).[20] They disagree, however, on the underlying cause (*illah*) of the prohibition of *riba al-fadl*. The *Hanafi* jurists are of the opinion that all these six commodities are sold either by weight or by measure. So, the underlying cause of the prohibition of *riba al-fadl* is weight or measure (Al-Jazeeri 1986, vol. 2, p. 249). All those articles which are sold by weight or by measure, and are exchanged with the same item must meet the requirements of equality in quantity and instantaneous exchange. If the transaction fails to fulfil one or both conditions it would amount to *riba al-fadl*.

The *Maliki* jurists believe that the underlying cause for gold and silver is their ability of being used as currency (*thamaniyyah*), and this *illah* can also be extended to other modern currencies. Imam Malik (cited in Mansuri 2005a, p. 131) said:

> *'If the people of an age make currency out of the hide of camels and it becomes prevalent among the people I consider its exchange with gold or silver with delay to be unlawful'.*

[18] Al-Hajjaj 2007, vol. 4, p. 306
[19] Al-Hajjaj 2007, vol. 4, pp 306-307
[20] The *Zahiri* jurisprudents, however, confine the prohibition of *riba al-fadl* to these six commodities because they deny the legitimacy of legal rulings based on *qiyas* (analogy). See Ibn Rushd n.d., vol. 2, p. 97

In respect of the remaining four items, the *illah* is their being used as food providing that they could be stored for a reasonable time without being perished. Thus vegetables and fruits do not come within the purview of *riba al-fadl* because these are perishable (Al-Zuhayli n.d., vol. 5, pp 3716-3717).

The *Shafi'i* jurists find that the *illah* for gold and silver is their ability of being used as currency (*thamaniyyah*) whereas for wheat, barley, dates, and salt, the underlying cause is their being used as food (Al-Jazeeri 1986, vol. 2, p. 250). Therefore if two homogeneous vegetables are to be exchanged with each other neither excess nor delay would be allowed because they belong to the class of foodstuffs. The difference between the viewpoints of Imam Malik and Imam Shafi'i over the *illah* for gold and silver is that Imam Malik while considering both metals as currencies, does not tend to restrict the underlying cause to only gold and silver. Instead, he concludes that this principle is of general application. So, a homogeneous exchange of currency ought to fulfil the requirements of equality in quantity and prompt delivery from both sides. In case of heterogeneous exchange, like dollar for pound sterling, the equality in quantity is not a requirement. It is, however, necessary that both currencies be exchanged in the same session of the contract. Imam Shafi'i, on the other hand, restricts the *illah* to these two metals. He regards gold and silver as medium of exchange inherently, and to him, no other thing can assume this role. Hence he does not generalize the applicability of this underlying cause.

Three different opinions in connection with *illah* are ascribed to Imam Ahmad bin Hanbal. The first opinion is similar to that of the *Hanafi* jurists. The second opinion is close to the opinion expressed by the *Maliki* and *Shafi'i* jurists. According to the third opinion the underlying cause for the four commodities is their being used as food along with the characteristics of weight and measure. Thus there is no element of *riba al-fadl* if the foodstuffs to be exchanged are neither measurable nor weighable or if the items being exchanged are not foodstuffs (Al-Zuhayli n.d., vol. 5, pp 3722-3723).

The rationale for the prohibition of *riba al-fadl* appears that in barter system, if homogeneous commodities are being exchanged it is highly probable that one party with the ability to judge the difference in quality shall exploit the ignorance of less knowledgeable party in giving him less than the real value of the commodity.

Therefore the Lawgiver (Peace and Blessings of Allah be upon him) has provided the less knowledgeable party with adequate safeguard against the possible injustice and exploitation by stipulating that the exchange must be equal on both sides. Furthermore, an unequal exchange of the same commodity engenders hoarding, monopoly and profiteering. A rich man, for example, gives 1 kg of superior dates in exchange for 5 kg inferior dates. All inferior dates are to all intents and purposes transferred to the rich man with the fallout that he starts hoarding the dates which are of inferior quality. The small quantity of superior dates possessed by a large number of poor people gives out in less than no time. Then the rich man monopolizes inferior dates, and sells them in the market at extortionate prices.

In this perspective, the use of cash money could help puncture the possibility of an unfair exchange. That is why Islam has at bottom encouraged the use of money by prohibiting *riba al-fadl*. Abu Sa'eed narrates that Bilal brought some *barni* (good quality) dates to the Prophet Muhammad (Peace and Blessings of Allah be upon him). The Prophet asked him: 'Where are these from'? Bilal replied: 'We had some inferior dates; I exchanged two *sa* for one *sa*'. The Prophet said: 'This is exactly *riba*. Do not do so. If you want to buy dates sell the inferior dates in a separate transaction, and then buy the superior dates with the price you have received' (Al-Hajjaj 2007, vol. 4, p. 314).

Here a relevant issue is that of trading in currencies. In the Islamic commercial law, currency exchange is governed by the rules and regulations of *bai al-sarf* which require that the exchange of currencies must be hand-to-hand (Al-Jazeeri 1986, vol. 2, p. 271), and at current market exchange rate (Iqbal & Khan 2005, p. 6; Khan 1988, p. 103). The Prophet Muhammad (Peace and Blessings of Allah be upon him) did not allow any time-lag in the exchange of currencies. Possession may take place either physically or constructively (Accounting and Auditing Organization for Islamic Financial Institutions 2003, p. 6). Obaidullah (2001a) finds that there is a general agreement that currency exchange on a forward basis is not permissible, that is to say when the rights and obligations of both parties relate to a future date. However, the

jurisprudents disagree when the rights and/or obligations of one or either party are deferred to a future date.[21]

In essence, the intended purpose of the prohibition of *riba al-fadl* is to ensure equality and justice,[22] remove all forms of exploitation through unfair exchanges, and close all back doors to real *riba* because in the *Shari'ah*, anything that could be used as a vehicle for some unlawful activity is also unlawful (Muhammad 2000, vol. 4, p. 259; Al-Zuhayli n.d., vol. 5, p. 3458).[23]

3.3.2. Some Forms of *Riba*

The objectives of some financial transactions tend to thwart the intention of the Lawgiver (Peace and Blessings of Allah be upon him), and militate against the spirit of the *Shari'ah* as they provide a subterfuge (*hilah*) to circumvent the obstacles posed by the prohibition of *riba*. The vast majority of the jurisprudents a fortiori regards such forms of suspicious and shady contracts as invalid. Some of these contracts are as follows:

3.3.2.1. *Bai Al-Inah*

In this form of contract, a person sells some object on credit for a certain price and then buys it back at a price less than the sale price on prompt payment. Both transactions take place simultaneously in the same session of the contract. For instance, A sells a commodity to B for £100 to be paid one month hence. A then buys the commodity back for £80 from B on immediate payment. Now A is a creditor and B is a debtor. A has advanced a loan of £80 under the cover of sale transaction in which he will earn a surplus of £20 after one month. Another form of *bai al-inah* is to sell commodity on cash and then buy it back at a higher price to be paid at some specified time in the future. In this case, the prospective debtor sells an object on cash

[21] For the details of various issues in relation to trading in currencies, see Accounting and Auditing Organization for Islamic Financial Institutions 2003, pp 5-9

[22] Chapra (1985) maintains that *riba al-nasi'ah* was well-known in the *Jahiliyyah*; the concept of *riba al-fadl* was introduced by Islam, and reflects the stamp of its own unflinching emphasis on socio-economic justice.

[23] Imam Malik prohibits all those business transactions which could induce *riba*, although they are not directly *riba* (Idara Tahqeeqat-e-Islami 1996, p. 92).

to the prospective creditor. The debtor immediately buys the object back at a higher price payable at a future date. The difference between the two prices represents interest indeed.

The majority of Muslim jurists considers this form of contract frowned upon (Muhammad 2000, vol. 4, p. 240; Al-Zuhayli n.d., vol. 5, p. 3457) because this is nothing more than a subterfuge to get around the impediment posed by the prohibition of *riba* (Al-Kandhalwi n.d., vol. 11, p. 57). They infer the prohibition of this transaction from the *hadith* wherein the Prophet (Peace and Blessings of Allah be upon him) is reported to have said:

> *'If you carry out bai al-inah, hold the tails of cattle, feel satisfied with farming, and relinquish jihad Allah will inflict scurrilous torment on you, and He will not withdraw it until you return to your religion'.*[24]

The prohibition is also deducible from the tradition of A'ishah (Allah be pleased with her) that Umm Walad Zaid bin Arqam apprised her: 'I sold a slave to Zaid bin Arqam for eight hundred on credit, then I bought the slave back for six hundred on prompt payment'. A'ishah told her: 'It was bad what you sold and what you bought, inform Zaid that he has struck down his *jihad* with the Prophet Muhammad (Peace and Blessings of Allah be upon him) unless he repents'. She asked her: 'Shall I take my principal back'? A'ishah then recited the verse: 'So, whosoever receives an admonition from his Lord and stops eating *riba* shall not be punished for the past; his case is for Allah to judge' (2:275).[25]

Imam Shafi'i, on the other hand, takes the view that *bai al-inah* is permissible (Al-Zuhayli n.d., vol. 4, p. 3034). He does not consider the tradition of A'ishah to be authentic. Also, the practice of Zaid speaks volumes about the legality of this transaction (Muhammad 2000, vol. 4, p. 325). If there is a difference of opinion among the disciples of the Prophet (Peace and Blessings of Allah be upon him) the principle, according to Imam Shafi'i, is to follow analogy. Hence he prefers the

[24] Abu Dawud 2008, vol. 4, pp 123-124
[25] See Ibn Hazm 1988, vol. 7, p. 368; Ibn Taymiyyah n.d., vol. 29, p. 254

practice of Zaid in *bai al-inah* (Al-Kandhalwi n.d., vol. 11, p. 129). Ibn Umar is reported to have legitimized *bai al-inah* as well (Ibn Rushd n.d., vol. 2, p. 107).

3.3.2.2. *Bai Al-Wafa*

This is a transaction in which a person who needs money sells a commodity to another person on condition that whenever the seller longs, the buyer would return the purchased commodity to him and get his money back. The jurists disapprove of this transaction because this is also a subterfuge to shun the proscription of *riba* like *bai al-inah*.[26] The purchaser is, in actual fact, a creditor who benefits from the commodity placed in his custody as a pledge until the seller (the debtor) pays him back his amount and retrieves the object. Islamic injunctions concerning pledge categorically state that the creditor is not entitled to enjoy profit from the pledge because it is tantamount to *riba*.[27]

3.3.2.3. *Hatt Wa Ta'ajjal*

In this transaction, the lender hastens the repayment of his delayed debt by taking an amount that is less than the value of the debt. He accepts his money before it becomes due in consideration of discount on the principal.

There is a difference of opinion among the jurisprudents over the legitimacy or otherwise of *hatt wa ta'ajjal*. According to the first opinion it is permissible to get back the amount of money lent at a discount on account of early repayment. This opinion is ascribed to Abdullah bin Abbas, Nakh'i, Abu Thowr and Zufar. They rely, in this regard, on the tradition that when Banu Nadir were to be evicted from Madinah, some of them came to the Prophet Muhammad (Peace and Blessings of Allah be upon him) and said: 'We are being evicted at a time when people owe money to us, and the debts are not yet due'. The Prophet (Peace and Blessings of Allah be

[26] It is quite pertinent to mention here that the *Hanafi* jurists permitted this transaction in Bukhara due to necessity. See Nyazee 1995, p. 74

[27] See Al-Jazeeri 1986, vol. 2, pp 332-337; Ibn Rushd n.d., vol. 2, p. 208; Muhammad 2000, vol. 4, p. 388; Ghifari 1989b, p. 146; Mansuri 2005a, p. 324. According to the *Ja'fari* jurisprudence if a person extends a loan and takes the horse and the camel of the borrower as a pledge then he is entitled to ride on them if he feeds them, but if the horse and the camel are fed by the pledgor then the lender cannot ride on them. For details, see Al-Qummi 1996, vol. 3, p. 191

upon him) told them to reduce the amount of money owed to them, and demand immediate payment (Ibn Rushd n.d., vol. 2, p. 108).

Having mentioned the aforesaid *hadith*, Nyazee (1995) observes that there is no reason to prohibit this transaction because it is merely an adjustment in the price of a credit sale which is permitted by Islamic law. It is also permitted to charge a higher price when the sale is on credit. When the buyer makes an early payment, it is quite natural that the seller should slightly reduce the price. Not doing so would amount to unjustified enrichment or *riba*.

The second opinion suggests that this practice is disallowed. The majority of jurists subscribes to this opinion (Ibn Qudamah 2004, vol. 4, p. 37). They infer that a discount on the original amount due to hastening the payment is akin to take excess on the principal. Imam Sarakhsi (cited in Mansuri 2005a, p. 135) said:

> *'If a person owes one thousand dirham for a specified time and he agrees with the creditor that he will pay him five hundred dirham before the debt falls due is not permissible because the debtor and the creditor have forfeited their rights relating to five hundred dirham in consideration of time. Hence it is an exchange of time for money which is not allowed in our view'.*

The proponents of this contention argue that the Prophet (Peace and Blessings of Allah be upon him) had decreed the Jews to give up their claim of interest or excess over and above the principal and take back the original amount only before the time of maturity. In other words, they were instructed to get back their delayed debts before the time of maturity on condition that they will not charge interest. So, the *hadith* does not suggest any reduction in the original amount in return for prompt payment. In addition, the event of the expulsion of Banu Nadir occurred in the fourth year of Hijra. *Riba al-fadl* was prohibited in the sixth year of Hijra, whereas the verses germane to *riba* were revealed in the tenth year of Hijra. In this perspective, the *hadith* of *hatt wa ta'ajjal* came before the prohibition of *riba*; it was abrogated by the subsequent injunctions in relation to *riba* (Al-Kandhalwi n.d., vol. 11, p. 328).

The third opinion which is more appropriate sets forth that this practice is permissible if it is brought into effect without the condition of immediate payment. It means that if the debtor repays the deferred debt before the time of maturity and the creditor, on the other hand, reduces some amount without its being a contractual obligation then it is allowed.[28]

3.3.2.4. Indexation of Loans

Inflation and the consequent erosion of the purchasing power of money is a significant contemporary issue. The effects of inflation undoubtedly turn out to be inimical to the interests of the lender because the money he gets back at the time of maturity is less in terms of its purchasing power. For example, A borrows one thousand pounds sterling from B for a period of one year. Over the year the pound is devalued by 10 per cent. If A repays one thousand pounds to B as per agreement he is actually repaying nine hundred pounds. This means that in terms of the purchasing power of money, he is repaying him less than what he had borrowed.

As a solution to this problem it is suggested that the borrower had better atone the lender for the monetary loss wrought by the devaluation of money by giving him some extra amount which could offset the detrimental effects of inflation. For this purpose, loans should be indexed to the rate of inflation in the economy. Indexation means a system by which wages, prices or the interest and redemption payments on securities are not fixed in money terms, but are adjusted in proportion to a suitable index of prices. Indexation of prices and wages is intended to mitigate the effects of inflation and stabilize real incomes (Smullen & Hand 2005, p. 205; Black 2003, p. 227).

Muslim scholars have different views about the validity or otherwise of indexation of loans. Some find that this practice is quite congruent with the principles of justice and fairness laid down by the Koran and the *Sunnah* and therefore approve of it. They deduce that justice and fairness in mutual dealings are cornerstone of the Islamic economic system. It is gospel that inflation hastens both injustice and unfairness to the

[28] See Muhammad 2000, vol. 4, pp 364-367

lender because he has to notch up loss in the real value of money. Also, Islam has strictly forbidden the practice of diminution in weight and measure, thereby depriving others of their due rights. In inflationary periods, the lender does not receive what is really due to him. So, indexation of loans remedies all these problems.[29]

On the other hand, some scholars trow that the idea of indexation does not conform to the teachings of Islam. Their ratiocination which is stronger than the erstwhile point of view is based on the following arguments:

- Indexation involves a definite positive return on loans. Hence it is a form of *riba*.
- Mansuri (2005a) states that indexation contains the element of *riba al-fadl*. It involves an excess in one countervalue in the exchange of two commodities of the same genus, and conflicts with the *hadith* which requires that a fungible good is to be returned by its like; good quality or bad quality has no relevance for such contract. Thus darkened silver has the same value in weight as polished silver. There is a consensus among the *fuqaha* that the sameness in the tradition mentioned above, means sameness in kind and quantity, not in value.
- The *Shari'ah* injunctions set forth that both values in an exchange contract should be clearly determined. The jurists are unanimous in the point that in a sale of deferred payment, if the price to be paid by the buyer is not fixed the contract would be null and void. It means that the obligation of the buyer in a contract of deferred payment must be determined at the time of the contract. In case of indexation, the liability of the debtor is canvassed on that day when the loan becomes due.
- The element of injustice and unfairness is inherent in indexation. In accordance with the Islamic precepts, the person who brings about any affliction or loss to someone is liable for redressing the damage done. Inflation and its consequent repercussions on the money of the loaner are not the act of the borrower. This loss would have come about even if the lender had not lent his money. Hence it is illogical, as Khan (1999b) notes, that the borrower be

[29] For more details, see Hasanuzzaman 1997, pp 41-46

held responsible for the loss and asked to compensate. Such strategy would evidently breed harm and unrest to the loanee. Siddiqui (1994), Usmani (1996) and Khan (1999b) rightly infer that if the loss is to be compensated by the borrower then the gains accrued by deflation should also be passed on to him. Since the benefits of deflation are retained by the lender the loss due to inflation should accordingly be borne by him.

- The basket of consumer goods or consumer basket which is the most popular method of indexation does not provide a just and fair standard in order to determine the purchasing power of money because a vast majority of population does not consume most of the items included in the basket. The consumer basket consists of around forty items which are barely consumed by the general public. If such basket is to be adopted as a standard to determine the purchasing power of money it would be unjust and unfair to many people. The consumption habits vary widely in different terrains of a country. These habits differ from rural to urban areas into the bargain. An attempt to harness different indexation at varied places might not even be practicable due to the administrative costs and some other reasons (Siddiqui 1994, pp 91-92).
- Indexation tends to induce savers to shy away from risk capital which has strongly been emphasized by the *Shari'ah*.

Chapra (1985) argues that even though indexation could perfectly be justifiable in the light of the *Shari'ah* for wages, salaries and pensions, it is difficult to see how a just case could be built for the indexation of financial assets. Since investors who not only save but also take the risk of investment are not assured of a stable real value of their investments, why should savers and cash-holders be so assured when they do not even take the risk. Instead of introducing inequities through indexation, it would be just to ask cash-holders to seek protection through investment. Indexation of *qurud hasanah* in terms of a price index may also not be defensible on economic grounds because even though it is proposed with the innocent objective of doing justice to the lender of *qard hasan*, it has the potential of initiating gross injustice to the borrower, particularly in years when the rate of inflation is higher than the rate of interest. It seems therefore that while indexation of incomes (wages, salaries, pensions and other fixed incomes of this nature) may be feasible and resorted to, to a mild extent, as a

temporary sedative for the pain of inflation, it is not a permanent solution. The policy alternative which would best conform to the norm of socio-economic justice emphasized by the *Shari'ah* is price stability, not indexation. Every effort should be made by the Islamic state to attain this objective if it wishes to fulfil truly its obligations in the light of Islamic teachings. It is not possible to find any support from the *Shari'ah* for the indexation of financial assets. It must be ruled out. Cash-holders (including demand deposits) must seek protection against whatever inflation there is even in an Islamic economy through investment.

In fact, indexation is an attempt to provide justification for bank interest. A bank may claim that the excess paid to the depositor is a compensation for the loss suffered by the latter during the period his money remained in the custody of the bank, and it is not *riba*. In this perspective, indexation of loans would prove to be a back door for validating interest.[30]

3.3.2.5. *Tawarruq*

Under this contract, a financial institution, either directly or indirectly, buys a commodity such as platinum or copper, and sells it immediately to a customer on credit. The customer then resells the same commodity to a third party for prompt payment (Al-Zuhaili n.d., p. 2). The customer receives a cash amount and has a deferred payment obligation to the financial institution. In *tawarruq*, it is necessary that the commodity be resold to a third party rather than the person who at first sold it (Uthmani n.d., p. 2).

Under the contract of *tawarruq*, the intention of the purchaser is not to possess the commodity; his intention is to get money (Al-Zuhaili n.d., p. 8). Ibn al-Qayyim (cited in Ali 2008) states that Ibn Taymiyyah used to disapprove of *tawarruq*. He was queried about it more often than not in my presence but he never allowed it.[31] Siddiqi (2007) meticulously examines the impact of *tawarruq* on the economy. He concludes,

[30] See Usmani 2005c, pp 113-117; Mansuri 2005a, pp 136-142; Siddiqi 1983, pp 41-44; Khan 2002, pp 104-105; Al-Qari 1996, pp 25-29

[31] For other jurisprudential verdicts on *tawarruq*, see Uthmani n.d., pp 3-14; Al-Zuhaili n.d., pp 9-15; Dusuki & Mokhtar 2010, pp 49-52

through macroeconomic analysis, that the harmful consequences of *tawarruq* are much greater than its benefits.

3.3.2.6. *Bai Al-Kali Bil-Kali*

A number of contracts have been included in the Islamic jurisprudence under the rubric of *bai al-kali bil-kali* (sale of one debt for another) or *bai al-duyun* (sale of debts). Basically, *bai al-dayn* envisages the sale of an unpaid debt involving either two or, in some cases, three parties. Kamali (2002) quotes several instances of *bai al-kali bil-kali*. Some of them are as follows:

- A buys a certain commodity from B on credit. When the time of payment comes and the debtor finds that he is unable to pay, he asks the seller: 'Sell it to me on credit again in return for some additional amount of money'. The seller concurs, and sells on credit what was already credit. Imam Malik deems this kind of transaction to be illicit.
- A borrows two, for example, tons of wheat for his personal use from B, returnable after three months. Before the expiry of this period, B sells the same two tons of wheat to C in exchange for something else to be delivered after one month. Here the sale involves an exchange of debts which is considered to be impermissible on account of the uncertainty with respect to delivery.
- A borrows £10 000 from B for a period of one year. Prior to the repayment of debt, B proposes to rent A's house in exchange for £10 000. This is unlawful as well because the transaction consists of the sale of one debt for another. If the proposed exchange is advantageous to one of them it would be tantamount to *riba*.
- A is indebted to B for, say, 20 ounces of gold and B owes 150 ounces of silver to C. A and C cannot settle up their debts with one another directly because this would amount to the sale of one debt for another. The *Hanbali* jurists prohibit such transaction when the two commodities are different, whereas the *Shafi* jurisprudents forbid it even though the commodities are identical in terms of genus and quantity.

The prohibition of *bai al-kali bil-kali* is derived from the *hadith* wherein the Prophet Muhammad (Peace and Blessings of Allah be upon him) invalidated it (Al-Shawkani n.d., vol. 5, p. 165).

Any contract where the settlement by both parties is deferred to a future date is a clear case of sale of one debt for another (Obaidullah 1999, p. 20). Hassan (1985) quotes a broad consensus of opinion on the prohibition of *bai al-kali bil-kali* in the Islamic jurisprudence. Muslim jurists, he says, necessitate taking possession of principal in *salam* before leaving the place of contract in order that the sale of one debt for another can be refrained from. The commodity purchased is, in effect, a debt which is to be acquired later on. If the seller does not receive money at the time of the contract the transaction will become a sale of one debt for another which is frowned upon. Ibn Qudamah (2004) also maintains that *bai al-dayn* is unanimously impermissible. He cites Ibn al-Munzir's assertion that there is a complete agreement among the jurists about the illegitimacy of *bai al-dayn*. Imam Ahmad bin Hanbal is also reported to have said the same (Al-Shawkani n.d., vol. 5, p. 166). Usmani (2005b) states that the prohibition of *bai al-dayn* is a logical consequence of the prohibition of *riba*. A debt receivable in monetary terms corresponds to money, and every transaction where money is exchanged for the same denomination of money, the price must be at par. Any increase or decrease from one side is tantamount to *riba* which can never be allowed in the *Shari'ah*. Gilani (n.d.) argues that *bai al-kali bil-kali* is prohibited because it might precipitate untold disputes at the time of payment. Ibn Rushd (n.d.) and Rehman (1993) also deem *bai al-dayn* forbidden in the light of the *hadith*.

On the other hand, Ibn al-Qayyim holds the view that not all forms of *bai al-dayn* are prohibited. The prohibited form is that which involves the sale or exchange of one deferred debt for another. He further explains that there is neither explicit nor implicit text in the *Shari'ah* to proscribe it. On the contrary, the principles of the *Shari'ah* signify its permissibility. To Ibn Taymiyyah, the Prophet (Peace and Blessings of Allah be upon him) did not prohibit the payment of one debt in exchange for another debt when both are established and substantiated, especially when this process does not involve any third party and is restricted to the debtor only. The *Maliki* jurists also upheld the permissibility of certain types of *bai al-dayn*, especially when the debts

involved therein do not arise from the exchange of foodstuffs, and the transaction does not contain the element of *gharar* (Al-Zuhayli n.d., vol. 5, p. 3407).

It is a fundamental principle of the *Shari'ah* that the consensus of the Muslim jurisprudents on a certain issue is as binding as the precepts of the Koran and the *Sunnah*. The relevant verse says:

> *And whoever contradicts and opposes the Messenger (Muhammad) after the right path has clearly been shown to him, and follows other than the believers' way, We shall keep him in the path he has chosen and burn him in Hell – what an evil destination (4:115)!*

Since the jurists are unanimous in the proscription of *bai al-kali bil-kali* it cannot be validated by the contentions of a few scholars.

3.4. *Maysir* (Gambling)

Islam prohibits all kinds of gambling and games of chance. The pertinent Koranic verses read:

> *O you who believe! Intoxicants (all kinds of alcoholic drinks), gambling, Al-Ansab (animals that are sacrificed to idols on altars), and Al-Azlam (arrows for seeking luck or decision) are an abomination of Satan's handiwork. So, avoid (strictly all) that (abomination) in order that you may be successful. Satan wants only to excite enmity and hatred between you with intoxicants (alcoholic drinks) and gambling, and hinder you from the remembrance of Allah and from the prayer. So, will you not then abstain (5:90-91).*

The *Shari'ah* injunctions recognize only three ways in which property can legitimately be acquired: by an exchange of values, gift and inheritance (Kamali 2002, p. 151). Gambling is outside this domain and does not aim at the desired objective of fair distribution of wealth among the *canaille*. Waliyyullah (n.d.) spells out that gambling is *haram* and void in the *Shari'ah* because people's wealth is snatched by it,

and it is based on ignorance, greed and fallacy. The silence of the loser entails his furore and despondency. If he disagrees over his loss then his dispute is about such a thing which he himself engendered. Gambling whets the appetite of the winner and he lusts after more and more wealth.

Gambling consists of two or more players engaged in a combative game that involves both gain and loss. The gain of one person is the loss of the other.[32] It involves creation of risk for the sake of risk. The underlying object of a contract of gambling is risk and nothing else. It does not relate to the exchange or production of real goods and services. Therefore a gambling contract does not involve a useful transaction (El Gari 1993, p. 5). The gambler settles on to seek risk that had not been there before. Ibn Taymiyyah (cited in Kamali 1996) points out that if a sale contains *gharar* and entails devouring the property of others then it is similar to gambling. He adds that *gharar* sales forbidden in Islam partake, in effect, of gambling. These forms of business transactions were prevalent among the Arabs and were subsequently proscribed by the Prophet Muhammad (Peace and Blessings of Allah be upon him).

3.4.1. Speculation

Some scholars regard gambling and speculation as synonymous terms. Others consider them to be different *in toto* (Kamali 1996, p. 217). Technically speaking, speculation means the purchase or sale of something for the sole purpose of making a capital gain (Smullen & Hand 2005, p. 383). Khan (1988) also asserts that speculation is a mental activity in which a person formulates his judgement of the future course of the market. Prima facie, to take risks is an inalienable aspect of human life. From economic point of view, the willingness to take a risk is essential to the growth of a free market. If all savers and their financial intermediaries invested only in risk-free assets the potential for business growth would never be realized. The specialists agree that risk can be managed, but not eliminated from economic activities. 'Nothing ventured, nothing gained' is the first maxim in the business world (Al-Suwailem 2006, p. 141). Economic development cannot be achieved without assuming risk.

[32] It is therefore self-evident, as Kamali (2002) describes, that gambling in a commercial transaction does not arise unless the appropriation of another person's property is involved.

Therefore Islamic directives that risk may not be severed from real commercial transactions are down-to-earth, and conform to the economic realities.

Speculation consists of such risks that are necessarily present in the process of marketing. No business activity can, in this perspective, be said to be utterly devoid of speculation. That is simply because people carry out business activities in order to make a profit which necessitates speculation. Therefore there is nothing objectionable in speculation in the Islamic framework. Khan (1988) emphasizes that no law can be enforced against speculation as it involves lawful activities of buying and selling. It is only the intent of the speculator that distinguishes speculation from genuine investment.

In actual fact, gambling is the extreme and worst form of speculation. As was stated above speculation always involves an attempt to predict the future outcome of an event. But the process may or may not be backed by the analysis and interpretation of relevant information. The former case is completely consistent with the Islamic rationality. An Islamic economic unit is, however, required to assume risk after making a proper risk assessment with the help of information. Hence all business decisions involve speculation in this sense; when speculation is based on information, it is not only permissible, but also desirable. It is only the flagrant absence of relevant information or the conditions of excessive uncertainty that speculation resembles gambling and is therefore unpalatable. If the Islamic modes of investment are compared to the interest-based transactions the former would turn out to be more inclined towards speculation than the latter. Therefore speculative risk-taking, as Kamali (2005) finds, in commerce which involves investment in assets, labour and skill is not forbidden. What is forbidden is excessive *gharar* and gambling.

Ibn Taymiyyah (cited in Al-Suwailem 2006) further spells out that risk is divided into two categories. The first category is that of commercial risk where someone buys a commodity in order to sell it for profit, and relies on Allah. This risk is necessary for merchants even though one might occasionally lose, but this is the nature of commerce. Gambling is the other type of risk which means devouring the wealth of others. That is what Allah and His Messenger (Peace and Blessings of Allah be upon him) have prohibited.

Obaidullah (2001b) concludes that speculation is against the norms of Islamic ethics and an Islamic market would be free from any mechanism that encourages speculation. Since the distinction between speculation and genuine investment is largely a matter of intention of the individual, the former cannot be directly prohibited. The observed difference is generally in terms of time horizons. An oft-repeated suggestion to curb speculation is to impose a minimum holding period requirement. However, this course of action may not be desirable because a genuine investor may need to liquidate his investment within a short period of time on account of either an unexpected individual need for liquidity or some adverse information about the company. To prevent some investors from disinvestment while allowing others on the basis of a minimum holding period would amount to injustice. Such an action is not only overly restrictive but also unnecessary. Khan (1988) argues that in the Islamic framework, although speculation is not unlawful, professional speculators cannot thrive on account of the following reasons:

- Each transaction involves physical delivery which is against the temperament of the speculators.
- Most of the speculation is made possible by funds borrowed on interest. The Islamic economy does not provide this facility.
- 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 infinite risks.

3.4.2. *Gharar* (Uncertainty)

Gharar is one of the major causes of the invalidity of a contract. The Messenger of Allah (Peace and Blessings of Allah be upon him) is reported to have forbidden the financial transaction involving *gharar* (Al-Hajjaj 2007, vol. 4, p. 216). Literally, *gharar* means risk or hazard (Al-Zuhayli n.d., vol. 5, p. 3408). In a contract, the word *gharar* often refers to uncertainty and ignorance of one or both parties about the substance or attributes of the object of sale or its existence at the time of the contract. Lack of knowledge with respect to all implications of a contract vitiates the principle of mutual consent of contracting parties which is, according to the *Shari'ah*, a

necessary condition of all contracts of exchange. *Gharar* is a broad concept that possesses manifold connotations in different kinds of transactions. There is no such juristic definition of *gharar* which could be said to have consensus on (Obaidullah 1998, p. 82). Rather Muslim jurisprudents widely disagree over its definition. Some contentions are as follows:

- According to Al-Sarakhsi (cited in Al-Zuhayli n.d.) *gharar* takes place when the consequences (of a transaction) remain hidden and unknown to the contracting parties.
- According to Ibn Abidin (cited in Mansuri 2005a, p. 95) *gharar* is uncertainty about the existence of the subject-matter of sale.
- According to Al-Shirazi (cited in Al-Zuhayli n.d.) *gharar* is that whose nature and consequences are hidden.
- According to Ibn Taymiyyah (n.d.) *gharar* is that whose consequences are unknown.
- According to Ibn al-Qayyim (cited in Mansuri 2005a, p. 96) the object which the vendor is unable to deliver whether it exists or not contains *gharar*.
- According to Ibn Hazm (cited in Al-Zuhayli n.d.) *gharar* is present in a contract of sale where the buyer does not know what he has bought, and the seller does not know what he has sold.
- According to Ibn Rushd (cited in Mansuri 2005a, p. 96) *gharar* is to be found in the contracts of sale when the seller suffers a loss because of his ignorance with respect to the price of the article or the indispensable criteria about the contract or its object or quality or time of delivery.
- According to Al-Zuhayli (n.d.) *gharar* sale is any contract which incorporates risk affecting one or more parties, and which may result in loss of property.
- According to Al-Zarqa (cited in Al-Zuhayli n.d.) *gharar* is the sale of probable items whose existence or characteristics are not certain due to the risky nature which makes the trade similar to gambling.
- According to Sanhuri (cited in Mansuri 2005a, p. 96) lack of knowledge about the material terms of contract is the distinct feature of *gharar*. It comes about in the following circumstances:

1) When it is not known whether the subject-matter exists.
2) If it exists at all whether it can be handed over to the buyer.
3) When want of knowledge affects the identification of the genus or species of the subject-matter.
4) When it affects its quantum, identity or necessary conditions.
5) When it relates to the date of a future performance.

The absence of adequate and accurate information is a potential source of *gharar*. Islamic commercial law urges to safeguard the interests of less knowledgeable party. That is why the Prophet Muhammad (Peace and Blessings of Allah be upon him) prohibited the business transaction in which a city-dweller meets a Bedouin outside the market-place, and buys his merchandise at a price less than the market price, thereby trespassing on the seller's ignorance of the market price (Al-Bukhari 1997, vol. 3, pp 210-211; An-Nasa'i 2008, vol. 5, pp 274-275). Therefore the majority of those who possess knowledge considers this practice to be abominable (Ibn Qudamah 2004, vol. 4, p. 157).

Gharar is in essence believed to be absent when the contracting parties have adequate knowledge of the countervalues they intend to exchange; when the object is known to exist; when it can be procured; when its quantity, quality and attributes are spelled out, and when it can easily be delivered. In case of deferred sale (*bai al-mu'ajjal*), it is essential that the terms of delivery and payment should be clearly stated, and all precautionary measures should be taken to ensure that the parties have the ability to fulfil their obligations (Kamali 2002, p. 86).

3.4.3. *Gharar Fahish* and *Gharar Yaseer*

The jurists draw a distinction between two kinds of *gharar*, namely *gharar fahish* (substantial uncertainty) and *gharar yaseer* (trivial uncertainty). There is a broad consensus of opinion on the fact that the first kind is prohibited while the second kind is tolerable (Al-Zuhayli n.d., vol. 5, p. 3414) because in some cases, it might be unavoidable. So, its presence does not affect the basic principle of permissibility of a contract.

Ibn Rushd (n.d.) holds that substantial uncertainty may originate in ignorance of the nature and attributes of an object, in doubt about its availability and existence, in a lack of information concerning its quantity or price or the unit of currency in which the price is to be paid or the terms of payment. Al-Baji (cited in Al-Kandhalwi n.d.) maintains that trivial uncertainty is that which is endemic in nearly all contracts but does not feature therein, whereas substantial uncertainty is that which overwhelms a contract to such an extent that it becomes a salient feature thereof. Waliyyullah (n.d.) draws the same conclusion that not every ignorance renders a contract of sale invalid because numerous matters are left unknown in a financial transaction. If all of them are necessitated to be described it would produce a great harm. Instead, that ignorance invalidates a financial transaction which results in disputation.

The jurisprudents have categorically stated that the substantial uncertainty must meet the following conditions:

- *Gharar* should be inordinate, not slight. For example, trivial uncertainty, in the sale of a house, with respect to the material used in the foundations is held to be negligible (Iqbal & Khan 2005, p. 8).
- It must be in commutative contracts (*uqud al-mu'awadat*).
- *Gharar* had better affect the principal object of the contract. Hence if there is an element of *gharar* in any subsidiary part of the main object the contract would be lawful. It is, for example, impermissible to sell the fruit of a tree that is yet to form because it involves *gharar*, but the sale would be valid if the fruit is sold along with the principal object, namely the tree. Likewise it is not allowed to sell the embryo or foetus sans mother but the sale of what is in the womb along with the mother is quite permissible.
- It is an indispensable condition of *gharar* to be effective in a contract that people ought not to need that contract, but if they are in need of it then *gharar*, even though excessive, will have no effect on it. The reason is that the fulfillment of people's needs takes priority by virtue of the Koranic principle of removal of hardship (*raf al-haraj*). The *Shari'ah* has therefore validated *salam* and *istisna* regardless of the elements of *gharar* therein simply because people need them.

If any of these four conditions is not present the transaction would be permissible, and *gharar* will have no effect on the validity of the contract (Al-Dhareer 1997, p. 44).

Muslim jurists, somehow, disagree over the *Shari'ah* stance on several kinds of sale because no relevant injunction explicitly exists in the *ahadith*. To evaluate the possible repercussions of *gharar*, they take account of contemporary circumstances, prevailing customs, and public needs. That is why certain types of *gharar* are considered to be substantial by some jurists but trivial and negligible by the others.

3.4.4. Forms of *Gharar*

An overarching explication of several forms of transactions that involve the element of *gharar* is as follows:

3.4.4.1. Two Sales in One

Two sales in one means that a single contract has the option of two sales. For example, A says to B: 'I sell you this commodity for £100 on cash payment and £120 on credit'. B then takes it up without specifying the price at which he will buy the commodity. The Messenger of Allah (Peace and Blessings of Allah be upon him) is reported to have outlawed two sales in one (At-Tirmidhi 2007, vol. 3, p. 42). The element of *gharar* inherent in this contract is the indeterminacy of the price. The seller is not wary of the price to be paid by the buyer. Unknown price renders the contract null and void (Ibn Hazm 1988, vol. 7, p. 367).

3.4.4.2. *Arbun* Sale

This sale means that a person buys an item and pays a certain amount of money in advance to the seller with the provision that if the contract is fulfilled the earnest money would be adjusted to the total price, but if the bargain is revoked the seller will not return it (Al-Zuhayli n.d., vol. 5, p. 3434).

There is a difference of opinion over the legality or otherwise of *arbun* sale. The majority of jurists deems that it is invalid (Ibn Rushd n.d., vol. 2, p. 122; Al-Shawkani n.d., vol. 5, p. 163). They rate the retention of earnest money by the seller akin to misappropriation of the buyer's property. Waliyyullah (n.d.) deduces that *arbun* sale is forbidden because it partakes of gambling (*qimar*). Al-Dhareer (1997) finds that *gharar* in this type of sale is real because it involves indetermination as regards the fulfillment of the contract. This uncertainty is evident from the wording of the contract itself. Muslim jurisprudents rely, in this respect, on the *hadith* in which the Prophet Muhammad (Peace and Blessings of Allah be upon him) prohibited the sale of *arbun* (Abu Dawud 2008, vol. 4, p. 139).

Contrary to the majority opinion, Mujahid, Ibn Seerin, Zaid bin Aslam and Imam Ahmad bin Hanbal consider this kind of transaction permissible (Ibn Rushd n.d., vol. 2, p. 122). They believe the aforesaid *hadith* to be weak, and permit *arbun* relying on the practice of caliph Umar (Allah be pleased with him). It is reported by Nafi bin Abdul Harith, the caliph's officer in Mecca, that he purchased a prison from Safwan bin Umayya for four thousand dirham on condition that if Umar approved of it the bargain would be final. Otherwise Safwan would be given four hundred dirham (Muhammad 2000, vol. 4, p. 109). Ibn Umar (Allah be pleased with him) also allowed *arbun* sale (Al-Kandhalwi n.d., vol. 11, p. 44). Salehabadi and Aram (2002) state that *bai al-arbun* is admissible in the *Ja'fari* school of thought into the bargain. In fact, *arbun* sale is in the nature of an option contract (Mansuri 2005a, p. 98). The money is paid as a consideration to gain time from the selling party. In return, the seller restrains himself from exercising his legal right concerning his property. Therefore *arbun* sale is permissible.

3.4.4.3. Contingent Sale

This form of sale is contingent upon a future event. For instance, A says to B: 'I would sell you my house if C sells his house to me'. The majority of jurists is unanimous that this sale is null and void (Al-Zuhayli n.d., vol. 5, p. 3448). The element of *gharar* in this contract is that it is contingent upon the occurrence of an

uncertain future incident. However, Ibn Taymiyyah and his disciple Ibn al-Qayyim regard it as valid; they find no *gharar* in it (Al-Dhareer 1997, p. 18).

3.4.4.4. Future Sale

This contract comes into effect at some future date. For example, A says to B: 'I shall sell you my house for £50 000 in the beginning of next year'. According to Al-Dhareer (1997) *gharar* contained in such a sale is the possible change in price or other circumstances which may affect the real countenance of the contracting parties when the predetermined time of fulfillment approaches. However, Ibn Taymiyyah and Ibn al-Qayyim have, contrary to the majority opinion, permitted the future sale (Al-Dhareer 1997, p. 19). Mansuri (2005a) also holds that there is no *gharar* in this sale. As noted above the basic norm in case of *mu'amalat* is that of permissibility (*ibahah*) and absence of prohibition. Therefore everything is permissible unless there is a clear injunction to the contrary. With respect to future sale, there is no command in the *Shari'ah* that specifically puts a ban on it. Also, if the price is fixed at the time of the contract and both the buyer and the seller are scrupulously determined to honour their commitments then this form of contract is not embargoed.

3.4.4.5. Uncertainty about Genus

Al-Dhareer (1997) maintains that the jurists are unanimous that the knowledge of the genus of the object to be sold is a condition of the validity of sale. So, it is disallowed to sell something whose genus is unknown because it involves *gharar*. For example, A says to B: 'I sell you an item for ten'. The *Maliki* jurists permit the sale of an object whose genus is unknown on condition that the buyer will have the option of inspection (*khiyar al-ru'yah*) and could rescind the contract if the object falls short of his specific requirements. The *Hanafi* jurisprudents opine that the buyer always has the right to repudiate the contract once he is in a position to inspect the object. In other words, they validate this type of sale even though the contract makes no mention of the option of inspection.

3.4.4.6. Uncertainty about Kind

The ignorance of the kind of the object invalidates the contract because it involves *gharar*. For example, A says to B: 'I sell you an animal for £100,' without describing the kind of the animal (Al-Dhareer 1997, pp 23-24).

3.4.4.7. Uncertainty about Attributes

This form pertains to the situation when the necessary and material attributes of the object being sold are not set forth. The jurists disagree whether the description of attributes is a sine qua non for the validity of the contract.

The *Hanafi* jurists are of the opinion that the description of subject-matter is not necessary as long as it is visible to the buyer. But if the subject-matter is not visible then its description is necessary. Some of them, however, disagree with this view and argue that description is not necessary because the buyer is always entitled to the option of inspection (*khiyar al-ru'yah*) which enables him to spurn the object if it does not correspond to his specific requirements. But the proponents of description do not take up this argument. They say that the buyer could exercise the option of inspection to remove only slight uncertainty. He cannot use this option to remove inordinate uncertainty resulting from lack of description of attributes. An invisible object should therefore be clearly stated at the time of the contract and in case of excessive uncertainty, the object might be repudiated by exercising the option of inspection.

The *Maliki* jurists regard the description of subject-matter as obligatory irrespective of its presence or absence, visibility or invisibility.

Three contentions are ascribed to the *Shafi'i* jurisprudents: firstly, sale is not valid until detailed description of the object to be delivered is given like *salam*. Secondly, sale is not valid until all relevant attributes are described. Thirdly, sale is valid without describing the attributes of the object as long as the buyer has the option of inspection.

To *Hanbali* jurists, the sale of an object with unknown attributes is frowned upon. It is quite pertinent to mention here that all jurists are unanimous in the requirement that the price of the object ought to be categorically described.

Some sales prohibited explicitly and unanimously on account of indetermination of the attributes are as follows:

- Sale of unborn calf without its mother
- Sale of embryo
- Sale of bull's sperm

Muslim jurists have differing views in respect of selling what is hidden in the ground such as carrot, onion, garlic, radish, etc. It is believed to be allowed by the *Hanafi* jurists provided the buyer could exercise the option of inspection when he takes them out. To Imam Malik, it is permissible if the buyer has complete knowledge of the object of sale. According to Imam Shafi'i and Imam Ahmad the sale of aforesaid things is invalid as long as they are hidden in the ground.[33]

3.4.4.8. Uncertainty about Quantity

The knowledge of the quantity of object is necessary for the validity of sale. Thus it is impermissible to sell a heap of grain haphazardly without mentioning its quantity. A traditional example of uncertainty regarding the quantity of object is *bai al-muzabanah*. It means the sale of fresh dates on the palms against dry dates. This sale implies buying something whose number, weight, and measure are not known.

3.4.4.9. Uncertainty about Specification

The element of *gharar* relates to specification when different things are sold without specifying one of them in particular such as the sale of a piece of cloth out of a bulk or a sheep out of a herd. The *Shafi'i* and the *Hanbali* jurists consider this form of sale invalid. The *Hanafi* jurists allow it to the extent of three objects. For example, A says

[33] See Al-Dhareer 1997, pp 24-27

to B: 'I sell you one sheep out of these three sheep'. The *Maliki* jurisprudents allow such a sale with the option of determination (*khiyar al-ta'yin*) for the buyer without fixing any number (Al-Dhareer 1997, pp 29-30).

3.4.4.10. Uncertainty about Time

If the sale is on deferred payment basis the seller ought to be apprised of the time of repayment. In this respect, *bai habl al-habalah* is a case in point. This was a sale in which a person would buy a she-camel and defer the payment to the time when the she-camel as well as her offspring gave birth. The Prophet Muhammad (Peace and Blessings of Allah be upon him) forbade this sale (Al-Hajjaj 2007, vol. 4, p. 217).

3.4.4.11. Uncertainty about Delivery

In accordance with the vast majority of Muslim jurists, the ability to deliver the subject-matter is a prerequisite for the validity of a sale contract.[34] Hence it is forbidden to sell what one cannot deliver (Ibn Qudamah 2004, vol. 4, p. 144; Al-Zuhayli n.d., vol. 4, p. 3025) such as the sale of a stray animal whose whereabouts are unknown to the seller or fish in the water or birds in the air or a car which has been stolen and the vendor does not know where it is. The seller is obliged to deliver the object of the sale and the buyer is obliged to pay the price. However, the buyer is under no obligation to receive the goods; this is, in actual fact, a contractual prerogative which he may or may not pick out to exercise.

Here a relevant issue is that of the sale before taking possession (*qabd*). The Prophet Muhammad (Peace and Blessings of Allah be upon him) has been quoted as saying:

> *'He who buys foodstuffs should not sell it until he has taken possession of it'.*[35]

According to another *hadith*:

[34] The *Zahiri* jurists, however, opine that the ability to deliver the subject matter is not a condition of the validity of sale (Al-Dhareer 1997, pp 30-31).
[35] Al-Bukhari 1997, vol. 3, p. 198

'He who buys foodstuffs should not sell it unless he is satisfied with the measure with which he has bought it'.[36]

On the basis of foregoing *ahadith*, it is stated that the Prophet (Peace and Blessings of Allah be upon him) prohibited to sell those commodities which the seller did not possess because of uncertainty about their delivery (Kamali 2005, p. 31). The *ahadith* apparently intend to protect the buyer from harm in case the object of sale is destroyed ere delivery. Consequently almost all jurists are of the opinion that one cannot sell foodstuffs before possession (Muhammad 2000, vol. 4, p. 192). According to Imam Shafi'i it is not allowed to sell anything, moveable or otherwise, before taking possession (Al-Jazeeri 1986, vol. 2, pp 233-234). Imam Abu Hanifah invalidates to sell a moveable thing before possessing it, but possession is not a requirement in the sale of real property, assuming that the fear of destruction and loss, which seems to be the *raison d'etre* of the prohibition, is absent in this case (Al-Zuhayli n.d., vol. 5, pp 3380-3381). The *Hanafi* jurists further uphold that a valid sale can be concluded prior to taking possession but it will fall into abeyance until *qabd* comes about. *Qabd* is therefore not a prerequisite of a valid contract, and it is lawful to postpone it to a future date. In case of currency exchange, it is, however, a sine qua non for a valid contract (Ibn Qudamah 2004, vol. 4, p. 39). Imam Malik takes the view that the *ahadith* apply to foodstuffs only, but nevertheless this requirement is applicable to such transactions that entail exchange of values, not to loans and gifts (Al-Kandhalwi n.d., vol. 11, p. 198). Thus a person who buys foodstuffs may pass it on to someone as a gift or loan even before possessing it. Ibn Hazm has confined the applicability of this decree to one item only, namely wheat. To him, everything could lawfully be sold before possessing it, except wheat (Ibn Hazm 1988, vol. 7, pp 472-481).

The requirement of taking possession is omitted in the sale of both foodstuffs and real property when the goods in question are owned by means of a gift or inheritance because they involve no financial exchange, and the seller is not obliged to pay the price to somebody else (Kamali 2001, p. 127). In two forms of business transactions, namely *salam* and *istisna*, the requirement of *qabd* has also been forgone on account of popular utility and convenience. Also, no specific manner in respect of *qabd* has

[36] Al-Hajjaj 2007, vol. 4, p. 225

been stated in the *Shari'ah*. That is why the jurists unanimously opine that the prevalent custom (*urf*) is the norm in this regard. What is believed to be *qabd* according to the prevalent custom is also deemed *qabd* in the *Shari'ah* (Islamic Fiqh Academy of India n.d., pp 12-13).

In the light of aforesaid explication, it goes without saying that the rationale behind the requirement of *qabd* is to ensure the delivery of the subject-matter. So, if a subject-matter is certain to be delivered at its predetermined time the requirement of *qabd* might rationally be omitted because the underlying cause (*illah*) does not exist any longer. Kamali (2001) espouses the same view that if there is no *gharar* with reference to the delivery of the subject-matter then the prevailing requirement of *qabd* should not, on the basis of *istihsan*, be insisted on.

3.4.4.12. Uncertainty about Existence

This form of *gharar* relates to the object which is not in existence at the time of the contract or whose future existence is uncertain such as the sale of what a she-camel would give birth to or the sale of some fruit before it forms.

The jurists are reported to be unanimous in the proscription of the sale of a non-existent object (*bai al-ma'dum*). The sale of something whose existence is doubtful is also invalid such as milk in the udders of a cow (Al-Zuhayli n.d., vol. 5, pp 3398-3399). It *ipso facto* signifies little that the non-existence is temporary or permanent. This requirement is generally maintained in regard to the sale of tangible objects but when the subject-matter of a sale contract could come about only in the future such as usufruct and labour, the requirement, according to the majority of scholars, is omitted on an exceptional basis. Hence when someone hires a lawyer, the services that he renders cannot be in existence at the time of the contract. Two kinds of conventional contracts, namely *salam* and *istisna*, legitimized by the cogent authority of the *Shari'ah*, are of the same stamp. Muslim jurisprudents trow these contracts to be anomalous and an exception to the norm. They put forward the *hadith* in support of their contention that Hakim bin Hizam asked the Prophet Muhammad (Peace and Blessings of Allah be upon him): 'O Messenger of Allah! A man comes to me and

asks me to sell him what is not with me, I sell him (what he wants) and then buy the object from the market for him (and deliver)'. The Prophet (Peace and Blessings of Allah be upon him) replied: 'Do not sell what you do not have' (Abu Dawud 2008, vol. 4, p. 140; At-Tirmidhi 2007, vol. 3, pp 43-44).

On the basis of this *hadith*, it is construed that the subject-matter of a sale contract must exist and be owned by the seller at the time of the contract (Kamali 2005, p. 28). The jurists have three distinct interpretations in respect of this *hadith*:

Firstly, the *hadith* means that one should not sell what one does not own at the time of the contract. One of the basic requirements of a sale contract is that the seller had better own the object, otherwise the sale would go awry even though he buys and delivers it later. The only exception is the *salam* sale in which the ownership is not a prerequisite. This is the view of Imam Ahmad bin Hanbal.

Secondly, the *hadith* only applies to the sale of specified and unique objects rather than fungible items. Hence if *salam* is struck over fungible goods that are readily available in the market, it is quite permissible even if the seller does not own the object at the time of the contract. Imam Shafi'i takes the view that one might sell what one does not own provided that it is not a specific object because the delivery of a specific item cannot be guaranteed if the seller does not own it.

Thirdly, the *hadith* strikes down the sale of what is not existent and what cannot be delivered. So, the emphasis is on the seller's inability to deliver which entails risk and indetermination. If the *hadith* were taken at its face value it would invalidate *salam* into the bargain. The Prophet (Peace and Blessings of Allah be upon him) forbade his disciple to sell particular commodities on account of, in all probability, uncertainty about his ability to deliver (Muhammad 2000, vol. 4, pp 153-154). It is quite possible, as Kamali (2005) highlights, that the seller owns the object but is unable to deliver it or the seller possesses the object but does not own it. In either case, the seller would fall within the purview of this *hadith*. The emphasis is therefore neither on ownership nor on possession, but rather on the seller's effective control and ability to deliver. The market-place of Madinah in the prophetic era was too small that it could not guarantee the regular supply of a certain commodity. That is why the Prophet (Peace and Blessings of Allah be upon him) prohibited to sell those items which were not available at the time of sale. This is also signified by the statement of Hakim bin

Hizam that people would ask him to sell items to them that he did not have. In other words, they wanted to ensure the availability of commodities which they could not find in the market.

Imam Malik has drawn a distinction between commutative contracts which are financial transactions among people and charitable contracts which do not involve exchange of countervalues such as gift and bequest. To him, the existence of the subject-matter is a requirement in only commutative contracts (Al-Zuhayli n.d., vol. 4, p. 3020). It is therefore allowed to make a present, for example, of what is in the womb of an animal, but disallowed to sell the same for some price.

Ibn Taymiyyah claims that the sale of a non-existent object is unlawful if it involves gambling and misappropriation of the people's property, but it is otherwise lawful. In respect of the assertion that the sale of a non-existent object is generally forbidden, he points out that there is neither an apocalyptic injunction nor a general consensus to support this view. The *Shari'ah* has, to the contrary, validated such sales. Thus it is not an issue of existence or non-existence of something which determines the legality or otherwise of its sale. Instead, these are the elements of misappropriation and gambling which vitiate the status of a sale contract. The same view is held by Ibn al-Qayyim who states that no evidence is found in the Book of Allah or in the teachings of the Prophet Muhammad (Peace and Blessings of Allah be upon him) or in the statements of any of his disciples putting a ban on the sale of a non-existent object. The *Sunnah* admittedly forbids the sale of some things which do not exist but it prohibits some other things which do exist. Hence the effective cause (*illah*) of proscription is *gharar*, not the existence or non-existence of an item. *Gharar* is when a thing cannot be delivered whether it is existent or non-existent. The essential element of a sale is to deliver the object, and if the seller is unable to deliver it entails *gharar*, gambling and risk (Al-Zuhayli n.d., vol. 4, p. 3021).

Al-Dhareer (1997) goes along with Ibn Taymiyyah and Ibn al-Qayyim observing that every non-existent object whose future existence is uncertain must not be sold, and every non-existent object whose future existence is normally ascertainable may be sold. Mansuri (2005a) also states that the *hadith* prevents only that non-existent object which involves *gharar* such as the sale of unborn calf but those things whose

existence is certain in future are permissible to sell because they do not involve any *gharar* which may lead to dispute and litigation among the parties. *Salam* (sale of future goods with advance) and *istisna* (contract of manufacturing) are examples of this case. Both are permissible in the *Shari'ah*, although the subject-matter does not exist at the time of the contract.

In reference to the future availability or otherwise of an object, the sale of a non-existent item can be one of the following three types:

The first type is envisaged where the subject-matter exists in essence but nears completion thereafter. This type includes the sale of crops and fruits before they ripen. In spite of the element of *gharar* in the sale of these objects, the transaction is basically valid.

In the second type, the subject-matter does not exist at the time of the contract, but is certain to exist in the future. In this regard, there is a broad consensus of opinion among different schools of thought that the sale of something which does not exist at the time of the contract is null and void, even if it is certain to exist in the future.

The third type is germane to the situation where the subject-matter does not exist in essence at the time of the contract, and its existence in the future is uncertain too. This is the third eventuality which Ibn al-Qayyim has discussed. He argues that when the subject-matter of a contract is non-existent at the time of the contract, and its existence in the future is also doubtful, the sale involves substantial uncertainty and risk. Therefore the sale of milk in the udders or the sale of an unborn animal is frowned upon because it entails aberrant uncertainty.

It may thus be concluded, as Kamali (2002) notes, that *gharar* which the *Shari'ah* has forbidden relates to uncertainty about the existence of the subject-matter of a sale contract at that time when the delivery is due, and does not necessarily relate to its existence at the time of the contract.

3.4.4.13. Sale of Unseen

This form of *gharar* is relevant to the situation where the subject-matter of a contract is off site or if it is on site the buyer is unable to have a look at it. The jurisprudents have differing opinions concerning the sale of an off site or unseen object (*bai al-gha'ib*). The *Shafi'i* jurists consider it to be impermissible even if the absent object is diametrically described because mere description, they infer, is not enough to set up knowledge of the object being sold (Al-Jazeeri 1986, vol. 2, p. 214). However, the vast majority of Muslim jurists allows to sell an off site object with the provision that it be palpably described. To them, it is also valid to sell an object on the basis of prior sight, and it is not incumbent upon the buyer to see the object at the time of the contract. If he finds the object as he had seen it then the contract is binding upon the buyer, and if he finds that the object has materially changed he could repudiate the contract. Some *Hanafi* and *Maliki* jurisprudents are of the opinion that the absent object could be sold even without description or prior sight but the buyer will have the option of inspection (*khiyar al-ru'yah*). The *Maliki* jurists add that the buyer had better pay the price to the seller after he has seen and accepted the object.[37]

Ibn Taymiyyah (cited in Kamali 2002) castigates those who have passed prohibitive judgement about the sale of unseen. He spells out that the Prophet (Peace and Blessings of Allah be upon him) only outlawed that sale of *gharar* which is intended to devour the property of others. There are also tangible evidences that the disciples of the Prophet Muhammad bought and sold unseen objects, and none of them declared such sales to be disapproved.

In addition to these forms of *gharar*, some other types of business transactions have also been prohibited by the Lawgiver (Peace and Blessings of Allah be upon him). In accordance with the majority opinion, the rationale behind the prohibition of all these types is the element of *gharar* therein (Ibn Taymiyyah n.d., vol. 29, p. 17). To begin with, *bai al-hasat* (pebble sale) means that the buyer says to the seller: 'If I throw a pebble at this item of yours the sale would be binding,' or the seller says to the buyer: 'I shall sell you that object you throw a pebble at' (Ibn Rushd n.d., vol. 2, p. 111). In

[37] See Ibn Rushd n.d., vol. 2, pp 116-117; Al-Zuhayli n.d., vol. 5, pp 3448-3451

bai al-mulamasah (touch sale), the contracting parties negotiate the terms of the contract but if the buyer touches the object in question the sale becomes binding whether the seller accepts it or not (Al-Hajjaj 2007, vol. 4, p. 215). In *bai al-munabadhah* (throw sale), each person throws his garment to the other and neither of them examines the garment of the other (ibid.).[38]

3.4.5. Consequences of *Gharar* on Contracts

Primarily, *gharar* affects commutative contracts intended for the alienation of property for consideration such as sale and hire. The effects of *gharar* on hire are the same as on a sale contract. Some similarities between the two contracts are as follows:

- Both the sale and hire contracts are disallowed to be made contingent upon some uncertain future event.
- The rental and the rented utility in a hire contract must be known and specified as price and commodity should be determined in a sale contract.
- The subject-matter of a contract should always be deliverable. As such, it is not permissible to hire out a stray animal.
- The subject-matter of a hire contract should be known to exist as is the case in a sale contract. So, it is not valid to hire out what a she-camel is expected to give birth to.

Muslim jurisprudents, however, differ about the consequences of *gharar* on gratuitous contracts. The *Maliki* jurists are of the opinion that *gharar* has no effect on donations. It is therefore allowed to donate a stray animal or any kind of fruit before it forms. Ibn Taymiyyah subscribes to this view into the bargain (Al-Dhareer 1997, p. 39). On the other hand, the contention of the *Hanafi*, *Shafi'i* and *Hanbali* jurists is that the subject-matter of donation ought to be known and determined. It is, to them, disallowed to donate an unborn animal or milk in the udders (Mansuri 2005a, p. 103).

[38] See Mansuri 2005a, pp 194-197; Ghamdi 2008, pp 503-506; Ghifari 1989b, pp 41-44

3.5. Conclusion

This chapter discussed the Islamic principle of permissibility. The chapter also went through the concept of *riba* and *maysir*. The phraseology of the Koranic verses in which believers are instructed to eschew interest and the severity of the reprimand to those who do not abide by the divine injunctions in this regard leave no doubt that *riba* is absolutely repugnant to the spirit of Islam. There is no denying the fact that moral and material growth of a society is, in the aggregate, stymied by *riba* which siphons off wealth from the poor to the rich, increasing the inequality of the distribution of wealth. The objectives of some financial transactions tend to thwart the intention of the Lawgiver (Peace and Blessings of Allah be upon him) and militate against the spirit of the *Shari'ah* as they provide a subterfuge (*hilah*) to circumvent the obstacles posed by the prohibition of *riba*. These transactions incorporate *bai al-inah, bai al-wafa, hatt wa ta'ajjal*, indexation of loans, *tawarruq* and *bai al-kali bil-kali*.

Islam also prohibits all kinds of *maysir* (gambling) and games of chance. The *Shari'ah* injunctions recognize only three ways in which property can legitimately be acquired: by an exchange of values, gift and inheritance. Gambling is outside this domain and does not aim at the desired objective of fair distribution of wealth among the *canaille*. The chapter drew a distinction between two kinds of *gharar*, namely *gharar fahish* (substantial uncertainty) and *gharar yaseer* (trivial uncertainty), and elucidated that the first kind is prohibited while the second kind is tolerable. The chapter also gave an overarching explication of several forms of transactions that involve the element of *gharar*.

Chapter 4

Financial Derivatives: An Islamic Perspective

4.1. Introduction

The erstwhile chapters have adequately described the nature and operational procedures of financial derivatives, analyzed the Islamic stance on financial contracts and transactions, and given a long explication of various issues regarding the proscription of *riba* and *maysir*. This chapter is divided up into six broad sections altogether. Section 4.2. goes over the Islamic point of view on forward contracts. This section also gives a long explication of various Islamic injunctions in relation to *salam* and *istisna*. The section discusses *bai istijrar* and foreign currency forwards as well. Section 4.3. deals with futures contracts, and addresses the controversial issues of non-existence of the subject-matter, sale prior to taking possession, *bai al-kali bil-kali* and speculation. Section 4.4. goes through options, currency options, *khiyar al-shart* and *bai al-arbun*. Section 4.5. analyses swaps, whereas Section 4.6. presents the conclusion.

It is quite pertinent to mention here that some jurisprudential and legal issues such as *salam*, *istisna*, non-existence of the subject-matter, sale prior to taking possession, *bai al-kali bil-kali*, hedging and speculation, etc are germane to nearly all financial derivatives. Muslim jurisprudents and commentators have widely canvassed them in different ways. So, the discussions on the aforesaid issues would attempt to encompass the entire range of derivatives rather than a specific one.

Theoretically, derivatives instruments are supposed to distribute risk among market participants in accordance with their ability to assume them. If such distribution is achieved each party would be better off. Derivatives are therefore the main instruments to hedge against various types of risk but, on the other hand, they are widely used for speculative purposes into the bargain. Speculation in contrast to

hedging, involves creating positions deliberately in order to profit from exchange rate and/or interest rate movements. Speculators believe that markets' forecasts as reflected in forward rates and the term structure of interest rates are wrong. Hence they hope to profit by taking open positions at these prices. How to eschew the deleterious and sinister repercussions of excessive speculation is a great matter of concern for Muslim economists and scholars.

The research from contemporary Muslim scholars on derivatives trading has not yet been phenomenally exhaustive. The majority of them has generally disallowed to trade in forwards, futures, options and swaps (El-Gamal 2008, p. 616; Abdelwahab 2007, p. 93). Their analyses are based on the premise that financial derivatives do not fulfil the requirements of *bai al-salam* or, broadly speaking, the conventional Islamic commercial law. Jobst (2007) accentuates that in the light of the Islamic principle of permissibility, which renders all commercial transactions *Shari'ah*-compliant in the absence of a clear prohibition, current objections to futures and options constitute the most discouraging form of religious censure (*taqlid*). Those who frown on financial derivatives overlook the fact that the pace of material development and the change in international relations, economics and finance have been unprecedented in many ways. Innovative techniques and new ideas have brought about completely new scenario that did not exist before and that was not known to the jurists of the past. To issue a prohibitive judgement on modern commercial transactions that have won international recognition with reference to the rulings of ancient jurisprudents without any decisive evidence is bound to prove detrimental to the Muslim community, and to retard the prospects for their development. Such a methodology is therefore inconsistent with the basic objectives of the *Shari'ah*.

Some other scholars, on the other hand, are of the opinion that financial derivatives are permissible (Kamali 1999b, p. 524). Since there is no consensus of opinion among the Muslim jurisprudents on the admissibility or otherwise of financial derivatives the issue is still open to further investigation and *ijtihad*. Derivatives instruments are at bottom a new phenomenon of this age which have no precedent or parallel in the conventional law of transactions (*mu'amalat*). Their legality or otherwise should consequently be looked into with the Islamic viewpoint of general permissibility in relation to transactions. Moreover, what is of the essence is to take their pros and cons

into consideration as well. It is inadvisable to focus on the aspect of advantages only while ignoring the adverse effects which financial derivatives might bring forth or vice versa.

Kamali (2005) buttresses that the conventional commercial law of Islam does not provide an effective risk management mechanism because the volatility of prices and currencies is, in the aggregate, a modern phenomenon which the Islamic jurisprudence does not specifically address. Islam does approve of certain contracts such as *salam* and *istisna* which could sometimes be harnessed as a hedge against risk, but to use them for risk mitigation is expensive as they were not designed to hedge against risk, and nor do they take account of volatile market conditions. It is blindingly obvious that the protection of property is one of the objectives (*maqasid*) of the *Shari'ah*. So, failure to protect one's wealth in highly risky conditions is, according to the Islamic injunctions, most reprehensible.

Ayub (2008) asserts that derivatives have no valid subject-matter, and separate risk from real economic activities. Artificial risks distort real economic activities with negative impact on real investment opportunities. Islamic finance has the provision of forward trading with strict conditions of delivery and settlement to ensure that risks and liabilities are properly taken. Delivery of the *salam* goods has to be made irrespective of the upward or downward movement of the prices. It implies that forward trading can be used only for promoting real productive and exchange purposes. The author rightly spells out that earning profit is legitimized by engaging in an economic activity and thereby contributing to the development of resources and the society.

Schaik (2001) espouses a moderate stance that commodity derivatives are legal as long as they are not used for speculation and the *Shari'ah* is observed but financial derivatives (swaps, currency futures, stock options, warrants, etc) are illegal as they involve *riba*.

As noted before the phraseology of the Koranic verses in which believers are instructed to eschew interest and the severity of the reprimand to those who do not abide by the divine injunctions in this regard leave no doubt that *riba* is absolutely

repugnant to the spirit of Islam. Therefore those types of financial derivatives which involve *riba* such as interest-rate futures, interest-rate options, interest-rate swaps and swaptions are ruled out altogether and can never be taken advantage of. Similarly, those derivatives which proceed on gambling, inordinate uncertainty, alcohol, pork and other inadmissible commodities are also precluded.

Commodity derivatives are free from *riba* as sale and purchase therein do not involve payment of interest by any of the parties involved. The only money that is deposited is the margin which is kept in the customer's own account and is returnable to him when not needed (Kamali 1999b, p. 532). No interest accrues on the margin. Hence commodity derivatives which are interest-free are acceptable from the Islamic point of view provided that other injunctions of the *Shari'ah* in relation to financial transactions to be discussed later on are scrupulously observed.

Al-Suwailem (2006) demonstrates that derivatives provide value through management and distribution of risk. However, they are also perfect tools of gambling and consequently distort incentives in a manner that defeat their legitimate purpose. Derivatives are, in fact, zero-sum games. They are obligations to exchange certain amounts of money on a future date. Further, they shift risks to those who are more willing to bear them, but not necessarily those who are better able to manage them. Islamic instruments, in contrast, are likely to shift risks to those more willing and more able to bear them. In order to accommodate risk distribution, he reviews main Islamic instruments like *mudharabah*, *musharakah*, deferred price sale (*bai ajil*) and value-based *salam*. Ghoul (2008) holds the same view that most derivatives do not result in real transactions where ownership of the underlying asset is transferred from one party to another. Effectively what happens is that money changes hands at the end of the contract. This is objectionable in the *Shari'ah* since money may not be traded for money. Moreover, derivatives are zero-sum games by design. They do not add much value to the society, and are prohibited in Islam. The author discusses some *Shari'ah*-compliant alternative hedging instruments such as *bai al-salam*, *bai al-arbun* and option of stipulation (*khiyar al-shart*).

The significance of financial derivatives as tools of risk management is taken for granted in the modern financial system. The main traders in derivatives markets are

hedgers, speculators and arbitrageurs. Speculators take long position when they expect the prices to move upwards, and they take short position when they expect the prices to move downwards, simply in the expectation of making a profit. But derivatives markets are not confined to only speculators. Bona fide hedgers and genuine traders operate there into the bargain. These markets provide a vehicle through which real traders hedge against risks or protect themselves from adverse price movements in the underlying assets they deal in. According to the International Swaps and Derivatives Association (cited in Afza & Alam 2011) over 94% of the world's largest corporations use derivatives instruments to hedge against their risks. The transactions being carried out in the derivatives markets are used to offset the risk of price changes in the respective assets. The efficient allocation of risk in the economy is a significant function of derivatives. It is quite pertinent to spell out that derivatives do not eliminate risk. They indeed facilitate to transfer risk from those who want to avoid it to those who are willing to accept the same. Both authors failed to discuss in detail the matter of these hedgers and traders in derivatives markets.

4.2. Forward Contracts

Forward contracts play a vital role in Western financial markets. They serve as the building blocks of more advanced and sophisticated financial instruments. The primary function of these contracts is to provide a means to hedge against unexpected and undesirable price fluctuations. Parties to forward agreements need to have exactly opposite hedging interests (Jobst 2007, p. 23). A forward market allows the farmers to plan their production and control their cost. It helps the users of raw materials to budget for their future production schedules, and make firm commitments about future deliveries (Khan 1988, p. 96).

Kamali (2002) emphasizes that although forward contracts go a long way towards protecting buyers and sellers from the risk of price fluctuations, they do not eliminate the risk of financial loss, and could turn out to be disadvantageous to both parties. If the price of underlying commodity rises before delivery the seller will lose. The buyer also feels apprehensive about the likely fall in prices; he would incur a loss if the price of underlying commodity falls ere delivery. Furthermore, the likelihood of failure to

deliver, sub-standard consignment and the buyer's default expose both buyers and sellers in forward contracts to risks that they are primarily and uninhibitedly aspirant to eschew. Although forward contracts are useful in order to hedge against the risk of parties trading with one another, their inherent disadvantages limit the scope of their usage in many markets. Anyhow, they are being used extensively in foreign exchange markets all over the world to mitigate foreign exchange risk.

4.2.1. *Salam* and *Istisna*

Dali and Ahmad (2005) conclude that forward contracts are acceptable according to the *Shari'ah* principles if they adhere to the contract of *salam*. However, the current practice of futures and options is not in accordance with the *Shari'ah* laws. The authors propose that the use of gold dinar would simplify the practice of derivatives because in gold dinar economy, the need for hedging and speculation is minimized on account of stable market prices.

The general principle regarding transactions (*mu'amalat*) is that of permissibility (*ibahah*) and absence of prohibition. So, nothing can be prohibited unless it is proscribed by Allah and/or His Messenger (Peace and Blessings of Allah be upon him). It is subject to quibble that the authors declare forward contracts acceptable if they adhere to the contract of *salam*. They overlook the fact that the ambit of transactions is not confined to only *bai al-salam*. The development of derivatives instruments is a new phenomenon. Hence the permissibility or otherwise of financial derivatives should be gone over given the generic concept of legitimacy with respect to transactions.

Khan (2000) prefers to choose *bai al-salam* as the basis for any Islamic futures market, but nevertheless he concedes that even in a *salam*-based futures market, the main structure of the conventional futures market such as establishing an exchange, an agency to regulate and monitor the market and a clearing-house is necessary. In a *salam*-based futures market, advance payment is imperative and in this case, even genuine traders may face liquidity problem. This problem can, however, be overcome by the introduction of Islamic banks or specialized Islamic financial institutions in

order to finance futures trading. The condition of advance payment as well as recovering or making the actual delivery will attract only the genuine traders to enter the market.

The requirement of spot settlement of obligations of at least one party keeps a natural curb on speculation. The requirement amounts to an imposition of a hundred per cent margin which, in all probability, would drive an uninformed speculator away from the market. This will compel the speculator to garner relevant information from different sources. Likewise the requirement of settlement from one end would dampen the tendency of many participants to seek a complete transfer of risk, and embolden them to make a realistic assessment of the actual risk. Therefore the author has correctly pointed out that the proviso of advance payment would give rise to genuine trading but, on the other hand, it seems to be practically impossible for Islamic financial institutions to provide money for futures trading without any real incentive.

Al-Amine (2005) canvasses the concept of sale prior to taking possession, the sale of debt for debt, speculation and their relation with derivatives. A forward contract, in its actual form, has no exact counterpart in Islamic law. However, it could be admitted in Islamic law based on the general theory of contracts or by analogy to *salam*, *istisna* or *bai al-sifah*. He effectively rules out the inability of the seller in forward contracts to deliver the subject-matter because it is well-defined, and not similar to the cases of uncertainty such as 'I sell you what is in my hand' without showing it.

In *bai al-salam*, full payment at the time of the contract is a prerequisite according to the majority opinion. If the price is not paid at the time of the contract it will amount to the sale of a debt for debt which has been prohibited by the Prophet Muhammad (Peace and Blessings of Allah be upon him) (Mansuri 2005a, p. 204; Ali 2008, p. 166; Usmani 2002a, p. 134). The rationale behind the permissibility of *salam* is to fulfil the instant needs of the seller. If the price is not paid to him in full the basic purpose of the transaction will be defeated (Usmani 2005b, p. 187).

The advance provides the seller with the opportunity to utilize it in a sagacious manner that could compensate for moderate price increases. Since delivery is postponed to a future date the paid price is lower than the spot price. This discount

serves as a cushion for the buyer against moderate decline in prices. So, the advance turns out to be a 'secure margin' for both parties when the prices are fluctuating. The vendor's right of ownership is promptly established in the price as soon as the contract is signed. To *Maliki* jurists, payment can, in that case, be procrastinated for three days. However, they maintain that the rule mentioned above could not be applied to currency exchange because it would lead to *riba*. If the *Maliki* opinion is taken into consideration then forward contracts can be validated by analogy, but it should be kept in mind that the payment of goods cannot be deferred to more than three days.

The vendor has no title over the object of sale but undertakes to deliver it in the future. The subject-matter of *salam* is, in other words, a promise, rather than a real object, made by the seller against payment. The goods that the vendor promises to deliver do not exist but the Islamic commercial law requires that their quantity, quality and the date of delivery should be precisely determined at the time of the contract.[1] However, the commodity should not be particularized, e.g. a particular unit of some farm, tree or garden because it might be destroyed before delivery. Therefore *salam* is normally valid for fungible items, although some have extended the admissibility of *salam* to all commodities except gold and silver wherein the deferment is embargoed on account of *riba* (Kamali 2002, pp 132-133).

The *Hanafi* and *Hanbali* jurisprudents maintain that the time of delivery should be at least one month from the date of agreement. If the time of delivery is fixed ere one month *salam* will not be lawful. They argue that *salam* has been permitted on account of the needs of small farmers and traders. Thus they should be given sufficient time in order to acquire the commodity. They might not be able to supply the commodity before one month. Also, the price of commodity in *salam* is normally lower than the cash price. This concession can be justified when the commodities are delivered after such a period which has a reasonable bearing on the prices. A period of less than one

[1] According to the *Hanafi* jurisprudents it is necessary that the commodity remains available in the market throughout the contract period. So, if a commodity is not available in the market at the time of the contract *salam* cannot be executed, even if it is expected to be available in the market at the date of delivery. However, the *Maliki*, *Shafi'i* and *Hanbali* jurists take the view that the availability of the commodity at the time of the contract is not a condition of the validity of *salam*. What is indispensable is its availability at the time of delivery. The contemporary *Hanafi* jurists subscribe to this point of view into the bargain (Usmani 2005b, pp 189-190).

month does not normally affect the prices. Therefore the minimum time of delivery should not be less than one month. Imam Malik is of the opinion that there should be a minimum period of the contract of *salam*. However, he believes that it should not be less than fifteen days. These contentions are thwarted by the *Shafi'i* and some *Hanafi* jurists. They opine that the Prophet Muhammad (Peace and Blessings of Allah be upon him) did not specify a minimum period of *salam*. The only condition is that the time of delivery must be clearly defined. Therefore no minimum period can be prescribed. The contracting parties may fix any date of delivery with mutual consent. Usmani (2005b) goes along with this view, and concludes that the seller himself is the best judge of his interest; if he accepts an earlier date of delivery with his free will and consent there is no reason why he should be forbidden from doing so.

As regards delivery before time, the majority opinion is that the seller can discharge his responsibility, and deliver the commodity to the buyer before the time appointed. In that case, the purchaser would be compelled to take delivery if an early delivery does not harm him but if he feels apprehensive of the deleterious consequences of the premature delivery then he will not be forced to take delivery. On the contrary, the *Maliki* jurists maintain that the buyer is entitled to refuse it, even if it is not harmful to him.

The seller is bound to deliver the goods in accordance with the stipulations. In several cases, it is not possible for him to honour his commitment. If the seller, for instance, passes on the contract of *salam* would be rescinded, and the buyer could demand the return of his money from the heirs. However, if the buyer breathes his last the contract will remain operative. Ordinarily, the buyer has no right to change the conditions of the contract in respect of the quality, quantity or the delivery date of the goods once the payment has been made to the seller. Both the parties have the right to repudiate the contract fully or partly.[2]

The manufacturing contract (*istisna*) consists of an agreement signed in advance to pay a definite price for something that is to be made and delivered in the future.

[2] For further jurisprudential details of *salam*, see Al-Jazeeri 1986, vol. 2, pp 302-318; Ibn Rushd n.d., vol. 2, pp 151-157; Al-Zuhayli n.d., vol. 5, pp 3602-3639; Ibn Qudamah 2004, vol. 4, pp 196-223; Ali 2008, pp 162-179; Ansari n.d., pp 70-77; Al-Shawkani n.d., vol. 5, pp 239-242; Malik 1999, pp 96-110; Ghifari 1989b, pp 101-106

Unlike *salam*, which has been validated by the explicit authority of the Koran, *hadith* and *ijma* (Al-Zuhayli n.d., vol. 5, p. 3602; Ibn Qudamah 2004, vol. 4, p. 196), *istisna* has been legitimized by general consensus (*ijma*) and custom (*urf*). Notwithstanding the fact that nothing changes hands immediately and the subject-matter is also non-existent at the time of contract, *istisna* has been allowed by almost all Muslim jurisprudents. The contract is concluded by an offer and acceptance between the parties; it obliges the contractor to manufacture the goods, and obliges the customer to pay the price once the goods are manufactured according to the terms and conditions of the contract. It is not required to pay the price in advance, although it is allowed to do so but it could be paid in instalments or postponed to a future date. In this perspective, *istisna* is more consistent with a forward contract in which the price is also not paid in advance. The deferment of price in *istisna* is, according to the Muslim jurists, permissible on the basis of *istihsan* (juristic preference).

Some jurists, including Imam Abu Hanifah, opine that *istisna* is an exchange of promises and not a binding contract. However, the majority takes the view that *istisna* is a binding contract (Kamali 2002, p. 133). In *istisna*, it is not required to fix the time of delivery, although it is expressly stated in *salam*. However, the purchaser may fix the maximum time of delivery which signifies that if the manufacturer delays the delivery after the appointed time the buyer will not be bound to accept the goods and pay the price (Usmani 2005b, pp 197-198). According to Imam Abu Hanifah if time is fixed in *istisna* it would be a contract of *salam* rather than *istisna* (Mansuri 2005a, p. 211).[3]

In respect of commodity forwards and futures, El Gari (1993) notes that there are some similarities between these contracts and *bai al-salam* but they differ in this respect that in *salam*, the price must be paid at the time of the conclusion of the contract which is not the case in forward or futures contracts. Consequently the transaction will turn into *bai al-kali bil-kali* which is prohibited. If we consider, he adds, *salam* as a contract in accordance with *qiyas* and not against it then there is room for the admissibility of these contracts.

[3] For an in-depth analysis of *istisna*, see Al-Zuhayli n.d., vol. 5, pp 3640-3658; Usmani 2002a, pp139-142; Ansari n.d., pp 77-84; Malik 1999, pp 156-171

Notwithstanding the legitimacy of *salam* and *istisna* in the *Shari'ah*, the jurists deem them to be anomalous. They are of the opinion that the purpose of sale is to transfer the ownership, without further ado, of the object of sale but the deferment tends to hinder this purpose. Deferment is admissible if it involves only one, but not both, of the countervalues in a contract of sale. Ibn Taymiyyah and his disciple Ibn al-Qayyim opine, on the other hand, that *salam* and *istisna* are normal. They maintain, contrary to the majority opinion, that the existence of the subject-matter is not a prerequisite for a valid contract (Muhammad 2000, vol. 4, pp 350-351; Kamali 2002, pp 99-100).

The preceding discussion boils down to the fact that forward contracts are allowed to benefit from. However, only hedgers can take advantage of them. Forward contracts can never be used for purely speculative purposes. The researcher suggests that although it is not necessary to pay the complete price to the seller at the time of the contract yet some other precautionary measures such as a bank guarantee or a fair amount of money to be given to the seller should be taken to ensure that pure speculation is scrupulously forestalled, and the delivery would certainly be made. Under the circumstances if, for example, a large amount of money is given to the seller at the time of the contract the proscription of *bai al-kali bil-kali* would no longer be applicable because *bai al-kali bil-kali* comes about where the settlement by both parties is deferred to a future date, but that is not the case here.

4.2.2. *Bai Istijrar*

Bacha (1999) analyses forwards, futures and options, their evolution and unique benefits and why they are needed. He regards two Islamic contracts, namely *bai al-salam* and *istijrar* as alternatives to financial derivatives. The former contract more closely resembles forwards rather than futures. Some problems of forwards, namely double-coincidence, negotiated price and counterparty risk can exist in the *salam* sale as well. In forwards and futures, both buyer and seller face counterparty risk. But in *salam*, only buyer will face the seller's default risk. In order to overcome the potential for default on the seller's side, *Shari'ah* allows for the buyer to require security which may be in the form of a guarantee or mortgage. The latter contract, *istijrar*, fulfils the need to avoid a fixed return on asset which would be considered *riba* and also avoids

gharar as both parties, buyer and financial institution, know the upfront price and the range of other possible prices.

Obaidullah (1998) carefully vets the *modus operandi* of *bai istijrar* and infers that the Islamic bank is exposed to price risk because the contract price is fixed at the time of concluding the deal. If market price of the commodity to be supplied goes up then the Islamic bank would clearly be at a disadvantage. Its inflow of cash would remain fixed; the outflows in the form of payments to the original supplier will increase. On the contrary, the client has to face no price risk in this situation. However, he might be at a disadvantage if prices decline during the contract period. What is to be noted here is that in astronomical volatile markets, entrepreneurial activities are badly affected in the absence of any mechanism for the parties to manage their risk.

Istijrar can be compared with a range forward. The latter is a simple extension of a forward contract; it may also be regarded as a combination of a call option and put option. In a range forward, there is no single forward price. Instead, there is a range of forward prices. In the context of commodity transactions, a contract might, for instance, stipulate that the buyer will purchase the given commodity from the seller at a price ranging from P_1 to P_u. This signifies that the buyer has the right to purchase the commodity from the seller at price ceiling P_u, and seller is obliged to sell at P_u. On the other hand, the seller has the right to sell at price floor P_1, and the buyer is obliged to buy at P_1. Therefore like a simple forward contract, both parties have rights and obligations to transact a deal. The only difference is that there are different forward prices in a range forward.

A range forward is considered to be embargoed if it is used to make purely speculative profits from price differentials. *Istijrar* is also a combination of a call option and put option. It is, however, different from a range forward in the sense that it does not allow speculative gains as it is backed by a real sale and purchase of a certain commodity. It is this feature of *istijrar* that distinguishes it from other financial products and makes it consistent with the norms of the Islamic commercial law.

4.2.3. Foreign Currency Forwards

As was stated before a foreign currency forward is an agreement between two parties to exchange some amount of one currency for another at a specified time in the future. The exchange rate is fixed at the time the contract is entered into. The cash flow in the foreign currency forwards takes place at the time of maturity, that is to say when the foreign currencies are to be delivered.

The issue of trading in currencies has concisely been discussed. In Islamic commercial law, currency exchange is governed by the rules and regulations of *bai al-sarf* which require that the exchange of currencies must be hand-to-hand (Al-Jazeeri 1986, vol. 2, p. 271), and at current market exchange rate (Iqbal & Khan 2005, p. 6). Obaidullah (2001a) finds that there is a general agreement that currency exchange on a forward basis is not permissible, that is to say when the rights and obligations of both parties relate to a future date. However, the jurists disagree when the rights and/or obligations of one or either party are deferred to a future date.

In view of the preceding discussion, foreign currency forwards turn out to be illicit because the transaction is not hand-to-hand. In addition, it is carried out at predetermined exchange rate rather than current market exchange rate. As an alternative to foreign currency forwards the International *Shari'ah* Research Academy for Islamic Finance (2011) puts forward a unilateral contract involving two parties wherein one party promises the other party to buy or sell currency at a specified rate of exchange on a specified date in the future. The party who makes the promise is obliged to honour the contract. However, the other party is not obliged to do so. Since this form of contract is also fulfilled, like foreign currency forwards, at a predetermined exchange rate and the transaction is not hand-to-hand it is frowned upon to boot.

4.3. Futures Contracts

Futures contracts provide a useful means of reducing risk because these are highly liquid instruments that can be entered into or liquidated at any time. Futures contracts

are also paper transactions which do not involve the immediate transfer of the underlying assets. Low margin rates make futures trading relatively inexpensive. Futures markets ensure to provide a permanent venue for traders in commercial instruments and commodities where prices are determined on the basis of genuine market forces of demand and supply. In the absence of this facility, potential buyers and sellers would be unable to find an appropriate outlet for their needs. Futures markets are highly organized. The maturities of different commodities are specified, and all prices are quoted for these maturities. The grades of each commodity are also precisely defined.

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 settlements are made through clearing-houses. The dealers pay into or receive from the clearing-house even without knowing the name of the other party (Khan 1988, p. 98). In order to guarantee the due performance of contracts in the future, clearing-house oversees the trading activities on the exchange, and takes care of the solvency of all traders.

Muslim commentators lack the concurrence of views on the juristic identification of futures contracts. Kamali (2005) states that Majd al-Din Azzam characterizes futures as *shibh al-salam* (quasi-*salam*) but rightly adds that these contracts could not be subsumed under *salam* because in *salam*, the price is paid at the time of the contract. Some scholars like Sami Hamoud consider futures as an exchange of promises which is permissible in all sales except for the sale of currencies. Some other scholars like Shaikh Mustafa al-Zarqa, referred to by Azzam, opine that futures are not congruent with the description of *salam* or a deferred sale (*bai al-mu'ajjal*) because in these contracts, one of the countervalues is present at the time of the contract whereas in futures contracts, both of them are deferred to a future date.

There is no parallel to futures contracts in the Islamic commercial law. Although some provisions of the Islamic commercial law are in sync with certain aspects of futures contracts, but the latter tends to depart from the basic framework of conventional contracts.

Ebrahim and Rahman (2005) ascertain the efficiency of conventional futures over that of the classical *salam* contract, and find that futures are pareto-optimal. The welfare, the authors conclude, of the emerging Muslim economies would be reinforced by substituting modern futures on allowed commodities for *salam*.

Futures contracts are operated on the basis of margins which are determined by rides involved in the contract. The buyer and the seller have to deposit only a fraction of the contract value. It means that the traders in the futures market enter into more contracts than in a spot market and therefore make market more liquid, but what makes futures trading more prone to speculation is the high degree of leverage that comes from the low margin requirements. This low margin facility is not available in the stock market, and this is the main factor that accounts for the high volume of speculative trading in futures.

Naughton and Naughton (2000) point out that Islam does not forbid an agreement to sell a commodity in the future, although there are restrictions on how it is to be done. It is a requirement that a clearly defined commodity be specified in the contract. It is unlikely that a stock index futures would meet these requirements because a dollar value of an index is unlikely to be regarded as a clearly defined commodity. Without a clearly defined commodity, the ability to deliver physically anything is in doubt. The end result of a modern stock index futures is an exchange of cash representing the difference between the opening and closing price of the contract on the day of maturity. The fact that stock index futures are capable of being used by speculators does not invalidate their use. It is, the authors add rightly, not inconceivable that futures and options can be restructured to overcome the technical problems that at present inhibit their use.

Kamali (2005) states that Muhammad Mukhtar al-Salami emphasizes that there is a pressing need for futures contracts. He calls upon Muslim scholars to address various jurisprudential issues about futures according to modern circumstances. Muslim scholars must not limit themselves by just quoting what is written in jurisprudential books. They should refrain from passing prohibitive judgements on merely imitative basis. Similarly, Ali Abdul Qadir and Majd al-Din Azzam underscore that futures

trading is a new mode of commerce that calls for a fresh response formulated in the light of the operative procedures of futures markets.

A similar analysis of futures contracts has been advanced, as Kamali (2002) states, by Abd al-Karim al-Khatib who admits that although futures contracts do not fulfil all requirements of a conventional contract yet they are carefully and precisely regulated and satisfy the basic purpose of the Islamic commercial law. Abdul Qadir, Azzam and al-Khatib share the view that the registration and clearance procedures along with the guarantee functions of the clearing-house are precise, and trading in futures is conducted by trained professionals in a highly centralized and controlled market. The conclusion is therefore drawn that futures contracts are permissible.

4.3.1. Non-Existence of the Subject-Matter

Siddiqui (2008) finds that forwards, futures and options are forbidden as they include the element of risk. The risk of these instruments is that at the time the contract is executed, the object or commodity to be sold does not usually exist. Kamali (2002) states that Subhi Mahmassani also claims that contracts concerning future things are basically invalid on account of non-existent items at the time of the contract except for *salam* and *istisna* which are permissible in the *Shari'ah*. The postponement of the transfer of ownership in proprietary contracts (*uqud al-tamlik*) is a form of gambling and thus prohibited.

Surprisingly, the authors make no mention of *salam* here wherein the object or commodity being sold is normally non-existent at the time of the contract but no one proscribes it. There is no doubt that the jurists of various schools of thought have invalidated the sale of non-existent object for fear of uncertainty (*gharar*) but, on the other hand, Ibn Taymiyyah claims that the sale of a non-existent object is unlawful if it involves gambling and misappropriation of the people's property, but it is otherwise lawful. In respect of the assertion that the sale of a non-existent object is generally forbidden, he points out that there is neither an apocalyptic injunction nor a general consensus to support this view. The *Shari'ah* has, to the contrary, validated such sales. Thus it is not an issue of existence or non-existence of something which determines

the legality or otherwise of its sale. Instead, these are the elements of misappropriation and gambling which vitiate the status of a sale contract. The same view is held by Ibn al-Qayyim who states that no evidence is found in the Book of Allah or in the teachings of the Prophet Muhammad (Peace and Blessings of Allah be upon him) or in the statements of any of his disciples putting a ban on the sale of a non-existent object. The *Sunnah* admittedly forbids the sale of some things which do not exist but it prohibits some other things which do exist. Hence the effective cause (*illah*) of proscription is *gharar*, not the existence or non-existence of an item. *Gharar* is when a thing cannot be delivered whether it is existent or non-existent. The essential element of a sale is to deliver the object, and if the seller is unable to deliver it entails *gharar*, gambling and risk (Al-Zuhayli n.d., vol. 4, p. 3021).

Al-Dhareer (1997) goes along with Ibn Taymiyyah and Ibn al-Qayyim observing that every non-existent object whose future existence is uncertain must not be sold, and every non-existent object whose future existence is normally ascertainable may be sold. Mansuri (2005a) also states that the *hadith* prevents only that non-existent object which involves *gharar* such as the sale of unborn calf but those things whose existence is certain in future are permissible to sell because they do not involve any *gharar* which may lead to dispute and litigation among the parties. *Salam* (sale of future goods with advance) and *istisna* (contract of manufacturing) are examples of this case. Both are permissible in the *Shari'ah*, although the subject-matter does not exist at the time of the contract. The conventional *fiqh* equates, in all probability, the sale of non-existent object with *gharar* because the markets were very small in the early days of Islam but this is no longer the case.

Trading in derivatives generally proceeds over fungible goods and commodities (Kamali 1999b, p. 527). This aspect of derivatives makes them highly selective. Commodity futures and options refer to staple food grains, pulses, oil and timber. These fungible commodities have market potential as they are always in demand. The clearing-house procedures tend to preclude any serious doubt or uncertainty concerning the existence and delivery of the subject-matter of sale. In futures contracts, for instance, uncertainty about the existence of the underlying commodity in the future is not an issue. Nor do the prospects of delivery or the fulfillment of all material aspects of the contract involve the issue of *gharar*. Whenever the buyer longs

to take delivery, the clearing-house guarantees to deliver. The subject-matter of the contract is, in other words, certain to become available in the future.

With regard to the existence or non-existence of the subject-matter of a sale or the requirement of taking it into possession, Kamali (1996, 1999a, 1999b, 2002, 2005) also opines that the underlying rationale of the *hadith* on both of these issues is to prevent *gharar* that emanates from the seller's inability or failure to make delivery. If this is effectively prevented and ensured then the physical existence or possession of the subject-matter is no longer an issue.

Khan (1988) takes the view that futures trading is alien to Islamic law as it involves the sale of non-existent goods and does not entail actual transfer of the commodity to the buyer. Therefore it is unlawful. He cites in support of his viewpoint a *hadith* of the Prophet Muhammad (Peace and Blessings of Allah be upon him) which states: 'Sell not what is not with you'.

As was stated before the *hadith* applies only to the sale of specified and unique objects rather than fungible items. Hence if *salam* is struck over fungible goods that are readily available in the market it is quite permissible even if the seller does not own the object at the time of the contract. Futures contracts do not come within the purview of this *hadith* because these are normally concluded on the basis of a description of the underlying commodity. Contracts in foodstuffs largely concern fungible agricultural commodities that are sold by measurement and weight. They are generally standardized in terms of quality, grade and delivery. The standardization of contracts is an essential feature of futures trading, and compliance with the stated description is particularly emphasized for the smooth running of exchange operations. There are also provisions which compensate the buyer, if he accepts delivery, for any material variation in the stated quality and grade. The seller is granted some flexibility to deliver a low-grade commodity but in this case, the buyer can ask for compensation and may consequently pay a lower price. In addition, futures sales are not exactly the sale of objects that are non-existent. This is due to the fact that the futures markets operate on a permanent basis, and the underlying commodities are also expected to be available in the open market. Therefore it cannot categorically be said that the subject-matter of a futures contract is always non-existent.

Kamali (2002) states that Ahmad Yusuf Sulayman takes account of diverse rules of Islamic jurisprudence with regard to the sale prior to taking possession, the sale of objects that the seller does not own, deferred sale and the sale of a non-existent commodity. He directly applies Islamic jurisprudential rules of conventional sale to futures contracts, and passes prohibitive judgements in almost every case he looks into. He also quotes the aforementioned *hadith*, namely 'sell not what is not with you', and explicates that the *Shari'ah* has only validated *salam*; this is the only framework in which a deferred sale involving a future delivery can lawfully be concluded.

In relation to the non-existent subject-matter, the effective cause (*illah*) of the prohibition is the avoidance of *gharar*. The author did not ascertain whether the inability of a seller to deliver a certain commodity is still a prickly issue in futures trading.

4.3.2. Sale Prior to Taking Possession

Al-Amine (2005) states that the first institution that addressed the issue in question was the Mecca-Based Fiqh Academy. In its 1985 resolution, the Academy acknowledges some benefits of financial derivatives to farmers and commodity traders but asserts that these benefits are accompanied by such transactions which have explicitly been proscribed by the *Shari'ah* such as gambling, exploitation and selling of what one does not own or possess. It also admits that futures contracts have developed into a variety of transactions, and each case should therefore be viewed and evaluated on individual basis. The Fiqh Academy's final resolution concludes that futures contracts are forbidden because they involve the sale of commodities which the seller does not own or possess. Futures sales are not genuine sales because they are concluded over things which do not exist at the time of the contract. The parties to a futures contract are also not interested in making or taking delivery. Instead, they just want to make a profit from price movement of the commodities concerned. Hence buying and selling of futures contracts are closer to gambling rather than trading.

Delivery is nevertheless an important factor. It is the possibility of eventual delivery that determines the prices of financial derivatives. Delivery remains a legal commitment, and the seller must deliver the commodity unless he closes his position by entering into a reverse transaction. Economically speaking, physical transfer of commodities at each stage involves a lot of human activity. Many people get jobs as a result of packaging, storage and transport. Therefore the Islamic insistence on the physical transfer of commodities by each seller has, on the whole, an encouraging effect on the economy.

The Academy has rightly called attention to the fact that in derivatives instruments, physical delivery of underlying assets is once in a blue moon. In most forward contracts, the commodity is actually delivered by the seller and accepted by the buyer but in financial futures, actual delivery takes place in around two per cent of the contracts traded. Most of them are settled before maturity by entering into a matching contract in the opposite direction.[4]

However, the Academy would have received tumultuous applause if it had endeavoured to analyse, according to its own assertion, futures contracts on individual basis. Futures trading in stock indices and currencies, for example, is governed by a different set of rules from futures trading in commodities. Likewise options and options on futures that are traded on commodity exchanges are completely different modes of trading which should have been evaluated separately. Moreover, the Academy did not attempt to come up with the Islamic alternatives that could assure the procurement of motley advantages of futures contracts the Academy did recognize.

The Islamic Fiqh Academy of India (2001) examines only one aspect regarding futures contracts, namely the issue of taking possession. The Academy opines that as a principle it is not permissible to sell anything off before actually possessing it. Therefore if the sale is struck before taking possession the sale would be irregular

[4] Since there is a matching sell for every buy the exchange does not have to worry about balancing both sides. Say that A buys a futures contract and B sells it. This transaction leads to two contracts: firstly, A buys and clearing-house sells; and secondly, B sells and clearing-house buys. Next day, A sells and C buys. A is out of the picture now. The clearing-house is seller to C and buyer from B. For further details, see Al-Suwailem 2006, p. 28; Dali & Ahmad 2005, p. 14; Ghoul 2008, p. 99; Apte 2007, p. 225

(*fasid*) rather than null and void (*batil*). However, it will become valid after possessing the commodity being sold.

As noted before the *Shari'ah* commands do not proscribe the sale of what is not owned or possessed as long as it is of benefit to the general public. That is why *salam* has explicitly been validated. In futures contracts, delivery and taking possession are merely theoretical propositions which at bottom come about in around two per cent of all transactions. Traders sell before taking possession and sometimes sell what they do not own but with the assurance that identical items can be bought and sold instantaneously. There is normally no fear of the seller's inability to find and deliver the underlying commodity if he wishes to make delivery. There is, however, a general agreement that the rationale behind the prohibition of the sale of a certain commodity prior to taking possession is, in fact, uncertainty and doubt about its delivery (Obaidullah 1999, p. 15). If the seller is certain to deliver the commodity then the requirement of taking possession prior to sale remains no longer an obstacle. The Academy, however, sidestepped different juristic contentions and the change in material circumstances in this regard.

Al-Dhareer (1997) infers that futures contracts are forbidden because there is no condition in these contracts that the seller should own the commodity. It is enough that he is committed to deliver the commodity at the appointed time. There is also no condition in these contracts that the price should be paid in advance.

If the concept of taking possession or ownership is considered according to what is customary in futures markets it might be simplified through an exchange. It is unanimously admitted that the concept of *qabd* is based on the prevailing custom, and it could be real (*haqiqi*) or constructive (*hukmi*). In the real form, the commodity is physically transferred from the seller to the buyer whereas in the constructive form, there is no physical delivery except for something that could be considered as a form of taking possession. So, taking possession of the document of a specific commodity recognized by the market participants as legal tender showing the transfer of ownership from one person to another is generally accepted by Islamic financial institutions as a form of constructive possession even though the commodity is not physically transferred. Therefore it could be argued, as Al-Amine (2005) maintains,

that even though the underlying asset in commodity futures is a physical commodity but it is internationally recognized that in the futures markets, taking possession of underlying assets will occur through the transfer of documents confirming the transfer of ownership and liability from the seller to the buyer.

4.3.3. *Bai Al-Kali Bil-Kali*

El Gari (1993) says that in futures, the commodity in the first contract could be sold prior to taking possession which is not the case in *salam*. However, there is room for the validity of such a transaction because some scholars do not see any legal problem in selling the commodity purchased through *salam* before taking possession. He compares futures contracts with *istisna*, and deduces that both types of contracts involve *bai al-kali bil-kali* but *istisna* contract should be admitted in Islamic law on the basis of necessity (*darurah*).

It is ironic that one of two similar contracts is legitimized on the basis of necessity whereas the other is being kept off. Obaidullah (1999) also admits that the profound implication of *bai al-kali bil-kali* in this area may be an obstacle for the development of a futures market.

As noted before the prohibition of *bai al-kali bil-kali* is derived from the *hadith* wherein the Prophet (Peace and Blessings of Allah be upon him) invalidated it (Al-Shawkani n.d., vol. 5, p. 165).

Any contract where the settlement by both parties is deferred to a future date is a clear case of sale of one debt for another (Obaidullah 1999, p. 20). Hassan (1985) quotes a broad consensus of opinion on the prohibition of *bai al-kali bil-kali* in the Islamic jurisprudence. Muslim jurists, he says, necessitate taking possession of principal in *salam* before leaving the place of contract in order that the sale of one debt for another can be refrained from. The commodity purchased is, in effect, a debt which is to be acquired later on. If the seller does not receive money at the time of the contract the transaction will become a sale of one debt for another which is frowned upon. Ibn Qudamah (2004) also maintains that *bai al-dayn* is unanimously impermissible. He

cites Ibn al-Munzir's assertion that there is a complete agreement among the jurists about the illegitimacy of *bai al-dayn*. Imam Ahmad bin Hanbal is also reported to have said the same (Al-Shawkani n.d., vol. 5, p. 166). Usmani (2005b) states that the prohibition of *bai al-dayn* is a logical consequence of the prohibition of *riba*. A debt receivable in monetary terms corresponds to money, and every transaction where money is exchanged for the same denomination of money, the price must be at par. Any increase or decrease from one side is tantamount to *riba*, and can never be allowed in the *Shari'ah*. Gilani (n.d.) argues that *bai al-kali bil-kali* is prohibited because it might precipitate untold disputes at the time of payment. Ibn Rushd (n.d.) and Rehman (1993) also deem *bai al-dayn* forbidden in the light of the *hadith*.

On the other hand, Ibn al-Qayyim holds the view that not all forms of *bai al-dayn* are prohibited. The prohibited form is that which involves the sale or exchange of one deferred debt for another. He further explains that there is neither explicit nor implicit text in the *Shari'ah* to proscribe it. On the contrary, the principles of the *Shari'ah* signify its permissibility. To Ibn Taymiyyah, the Prophet (Peace and Blessings of Allah be upon him) did not prohibit the payment of one debt in exchange for another debt when both are established and substantiated, especially when this process does not involve any third party, and is restricted to the debtor only. The *Maliki* jurisprudents also upheld the permissibility of certain types of *bai al-dayn*, especially when the debts involved therein do not arise from the exchange of foodstuffs, and the transaction does not contain the element of *gharar* (Al-Zuhayli n.d., vol. 5, p. 3407).

It is a fundamental principle of the *Shari'ah* that the consensus of the Muslim jurisprudents on a certain issue is as binding as the precepts of the Koran and the *Sunnah*. The relevant verse says:

> *And whoever contradicts and opposes the Messenger (Muhammad) after the right path has clearly been shown to him, and follows other than the believers' way, We shall keep him in the path he has chosen and burn him in Hell – what an evil destination (4:115)!*

Since the jurists are unanimous in the proscription of *bai al-kali bil-kali* it cannot be validated by the contentions of a few scholars. However, it remains to be seen whether futures contracts involve *bai al-kali bil-kali* or not.

Futures contracts are operated on the basis of margins which are determined by rides involved in the contract. The buyer and the seller have to deposit only a fraction of the contract value. It means that the traders in the futures market enter into more contracts than in a spot market and therefore make market more liquid, but what makes futures trading more prone to speculation is the high degree of leverage that comes from the low margin requirements. This low margin facility is not available in the stock market and this is the main factor that accounts for the high volume of speculative trading in futures. Although it is not necessary to pay the complete price to the seller at the time of the contract yet some other precautionary measures such as a fair amount of money to be given to the seller should be taken to ensure that pure speculation is scrupulously forestalled, and the delivery would certainly be made. Under the circumstances if, for example, a large amount of money is given to the seller at the time of the contract the proscription of *bai al-kali bil-kali* would no longer be applicable because *bai al-kali bil-kali* comes about where the settlement by both parties is deferred to a future date, but that is not the case here.

4.3.4. Hedging and Speculation

There is a general agreement that speculation is indispensable to all trading, especially to stocks and futures; futures market cannot function without it (Kamali 2002, p. 159). Al-Amine (2005) also comments that a limited level of speculation is not only needed, but also necessary for the smooth functioning of any exchange. To eliminate speculation altogether whether in ordinary sales or financial derivatives is impossible.

The commentators have expressed serious reservations that the extent of speculative trading endemic in futures contracts might bring them closer to gambling. So, the legal verdict on their permissibility or otherwise must take this assessment into consideration.

Technically speaking, speculation means the purchase or sale of something for the sole purpose of making a capital gain (Smullen & Hand 2005, p. 383). Prima facie, to take risks is an inalienable aspect of human life. From economic point of view, the willingness to take a risk is essential to the growth of a free market. If all savers and their financial intermediaries invested only in risk-free assets the potential for business growth would never be realized. The specialists agree that risk can be managed, but not eliminated from economic activities. 'Nothing ventured, nothing gained' is the first maxim in the business world (Al-Suwailem 2006, p. 141). Economic development cannot be achieved without assuming risk. Therefore the Islamic directives that risk may not be severed from real commercial transactions are down-to-earth and conform to the economic realities.

Speculation consists of such risks that are necessarily present in the process of marketing. No business activity can, in this perspective, be said to be utterly devoid of speculation. That is simply because people carry out business activities in order to make a profit which necessitates speculation. Kamali (1999b) observes that the motivations of a speculator could well be identical with those of a gambler; the main difference is that speculation in financial derivatives reallocates risk from those who do not want it to those who do. In other words, speculation in derivatives is directed towards economically productive channels, and real commercial risks are taken. On the other hand, the underlying object of gambling is risk which does not relate to the exchange or production of goods and services.

In actual fact, gambling is the extreme and worst form of speculation. Speculation always involves an attempt to predict the future outcome of an event. But the process may or may not be backed by the analysis and interpretation of relevant information. The former case is completely consistent with the Islamic rationality. An Islamic economic unit is, however, required to assume risk after making a proper risk assessment with the help of information. Hence all business decisions involve speculation in this sense; when speculation is based on information, it is not only permissible, but also desirable. It is only the flagrant absence of relevant information or the conditions of excessive uncertainty that speculation resembles gambling and is therefore unpalatable.

If Islamic modes of investment are compared to the interest-based transactions the former would turn out to be more inclined towards speculation than the latter. Kamali (1999b) finds that transactions such as *mudarabah* and *musharakah* are highly speculative – so much so that the element of risk and possible failure of the proposed business or enterprise is much greater in these contracts than in most of the interest-based transactions which move within relatively narrow range. Therefore speculative risk-taking in commerce which involves investment in assets, labour and skill is not forbidden. What is forbidden is excessive *gharar* and gambling. Ibn Taymiyyah (cited in Al-Suwailem 2006) further spells out that risk is divided into two categories. The first category is that of commercial risk where someone buys a commodity in order to sell it for profit, and relies on Allah. This risk is necessary for merchants even though one might occasionally lose, but this is the nature of commerce. Gambling is the other type of risk which means devouring the wealth of others. That is what Allah and His Messenger (Peace and Blessings of Allah be upon him) have prohibited.

Wilson (1991) observes that forwards, futures and options are viewed as potentially corrupting by modern specialists in Islamic finance. Such transactions may be prompted by the desire to hedge or gain from arbitrage which is, admittedly, quite different from speculation. The problem, however, is that it is the speculator who provides liquidity in the market for such activities. Those who participate in hedging or arbitrage are therefore indirectly benefiting from, and to some extent encouraging, speculation.

One of the most important arguments against financial derivatives is that they promote speculative activities in the market. It has been observed from different financial markets throughout the world that hardly one or two per cent of traded derivatives instruments are settled by actual delivery of the underlying assets (Gupta 2006, p. 16). Therefore speculation has become the primary purpose of the existence, evolution and growth of financial derivatives. Sometimes these speculative trading practices by professionals as well as amateurs affect adversely genuine producers and traders. Some financial experts and economists believe that speculation causes better allocation of resources, reduces fluctuations in prices, restores equilibrium between demand and supply, removes periodic gluts and shortages and thus brings efficiency to the market, but it is to all intents and purposes unlikely to own all of these so-called

assertions. Most of the speculative activities prevalent in the derivatives markets are professional speculations which trigger off instability in the markets. It is a reality that sudden and sharp variations in prices are normally due to common, frequent and widespread consequences of speculation.

Kamali (2005) states that Muhammad Taqi Usmani maintains that futures contracts are not valid according to the *Shari'ah* because what befalls in the futures market is not genuine trading. The purpose is to make a profit through sales that are akin to and consistent with gambling.

Futures trading appeals to speculators on account of the prospects of making huge profits from relatively small amounts of investment. This is due to the fact that a commodity contract requires a substantial amount of money to be paid but the margin is relatively small compared to the contract value. This high leverage allows brisk speculative trading that is not available in the open market. It is also easier for speculators to take long or short positions in futures contracts because no security or enormous financing is required. The buyer of a futures contract, for example, sells what he has bought to a third party prior to taking possession of the underlying commodity, and then the next party sells the same commodity to someone else before possessing it. In this way, a single commodity is bought and sold several times without any physical transfer or delivery. In this entire gamut of transactions, a certain buyer might wish to take delivery from the seller who probably sold him what he did not own or possess. With the exception of those sellers and buyers who genuinely make and take delivery, all other sales are settled on the basis of price differentials which may consist of a profit or a loss for the parties concerned. This is entirely similar to what happens between gamblers.

Dusuki and Mokhtar (2010) go through various commands of the Koran and the *Sunnah* in relation to hedging. They infer that risk management is important, and strategic actions must be taken to handle risk efficiently and promptly. Obaidullah (1998, 1999, 2002) is also of the opinion that hedging is quite in conformity with Islamic rationality, but hedging with derivatives is fraught with grave dangers since large-scale speculation is now made possible with derivatives. He further elaborates that financial derivatives are invariably settled in price differences only and never

result in actual delivery of the object of exchange. They also clearly violate the *Shari'ah* prohibition of sale of the non-existent or sale of what one does not have on grounds of *gharar*. In view of these objections, futures and options are not quite acceptable. The rich Islamic *fiqh* literature on contracts does not quite provide a *Shari'ah*-approved contract on which derivatives could be modeled.

Ironically, the author simply imitated when he ruled out the likelihood of derivatives instruments by virtue of having no precedent in the Islamic jurisprudence. *Fiqh* is a ceaseless process without any lull to iron out different problems in accordance with the commands of the Koran and the *Sunnah*. What Muslim jurists (*fuqaha*) have done is, indeed, laudable but every age has to face varied circumstances and it prima facie calls for contrasting strategy. To apply the same verdicts of one era to another era in spite of objective changes seems to be unlikely to chime with.

As far as hedging and speculation are concerned, it is one of the facts of life that the former is relatively dull whereas the latter is exciting. When a company hires a trader to manage interest rate, foreign exchange or price risk, at first he does the job diligently, and earns the confidence of top management. The trader assesses risk exposure of the company and hedges against it. As time goes by, he becomes convinced that he can outguess the market. Little by little, the trader becomes a speculator. At first everything is right but after a short spell, a loss is made. In order to make the loss up, the trader doubles the bets. Further losses are made and the consequences turn out to be catastrophic.

It is, somehow, difficult to draw a distinction between hedging and speculation. Precise market regulations may reduce speculation to an acceptable level. However, to curb speculation by looking at the traders' intentions might be impracticable. There is little empirical data to prove or disprove any hypothesis relating to the intention of the contracting parties (Obaidullah 1999, p. 18). It is therefore not realistic to oblige an investor to keep the shares he bought for a long time, say six months, to shun speculation. The *Shari'ah* does not impose a specific time for holding a commodity before reselling it (Al-Amine 2005, pp 69-70).

Kamali (1996, 1999a, 1999b, 2002, 2005) deduces that derivatives trading is not necessarily objectionable provided that adequate measures are taken to ensure that it is for genuine reasons and that speculative risk-taking is kept down to acceptable levels. To take an unduly prohibitive view of commodity futures simply because they were not known to the *fuqaha* of earlier times, and then pass negative judgements on them without clear *Shari'ah* evidence are tantamount to acting contrary to *maslahah*. In addition, speculation is basically lawful but its propensity to gambling must be tackled through constant supervision and effective position limits.

Every business transaction necessarily contains an element of uncertainty. Probably an important reason for finalizing a deal is the difference in individual expectations over what will happen in the future and the perception of risk. A trader who buys a certain commodity to sell in due course takes a decision on the basis of his forecasts of future prices. Of course, there is no guarantee of the realization of such expectations. It is touch-and-go in almost every business activity whether one would make a profit or incur a loss. There is nevertheless an established link between the expected yield and the risk involved in investment activities. The more the risk due to the lack of certainty, the more the expected return is. It is, however, scrupulously emphasized that these activities should involve the production or exchange of real goods and services, and be devoid of pure speculation or gambling.

A trader who picks out to benefit from derivatives might be a genuine hedger who buys or sells a contract in order to protect himself against drastic fluctuations in the prices of various commodities. The other and most likely possibility is that the trader might be a speculator who enters the market with the sole intention of making a profit on account of price movements during the contract period. Quite realistically, it is an uphill task to distinguish between hedgers and speculators in categorical terms because to some extent, hedgers are also speculators who take a certain kind of risk, and tend to speculate on the likely changes in prices. What a hedger does is to confine, rather than eliminating, risk and he differs in general from a speculator because the variation in his outcome is, by and large, less. Apte (2007) opines that hedging is understood to mean a transaction undertaken specifically to offset some exposure arising out of the firm's usual operations, whereas speculation refers to the deliberate creation of a position for the express purpose of generating a profit from

exchange rate fluctuations, accepting the added risk. Therefore a decision not to hedge against an exposure arising out of operations is also equivalent to speculation.

Since derivatives do not involve physical movement of commodities and deals are concluded on the basis of a low margin deposit they remain quite open to excessive risk-taking. The presence of speculators in the market enables hedgers to hedge because speculators assume risk that the hedgers want to refrain from. When speculators enter the market, the number of ready buyers and sellers increases and hedgers are no longer limited by the hedging needs of others.

The covert and overt ramifications of inordinate speculative activities in financial derivatives may not be overlooked. It is witnessed in the financial markets all around the globe that the trading volume in derivatives has increased over and above the value of the underlying assets but hardly one or two per cent of derivatives are settled by the actual delivery of these assets. It is noteworthy that more than 97% of derivatives are used for speculation (Al-Suwailem 2006, p. 48). Although speculation is deleterious to the society as a whole, some benefits of it are set forth into the bargain. It augments, for example, trading volume and liquidity. Increased trading volume reduces transaction costs, whereas liquidity reduces execution risk. If speculators are willing to take a risk it means that hedgers have someone to pass their risks on. In spite of these beneficial effects, speculation can become an instrument of abuse that can easily compromise the integrity of the market when it is employed for improper purposes. Speculation can turn the market into a gambling den and lead to financial ruin. If that is the case pure speculative activities in different financial markets can only be decried as a vehicle for corruption and misappropriation.

Obaidullah (2001b) suggests that speculation is against the norms of Islamic ethics and an Islamic market would be free from any mechanism that encourages speculation. Since the distinction between speculation and genuine investment is largely a matter of intention of the individual the former cannot be directly prohibited. The observed difference is generally in terms of time horizons. An oft-repeated suggestion to curb speculation is to impose a minimum holding period requirement. However, this course of action may not be desirable because a genuine investor may need to liquidate his investment within a short period of time on account of either an

unexpected individual need for liquidity or some adverse information about the company. To prevent some investors from disinvestment while allowing others on the basis of a minimum holding period would amount to injustice. Such an action is not only overly restrictive but also unnecessary because in the Islamic framework, although speculation is not unlawful, professional speculators cannot thrive.

The huge losses incurred by the use of financial derivatives have made many financial institutions very wary. The stories behind the losses emphasize the point that derivatives can be used either to reduce risk or take a risk. Most losses came about when derivatives were used inappropriately. Employees who had an implicit or explicit mandate to hedge against risks faced by their companies decided to speculate instead.

The key lesson to be learnt from the losses is the importance of internal controls (Hull 2007, p. 738). Senior management should lay down clear and unambiguous guidelines in relation to the use of derivatives instruments.

The preceding discussion boils down to the fact that futures contracts are allowed to benefit from. However, only hedgers can take advantage of them. Futures contracts can never be used for purely speculative purposes where making or taking delivery is not intended.

4.4. Options

El Gari (1993) rebuts the criticism raised by some scholars that options do not serve any economic purpose and are only used for gambling. He points out that the possibility of using this type of contract with the intention of gambling cannot be ruled out, but this element does not accompany the options concept of necessity.

The economic rationale of conventional options is described that they are used as a hedge against risk. In the context of different financial markets which are characterized by volatile prices, these contracts enable the parties to transfer and eliminate risk arising out of such fluctuations. Say that an individual A plans to buy

(or sell) a certain commodity after three months. He might be adversely affected if price moves up (or goes down) during this period. The price risk could be managed by buying a call (or put) option with a given exercise price. The price paid for the options is believed to be the cost of hedging against adverse price fluctuations. This situation, even though, rings true but the fact is that a large number of transactions are speculative. It is worth mentioning that some jurisprudents, as Obaidullah (1998) quotes, validate options on condition that the obligations implicit in the contract cannot be transferred to a third party. This would effectively curb the possibility of speculation.

The International *Shari'ah* Research Academy for Islamic Finance (2011) discusses the structure of forex *wa'd* within the ambit of Islamic options. Forex *wa'd* uses a promise which is binding on one party. For instance, an Islamic bank promises one of its customers to exchange Currency A for Currency B at a predetermined exchange rate on a specified date in the future. The bank straightaway receives a fee from the customer for its undertaking. On the specified date, the customer might ask the bank to fulfil its promise or might exonerate the bank from its responsibility. If the customer wants to execute the transaction the bank and the customer would exchange the currencies.

4.4.1. Currency Options

Currency option is a contract of a specific currency in exchange for another currency in which the holder (buyer) of the option has the right to buy or sell a particular currency at an agreed price for or within a specified period (Gupta 2006, p. 440; Smullen & Hand 2005, p. 102). Currency options protect the holders against the risk of adverse movements in the exchange rates. For instance, individual A, a Pakistani exporter, has sold some commodities to individual B, a British importer, for £50 to be received after one month. Say that the current exchange rate is 1:140 which is equal to Rs.7 000. There is a possibility that pound sterling may depreciate against Pakistani rupee during one month. In this case, A would realize less amount of rupees for his £50. Suppose that the rate of exchange is 1:138 after one month, A would realize Rs.6 900 rather than Rs.7 000. Hence he may purchase an option to exchange £50 for

equivalent rupees at a rate of 1:140 at the end of one month, and can be certain to realize Rs.7 000. On the contrary, if pound sterling appreciates against Pakistani rupee, say 1:142, he would prefer not to exercise the option and consequently realize Rs.7 100. His loss would be equal to the premium paid for purchasing the option. This would be the gain of the seller of the option.

The possibility of gain or loss encourages economic units to speculate about the future direction of exchange rates. Since exchange rates fluctuate randomly gains and losses are random into the bargain. Obaidullah (2001a) observes that exchange rates are volatile and remain unpredictable at least for the vast majority of market participants.

In Islamic commercial law, currency exchange is, as noted above, governed by the rules and regulations of *bai al-sarf* which require that the exchange of currencies must be hand-to-hand and at current market exchange rate. Obaidullah (2001a) finds that there is a general agreement that currency exchange on a forward basis is not permissible, that is to say when the rights and obligations of both parties relate to a future date. However, the jurists disagree when the rights and/or obligations of one or either party are deferred to a future date. So, currency options are ruled out altogether as the majority of jurists equate currency exchange with *bai al-sarf* in which spot settlement or *qabd* by both parties is insisted upon.

4.4.2. *Khiyar Al-Shart* and *Bai Al-Arbun*

Al-Amine (2005) argues that *khiyar al-shart* and *bai al-arbun* can be devised as tools of risk management and as possible alternatives to options. Obaidullah (1998, 1999, 2002) also sets forth *khiyar al-shart* as the Islamic alternative to conventional options and as a tool of risk management. The same view is held by Maurer (2001) who insists that *khiyar al-shart* is the closest to options.

Khiyar al-shart is an option in the form of a condition stipulated in the contract. It provides a right for one or either or even a third party to ratify or call off the contract within a stipulated period of time (Ghifari 1989b, p. 91). This implies that the relevant party gets some time for reassessment of the benefits and costs involved prior to final

accent or confirmation of the contract. *Khiyar al-shart* is allowed in those contracts which can be revoked such as sale and hire. It cannot be exercised in those contracts which are irrevocable like divorce and manumission. It is also not permitted in the contracts of *salam* and *sarf* (money exchange).

There is a general agreement that the option period begins when the contract is concluded but the jurists have differing opinions in relation to the duration of a valid option of stipulation (*khiyar al-shart*). The *Hanafi* and *Shafi'i* jurisprudents opine that it should not exceed three days because this is what the *hadith* specifies. Also, it is essentially *ultra vires* and no unbridled recourse to it should therefore be encouraged. The *Maliki* jurists maintain that the *hadith* mentions three days in a figurative sense to illustrate the concept. The actual duration of an option may therefore be determined by relating the option period to the subject-matter of sale. So, the option period can be confined to three days in the case of sale and purchase of animals and clothes, but it may be extended for a month or two months in the case of buying a house. Imam Ahmad bin Hanbal takes the view that an option is entirely a matter of agreement between the contracting parties. So, its duration can be determined with mutual consent. Ibn al-Qayyim (cited in Muhammad 2000) spotlights that the duration of *khiyar al-shart* can, according to the true contention of the jurisprudents, lawfully exceed three days because the Lawgiver (Peace and Blessings of Allah be upon him) did not prohibit the increase in three days.[5]

Al-Amine (2005) states that Hasan Ahmad Muhayyuddin deems options illegal because they do not come within the purview of *khiyar al-shart* or its objectives. Besides, they contradict the principle of justice because the option-holder benefits from the loss of the one who provides them. Hence such options are similar to the illegal kind of options (*al-shurut al-fasidah*).

This analysis is, however, inaccurate because the option-holder does not always make a profit. Instead, he sometimes makes a loss into the bargain. Another point is that the option-holder might be a genuine hedger who wishes to protect himself against

[5] For further details of *khiyar al-shart*, see Al-Jazeeri 1986, vol. 2, pp 174-184; Ibn Rushd n.d., vol. 2, pp 157-161; Al-Zuhayli n.d., vol. 4, pp 3109-3115; Al-Kandhalwi n.d., vol. 11, pp 320-321

exorbitant losses, and it has been discussed in detail that to hedge against possible losses is downright congruent with the *Shari'ah* injunctions.

Khan (1988) compares options trading with *bai al-salam* and *bai al-khiyar* with the conclusion that options do not fulfil the conditions of either of the contracts. It is therefore forbidden.

The general principle regarding transactions (*mu'amalat*) is that of permissibility (*ibahah*) and absence of prohibition. So, nothing can be prohibited unless it is proscribed by Allah and/or His Messenger (Peace and Blessings of Allah be upon him). It is subject to outright quibble that the author declares options trading prohibited on account of not complying with the requirements of *salam*. He overlooked the fact that the ambit of transactions is not confined to only *bai al-salam* and *bai al-khiyar*. The development of derivatives instruments is a new phenomenon of modern age. He ought to have explored the permissibility or otherwise of financial derivatives considering the generic concept of legitimacy with respect to transactions.

Al-Amine (2005) states that Frank Vogel and Samuel Hayes explore the possibility of options through *khiyar al-shart* and *bai al-arbun*, and infer that *khiyar al-shart* is of little significance for the creation of valid derivatives because the options right itself is not paid for. However, *arbun* offers the closest analogy to options. Classical law gives little hope for the approval of the options. Obaidullah (1998) describes that the view of some *Shari'ah* scholars is that an option is a promise to sell or purchase a thing at a specific price within a stipulated time. In itself, such a promise is permissible. However, this promise cannot be the subject-matter of a sale or purchase.

Kamali (2002) states that Shahhat al-Jundi, Yusuf Sulayman and Ali Abd al-Qadir affirm the basic validity of options trading, and conclude that the option buyer pays for a right and the seller is entitled to be paid for it. Kamali further elucidates that the monetary compensation or a fee is allowed to be asked for by the one who grants an option or a privilege to the other. If the seller is entitled to stipulate a security or a pawn then it is a mere extension of the same logic that he may charge the buyer and impose a fee or demand compensation in respect of such options and stipulations. When the buyer, for example, stipulates that he will either ratify or revoke the

contract within a week or a month, this may prove to be expensive for the seller and he can therefore charge the buyer for granting the option.

Salehabadi and Aram (2002) outline the key elements of futures and options in the context of Iranian economy, and address the jurisprudential justification of these instruments from the *Ja'fari* point of view. According to Imam Khomeini futures and options are allowed to benefit from. The authors presume that call option is permissible based on *bai al-arbun* which was permitted by Ali (Allah be pleased with him).

A call option is similar 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 does not confirm the contract. However, in case of a call option, the buyer loses the option premium even if the option is exercised and the contract is confirmed. In case of *bai al-arbun*, the option premium is adjusted in sale price when the contract is ratified.

Arbun can be utilized to facilitate a credible commitment that the buyer will not change his mind after signing a contract. Otherwise the seller would be compensated for the possible losses he incurs. The need for such an assurance is more evident in modern times when huge commercial deals have to be entertained. The seller who manufactures the goods and waits until the buyer ratifies the contract, may lose the opportunity to sell his merchandise for a good price. He should be entitled to compensation, and *arbun* is, in this perspective, a force to be reckoned with.

Al-Amine (2005) sets out the possible Islamic alternative to a put option that if the seller fails to fulfil his contractual obligations he should pay a certain amount of money to the buyer in the form of reverse *arbun*. It signifies that if a seller who has already received *arbun* fails to fulfil his obligations he had better return the double amount to the buyer as a compensation.

The conclusion is thus drawn that options trading is permissible to benefit from because it is simply an extension of the fundamental concept of freedom and legitimacy given by the *Shari'ah* in relation to commercial transactions. However,

there is a broad consensus of opinion that the entire range of debt securities involves *riba* and is considered to be impermissible. So, options relating to such securities are not allowed.

4.5. Swaps

The conventional swaps are generally believed to be illegitimate as they categorically involve interest. The basic concept behind this is that money is a commodity like any other commodity, and one must try to sell it at a profit or earn its rent. This 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.

Islamic swaps are in use by several Islamic financial institutions. They essentially involve an exchange of two interest-free loans in different currencies which are repaid by both parties at the time appointed. Such swaps partially enable the parties to hedge against their currency risk. Islamic swaps are only meant for hedging; they cannot be used for speculative activities (Dusuki & Mokhtar 2010, p. 26).

Obaidullah (1999) highlights that Islamic swaps may perform many useful functions, besides being a tool of risk management, such as better asset-liability management, identification of appropriate investment opportunities and the like. Conventional swaps also give the same advantages, but Islamic swaps are different in the sense that they do not involve interest. He cites a simple example that bank A in India has liquid assets denominated in the US dollars, and it currently expects the US dollar to weaken against the Indian rupee over the next six months. Bank B in the USA has liquid assets denominated in the Indian rupees. It expects the Indian rupee to weaken against the US dollar over the next six months. Therefore both banks are exposed to currency risk. An Islamic swap between the two banks may help to reduce their risk. Say that bank A lends 1 million US dollars to bank B and in return, A borrows 20 million Indian rupees from B. After six months, A repays 20 million Indian rupees to B and B repays 1 million US dollars to A.

In the absence of this swap, bank A would have possessed its dollar liquidity or generated some profits by investment, but it would have incurred a loss on account of expected fall in the value of dollar against rupee. With this swap agreement, the bank would be hopeful, for a predetermined period of time, of a good return on rupee investments. At the end of this period, the bank will reverse the transaction, and get its dollar liquidity back. A similar situation exists with respect to bank B which can now hedge against the fall in the value of rupee. The major difference between Islamic swaps and conventional swaps is that the latter entails interest along with the principal whereas in Islamic swaps, only principal is swapped since the returns to be generated on the investments are not predetermined.

Dusuki and Mokhtar (2010) illustrate two structures of Islamic FX swaps available at the market. One structure is based on the contract of *tawarruq*, whereas the other structure is based on the concept of *wa'd* (promise). The structure based on *tawarruq* is not allowed to benefit from because *tawarruq* is, as was stated before, frowned upon. In contrast, the other structure is based on *wa'd*. It involves *bai al-sarf* at the beginning of the contract, along with a *wa'd* to carry out another *bai al-sarf* at a future date.[6]

4.6. Conclusion

This chapter discussed in detail the Islamic point of view on forward contracts, futures contracts, options and swaps. Forward contracts and futures contracts are allowed to benefit from. However, only hedgers can take advantage of them. Forward contracts and futures contracts can never be used for purely speculative purposes where making or taking delivery is not intended. Although it is not necessary to pay the complete price to the seller at the time of the contract yet some other precautionary measures such as a bank guarantee or a fair amount of money to be given to the seller should be taken to ensure that pure speculation is scrupulously forestalled, and the delivery would certainly be made. If a large amount of money is given to the seller at the time of the contract the proscription of *bai al-kali bil-kali* would no longer be applicable

[6] See also International *Shari'ah* Research Academy for Islamic Finance 2011, pp 606-609; Dusuki & Mokhtar 2010, pp 20 ff.

because *bai al-kali bil-kali* comes about where the settlement by both parties is deferred to a future date, but that is not the case here.

The chapter also inferred that options trading is permissible because it is simply an extension of the fundamental concept of freedom and legitimacy given by the *Shari'ah* in relation to commercial transactions. However, the types of financial derivatives which involve *riba* such as interest-rate futures, interest-rate options, interest-rate swaps and swaptions are ruled out altogether and can never be taken advantage of. Similarly, those derivatives which proceed on gambling, inordinate uncertainty, alcohol, pork and other inadmissible commodities are also precluded.

Chapter 5

Financial System and Risk Management Framework in Pakistan

5.1. Introduction

Pakistan is a developing country. It has a population of 177.10 million by the end of June 2011, growing at the rate of 2.05 per cent per annum. Being the 6th largest populous country, Pakistan shares the 2.55 per cent of the world's population. Pakistan is a country in South Asia whose 37 per cent and 63 per cent of the population live in urban and rural areas respectively (Wasti et al., 2010-11). Rapid urbanization is putting the available insufficient infrastructure under enormous pressure and causing environmental debacles of great proportions. Serious risks of irreversible damage exist due to air and water pollution, mismanagement of solid waste and destruction of fragile ecosystem.

According to the latest Pakistan Labour Force Survey 2009-10 (cited in Wasti et al. 2010-11) the overall literacy rate (age 10 years and above) is 57.7 per cent (69.5 per cent for male and 45.2 per cent for female) compared to 57.4 per cent (69.3 per cent for male and 44.7 per cent for female) for 2008-09. Generally speaking, males are more educated than females.

Pakistan has a semi-industrialized economy which mainly encompasses the chemical industry, the food industry, textiles, agriculture and other industries. The economy of Pakistan has been on the wane on account of internal political instability and negligible foreign investment since independence. Pakistan lags behind other countries in the region in nutrition, literacy, gender equity, and access to health facilities and clean water. Social and human development is constrained by a lack of reliable and sustainable livelihood opportunities.

FY11 turned out to be another difficult year for Pakistan's economy. Provisional estimates put forward by the National Income Accounts Committee show GDP growth, against the target of 4.5 per cent, at 2.4 per cent for FY11, lower than the growth of 3.8 per cent in the previous year. Table 5.1 shows the performance of selected economic indicators.

Table 5.1: Selected Economic Indicators

		FY09	**FY10**	**FY11**
Growth rate (per cent)				
GDP (at factor cost)	Jul-Jun	1.7	3.8	2.4
Agriculture	Jul-Jun	4	0.6	1.2
Major crops	Jul-Jun	7.8	-2.4	-4
Minor crops	Jul-Jun	-1.2	-7.8	4.8
Livestock	Jul-Jun	3.1	4.3	3.7
Industry	Jul-Jun	-0.1	8.3	-0.1
LSM	Jul-Jun	-8.1	4.9	1
Services	Jul-Jun	1.7	2.9	4.1
Exports (fob)	Jul-Apr	-3.4	7.3	28.1
Imports (cif)	Jul-Apr	-9.8	-2.8	14.7
Tax revenue (FBR)	Jul-Apr	19.9	11.6	12.2
CPI (12 month)	May	21.5	11.8	13.9
Private sector credit	Jul-4th June	-0.1	2.8	3.3
Money supply (M2)	Jul-4th June	6.5	9.8	13.7
billion US dollars				
Total liquid reserves[1]	31st May	11.6	16	17.2
Home remittances	Jul-Apr	6.3	7.3	9
Net foreign investment	Jul-Apr	2.2	1.6	1.4
per cent of GDP[2]				
Fiscal deficit	Jul-Mar	3.2	4.3	4.5
Trade deficit	Jul-Apr	8.7	6.9	5.8
Current a/c deficit	Jul-Apr	-5.5	-1.9	0.3

[1] With SBP & commercial banks

[2] Based on full-year GDP in the denominator

Source: State Bank of Pakistan (2010-2011)

The challenges posed by exogenous shocks affected the pace of the reforms process as the Government was forced to make difficult trade-offs and cater to unexpected demands for the rehabilitation of a large number of people displaced by the recent deluge. The devastating floods during July-August 2010 added to economic woes of the country. With an estimated damage of about $10 billion (World Bank, 2011), the floods interrupted economic recovery and increased inflationary pressure. A reduction in several key expenditure heads was therefore required and many public construction projects were shelved. Although this strategy helped the government cope with an unexpected shock, it had adverse consequences for investment and productive capacity in the country.

Another key factor constraining growth was the energy shortfall. Also, the rising levels of ethnic and religious strife, mayhem and insecurity further limited the country's capacity to deal effectively with persistent poverty. However, the country's poverty levels decreased by 10% from the year 2001 to 2007 due to rise in development spending by the Government.

This chapter is divided up into four broad sections altogether. Section 5.2. gives an overview of the financial system in Pakistan. This section also discusses the current state of banking system, goes through the progress of the Islamic banking industry, and tersely looks into the risk management guidelines laid down by the State Bank of Pakistan (SBP) for Islamic banking institutions. Section 5.3. minutely examines the operations of derivatives market in Pakistan, and highlights the Financial Derivatives Business Regulations (FDBR) formulated by the State Bank of Pakistan to permit, regulate and supervise the financial institutions entering into derivatives transactions. Finally, Section 5.4. sets forth the conclusion.

5.2. Financial Sector in Pakistan

Financial sector growth and real economic growth reinforce each other. Financial sector growth, reflecting increased financial savings and credit flows, is a major propellant for real economic activity. A faster growth of the financial sector can therefore be expected to result in increased and sustained economic growth.

In the aftermath of the global financial crisis, Pakistan's financial sector has remained relatively robust, having weathered the crisis well. Domestic markets remained largely immune to the financial stress faced by the advanced economies on account of the limited international exposure, integration of the domestic financial markets, and sparse use of innovative and complex derivatives products (State Bank of Pakistan, 2008-09). However, domestic problems in relation to security, law and order, power supply, tight fiscal policy, and recent deluge have burdened the banking industry with increased credit risks. Non-performing loans (NPLs) increased from 2009 to 2010, with the NPL-to-loan ratio reaching 14 per cent by September 2010 – substantially higher than that of regional peer countries such as Bangladesh (8.7 per cent) and Sri Lanka (8.9 per cent). The most vulnerable sectors are small and medium enterprises (SMEs) where the NPL-to-loan ratio reached 25 per cent, the mortgage loans and the agriculture sector where it rose to approximately 20 per cent (World Bank, 2011).

The financial sector in Pakistan has been undergoing a phase of stabilization since the last three years. This period has been marked by the continuing and intensified security challenges confronting the country. In addition, Pakistan faced multiple adverse shocks of commodity and oil prices. Oil prices shot up from $70 per barrel to $125 per barrel creating a new threat to the financial system (Wasti et al., 2010-11). As the fiscal and trade deficits increased sharply economic growth slowed down from about 7 per cent in 2006-07 to only 1.2 per cent in 2008-09, whereas inflation soared to over 20 per cent. Not only did some of the factors contributing to inflation persist, but also the floods drove overall inflation up by temporarily raising food prices and electricity as well as gas rates. The Wholesale Price Index (WPI) increased by 23.3 per cent during the first ten months of 2010-11 against 11.3 per cent in the comparable period of last year. The rise is mainly driven by upsurge in textile and energy prices (Wasti et al., 2010-11).

Exports started recovery since January 2010 and grew marginally by 2.7 per cent in 2009-10 – rising from $19.1 billion of last year to $19.6 billion. Exports rose by 14.5 per cent in the second half of 2010 and by 27.5 per cent in the first nine months of the fiscal year 2010-11. The textile industry accounted for 62 per cent of buoyancy in export growth (Wasti et al., 2010-11). Textiles are showing higher export value on account of increased profitability which has, in turn, been driven by a continued rise

in international cotton and yarn prices (World Bank, 2011). Imports in the second half of 2010 are recorded at 18.5 per cent and for the first ten months of fiscal year 2010-11, imports are recorded at 14.7 per cent (Wasti et al., 2010-11).

Financial sector penetration remains low. Although access to finance is widely recognized as a tool to achieve meaningful economic prosperity and poverty alleviation, most Pakistani households do not participate in the formal financial system. According to World Bank (2011) only 14 per cent use a financial product or service such as savings, credit or insurance. Most of them are SMEs which have difficulty in accessing financial services. Access to finance has been identified by SMEs as the single most important impediment to their growth. This problem increases in magnitude as the size of the firm and experience decrease (International Finance Corporation & KFW Bankengruppe 2008, p. 5).

The insurance sector and other non-bank financial companies (NBFCs) remain underdeveloped and appear to have suffered somewhat more than the banking sector from the effects of the financial crisis. In Pakistan, *takaful* industry is in formation stage. A few *takaful* companies have been established. The Securities and Exchange Commission of Pakistan (SECP) has finalized and enacted the rules of *takaful* (Ansari n.d., p. 193). It is expected that as soon as the Islamic alternative to insurance will start taking a sizeable share in the market, conventional insurance companies will also enter into this field by opening separate *takaful* companies or windows. It is important for Pakistan to develop a comprehensive strategy to promote this sector. At the same time, it is essential to address the governance, regulation and supervisory issues under the leadership of the Securities and Exchange Commission of Pakistan (SECP) to attract investors and satisfy the demands of potential clientele.

5.2.1. Banking System in Pakistan

As growth in the banking sector and the real economy mutually reinforce each other a growing and dynamic banking sector is essential for economic growth in Pakistan. The banking sector constitutes the core of the financial sector in Pakistan.

The banking system has maintained respectable solvency and profitability indicators because of the sound performance of large banks. Abdul Qayyum (n.d.) concludes that there is an overall improvement in the efficiency of commercial banks. Deposit base and gross advances rose by Rs. 4.1 trillion and Rs. 3.3 trillion respectively by September 2008. Supported by the growing financial intermediation process, banks' aggregate profitability rose from Rs. 63.3 billion in 2005 to Rs. 73.3 billion by 2007. The overall assets of the banking sector also increased from Rs. 3.6 trillion in December 2005 to Rs. 5.5 trillion by June 2008 (State Bank of Pakistan, n.d.a). The capital adequacy ratio of the banking sector in September 2010 (13.8 per cent) was still above the regulatory requirement of 10 per cent. As for profitability the banks' return on assets (1.6 per cent) and return on equity (16.2 per cent) remained satisfactory (World Bank, 2011).[1] Table 5.2 shows the performance of the banking system.

Table 5.2: Performance of the Banking System

(in per cent)

	CY07	CY08	CY09	CY10	
Growth Rates	**YoY**	**YoY**	**YoY**	**QoQ**	**YoY**
Assets	18.8	8.8	15.8	7.7	9.3
Loans (Net)	10.7	18	2.1	5.7	3.1
Deposits	18.4	9.4	13.5	8.5	13.9
Investments (Net)	53.1	-14.8	59.9	14.3	22.2
Equity	35.3	3.4	17.3	6.3	5.4
Key FSIs:					
Capital Adequacy Ratio	12.3	12.2	14	14	
Capital to Total Assets	10.5	10	10.1	9.8	
NPLs to Loans (Gross)	7.6	10.5	12.6	14.7	
Net NPLs to Net Loans	1.1	3.4	4.1	5.4	
ROA (Before Tax)	2.2	1.2	1.3	1.7	
ROE (Before Tax)	22.6	11.4	13.2	16.7	
Liquid Assets/Total Deposits	45.1	37.7	44.5	45.9	
Advances to Deposit Ratio	69.7	75.2	67.7	61.4	

Source: State Bank of Pakistan (2010)

[1] See also International Finance Corporation & KFW Bankengruppe 2008, p. 27

According to the State Bank of Pakistan (n.d.a) only 15% of the population has bank accounts and less than 4% of the population are borrowers. Although 63% of the population, as noted above, resides in rural areas, only 25% of total bank depositors and 17% of total borrowers live in rural areas. Limited access to services is also evidenced by the low level of branch penetration in rural areas; there are less than 2 500 branches for a population of 105 million people or about 42 000 inhabitants per branch. Banks require collateral or specific documents for lending. In most cases, land records are not suitable documents for security, and the lack of legal recourse in case of non-payment prevents banks from lending (International Finance Corporation & KFW Bankengruppe 2008, pp 6-7). This has held back the growth of savings and access to credit. However, the State Bank of Pakistan has introduced Branchless Banking Regulations with the objective of providing banks with cheaper untraditional delivery channels to increase their outreach to rural communities.

5.2.2. Islamic Banking in Pakistan

Being an ideological state, the abolition of *riba* in Pakistan formed, from the very outset, an integral part of the State Policy. Efforts to Islamize the economy of Pakistan started in the mid 1960s. However, a significant attempt was made in the mid 1980s to convert the conventional banking system into an Islamic banking system. In accordance with a government directive, separate counters were set up in the commercial banks for accepting deposits on a PLS basis. The commercial banks were not allowed to utilize PLS deposits in their interest-based operations (Khan & Mirakhor 1990, p. 365). Pakistan was among the three countries of the world that had been trying to implement interest-free banking at national level. State Bank of Pakistan prescribed the products for the industry which were to be used without any change or exception.[2] In the early 1990's, the whole exercise was challenged in the Federal Shariat Court (FSC) which gave its verdict that *riba* in all its forms was repugnant to the Koran and the *Sunnah*, and it should be struck off the legal codes of Pakistan (Ehsan 1998, p. 104; Khan 2002, p. xv). The Court declared some products and processes being used by the banking system to be un-Islamic. The Federal Shariat

[2] For details, see Malik 1999, pp 24 ff.

Court also struck down all legal provisions empowering the courts to grant a relief of the recovery of interest accrued (Siddiqui 1994, p. 78).[3]

The case was then taken to the Shariat Appellate Bench of the Supreme Court which upheld the decision of the Federal Shariat Court, and gave detailed guidelines to fix the issues and set a time-limit for the implementation. Later, the decision regarding transformation of the whole system was set aside in a review petition by the Supreme Court and sent to the Federal Shariat Court to start fresh hearing. However, the deferment in the final decision did not dampen down the efforts to Islamize the banking system.[4]

The recent relaunch of Islamic banking in Pakistan by SBP has been based not only on the lessons learnt from the history of Islamic banking efforts in Pakistan, but also on the experiences of other countries of the world, e.g. Malaysia and Bahrain, that are currently known for their leading role in the Islamic financial sector. One of the basic objectives of the relaunch is to enhance the depth and breadth of the banking sector by including that part of the population which is currently outside the banking system due to its beliefs (State Bank of Pakistan, n.d.b).

Islamic banking is currently available through 6 fully-fledged Islamic banks[5] and 12 conventional banks having Islamic banking branches. These banks have their own *Shari'ah* boards generally comprising renowned *Shari'ah* scholars (Ansari n.d., p. 20). It has been reported by some of these banks that around 10% to 15% of the customers coming into their branches are new to banking. These are the people that have remained away from the conventional banking system because of their beliefs. They tend to carry out their routine and/or business transactions with the Islamic banks and therefore contribute to the size of the Islamic banking sector. In addition, all Development Financial Institutions (DFIs), e.g. House Building Corporations and National Investment Trust (NIT) have devised interest-free financial instruments

[3] For a review of the Federal Shariat Court judgement on *riba*, see Khan 1995, pp 11-25

[4] For further details of the present state of Islamization of the financial system in Pakistan, see State Bank of Pakistan (n.d.b); International Institute of Islamic Economics 1999, pp 23-34; Ahmad 1995, pp 65-76; Siddiqui 1994, pp 75-85; Chapra 2000, pp 281-290; Ghazi 1996, pp 51-57

[5] These banks include Meezan Bank, AlBaraka Islamic Bank, Dubai Islamic Bank, Dawood Islamic Bank, Global Emirate Islamic Bank, and BankIslami, Pakistan. See Khattak & Rehman 2010, p. 663

consistent with the Islamic law (Naqvi 1994, p. 141). Table 5.3 shows the progress of the Islamic banking industry in Pakistan.

Table 5.3: Progress of the Islamic banking industry in Pakistan

(Rs. in Billion)

Description	Dec. 03	Dec. 04	Dec. 05	Dec. 06	Dec. 07
Total Assets	13	44	71	119	206
% of Banking Industry	0.5%	1.5%	2.0%	2.8%	4.0%
Deposits	8	30	50	84	147
% of Banking Industry	0.4%	1.3%	1.8%	2.6%	3.8%
Financing & Investment	10	30	48	73	138
% of Banking Industry	0.5%	1.3%	1.7%	2.3%	3.5%
Full-fledged Islamic Banks (IBs)	1	2	2	4	6
Branches of IBs	10	23	37	93	186
Conventional Banks with IBBs	3	9	9	12	12
Branches of CBs	7	25	33	57	103
Total Islamic Banking Institutions	4	11	11	16	18
Total No. of Branches	17	48	70	150	289

Source: State Bank of Pakistan (n.d.b)

Islamic banks are currently able to offer at least 75% of the products available at conventional banks. On the consumer banking side, personal loans and credit cards still pose a challenge. On the corporate side, working capital loans are a challenge. None of the banks has any microfinance or agriculture business, although a few banks have started financing the SME sector. This gives a great opportunity to extend the reach of the Islamic banking sector.

Currently the Islamic banking sector is less transparent than the conventional banking sector, particularly with respect to accounting and auditing standards (International Finance Corporation & KFW Bankengruppe 2008, p. 11). Islamic banking products entail specific risks that require closer attention as the Islamic banking sector grows. Therefore a specific framework needs to be developed for risk management in Islamic banks.

Islamic banking institutions prefer those modes of financing which belong to the low risk category. Therefore *murabaha* and *ijara* are the most attractive and popular modes of financing. However, the share of *diminishing musharaka* has recently grown, leading to the diversification of the Islamic banks' financing portfolio. Figure 5.1 shows the composition of financing in the year 2007.

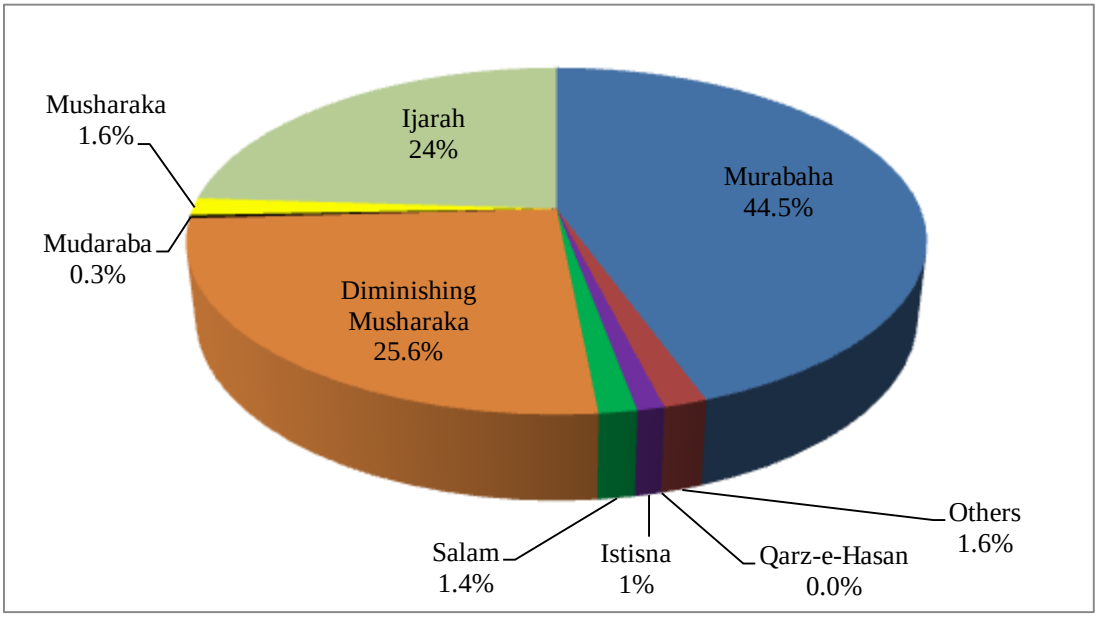

Figure 5.1: Composition of financing in the year 2007
Source: State Bank of Pakistan (n.d.b)

5.2.2.1. Risk Management Guidelines for IBIs

The Risk Management Guidelines drawn up by the State Bank of Pakistan (SBP) provide a set of best practices for establishing and implementing effective risk management in Islamic Banking Institutions (IBIs). These Guidelines set out fifteen principles of risk management that give practical effect to manage various risks (see Appendix 1). The principles contained in these Guidelines are designed to complement the current risk management principles issued by the Basel Committee on Banking Supervision (BCBS). All IBIs are expected to make meaningful risk assessments based on the principles described in these Guidelines.

General Requirements

The Risk Management Guidelines state that Islamic Banking Institutions shall have in place a comprehensive risk management and reporting process, including appropriate board and senior management oversight, to identify, measure, monitor, report, and control relevant categories of risks. The process shall take into account appropriate steps to comply with the *Shari'ah* rules and principles and to ensure the adequacy of relevant risk reporting to the supervisory authority. Also, senior management shall ensure that the risk management function should be separated from risk taking function. Depending on the scope, size and complexity of IBI's business activities, the risk management function is carried out by personnel of an independent risk management unit. The personnel shall define the policies, establish procedures, monitor compliance with the established limits, and report on risk matters to the top management accordingly.

Guidelines on Credit Risk

In relation to credit risk, the Guidelines spell out that Islamic Banking Institutions shall have in place appropriate methodologies for measuring and reporting the credit risk exposures arising under each Islamic financing instrument. In addition, IBIs shall have in place *Shari'ah*-compliant credit risk mitigating techniques appropriate for each Islamic financing instrument.

Guidelines on Equity Investment Risk

The Guidelines also set out the principles pertaining to the management of risks inherent in the equity instruments for investment purposes. The Guidelines state that Islamic Banking Institutions shall have in place appropriate strategies, risk management and reporting processes in respect of the risk characteristics of equity investments, including *mudarabah* and *musharakah* investments. Besides, IBIs shall use *Shari'ah*-compliant risk-mitigating techniques which reduce the impact of possible capital impairment of an investment. This may include the use of *Shari'ah*-compliant security from the partner. The Guidelines define that IBIs shall ensure that

their valuation methodologies are appropriate and consistent, and assess the potential impacts of their methods on profit calculations and allocations. The methods shall be mutually agreed between the IBIs and the *mudarib* and/or *musharakah* partners.

Guidelines on Market Risk

Concerning market risk, the Guidelines elucidate that Islamic Banking Institutions shall have in place an appropriate framework for market risk management in respect of all assets held, including those that do not have a ready market and/or are exposed to high price volatility. There should be middle office to perform market risk management function and to independently monitor, measure and analyze risks inherent in treasury operations of Islamic banks. The unit should also prepare control reports indicating deviations for the information of senior management.

Guidelines on Liquidity Risk

In connection with liquidity risk, the Guidelines emphasize that Islamic Banking Institutions shall assume liquidity risk commensurate with their ability to have sufficient recourse to *Shari'ah*-compliant funds to mitigate such a risk. IBIs shall have in place a liquidity management framework, taking into account separately and on an overall basis their liquidity exposures in respect of each category of current accounts and PLS deposits. In this regard, IBIs need to identify future shortfalls in liquidity by constructing maturity ladders based on appropriate time bands. On account of the dual role of IBIs in meeting their obligations to current account-holders and managing the expectations of their PLS deposit-holders, the IBIs should make periodical cash flow analyses under various market scenarios and conditions.

Guidelines on Rate of Return Risk

The Guidelines put forward principles in respect of rate of return risk into the bargain. IBIs are exposed to rate of return risk in the context of their overall balance sheet exposures. Therefore the Guidelines maintain that Islamic Banking Institutions shall establish a comprehensive risk management and reporting process to assess the

potential impacts of market factors affecting rates of return on assets in comparison with the expected rates of return for PLS deposit-holders. Since the rate of return risk emanates from various balance sheet positions IBIs shall have in place competent staff to undertake the analysis of risk exposures arising from their consolidated balance sheet activities. Moreover, IBIs shall assess the effect of the level of their dependency on current account-holders' funds. Although no returns are expected by current account-holders, the sudden withdrawal of these funds would have an adverse impact on the overall potential rate of return for IBIs.

Guidelines on Operational Risk

The Guidelines enunciate that IBIs shall consider the full range of material operational risks affecting their operations, including the risk of loss resulting from inadequate or failed internal processes, people and system or from external events.

Islamic Banking Institutions are also exposed to reputational risk arising from failure in governance, business strategy and process. Negative publicity about the IBI's business practices, particularly relating to non-compliance with the *Shari'ah* in their products and services, could have an adverse impact on their market position, profitability and liquidity. That is why the Guidelines specify that IBIs shall have in place adequate systems and controls, including *Shari'ah* Advisor, to ensure compliance with the *Shari'ah* rules and principles. Furthermore, IBIs shall ensure that they comply with the *Shari'ah* rules and principles at all times as advised by the *Shari'ah* Advisor as well as SBP with respect to their products and activities. This means that *Shari'ah* compliance considerations are taken into account whenever the IBIs accept deposits and investment funds, provide finance, and carry out investment services for their customers.

IBIs shall undertake a *Shari'ah* compliance review at least annually, to be performed either by a separate *Shari'ah* audit department or by persons having the required knowledge and expertise for the purpose. The objective is to ensure that (a) the nature of the IBI's financing and equity investment and (b) their operations are executed in

accordance with the *Shari'ah* rules and principles described by the IBI's *Shari'ah* Advisor.

Lastly, the Guidelines stress that IBIs shall adequately disclose information on a timely basis to their PLS deposit-holders and the markets in order to provide a reliable basis for assessing their risk profiles and investment performance, as prescribed by SBP from time to time.

5.3. Derivatives Market in Pakistan

Iqbal (2008) states that futures trading in some stocks commenced in 2003 at the stock market in Pakistan. Options trading is likely to start in the near future. According to the Exchange fifty per cent of the trading will be in the derivatives by 2012 (Iqbal 2008, pp 3-4). In 2004, the State Bank of Pakistan (SBP) laid down the Financial Derivatives Business Regulations (FDBR), and allowed commercial banks and Development Finance Institutions (DFIs) to start financial derivatives business (Aftab, 2004). According to the State Bank of Pakistan (2011) the following five banks have been granted the licence to conduct derivatives business as Authorized Derivatives Dealers (ADDs) in Pakistan:

- Citibank
- Deutsche Bank
- Habib Bank Limited
- Standard Chartered Bank (Pakistan) Limited
- United Bank Limited

In the aftermath of the global financial crisis, Pakistan's financial sector has, as was stated above, remained relatively robust, having weathered the crisis well. According to the State Bank of Pakistan (2008-09), domestic markets remained largely immune to the financial stress faced by the advanced economies on account of the limited international exposure, integration of the domestic financial markets, and sparse use of innovative and complex derivatives products. Global corporate and financial institutions have suffered substantial losses due to the imprudent derivatives

exposures but in Pakistan, the prudent and limited use of derivatives products has minimized the incidence of potential losses (State Bank of Pakistan 2008-09, p. 106). Mahmood and Rehman (2010) also conclude that the use of derivatives instruments in Pakistan is not so robust, mainly due to the undeveloped derivatives market.

In Pakistan, many banks, DFIs, mutual funds, and non-banking financial institutions trade at the derivatives market (Naz 2011, p. 847). Prior to FY09, the total volume of derivatives transactions had been increasing. Use of currency swaps and FX options was particularly on the rise due to the stability of the exchange rate in the last few years. Table 5.4 shows the outstanding derivatives volumes.

Table 5.4: Outstanding Derivatives Volumes

(Rupees in Million)

	Jun-07	**Per cent**	**Jun-08**	**Per cent**	**Jun-09**	**Per cent**
FX Options	42 561	20	88 701	22.6	10 651	3.9
Interest Rate Swaps	80 061	37.7	106 944	27.2	86 950	31.5
Currency Swaps	89 689	42.2	194 944	49.6	178 174	64.6
Forward Rate Agreements	300	0.1	2 650	0.7	n/a	n/a
Total	212 611	100	393 239	100	275 775	100

Source: State Bank of Pakistan (2008-09)

The effects of the economic slowdown in Pakistan can be seen in the discernible decline in FX options, from 22.6 per cent at the end of FY08 to 3.9 per cent at the end of FY09. Figure 5.2 shows the sector-wise distribution of FX options.

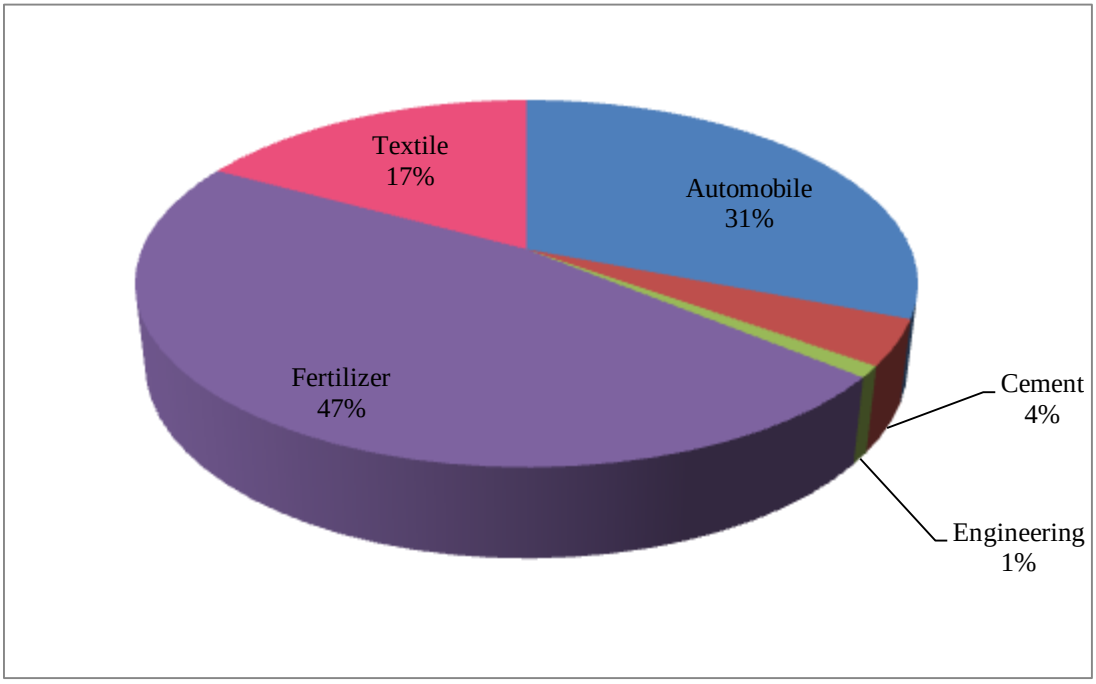

Figure 5.2: Sector-wise distribution of FX options in the year 2009
Source: State Bank of Pakistan (2008-09)

The volume of interest rate swaps decreased by 19 per cent during FY09. Figure 5.3 shows the sector-wise distribution of interest rate swaps.

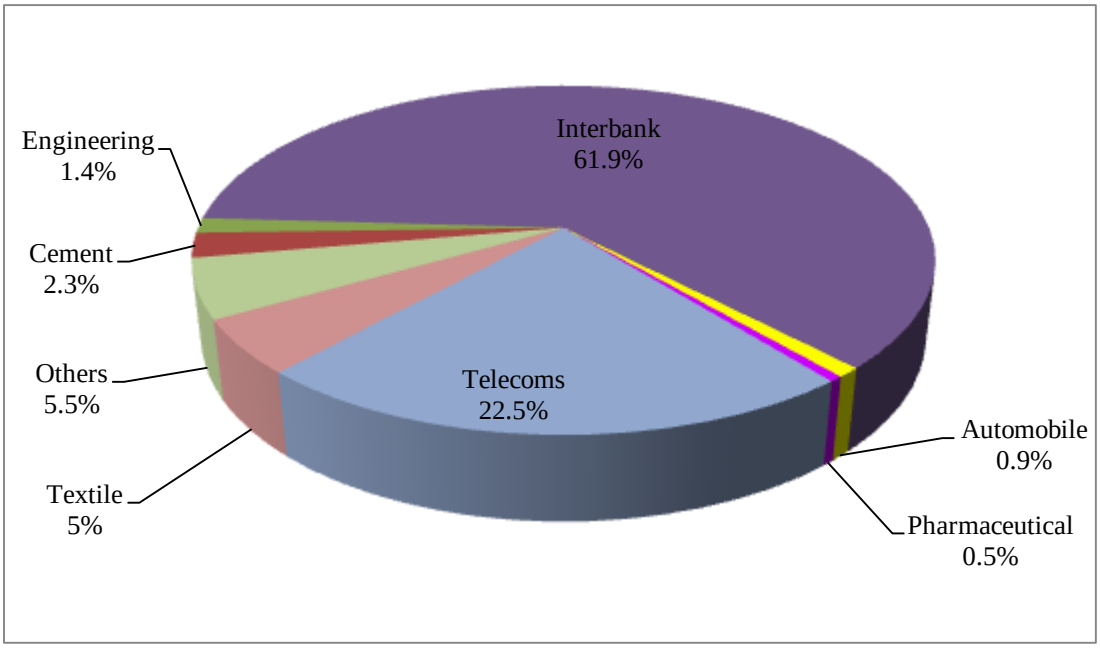

Figure 5.3: Sector-wise distribution of interest rate swaps in the year 2009
Source: State Bank of Pakistan (2008-09)

Forward rate agreements remained almost inactive during FY09 with some transactions undertaken in the first half of FY09. On maturity of these transactions, the outstanding forward rate agreements volume decreased by nil, as Table 5.4 shows, at the end of FY09.

Currency swaps are not covered under the Financial Derivatives Business Regulations (FDBR). Banks have to seek permission from SBP on individual basis. While granting approval for currency swaps, SBP's primary consideration is to ensure that these transactions are being conducted for hedging purposes only (State Bank of Pakistan 2008-09, p. 108).

Currency swaps have the highest market share, as Table 5.4 shows, in the derivatives market. During FY09, currency swaps volume declined by 9 per cent from Rs.194 944 million to Rs.178 174 million. Depreciation of rupee in the first half of FY09 decreased the feasibility of currency swaps for exporters. Figure 5.4 shows the sector-wise distribution of currency swaps.

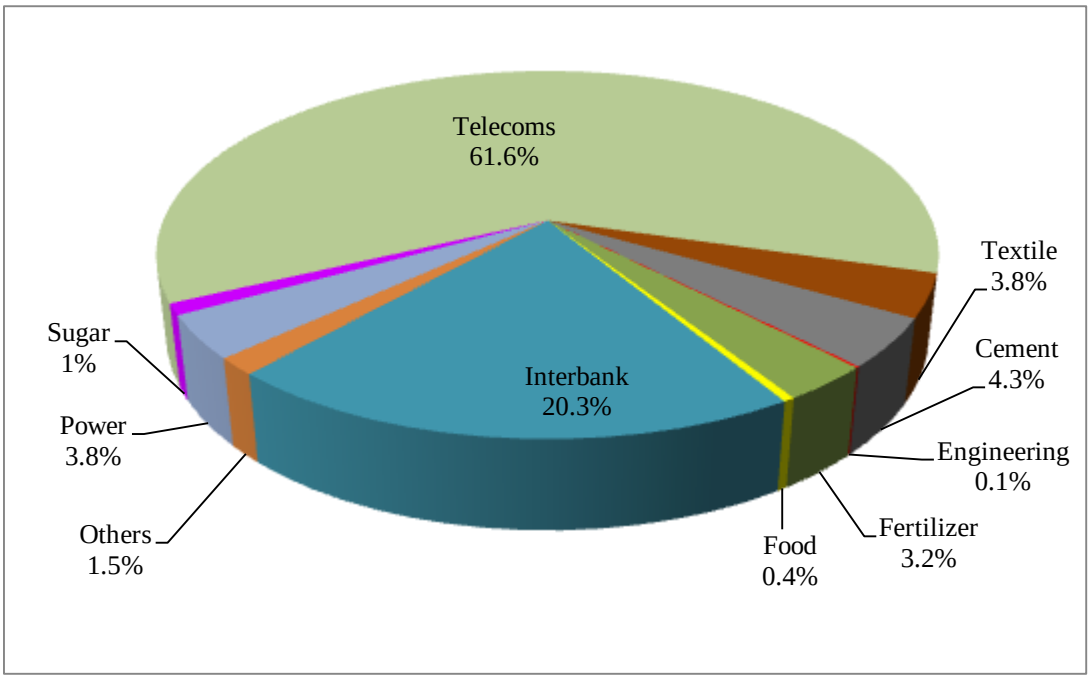

Figure 5.4: Sector-wise distribution of currency swaps in the year 2009
Source: State Bank of Pakistan (2008-09)

5.3.1. Exchange-Traded Derivatives in Pakistan

The primary purpose of exchange-traded derivatives is to provide liquidity and price discovery mechanism to transfer the underlying risks among players with varying roles in an economy. The report of the Securities and Exchange Commission of Pakistan (2006) sets out the prerequisites and a proposed plan for the introduction of exchange-traded derivatives in Pakistan. The report recommends that:

- The regulators should create and expand the legal infrastructure.
- The regulators, exchanges and intermediaries should adopt International Best Practices (IBP) for risk management.
- The regulators, exchanges and intermediaries should build competent staff at all levels.
- Market infrastructure, including exchanges, clearing-houses and intermediaries should be upgraded.[6]

5.3.2. Financial Derivatives Business Regulations

The Financial Derivatives Business Regulations (FDBR) have been formulated by the State Bank of Pakistan (SBP) to permit, regulate and supervise the financial institutions entering into derivatives transactions. The Regulations state that financial institutions engaging in derivatives business shall obtain the approval of the State Bank of Pakistan, and be subject to the supervision and scrutiny of SBP (see Appendix 2). State Bank of Pakistan can examine the material and statements of the financial institution in relation to derivatives business at any time, and periodically examine whether the categories of derivatives transactions in which the financial institution is engaged are appropriate in the context of its risk management system, internal control system, and business processing system.

[6] For further details, see Securities and Exchange Commission of Pakistan (2006)

The following derivatives transactions are permitted under the Regulations:

a) Foreign Currency Options
b) Forward Rate Agreements
c) Interest Rate Swaps

The Regulations categorically describe that only aforementioned transactions are allowed to carry out. No other derivatives transaction shall be undertaken except with the express prior approval of the State Bank of Pakistan.[7] It is noteworthy that apart from the aforesaid derivatives transactions, some other financial derivatives, that is to say forward contracts, foreign currency forwards, futures contracts, interest-rate options, etc are also offered by several financial institutions in Pakistan. These financial institutions include Bank Islami Pakistan Limited, Allied Bank Limited, Dubai Islamic Bank Pakistan, the Punjab Provincial Cooperative Bank Limited, Bank Alfalah Limited, National Bank of Pakistan, and AlBaraka Bank (Pakistan) Limited.[8] In addition, Pakistan Mercantile Exchange (PMEX) is the first and only commodity futures exchange in Pakistan. It provides a world-class commodity futures trading platform for market participants. Gold, silver, crude oil and other commodity futures are bought and sold on the Pakistan Mercantile Exchange.[9]

According to the Regulations no derivatives transaction will be executed by the Authorized Derivatives Dealer (ADD) or Non-Market Maker Financial Institution (NMI) unless International Swaps and Derivatives Association (ISDA) Agreement has been exchanged with the other entity.

Operational, Dealing and Risk Standards

The Financial Derivatives Business Regulations enunciate that the financial institution shall establish a Risk Management System, Internal Control System, and Processing System commensurate with the nature, scale and complexity of its derivatives business. The institution shall also formulate clear standards on the qualifications of

[7] See also State Bank of Pakistan (2008-09)
[8] The researcher garnered this information from the relevant banks through e-mail.
[9] See http://www.pmex.com.pk/

dealers, analysts and other staff, and shall provide the relevant staff with training that corresponds to the complexity of derivatives transactions and risk management so as to ensure that they possess the necessary skills and qualifications. Senior management of the financial institution shall understand the risks of engaging in derivatives transactions. They shall review and approve of the policies, procedures, organization and authorization of the business operation system and risk management system. They shall have access to information at any time in respect of such risks through an independent risk management function, a sound examination and reporting system, and shall supervise and manage derivatives business accordingly.

It is laid down that the financial institution shall formulate relevant policies to assess the suitability of its counterparties, including the assessment of whether its counterparties fully understand the terms of the contracts, to ascertain whether the proposed derivatives transactions are consistent with the objectives of the counterparties and to assess the credit risk of the counterparties. While conducting derivatives transactions with institutions and individuals, the financial institution shall disclose the risks involved in derivatives transactions, and shall obtain a written confirmation from such institutions or individuals in order to ensure that they have understood and have the ability to bear the risks in these derivatives transactions.

In relation to the credit risk management, the Regulations accentuate that the financial institution may properly and reasonably use collateral or other credit risk reduction techniques to mitigate the credit risk of its counterparties, adopt proper measures to assess the credit risk and adopt risk control measures accordingly. Likewise the financial institution shall use proper risk assessment methods to assess the market risk of derivatives transactions and manage the market risk based on marked-to-market principle. It shall also adjust the scale of its derivatives business, the types of transactions, and the level of risk exposure accordingly.

5.4. Conclusion

This chapter gave an overview of the financial system in Pakistan. In the aftermath of the global financial crisis, Pakistan’s financial sector remained relatively robust,

having weathered the crisis well. Domestic markets remained largely immune to the financial stress faced by the advanced economies on account of the limited international exposure, integration of the domestic financial markets, and sparse use of the innovative and complex derivatives products. The chapter also discussed the current state of banking system, went through the progress of the Islamic banking industry, and highlighted the financing portfolio of Islamic banks in Pakistan.

This chapter tersely looked into the risk management guidelines laid down by the State Bank of Pakistan (SBP) for Islamic banking institutions. The State Bank of Pakistan also laid down the Financial Derivatives Business Regulations (FDBR), and allowed commercial banks and Development Finance Institutions (DFIs) to start financial derivatives business. Currently there are only five banks that have been granted the licence to conduct derivatives business as Authorized Derivatives Dealers (ADDs) in Pakistan.

Chapter 6

Research Framework and Methodology

6.1. Introduction

Until now Islamic financial products have essentially been based on classical modes of finance developed centuries ago. These modes were developed in order to meet the needs and requirements of those societies. They undoubtedly set out useful guidelines for contemporary Islamic contracts but there is no reason to restrict ourselves only to those modes of economics and finance. Current financial markets are becoming more and more sophisticated and competitive. The importance of financial derivatives, for example, as tools of risk management is admitted in the modern financial system. They are at bottom a new phenomenon of this age which have no precedent or parallel in the conventional law of transactions (*mu'amalat*). If financial derivatives turn out to be congruent with the *Shari'ah* injunctions or the impermissible elements are removed therefrom then it is highly desirable for Muslims to exploit them in order to mitigate various forms of risk. To protect the farmer or the producer of essential goods against violent price fluctuation, and to facilitate efficiency and good planning through the intelligent use of forward contracts, futures contracts and options come within the purview of the measures that are of the essence in realizing the public interest (*maslahah*).

Even the Islamic state might need to utilize derivatives instruments for risk mitigation. When the central bank, commercial banks and other financial institutions participate actively in a regulated derivatives market, they would be expected to exert a powerful influence on market direction and ensure the observance of prudent risk management procedures by the market participants. This would optimistically discourage inordinate and unnecessary speculation that does not result in genuine commercial transactions and beneficial business activities.

The research done by economists and scholars on derivatives trading from Islamic perspective exists in embryo. Careful and thorough analysis of these instruments is still to be carried out. As was stated before the aim of this research is to explore the admissibility or otherwise of financial derivatives according to the Islamic commercial law, and to ascertain the demand for instruments of risk management in various business and economic sectors of Pakistan.

The following are the objectives of the research which need to be achieved in order to accomplish the aim.

1) *To canvass the Islamic position on the legal and jurisprudential issues of financial derivatives.*
2) *To ascertain various kinds of risk faced by commercial organizations of Pakistan.*
3) *To explore the demand for instruments of risk management in different business and economic sectors of Pakistan.*
4) *To investigate the possible constraints and problems in order to use instruments for risk management in Pakistan.*

The following are the research questions which need to be addressed in order to achieve the objective 1.

1) *What is the Islamic stance on business and commercial transactions in general?*
2) *What are the contentions of contemporary Muslim jurists and scholars with respect to financial derivatives?*
3) *Is hedging against different kinds of risk consistent with the directives and objectives of the Shari'ah?*
4) *Are financial derivatives akin to and congruent with the basic principles and modalities of traditional Islamic contracts?*

The following is the research question which needs to be addressed in order to achieve the objective 2.

5) *What is the risk exposure of different business organizations?*

The following are the research questions which need to be addressed in order to achieve the objective 3.

6) *Are the business entrepreneurs apprised of the structure of and Islamic legal stance on several Islamic as well as conventional concepts and contracts, including financial derivatives?*
7) *What will the business entrepreneurs use financial derivatives, if available, for?*
8) *What is the use of and demand for instruments of risk management in various business and economic sectors of Pakistan?*
9) *What factors do influence the use of and demand for various instruments or techniques to mitigate the severity of credit risk, market risk, currency risk and interest-rate risk?*

The following is the research question which needs to be addressed in order to achieve the objective 4.

10) *What are the possible constraints and problems with reference to the use of instruments for risk management in different business and economic sectors of Pakistan?*

In addition to these research questions, the following are the non-directional hypotheses which need to be tested in order to achieve the objective 3.

3.1) *There is a difference in the severity of credit risk across various organizational features.*
3.2) *There is a difference in the severity of market risk across various organizational features.*

3.3) There is a difference in the severity of currency risk across various organizational features.

3.4) There is a difference in the severity of interest-rate risk across various organizational features.

3.5) There is a relationship between the awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of credit risk.

3.6) There is a relationship between the awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of market risk.

3.7) There is a relationship between the awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of currency risk.

3.8) There is a relationship between the awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of interest-rate risk.

This chapter is divided up into ten broad sections altogether. Section 6.2. discusses the research methodology that is used by the researcher in order to answer the research questions outlined earlier. Section 6.3. deals with the research design and strategy. Section 6.4. and Section 6.5. give an overview of the research methods and data collection methods respectively. Section 6.6. presents a detailed explication of sampling, sampling designs and sample size. Section 6.7. goes through pilot study. Section 6.8. is germane to the evaluation of research. Section 6.9. canvasses the process of data analysis. Finally, Section 6.10. sets forth the conclusion.

6.2. Research Methodology

Research is simply the process of finding solutions to a problem after a thorough study and analysis of the situational factors (Sekaran 2003, p. 3).[1] Greenfield (2002)

[1] A problem does not necessarily mean that something is seriously wrong with a current situation that needs to be rectified immediately. A problem could simply indicate an interest in an issue where finding the right answers might help to improve an existing situation. Therefore a problem is defined as any situation where a gap exists between the actual and the desired ideal states (Sekaran 2003, p. 69).

argues that research is an art aided by skills of inquiry, experimental design, data collection, measurement and analysis by interpretation and by presentation.

Research involves a series of well-thought-out and carefully executed activities that enable the researcher to know how problems can be solved or at least considerably minimized. It therefore encompasses the processes of inquiry, investigation, examination and experimentation. These processes have to be carried out systematically, diligently, critically, objectively and logically. The expected end results help the researcher to deal with the problem. Saunders et al. (2003, p. 3) conclude that research has a number of characteristics:

- Data are collected systematically.
- Data are interpreted systematically.
- There is a clear purpose: to find things out.

Grix (2004) believes that methodology is concerned with the logic of scientific enquiry; in particular with investigating the potentialities and limitations of particular techniques or procedures. The term pertains to the science and study of methods and the assumptions about the ways in which knowledge is produced. Methodology is driven by certain ontological and epistemological assumptions, and consists of research questions or hypotheses, a conceptual approach to a topic, the methods to be used in the study and consequently the data sources. All of these components are inextricably linked to one another in a logical manner.

Research methodology is a collection of procedures that scientists use to obtain and evaluate facts (Dominowski 1980, p. 37). It is therefore the study of methods, principles and their applications in a given field of academic inquiry. Research methodology is considered to be the keystone of the successful accomplishment of the empirical study. It plays a significant role with respect to the collection of the anticipated primary or secondary data in order to carry out the necessary statistical analysis and reach the interpreted results of the research.

Quantitative and qualitative researches constitute different approaches to social investigation and carry with them important epistemological and ontological considerations. Quantitative research entails a deductive approach to the relationship between theory and research in which the accent is placed on the testing of theories (Bryman & Bell 2003, p. 25). Grix (2004) observes that quantitative research uses techniques that apply to numerical data. Researchers develop variables or concepts which can be measured, and convert them into specific data-collection techniques. These techniques produce precise numerical information which can be understood as the empirical representation of the abstract concepts. Quantitative techniques include identifying general patterns and relationships among variables, testing hypotheses and theories, and making predictions based on these results. The most common types of method associated with quantitative research are social surveys, analyses of previously collected data or official statistics and structured observation.

Qualitative research is seen by many as almost the complete opposite of quantitative research (Grix 2004, p. 119). It predominantly emphasizes an inductive approach to the relationship between theory and research in which the emphasis is placed on the generation of theories (Bryman & Bell 2003, p. 25). Qualitative research refers to information gathered in a narrative form (Sekaran 2003, p. 32). It means that qualitative research tends to be concerned with words rather than numbers (Bryman & Bell 2003, p. 280). It usually involves in-depth investigation of knowledge through, for example, participant observation, employing the interviewing technique, archival or other documentary analyses, and ethnographic study. These methods do not rely on, but can involve, numerical measurements (Grix 2004, pp 119-120). This type of research involves the interpretation of data whereby the researcher analyzes cases, usually a few in number, in their social and cultural context over a specific period of time, and may develop grounded theories that emphasize tracing the process and sequence of events in specific settings.

Since the aim of this research is to explore the permissibility or otherwise of financial derivatives according to the Islamic commercial law, and to ascertain the demand for instruments of risk management in various business and economic sectors of Pakistan this study is based on qualitative research.

6.3. Research Design and Strategy

The research design involves a series of rational decision-making choices. Bryman and Bell (2003) point out that a research design provides a framework for the collection and analysis of data. A choice of research design reflects decisions on the priority being given to a range of dimensions of the research process.

Saunders et al. (2003) and Sekaran (2003) discuss two types of research, namely applied and basic. Research done with the intention of applying the results of the findings to solve specific problems currently being experienced in the organization is called applied research. Research done chiefly to enhance the understanding of certain problems that commonly occur in organizational settings, and seek methods of solving them is called basic research. The findings of such research contribute to the building of knowledge in the various functional areas of business. In spite of this distinction, both types of research follow the same steps of systematic inquiry to arrive at solution to problems.

Studies may be either exploratory in nature, or descriptive or explanatory. Sekaran (2003) highlights that an exploratory study is undertaken when not much is known about the situation or no information is available on how similar problems or research issues have been solved in the past. In such cases, extensive preliminary work needs to be done to gain familiarity with the phenomena, and understand what is going on before the researcher develops a model and sets up a rigorous design for comprehensive investigation. A descriptive study is undertaken in order to ascertain and be able to describe the characteristics of the variables of interest in a situation. Descriptive studies that present data in a meaningful form therefore help to understand the characteristics of a group in a given situation, think systematically about the aspects in a given situation, offer ideas for further probe and research, and make certain simple decisions. An explanatory study engages in hypotheses testing; it usually explains the nature of certain relationships or establishes the differences among groups or the independence of two or more factors in a situation.[2]

[2] For more details, see Grix 2004, pp 50-51; Saunders et al. 2003, pp 96-98

The case-study, which is an examination of studies done in other similar organizational situations, is also a method of solving problems or understanding phenomena of interest and generating further knowledge in that area (Sekaran 2003, p. 119). Case-studies are not tied to any particular research method and they are not methods themselves, but should be seen as an organizational strategy within which social data are organized so as to preserve the unitary character of the social object being studied (Grix 2004, p. 51). Case-studies that are qualitative in nature are, however, useful in applying solutions to current problems based on past problem-solving experiences. They are also useful in understanding certain phenomena and generating further theories for empirical testing.

Given the nature and the aim of this research, it is a combination of exploratory and descriptive studies in which primary and secondary data are used. Published sources like articles from various journals and books are employed, relevant websites on the Internet are accessed, and the demand for instruments of risk management is investigated by administering questionnaires to varied business as well as financial institutions of Pakistan. As this study focuses on a particular country, namely Pakistan it is a case-study to boot.

Research strategy simply means a general orientation to the conduct of business research (Bryman & Bell 2003, p. 25). Theories based on deduction and induction help to understand, explain and predict business and research phenomena. Saunders et al. (2003) discuss in detail the major differences between deductive and inductive approaches to research. Deduction involves the development of a theory that is subjected to a rigorous test (Saunders et al. 2003, p. 86). Bryman and Bell (2003) state that deductive theory represents the commonest view of the nature of the relationship between theory and research. The researcher, on the basis of what is known about in a particular domain and of theoretical considerations in relation to that domain, deduces a hypothesis (or hypotheses) that must then be subjected to empirical scrutiny. Sekaran (2003) also discusses the deductive process in research. It is the process by which the researcher arrives at a reasoned conclusion by logical generalization of a known fact.

Induction, on the other hand, is a process where the researcher observes certain phenomena and arrives at conclusions (Sekaran 2003, p. 27). In induction, the researcher infers the implications of his or her findings for the theory that prompted the whole exercise. With an inductive stance, theory is the outcome of research. In other words, the process of induction involves drawing generalizable inferences from observations (Bryman & Bell 2003, p. 12). It means that deduction entails a process in which theory leads to observations and findings whereas with induction, the connection is reversed; observations and findings lead to theory.

As deduction entails an element of induction the inductive process is likely to entail a modicum of deduction. Both the deductive and the inductive processes are applied in scientific investigations. Since this study is based on qualitative research it entails an inductive approach to the relationship between theory and research in which the emphasis is placed on the generation of theories. The research involves interpretation of data whereby the researcher analyzes the information provided by various business and financial institutions of Pakistan.

6.4. Research Methods

In practice, business and economic problems can be quite complicated and their solution may entail the application of a variety of research approaches. Research methods, quite simply, can be seen as the techniques or procedures used to collate and analyse data (Grix 2004, p. 30). They can be and are associated with different kinds of research design. The methods chosen for a research project are inextricably linked to the research questions posed and to the sources of data collected. Research methods can involve a specific instrument such as a questionnaire, or a structured interview schedule or participant observation whereby the researcher listens to and watches others (Bryman & Bell 2003, p. 32). Grix (2004) demonstrates that in research, methods have two principal functions: firstly, they offer the researcher a way of gathering information or gaining insight into a particular issue; and secondly, they enable another researcher to re-enact the first's endeavours by emulating the methods employed.

Methods can be used in either quantitative research which is concerned predominantly with quantity or qualitative research which is concerned with interpreting the subjective experiences.

Ferber and Verdoorn (1962) note that the aim of research is to arrive at a solution to a given problem, the available data and the unknowns of the problem have to be related to each other to make a solution possible. From this point of view, research methods, they further maintain, fall into three main categories. The first category is concerned with the collection of data; it is used where the data already available are not sufficient to arrive at the required solution. The second category consists of a set of statistical techniques for establishing relationships between the data and the unknowns. The third category is used to evaluate the accuracy of the results obtained. These techniques will show whether or not the solution is adequate from the statistical point of view. Since the techniques of third category overlap to some extent those of the second it is often convenient to refer to both as the analytical tools of research.

Given the fact that this research is a combination of exploratory and descriptive studies, it utilizes a quantitative method, namely questionnaires to varied business as well as financial institutions of Pakistan in order to collect primary data.

6.5. Data Collection Methods

Sekaran (2003) spells out that certain types of information such as the perceptions and attitudes of the people are best obtained by talking to them or by observing events, people and objects. In contrast, certain other types of information can be obtained from available published records, web sites, archives and other sources. It means that the data already exist and do not have to be collected by the researcher. Some secondary sources of data are statistical bulletins, government publications, information published or unpublished and available from either within or outside the organization, data available from previous research, case-studies, library records and on-line data.

Data collection methods include interviews, questionnaires, observation of individuals and events, and a variety of other motivational techniques.

6.5.1. Questionnaires

A questionnaire is a preformed written set of questions. It is an efficient data collection mechanism where the researcher knows exactly what is required and how to measure the variables of interest. Questionnaires can be administered personally, or mailed to the respondents or electronically distributed.

Sekaran (2003) states that the main advantage of personally administered questionnaires is that the researcher or a member of the research team can collect all the completed responses within a short period of time. Any doubts that the respondents might have with respect to any question could be clarified on the spot. The researcher is also afforded the opportunity to introduce the research topic and motivate the respondents to offer their frank answers. On the other hand, the main advantage of mail questionnaires is that a wide geographical area can be covered in the survey. However, the return rate of mail questionnaires is typically low. A 30% response rate is considered acceptable (Sekaran 2003, p. 237). Another disadvantage of the mail questionnaire is that any doubts the respondents might have cannot be clarified.

6.5.1.1. Questionnaire Design

Open-ended questions allow respondents to answer them in any way they choose (Saunders et al. 2003, p. 292). A closed question, in contrast, asks the respondents to make choices among a set of alternatives given by the researcher. Closed questions are typically preferable for a survey (Bryman & Bell 2003, p. 173). They help the respondents to make quick decisions to choose among the several alternatives before them. They also help the researcher to code the information easily for subsequent analysis (Sekaran 2003, p. 239).

There are a number of significant issues in questionnaire design which minimize biases in research. For instance, Bryman and Bell (2003), Sekaran (2003) and Saunders et al. (2003) espouse that:

- The language of the questionnaire should approximate the level of understanding of the respondents. If some questions are either not understood or are interpreted differently by the respondent the researcher will obtain the wrong answers to the questions, and responses will thus be biased.
- Instead of phrasing all questions positively, it is advisable to include some negatively worded questions as well in order that the tendency in respondents to mechanically circle the points can be minimized.
- A double-barrelled question that lends itself to different possible responses to its parts should be avoided, and two or more separate questions asked instead.
- Questions that are ambiguously worded and the respondent may not be sure what exactly they mean ought to be eschewed because responses to ambiguous questions have built-in bias inasmuch as different respondents might interpret such items in the questionnaire differently.
- Questions should not be phrased in such a way that they lead the respondents to give the responses that the researcher would like or want them to give.

On account of the inherent biases in each of the data collection methods, the collection of data from multiple sources and through multiple methods is recommended (Sekaran 2003, p. 261).

This research utilizes a demand side questionnaire prepared by the researcher in order to ascertain the demand for instruments of risk management in various business and economic sectors of Pakistan. The researcher hired two persons, brought home to them the purpose and the significance of the questionnaire, and gave them the adequate training for administering the questionnaires in two commercial and industrial cities of Pakistan, namely Lahore and Faisalabad. Therefore most of the questionnaires were disseminated in person, whereas some of them were sent through e-mail. It was scrupulously ensured that the questionnaires were to be filled in by the relevant persons in the organizations. Saunders et al. (2003) describe that

questionnaires must be introduced carefully to the respondents to ensure a high response rate. That is why the persons hired enunciated the contents, particularly the Islamic as well as conventional contracts and concepts to the respondents in order that they could answer the questions in no uncertain terms. Also, a covering letter with the questionnaire was provided to explicate the purpose of the research and to accentuate the significance of responses. The letter aimed to assure the respondents that the information provided would be kept strictly confidential and would only be used for research purposes. A sample of the questionnaire is provided in the Appendix 3. An overview of the questionnaire is as follows:

The seven-page demand side questionnaire consists of 37 main questions. The format of questions varies with the nature of information required for research purposes. Most questions are closed because they help, as noted above, the respondents to make quick decisions to choose among the several alternatives before them. Therefore multiple-choice questions were preferred to garner pertinent data. The respondents were, however, given space at the end of some questions to provide additional information.

Sekaran (2003) canvasses different rating scales which are often used in organizational research to elicit responses in regard to the object, event or person studied. Taking the nature and objectives of the questions into consideration, the researcher employed various scales such as (1) dichotomous scale which is used to elicit a Yes or No answer, (2) category scale which uses multiple items to elicit a single response and (3) five-point Likert scale which is used to examine the severity of different kinds of risk in a certain organization. The questionnaire is divided up into three main sections which aim at encompassing a wide range of issues. A terse description of each section is as follows:

Section A consists of ten questions which attempt to obtain general information, that is to say name and legal status of the organization, type of business, balance sheet figures, etc, from the respondents. This section is at bottom used to ascertain the specific sector of the economy the organization belongs to, and to identify its wider implications for and possible impact on the issues germane to the demand for instruments of risk management.

Section B embraces six questions pertaining fundamentally to the concepts of Islamic finance. The section investigates respondents' awareness and understanding of the structure of several Islamic as well as conventional concepts and contracts. The respondents are also asked to describe, according to their perceptiveness, the Islamic legal stance on these concepts and contracts. The last four questions in this section relate to the nature of financial derivatives. Overall this section emphatically succours to assess the level of respondents' knowledge of the mechanism of Islamic and conventional contracts and concepts.

Section C embodies four parts which have, in the aggregate, twenty-one questions with respect to risk management. Part I deals with credit risk. The respondents are asked to rank, by using five-point Likert scale, the severity of credit risk in their organization. They are also queried what instruments or techniques such as collateral, credit default swaps, *hatt wa ta'ajjal*, etc they use or want to use in order to mitigate credit risk.

Part II is about market risk. In this part, the respondents are asked to rank, by using five-point Likert scale, the severity of market risk in their organization. They are also queried what instruments or techniques such as *arbun* sale, *bai al-salam*, forward contracts, etc they use or want to use in order to reduce market risk.

Part III goes through currency risk. The respondents are asked to rank, by using five-point Likert scale, the severity of currency risk in their organization. They are also queried what instruments or techniques such as currency swaps, foreign currency forwards, Islamic swaps, etc they use or want to use in order to manage currency risk.

Part IV is germane to interest-rate risk. The respondents are asked to rank, by using five-point Likert scale, the severity of interest-rate risk in their organization. They are also queried what instruments or techniques such as forward rate agreements, interest-rate futures, interest-rate options, etc they use or want to use in order to allay interest-rate risk. This section, on the whole, tries to explore the risk exposure of different business organizations, and to find out their entrepreneurial preferences for the instruments or techniques of risk management.

6.6. Sampling

Sekaran (2003) maintains that sampling is the process of selecting a sufficient number of elements from the population. The study of the sample and an understanding of its properties or characteristics make it possible to generalize these properties or characteristics to the entire population. As such, the sample statistics, e.g. $\bar{x}$ (the sample mean), *S* (standard deviation), and S^2 (the variation in the sample) are used as estimates of the population parameters μ (the population mean), σ (the population standard deviation), and σ^2 (the population variance).

6.6.1. Sampling Designs

Saunders et al. (2003) state that there are two major types of sampling designs:

- Probability or representative sampling
- Nonprobability or judgemental sampling

In probability sampling, the elements in the population have some known chance or probability of being selected as sample subjects (Sekaran 2003, p. 269). The aim of probability sampling is to keep sampling error to the minimum (Bryman & Bell 2003, p. 93). Lynn (2002) asserts that probability sampling is often thought to be the only defensible selection method for serious scientific study unless such a sampling is not feasible. Probability sampling involves a lot of preparation. It is frequently avoided because of the difficulty and costs involved (Bryman & Bell 2003, p. 105). In nonprobability sampling, the elements do not have a known or predetermined chance of being selected as subjects (Sekaran 2003, pp 269-270). Essentially, this implies that some units in the population are more likely to be selected than others (Bryman & Bell 2003, p. 93).

Each of these two major designs has different sampling strategies. Depending on the extent of generalizability desired, the demands of time and other resources, and the purpose of the study, different types of probability and nonprobability sampling designs are chosen.

The nonprobability sampling designs consist of convenience sampling and purposive sampling. Sekaran (2003) argues that convenience sampling, as its name implies, refers to the collection of information from members of the population who are conveniently available to provide it. Notwithstanding the fact that convenience sampling, as Sekaran (2003) describes, is the least reliable of all sampling designs in terms of generalizability, this is very common in the field of business and management (Bryman & Bell 2003, p. 105). Instead of obtaining information from those who are most readily or conveniently available, it might sometimes become necessary to obtain information from specific target groups. This sampling is confined to specific types of people who can provide the desired information. This type of sampling design is called purposive sampling (Sekaran 2003, p. 277). With purposive sampling, the researcher recognizes that there may be inherent variation in the population of interest. The researcher attempts to control this by using subjective judgement to select a sample that he believes to be representative of the population (Lynn 2002, p. 189).

This study harnesses purposive sampling in order to accomplish the research aim. The demand for instruments of risk management is investigated by administering questionnaires to varied business as well as financial institutions of Pakistan.

6.6.2. Sample Size

An important element of sample design is the determination of the sample size (Lynn 2002, p. 192). A reliable and valid sample ought to enable the researcher to generalize the findings from the sample to the population under investigation. Roscoe (cited in Sekaran 2003, p. 295) proposes the following rules of thumb for determining sample size:

- Sample sizes larger than 30 and less than 500 are appropriate for most research.
- Where samples are to be broken into subsamples (male/female, junior/senior, etc.), a minimum sample size of 30 for each category is necessary.

- In multivariate research, the sample size should be several times (preferably 10 times or more) as large as the number of variables in the study.
- For simple experimental research with tight experimental controls, successful research is possible with samples as small as 10 to 20 in size.

Sekaran (2003) asserts that the sample size is determined by the level of precision and confidence desired in estimating the population parameters, and the variability in the population itself. Precision is a function of the range of variability in the sampling distribution of the sample mean. Confidence, on the other hand, reflects the level of certainty with which we can state that our estimates of the population parameters, based on our sample statistics, will hold. The level of confidence can range from 0 to 100%. Although any value of the confidence level can be chosen to construct a confidence interval, the more common values are 90%, 95% and 99% (Mann 1995, p. 411). The corresponding confidence coefficients are .90, .95 and .99. Sekaran (2003) maintains that a 95% confidence is the conventionally accepted level for most business research. It implies that at least 95 times out of 100, our estimate will reflect the true population characteristic.

Krejcie and Morgan (cited in Sekaran 2003, p. 294) greatly simplified size decision by providing a table that ensures a good decision model. This table specifies a sample size of 384 when the population size is one million.

Mann (1995, p. 439) and Saunders et al. (2003, pp 466-467) use the following formula in order to find the sample size:

$$n = \frac{z^2 pq}{E^2}$$

where:

n is the sample size which is unknown;

z denotes the units of the standard normal distribution. The value of *z* is obtained from the standard normal distribution table for the given confidence

level. A 95% confidence level is used in this research. The value of *z* for a 95% confidence level is 1.96;

p is the population proportion;

q is the probability of failure for the binomial experiments. The values of *p* and *q* are not known. Therefore the researcher assumes that *p* = .50 and *q* = .50;

E is the maximum error of estimate. The value of *E* is unknown. The researcher assumes its value to be .05.

The required sample size is

$$n = \frac{z^2 pq}{E^2}$$

$$n = \frac{(1.96)^2 (.50)(.50)}{(.05)^2} = 384.16 \approx 384$$

As was stated above this research utilizes a demand side questionnaire. Since the required sample size is 384 the researcher decided to give out 600 questionnaires at random in order that the required sample size can definitely be reached. A large number of people are not apprised of the concepts and techniques of financial derivatives and consequently their use is limited in Pakistan; the response rate was 64%. The researcher got 384 completed questionnaires back. A sample of five questionnaires filled in by the respondents belonging to different sectors is provided in the Appendix 4.

6.7. Pilot Study

The purpose of the pilot study is to refine the questionnaire (Saunders et al. 2003, p. 308). Therefore it is always desirable to conduct a pilot study before administering a questionnaire or structured interview schedule. Many difficulties can be avoided by having a pilot study (Altman 2002, p. 147). Bryman and Bell (2003) discuss some uses of pilot studies in research. They, for example, include:

- If the main study is going to employ closed questions open questions can be asked in the pilot study to generate fixed answers.
- Piloting an interview schedule can provide interviewers with some experience of using it and can infuse them with a greater sense of confidence.
- If everyone replies in the same way the resulting data are unlikely to be of interest because they do not form a variable. A pilot study allows such a question to be identified.
- Questions that seem not to be understood or questions that are often not answered should become apparent. The latter problem of questions being skipped may be due to confusing or threatening phrasing, or poorly worded instructions. Whatever the cause might be, such missing data are undesirable, and a pilot study may be instrumental in identifying the problem.
- Pilot studies allow the researcher to determine the adequacy of instructions to interviewers or to respondents.
- It may be possible to consider how well the questions flow and whether it is necessary to move some of them around to improve this feature.

For most student questionnaires, the minimum number of a pilot study is 10 (Saunders et al. 2003, p. 309). Therefore the researcher distributed 10 questionnaires at random in the manufacturing and service sectors. The respondents answered the questions conveniently and satisfactorily, and no noticeable problem was identified.

6.8. Evaluation of Research

Three of the most prominent criteria for the evaluation of business and management research are reliability, replication and validity.

6.8.1. Reliability

Reliability means the ability of a technique to yield the same results if repeated under invariant conditions (Ferber & Verdoorn 1962, p. 282). Therefore a series of attitudinal questions on the desirability of resale price maintenance would be adjudged reliable if the repetition of the test under the same conditions produces the same

attitude. Sekaran (2003) takes the view that the reliability of a measure indicates the extent to which it is without bias and hence ensures consistent measurement across time and across the various items in the instrument. The ability of a measure to remain the same over time, despite uncontrollable testing conditions or the state of the respondents themselves is indicative of its stability and low vulnerability to changes in the situation. Bryman and Bell (2003) suggest that reliability refers to the consistency of a measure of a concept. It is fundamentally concerned with the question of whether the results of a study are repeatable. Dominowski (1980) finds that reliability refers to the degree to which a measure is correlated with itself.

Cronbach's alpha is a commonly used test of internal reliability. It indicates how well the items in a set are positively correlated to one another. Cronbach's alpha is computed in terms of the average intercorrelations among the items measuring the concept (Sekaran 2003, p. 307). A computed alpha coefficient varies between 1 (denoting perfect internal reliability) and 0 (denoting no internal reliability). The figure 0.80 is typically employed as a rule of thumb to denote an acceptable level of internal reliability (Bryman & Bell 2003, p. 77). Pallant (2010) also maintains that the Cronbach's alpha value above .7 is considered acceptable, although values above .8 are preferable.

Table 6.1 shows the reliability statistics of the demand side questionnaire. Cronbach's alpha is .888, rounded up to .89 which suggests very good internal consistency for the scale with this specific sample.

Table 6.1: Reliability statistics

Cronbach's Alpha	N of Items
.888	4

6.8.2. Replication

The idea of reliability is very close to another criterion of research – replication or more especially replicability. Bryman and Bell (2003) claim that for replication, a study must be capable of replication. If a researcher does not spell out his or her procedures in great detail replication is impossible. The results of the tests of

hypotheses should be supported again and again when the same type of research is repeated in other similar circumstances (Sekaran 2003, p. 24).

6.8.3. Validity

A further and, in many ways, the most important criterion of research is validity. Bryman and Bell (2003) observe that validity refers to the issue of whether an indicator or a set of indicators that is devised to gauge a concept really measures that concept; that is to say validity is concerned with the integrity of the conclusions that are generated from a piece of research.

Ferber and Verdoorn (1962) discuss various approaches and procedures to establish validity. One approach involves obtaining independent opinions from experts in the relevant field. The extent to which these opinions agree is taken as a measure of validity. The researcher discussed the wider implications of this study with a number of experts in risk management. The discourse boiled down to the fact that the study is of paramount importance.

6.9. Data Analysis

Data analysis is a very significant stage in the research process. Here the researcher has to select appropriate statistical techniques in order to garner interpretative results and to achieve the research aim.

In this research, the data, collected through the questionnaires, were coded and keyed in carefully into the Statistical Package for the Social Sciences (SPSS), the software picked out for the data analysis. The following statistical approaches to data analysis were employed:

6.9.1. Descriptive Statistics

Pallant (2010) argues that descriptive statistics address specific research questions, and enable, as Saunders et al. (2003) state, the researcher to describe and compare

variables numerically. Sekaran (2003) also defines that descriptive statistics involve transformation of raw data to such a form that provides information to describe a set of factors in a situation. This is carried out through the manipulation and ordering of the raw data collected. In this regard, the following statistical technique was utilized to analyze the data:

- **Frequencies:** Frequencies simply refer to how frequently certain phenomena occur (Sekaran 2003, p. 394; Dominowski 1980, p. 161).

6.9.2. Inferential Statistics

Inferential statistics help to establish relationships among variables and draw conclusions therefrom. Sekaran (2003) points out that inferential statistics can be categorized as parametric or non-parametric. The use of parametric statistics is based on the assumption that the population from which the sample is drawn is normally distributed and data are collected on an interval or ratio scale. Non-parametric statistics, on the other hand, make no explicit assumption regarding the normality of distribution in the population, and are used when the data are collected on a nominal or ordinal scale. This research harnesses the following non-parametric techniques to analyze and interpret the data:

- **Chi-Square Test for Independence:** The chi-square test is associated with the degrees of freedom (df), which denotes whether or not a significant relationship exists between two nominal variables (Sekaran 2003, p. 403). Pallant (2010) states that the chi-square test for independence is used to explore the relationship between two categorical variables.
- **Kruskal-Wallis Test:** The Kruskal- Wallis Test is similar in nature to the Mann-Whitney U Test, but it allows to compare the scores on some continuous variable for three or more groups (Pallant 2010, p. 232).
- **Spearman Rank Order Correlation (rho):** Correlation is the term used for any significant association or covariation between two or more variables (Grix 2004, p. 163). Correlation analysis is used to describe the strength and direction of the linear relationship between two variables (Pallant 2010, p.

128). The Spearman Rank Order Correlation (rho) is used when the data does not meet the criteria for Pearson correlation.

- **Logistic Regression:** The basic idea underlying regression analysis is to use some data on one or more variables to try to predict the value of a further variable (Grix 2004, p. 118). Pallant (2010) asserts that logistic regression assesses how well the set of predictor (independent) variables predicts or explains the categorical dependent variable. It gives an indication of the adequacy of the model by assessing 'goodness of fit'.

6.10. Conclusion

This chapter discussed the research methodology that is used in order to answer the research questions. Quantitative and qualitative researches constitute different approaches to social investigation and carry with them important epistemological and ontological considerations. Taking the aim of the research into consideration, this study is based on qualitative research. It is a combination of exploratory and descriptive studies in which primary and secondary data are used. The study utilizes a quantitative method, namely questionnaires to varied business as well as financial institutions of Pakistan in order to collect primary data. It entails an inductive approach to the relationship between theory and research in which the emphasis is placed on the generation of theories.

The chapter gave a detailed explication of sampling, pilot study and evaluation of research. It also canvassed the process of data analysis. This research harnesses a number of non-parametric techniques, e.g. chi-square test for independence, Kruskal-Wallis Test, Spearman Rank Order Correlation (rho) and logistic regression to analyze and interpret the data.

Chapter 7

Demand for the Instruments of Risk Management in Pakistan: Descriptive Statistics

7.1. Introduction

As was stated in the chapter on the research framework and methodology the researcher gave out 600 demand side questionnaires at random to ascertain the demand for instruments of risk management in various business and economic sectors of Pakistan. Since a large number of people are not apprised of the concepts and techniques of financial derivatives and consequently their use is terribly sparse in Pakistan the response rate was 64%; the researcher got 384 completed questionnaires back which was the required sample size. In this study, the researcher picked out the Statistical Package for the Social Sciences (SPSS) for data analysis.

This chapter analyzes the information provided by various business and financial institutions of Pakistan. The chapter reports on descriptive statistics, that is to say frequencies in order to interpret data culled from the seven-page demand side questionnaire. The pattern of statistical analysis closely follows the sequence of various sections in the questionnaire. Section 7.2. investigates general information about the organizations. Section 7.3. ascertains the structural and legal awareness of several Islamic as well as conventional concepts and contracts, including financial derivatives. Section 7.4. goes through risk exposure and management. Finally, Section 7.5. sets forth the conclusion.

7.2. General Information

The researcher managed to garner general information, that is to say name and legal status of the organization, type of business, etc, from the respondents. Although the researcher asked several questions such as number of branches/offices, number of

employees and most recent balance sheet figures in order to determine the size of the organization, but most of the respondents left these questions unanswered. However, the researcher endeavoured to approach only those organizations which had at least 50 employees and/or a well-established branch/office, ensuring that the business is not too small.

The information culled from the respondents is at bottom used to ascertain the specific sector of the economy the organization belongs to, and to identify its wider implications for and possible impact on the issues germane to the demand for instruments of risk management.

7.2.1. Organizational Profile

Table 7.1 deals with organizational profile. It gives an overview, e.g. frequencies of the variables 'legal status of the organization' and 'type of business'.

Table 7.1: Organizational profile

Legal status of the organization					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sole Proprietorship	243	63.3	63.3	63.3
	Partnership	53	13.8	13.8	77.1
	Private Company	48	12.5	12.5	89.6
	Public Limited Company	39	10.2	10.2	99.7
	Other	1	.3	.3	100.0
	Total	384	100.0	100.0	
Type of business					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agriculture	8	2.1	2.1	2.1
	Construction	4	1.0	1.0	3.1
	Financial Intermediation	22	5.7	5.7	8.9
	Manufacturing	51	13.3	13.3	22.1
	Real Estate	14	3.6	3.6	25.8

	Services	117	30.5	30.5	56.3
	Retail Trade	83	21.6	21.6	77.9
	Wholesale Trade	66	17.2	17.2	95.1
	Other	19	4.9	4.9	100.0
	Total	384	100.0	100.0	

Table 7.1 shows that the majority of the organizations (63.3 per cent) have the legal status of sole proprietorship; 53 organizations (13.8 per cent) work in partnership; private and public limited companies are 48 (12.5 per cent) and 39 (10.2 per cent) respectively; and just 1 organization falls into the category of 'other' in the sample, giving a total of 384 responses.

It is also evident from Table 7.1 that the services sector has the largest share (30.5 per cent) in the responses received, whereas only 4 organizations (1 per cent) belong to the construction industry. There are 8 organizations (2.1 per cent) in agriculture; 22 organizations (5.7 per cent) in financial intermediation; 51 organizations (13.3 per cent) in manufacturing; 14 organizations (3.6 per cent) in real estate; 83 organizations (21.6 per cent) in retail trade; 66 organizations (17.2 per cent) in wholesale trade; and 19 organizations (4.9 per cent) in the category of 'other' in the sample, giving a total of 384 responses.

7.2.2. Attitude to Banking Services

Table 7.2 deals with the attitude of the respondents towards banking services. It gives an overview, e.g. frequencies of the variables 'banks used by the respondents' and 'attitude to Islamic and conventional banking operations'.

Table 7.2: Attitude to banking services

Banks used by the respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Islamic	102	26.6	26.6	26.6
	Conventional	115	29.9	30.0	56.7
	Both	166	43.2	43.3	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		
Attitude to Islamic and conventional banking operations					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	They are different	171	44.5	44.5	44.5
	Neither different nor similar	68	17.7	17.7	62.2
	They are similar	87	22.7	22.7	84.9
	I don't know	58	15.1	15.1	100.0
	Total	384	100.0	100.0	

Table 7.2 shows that most of the organizations (43.3 per cent) use both Islamic and conventional banks for business purposes while 26.6% and 30% of the organizations use Islamic and conventional banking services respectively in the sample, giving a total of 383 responses with 1 response missing.

It is also evident from Table 7.2 that a large number of the respondents (44.5 per cent) believe that current Islamic and conventional banking operations are different; 17.7% of the respondents consider that they are neither different nor similar; 87 respondents (22.7 per cent) take the view that they are similar; and 58 respondents (15.1 per cent) are not apprised of the answer, giving a total of 384 responses.

7.3. Awareness and Perception of Islamic Finance

The questionnaire embraces six questions pertaining fundamentally to the concepts and contracts of Islamic finance. These questions attempt to investigate the respondents' awareness and understanding of the structure of several Islamic as well as conventional concepts and contracts. The respondents are also asked to describe,

according to their perceptiveness, the Islamic legal stance on these concepts and contracts. Overall these questions emphatically succour to assess the level of respondents' knowledge of the mechanism of Islamic and conventional concepts and contracts.

Table 7.3 deals with the Islamic position on business and commercial transactions in general. It gives an overview, e.g. frequencies of the variable 'Islamic position on business transactions'.

Table 7.3: Islamic legal position on business and commercial transactions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissibility	270	70.3	71.1	71.1
	Impermissibility	42	10.9	11.1	82.1
	I don't know	68	17.7	17.9	100.0
	Total	380	99.0	100.0	
Missing		4	1.0		
Total		384	100.0		

Table 7.3 shows that the majority of the respondents (71.1 per cent) are of the opinion that the Islamic position on business and commercial transactions is that of permissibility; 42 respondents (11.1 per cent) are in favour of impermissibility; and 17.9% of the respondents do not know the answer, giving a total of 380 responses with 4 responses missing. As noted before the basic norm in case of transactions (*mu'amalat*) is that of permissibility (*ibahah*) and absence of prohibition. So, the majority opinion is spot on.

7.3.1. Awareness and Perception of Legal Concepts

The best part of Section B in the questionnaire examines the respondents on their knowledge of Islamic finance. The respondents tend to describe the structural awareness of and Islamic legal perspective on a number of Islamic as well as conventional concepts.

7.3.1.1. Awareness of Some Classical Concepts

Table 7.4 deals with a number of classical concepts, e.g. *khiyar al-shart*, *riba* (interest), *maysir* (gambling), *gharar fahish* (substantial uncertainty), *gharar yaseer* (trivial uncertainty) and *hatt wa ta'ajjal*. The respondents state, according to their knowledge, the conceptual awareness of and Islamic legal perspective on these concepts.

Table 7.4: Conceptual and legal awareness of some classical concepts

Conceptual awareness of *khiyar al-shart*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	355	92.4	92.7	92.7
	No	28	7.3	7.3	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		
Islamic legal perspective on *khiyar al-shart*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	309	80.5	80.5	80.5
	Impermissible	32	8.3	8.3	88.8
	I don't know	43	11.2	11.2	100.0
	Total	384	100.0	100.0	
Conceptual awareness of *riba*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	377	98.2	98.7	98.7
	No	5	1.3	1.3	100.0
	Total	382	99.5	100.0	
Missing		2	.5		
Total		384	100.0		
Islamic legal perspective on *riba*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	20	5.2	5.3	5.3
	Impermissible	348	90.6	91.8	97.1
	I don't know	11	2.9	2.9	100.0
	Total	379	98.7	100.0	

Missing		5	1.3		
Total		384	100.0		
Conceptual awareness of *maysir*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	364	94.8	95.0	95.0
	No	19	4.9	5.0	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		
Islamic legal perspective on *maysir*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	9	2.3	2.3	2.3
	Impermissible	344	89.6	89.8	92.2
	I don't know	30	7.8	7.8	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		
Conceptual awareness of *gharar fahish*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	302	78.6	78.6	78.6
	No	82	21.4	21.4	100.0
	Total	384	100.0	100.0	
Islamic legal perspective on *gharar fahish*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	80	20.8	20.8	20.8
	Impermissible	153	39.8	39.8	60.7
	I don't know	151	39.3	39.3	100.0
	Total	384	100.0	100.0	
Conceptual awareness of *gharar yaseer*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	321	83.6	83.6	83.6
	No	63	16.4	16.4	100.0
	Total	384	100.0	100.0	
Islamic legal perspective on *gharar yaseer*					
		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Permissible	131	34.1	34.1	34.1
	Impermissible	98	25.5	25.5	59.6
	I don't know	155	40.4	40.4	100.0
	Total	384	100.0	100.0	
Conceptual awareness of *hatt wa ta'ajjal*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	306	79.7	79.9	79.9
	No	77	20.1	20.1	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		
Islamic legal perspective on *hatt wa ta'ajjal*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	109	28.4	28.5	28.5
	Impermissible	126	32.8	32.9	61.4
	I don't know	148	38.5	38.6	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		

Table 7.4 shows that the majority of the respondents (92.7 per cent) are apprised of the concept of *khiyar al-shart* whereas 28 respondents (7.3 per cent) are not aware of it, giving a total of 383 responses with 1 response missing. Also, most of the respondents (80.5 per cent) take the view that it is permissible to enter into *khiyar al-shart*; 32 respondents (8.3 per cent) consider it to be impermissible; and 11.2% of the respondents are unaware of the Islamic legal perspective on *khiyar al-shart*, giving a total of 384 responses. It was described in detail that *khiyar al-shart* is allowed to benefit from. Therefore the majority point of view is correct.

It is also evident from Table 7.4 that a large number of the respondents (98.7 per cent) are *au fait* with the concept of *riba* whereas 5 respondents (1.3 per cent) are not aware of it, giving a total of 382 responses with 2 responses missing. Besides, 20 respondents (5.3 per cent) are of the opinion that *riba* is permissible; the majority of the respondents (91.8 per cent) rightly deem it impermissible; and 2.9% of the

respondents do not know the Islamic legal perspective on *riba*, giving a total of 379 responses with 5 responses missing.

Table 7.4 indicates that most of the respondents (95 per cent) are apprised of the concept of *maysir* whereas 19 respondents (5 per cent) are not aware of it, giving a total of 383 responses with 1 response missing. Further, 9 respondents (2.3 per cent) take the view that *maysir* is permissible; a large number of the respondents (89.8 per cent) consider it to be impermissible; and 7.8% of the respondents are unaware of the Islamic legal perspective on *maysir*, giving a total of 383 responses with 1 response missing. As was stated before Islam prohibits all kinds of gambling (*maysir*) and games of chance. Hence the majority viewpoint is true.

Table 7.4 represents that the majority of the respondents (78.6 per cent) are apprised of the concept of *gharar fahish* whereas 82 respondents (21.4 per cent) are not aware of it, giving a total of 384 responses. Furthermore, 80 respondents (20.8 per cent) take the view that *gharar fahish* is allowed; most of the respondents (39.8 per cent) accurately consider it to be impermissible; and 39.3% of the respondents are unaware of the Islamic legal perspective on *gharar fahish*, giving a total of 384 responses.

It is also manifest from Table 7.4 that a large number of the respondents (83.6 per cent) know the concept of *gharar yaseer* whereas 63 respondents (16.4 per cent) are ignorant of it, giving a total of 384 responses. In addition, 131 respondents (34.1 per cent) opine that *gharar yaseer* is legitimate; 98 respondents (25.5 per cent) believe it to be unlawful; and the majority of the respondents (40.4 per cent) have no knowledge of the Islamic legal perspective on *gharar yaseer*, giving a total of 384 responses. It was elucidated that there is a broad consensus of opinion on the fact that *gharar yaseer* (trivial uncertainty) is tolerable. The response of 131 respondents is thus exactly true.

Table 7.4 signifies that most of the respondents (79.9 per cent) are apprised of the concept of *hatt wa ta'ajjal*, whereas 77 respondents (20.1 per cent) are not aware of it, giving a total of 383 responses with 1 response missing. Moreover, 109 respondents (28.5 per cent) correctly take the view that *hatt wa ta'ajjal* is allowed; 126 respondents (32.9 per cent) consider it to be impermissible; and a large number of the

respondents (38.6 per cent) are unaware of the Islamic legal perspective on *hatt wa ta'ajjal*, giving a total of 383 responses with 1 response missing.

7.3.1.2. Awareness of Speculation, Hedging, Collateral and Possession

Table 7.5 deals with the concepts of 'speculation based on relevant information', 'speculation based on excessive uncertainty', hedging, collateral and selling a commodity before owning or possessing it. The respondents state, according to their knowledge, the conceptual awareness of and Islamic legal perspective on the aforementioned concepts.

Table 7.5: Conceptual and legal awareness of speculation, hedging, collateral and possession

Conceptual awareness of speculation based on relevant information					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	368	95.8	95.8	95.8
	No	16	4.2	4.2	100.0
	Total	384	100.0	100.0	
Islamic legal perspective on speculation based on relevant information					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	171	44.5	44.5	44.5
	Impermissible	140	36.5	36.5	81.0
	I don't know	73	19.0	19.0	100.0
	Total	384	100.0	100.0	
Conceptual awareness of speculation based on excessive uncertainty					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	345	89.8	89.8	89.8
	No	39	10.2	10.2	100.0
	Total	384	100.0	100.0	
Islamic legal perspective on speculation based on excessive uncertainty					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	78	20.3	20.3	20.3
	Impermissible	180	46.9	46.9	67.2

	I don't know	126	32.8	32.8	100.0
	Total	384	100.0	100.0	
Conceptual awareness of hedging against different kinds of risk					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	370	96.4	96.4	96.4
	No	14	3.6	3.6	100.0
	Total	384	100.0	100.0	
Islamic legal perspective on hedging against different kinds of risk					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	313	81.5	81.5	81.5
	Impermissible	26	6.8	6.8	88.3
	I don't know	45	11.7	11.7	100.0
	Total	384	100.0	100.0	
Conceptual awareness of collateral					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	340	88.5	90.7	90.7
	No	35	9.1	9.3	100.0
	Total	375	97.7	100.0	
Missing		9	2.3		
Total		384	100.0		
Islamic legal perspective on collateral					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	291	75.8	77.6	77.6
	Impermissible	43	11.2	11.5	89.1
	I don't know	41	10.7	10.9	100.0
	Total	375	97.7	100.0	
Missing		9	2.3		
Total		384	100.0		
Conceptual awareness of selling a commodity before owning or possessing it					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	350	91.1	91.1	91.1
	No	34	8.9	8.9	100.0
	Total	384	100.0	100.0	
Islamic legal perspective on selling a commodity before owning or possessing it					

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	116	30.2	30.2	30.2
	Impermissible	207	53.9	53.9	84.1
	I don't know	61	15.9	15.9	100.0
	Total	384	100.0	100.0	

Table 7.5 shows that the majority of the respondents (95.8 per cent) are apprised of the concept of speculation based on relevant information, whereas 16 respondents (4.2 per cent) are not aware of it, giving a total of 384 responses. Also, most of the respondents (44.5 per cent) rightly take the view that speculation based on relevant information is allowed; 140 respondents (36.5 per cent) consider it to be impermissible; and 19% of the respondents are unaware of the Islamic legal perspective on speculation based on relevant information, giving a total of 384 responses.

It is also evident from Table 7.5 that a large number of the respondents (89.8 per cent) know the concept of speculation based on excessive uncertainty while 39 respondents (10.2 per cent) are ignorant of it, giving a total of 384 responses. Besides, 78 respondents (20.3 per cent) opine that speculation based on excessive uncertainty is legitimate; the majority of the respondents (46.9 per cent) correctly believe it to be unlawful; and 32.8% of the respondents have no knowledge of the Islamic legal perspective on speculation based on excessive uncertainty, giving a total of 384 responses.

Table 7.5 indicates that most of the respondents (96.4 per cent) are apprised of the concept of hedging, whereas 14 respondents (3.6 per cent) are not aware of it, giving a total of 384 responses. Further, a large number of the respondents (81.5 per cent) take the view that it is allowed to hedge against different kinds of risk; 26 respondents (6.8 per cent) consider it to be impermissible; and 11.7% of the respondents are unaware of the Islamic legal perspective on hedging, giving a total of 384 responses. It was discussed in detail that hedging is quite in conformity with the Islamic rationality. Therefore the majority opinion is right.

Table 7.5 represents that the majority of the respondents (90.7 per cent) are apprised of the concept of collateral, whereas 35 respondents (9.3 per cent) are not aware of it, giving a total of 375 responses with 9 responses missing. Furthermore, most of the respondents (77.6 per cent) unerringly take the view that collateral is allowed to take advantage of; 43 respondents (11.5 per cent) consider it to be impermissible; and 10.9% of the respondents are unaware of the Islamic legal perspective on collateral, giving a total of 375 responses with 9 responses missing.

It is also manifest from Table 7.5 that a large number of the respondents (91.1 per cent) know the concept of selling a commodity before owning or possessing it whereas 34 respondents (8.9 per cent) are ignorant of it, giving a total of 384 responses. In addition, 116 respondents (30.2 per cent) opine that it is legitimate to sell a commodity before owning or possessing it; the majority of the respondents (53.9 per cent) believe it to be unlawful; and 61 respondents (15.9 per cent) have no knowledge of the Islamic legal perspective on selling a commodity before owning or possessing it, giving a total of 384 responses. As noted before the rationale behind the requirement of taking possession (*qabd*) is to ensure the delivery of the subject-matter. So, if a subject-matter is certain to be delivered at its predetermined time the requirement of *qabd* might rationally be omitted because the underlying cause (*illah*) does not exist any longer. Thus the response of 116 respondents is true, if a subject-matter is assured to be delivered at its predetermined time.

7.3.2. Awareness and Perception of Classical Contracts

Section B in the questionnaire investigates the respondents' knowledge of Islamic finance. The respondents describe the structural awareness of and Islamic legal perspective on a number of classical contracts. Table 7.6 deals with some traditional contracts, e.g. *istisna*, *salam*, *bai al-kali bil-kali* (sale of one debt for another), *bai al-gha'ib* (sale of unseen), *bai al-arbun* and *bai istijrar*. The respondents tend to state, according to their knowledge, the structural awareness of and Islamic legal perspective on these forms of contract.

Table 7.6: Structural and legal awareness of some classical contracts

Structural awareness of *istisna*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	361	94.0	94.0	94.0
	No	23	6.0	6.0	100.0
	Total	384	100.0	100.0	
Islamic legal perspective on *istisna*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	291	75.8	75.8	75.8
	Impermissible	42	10.9	10.9	86.7
	I don't know	51	13.3	13.3	100.0
	Total	384	100.0	100.0	
Structural awareness of *salam*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	348	90.6	91.1	91.1
	No	34	8.9	8.9	100.0
	Total	382	99.5	100.0	
Missing		2	.5		
Total		384	100.0		
Islamic legal perspective on *salam*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	280	72.9	73.3	73.3
	Impermissible	24	6.3	6.3	79.6
	I don't know	78	20.3	20.4	100.0
	Total	382	99.5	100.0	
Missing		2	.5		
Total		384	100.0		
Structural awareness of *bai al-kali bil-kali*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	343	89.3	89.8	89.8
	No	39	10.2	10.2	100.0
	Total	382	99.5	100.0	
Missing		2	.5		
Total		384	100.0		
Islamic legal perspective on *bai al-kali bil-kali*					

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	181	47.1	47.1	47.1
	Impermissible	102	26.6	26.6	73.7
	I don't know	101	26.3	26.3	100.0
	Total	384	100.0	100.0	

Structural awareness of *bai al-gha'ib*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	364	94.8	95.0	95.0
	No	19	4.9	5.0	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		

Islamic legal perspective on *bai al-gha'ib*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	131	34.1	34.1	34.1
	Impermissible	209	54.4	54.4	88.5
	I don't know	44	11.5	11.5	100.0
	Total	384	100.0	100.0	

Structural awareness of *bai al-arbun*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	324	84.4	84.6	84.6
	No	59	15.4	15.4	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		

Islamic legal perspective on *bai al-arbun*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	249	64.8	65.0	65.0
	Impermissible	63	16.4	16.4	81.5
	I don't know	71	18.5	18.5	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		

Structural awareness of *bai istijrar*

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Yes	298	77.6	78.0	78.0
	No	84	21.9	22.0	100.0
	Total	382	99.5	100.0	
Missing		2	.5		
Total		384	100.0		
Islamic legal perspective on *bai istijrar*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	251	65.4	65.5	65.5
	Impermissible	33	8.6	8.6	74.2
	I don't know	99	25.8	25.8	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		

Table 7.6 shows that the majority of the respondents (94 per cent) are *au fait* with the structure of *istisna* whereas 23 respondents (6 per cent) are not aware of it, giving a total of 384 responses. Also, most of the respondents (75.8 per cent) are of the opinion that it is permissible to enter into *istisna*; 42 respondents (10.9 per cent) deem it impermissible; and 13.3% of the respondents do not know the Islamic legal perspective on *istisna*, giving a total of 384 responses. It was described that the manufacturing contract (*istisna*) has been legitimized by general consensus (*ijma*) and custom (*urf*). Hence the majority viewpoint is spot on.

It is also evident from Table 7.6 that a large number of the respondents (91.1 per cent) know the structure of *salam* whereas 34 respondents (8.9 per cent) are ignorant of it, giving a total of 382 responses with 2 responses missing. Besides, the majority of the respondents (73.3 per cent) rightly opine that it is legitimate to enter into *salam*; 24 respondents (6.3 per cent) believe it to be unlawful; and 20.4% of the respondents have no knowledge of the Islamic legal perspective on *salam*, giving a total of 382 responses with 2 responses missing.

Table 7.6 indicates that most of the respondents (89.8 per cent) know how *bai al-kali bil-kali* works while 39 respondents (10.2 per cent) are ignorant of it, giving a total of 382 responses with 2 responses missing. Further, a large number of the respondents (47.1 per cent) opine that *bai al-kali bil-kali* is legitimate; 102 respondents (26.6 per

cent) believe it to be embargoed; and 101 respondents (26.3 per cent) have no knowledge of the Islamic legal perspective on *bai al-kali bil-kali*, giving a total of 384 responses. As was stated before there is a broad consensus of opinion on the prohibition of *bai al-kali bil-kali* in the Islamic jurisprudence. Therefore the response of 102 respondents is correct.

Table 7.6 represents that the majority of the respondents (95 per cent) are *au fait* with the structure of *bai al-gha'ib* whereas 19 respondents (5 per cent) are not aware of it, giving a total of 383 responses with 1 response missing. Furthermore, 131 respondents (34.1 per cent) are of the opinion that it is permissible to enter into *bai al-gha'ib*; most of the respondents (54.4 per cent) deem it impermissible; and 11.5% of the respondents do not know the Islamic legal perspective on *bai al-gha'ib*, giving a total of 384 responses. It was elucidated that there are tangible evidences that the disciples of the Prophet Muhammad bought and sold unseen objects and none of them declared such sales to be disapproved. So, the response of 131 respondents is true.

It is also manifest from Table 7.6 that a large number of the respondents (84.6 per cent) know the structure of *bai al-arbun* whereas 59 respondents (15.4 per cent) are ignorant of it, giving a total of 383 responses with 1 response missing. In addition, the majority of the respondents (65 per cent) correctly opine that it is legitimate to enter into *bai al-arbun*; 63 respondents (16.4 per cent) believe it to be unlawful; and 18.5% of the respondents have no knowledge of the Islamic legal perspective on *bai al-arbun*, giving a total of 383 responses with 1 response missing.

Table 7.6 signifies that most of the respondents (78 per cent) know how the contract of *istijrar* works while 84 respondents (22 per cent) are ignorant of it, giving a total of 382 responses with 2 responses missing. Moreover, a large number of the respondents (65.5 per cent) rightly opine that *bai istijrar* is legitimate; 33 respondents (8.6 per cent) believe it to be embargoed; and 99 respondents (25.8 per cent) have no knowledge of the Islamic legal perspective on *bai istijrar*, giving a total of 383 responses with 1 response missing.

7.3.3. Awareness and Perception of Financial Derivatives

Section B in the questionnaire ascertains the respondents' knowledge of financial derivatives into the bargain. The respondents tend to describe the structural awareness of and Islamic legal perspective on forward contracts, futures contracts, options and swaps.

7.3.3.1. Awareness of Forward Contracts

Table 7.7 deals with forward contracts and its kinds, namely foreign currency forwards and forward rate agreements.

Table 7.7: Structural and legal awareness of forward contracts

Structural awareness of forward contracts					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	347	90.4	90.4	90.4
	No	37	9.6	9.6	100.0
	Total	384	100.0	100.0	
Islamic legal perspective on forward contracts					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	291	75.8	75.8	75.8
	Impermissible	29	7.6	7.6	83.3
	I don't know	64	16.7	16.7	100.0
	Total	384	100.0	100.0	
Structural awareness of foreign currency forwards					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	284	74.0	74.0	74.0
	No	100	26.0	26.0	100.0
	Total	384	100.0	100.0	
Islamic legal perspective on foreign currency forwards					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	181	47.1	47.1	47.1
	Impermissible	60	15.6	15.6	62.8

	I don't know	143	37.2	37.2	100.0
	Total	384	100.0	100.0	
Structural awareness of forward rate agreements					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	327	85.2	85.4	85.4
	No	56	14.6	14.6	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		
Islamic legal perspective on forward rate agreements					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	266	69.3	69.5	69.5
	Impermissible	33	8.6	8.6	78.1
	I don't know	84	21.9	21.9	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		

Table 7.7 shows that the majority of the respondents (90.4 per cent) are *au fait* with the structure of forward contracts whereas 37 respondents (9.6 per cent) are not aware of it, giving a total of 384 responses. Also, most of the respondents (75.8 per cent) are of the opinion that it is permissible to enter into forward contracts; 29 respondents (7.6 per cent) deem it impermissible; and 16.7% of the respondents do not know the Islamic legal perspective on forward contracts, giving a total of 384 responses. As noted before forward contracts are allowed to benefit from. Therefore the majority contention is correct.

It is also evident from Table 7.7 that a large number of the respondents (74 per cent) know the structure of foreign currency forwards whereas 100 respondents (26 per cent) are ignorant of it, giving a total of 384 responses. Besides, the majority of the respondents (47.1 per cent) opine that it is legitimate to enter into foreign currency forwards; 60 respondents (15.6 per cent) rightly believe it to be unlawful; and 37.2% of the respondents have no knowledge of the Islamic legal perspective on foreign currency forwards, giving a total of 384 responses.

Table 7.7 indicates that most of the respondents (85.4 per cent) know how forward rate agreements work while 56 respondents (14.6 per cent) are ignorant of them, giving a total of 383 responses with 1 response missing. Further, a large number of the respondents (69.5 per cent) opine that forward rate agreements are legitimate; 33 respondents (8.6 per cent) accurately believe them to be embargoed; and 84 respondents (21.9 per cent) have no knowledge of the Islamic legal perspective on forward rate agreements, giving a total of 383 responses with 1 response missing.

7.3.3.2. Awareness of Futures Contracts

Table 7.8 deals with futures contracts and its kinds, namely foreign currency futures and interest-rate futures.

Table 7.8: Structural and legal awareness of futures contracts

Structural awareness of futures contracts					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	334	87.0	87.2	87.2
	No	49	12.8	12.8	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		
Islamic legal perspective on futures contracts					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	257	66.9	67.1	67.1
	Impermissible	48	12.5	12.5	79.6
	I don't know	78	20.3	20.4	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		
Structural awareness of foreign currency futures					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	292	76.0	76.0	76.0
	No	92	24.0	24.0	100.0
	Total	384	100.0	100.0	
Islamic legal perspective on foreign currency futures					

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	165	43.0	43.0	43.0
	Impermissible	51	13.3	13.3	56.3
	I don't know	168	43.8	43.8	100.0
	Total	384	100.0	100.0	
Structural awareness of interest-rate futures					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	208	54.2	54.3	54.3
	No	175	45.6	45.7	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		
Islamic legal perspective on interest-rate futures					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	52	13.5	13.5	13.5
	Impermissible	137	35.7	35.7	49.2
	I don't know	195	50.8	50.8	100.0
	Total	384	100.0	100.0	

Table 7.8 shows that the majority of the respondents (87.2 per cent) are *au fait* with the structure of futures contracts whereas 49 respondents (12.8 per cent) are not aware of it, giving a total of 383 responses with 1 response missing. Also, most of the respondents (67.1 per cent) are of the opinion that it is permissible to enter into futures contracts; 48 respondents (12.5 per cent) deem it impermissible; and 20.4% of the respondents do not know the Islamic legal perspective on futures contracts, giving a total of 383 responses with 1 response missing. It was stated that futures contracts are allowed to benefit from. Hence the majority opinion is spot on.

It is also evident from Table 7.8 that a large number of the respondents (76 per cent) know the structure of foreign currency futures whereas 92 respondents (24 per cent) are ignorant of it, giving a total of 384 responses. Besides, 165 respondents (43 per cent) opine that it is legitimate to enter into foreign currency futures; 51 respondents (13.3 per cent) rightly believe it to be unlawful; and the majority of the respondents

(43.8 per cent) have no knowledge of the Islamic legal perspective on foreign currency futures, giving a total of 384 responses.

Table 7.8 indicates that most of the respondents (54.3 per cent) know how interest-rate futures work while 175 respondents (45.7 per cent) are ignorant of them, giving a total of 383 responses with 1 response missing. Further, 52 respondents (13.5 per cent) opine that interest-rate futures are legitimate; 137 respondents (35.7 per cent) correctly believe them to be embargoed; and a large number of the respondents (50.8 per cent) have no knowledge of the Islamic legal perspective on interest-rate futures, giving a total of 384 responses.

7.3.3.3. Awareness of Options

Table 7.9 deals with options and their kinds, namely foreign currency options and interest-rate options.

Table 7.9: Structural and legal awareness of options

Structural awareness of options					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	109	28.4	28.5	28.5
	No	274	71.4	71.5	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		
Islamic legal perspective on options					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	66	17.2	17.2	17.2
	Impermissible	19	4.9	4.9	22.1
	I don't know	299	77.9	77.9	100.0
	Total	384	100.0	100.0	
Structural awareness of foreign currency options					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	131	34.1	34.2	34.2
	No	252	65.6	65.8	100.0

	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		
Islamic legal perspective on foreign currency options					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	58	15.1	15.1	15.1
	Impermissible	39	10.2	10.2	25.3
	I don't know	287	74.7	74.7	100.0
	Total	384	100.0	100.0	
Structural awareness of interest-rate options					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	177	46.1	46.2	46.2
	No	206	53.6	53.8	100.0
	Total	383	99.7	100.0	
Missing		1	.3		
Total		384	100.0		
Islamic legal perspective on interest-rate options					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	27	7.0	7.0	7.0
	Impermissible	101	26.3	26.3	33.3
	I don't know	256	66.7	66.7	100.0
	Total	384	100.0	100.0	

Table 7.9 shows that 109 respondents (28.5 per cent) are *au fait* with the structure of options whereas the majority of the respondents (71.5 per cent) are not aware of it, giving a total of 383 responses with 1 response missing. Also, 66 respondents (17.2 per cent) are of the opinion that options are permissible; 19 respondents (4.9 per cent) deem them to be impermissible; and most of the respondents (77.9 per cent) do not know the Islamic legal perspective on options, giving a total of 384 responses. It was described that options trading is permissible to benefit from because it is simply an extension of the fundamental concept of freedom and legitimacy given by the *Shari'ah* in relation to commercial transactions. Thus the response of 66 respondents is correct.

It is also evident from Table 7.9 that 131 respondents (34.2 per cent) know the structure of foreign currency options whereas a large number of the respondents (65.8 per cent) are ignorant of it, giving a total of 383 responses with 1 response missing. Besides, 58 respondents (15.1 per cent) opine that it is legitimate to enter into foreign currency options; 39 respondents (10.2 per cent) rightly believe it to be unlawful; and the majority of the respondents (74.7 per cent) have no knowledge of the Islamic legal perspective on foreign currency options, giving a total of 384 responses.

Table 7.9 indicates that 177 respondents (46.2 per cent) know how interest-rate options work while most of the respondents (53.8 per cent) are ignorant of them, giving a total of 383 responses with 1 response missing. Further, 27 respondents (7 per cent) opine that interest-rate options are legitimate; 101 respondents (26.3 per cent) unerringly believe them to be embargoed; and a large number of the respondents (66.7 per cent) have no knowledge of the Islamic legal perspective on interest-rate options, giving a total of 384 responses.

7.3.3.4. Awareness of Swaps

Table 7.10 deals with several kinds of swaps, that is to say interest-rate swaps, currency swaps, credit default swaps, total return swaps, Islamic swaps and swaptions.

Table 7.10: Structural and legal awareness of swaps

Structural awareness of interest-rate swaps					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	10	2.6	2.6	2.6
	No	370	96.4	97.4	100.0
	Total	380	99.0	100.0	
Missing		4	1.0		
Total		384	100.0		
Islamic legal perspective on interest-rate swaps					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Impermissible	8	2.1	2.1	2.1
	I don't know	372	96.9	97.9	100.0
	Total	380	99.0	100.0	

Missing		4	1.0		
Total		384	100.0		
Structural awareness of currency swaps					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	8	2.1	2.1	2.1
	No	372	96.9	97.9	100.0
	Total	380	99.0	100.0	
Missing		4	1.0		
Total		384	100.0		
Islamic legal perspective on currency swaps					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Impermissible	7	1.8	1.8	1.8
	I don't know	374	97.4	98.2	100.0
	Total	381	99.2	100.0	
Missing		3	.8		
Total		384	100.0		
Structural awareness of credit default swaps					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	9	2.3	2.4	2.4
	No	371	96.6	97.6	100.0
	Total	380	99.0	100.0	
Missing		4	1.0		
Total		384	100.0		
Islamic legal perspective on credit default swaps					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Impermissible	8	2.1	2.1	2.1
	I don't know	373	97.1	97.9	100.0
	Total	381	99.2	100.0	
Missing		3	.8		
Total		384	100.0		
Structural awareness of total return swaps					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	9	2.3	2.4	2.4
	No	371	96.6	97.6	100.0
	Total	380	99.0	100.0	

Missing		4	1.0		
Total		384	100.0		
Islamic legal perspective on total return swaps					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Impermissible	8	2.1	2.1	2.1
	I don't know	372	96.9	97.9	100.0
	Total	380	99.0	100.0	
Missing		4	1.0		
Total		384	100.0		
Structural awareness of Islamic swaps					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	9	2.3	2.4	2.4
	No	371	96.6	97.6	100.0
	Total	380	99.0	100.0	
Missing		4	1.0		
Total		384	100.0		
Islamic legal perspective on Islamic swaps					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permissible	1	.3	.3	.3
	Impermissible	7	1.8	1.8	2.1
	I don't know	373	97.1	97.9	100.0
	Total	381	99.2	100.0	
Missing		3	.8		
Total		384	100.0		
Structural awareness of swaptions					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	8	2.1	2.1	2.1
	No	372	96.9	97.9	100.0
	Total	380	99.0	100.0	
Missing		4	1.0		
Total		384	100.0		
Islamic legal perspective on swaptions					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Impermissible	7	1.8	1.8	1.8
	I don't know	374	97.4	98.2	100.0

	Total	381	99.2	100.0	
Missing		3	.8		
Total		384	100.0		

Table 7.10 shows that only 10 respondents (2.6 per cent) are *au fait* with the structure of interest-rate swaps whereas the majority of the respondents (97.4 per cent) are not aware of it, giving a total of 380 responses with 4 responses missing. Also, 8 respondents (2.1 per cent) are of the opinion that it is frowned upon to enter into interest-rate swaps whereas most of the respondents (97.9 per cent) do not know the Islamic legal perspective on interest-rate swaps, giving a total of 380 responses with 4 responses missing. As noted before those types of financial derivatives which involve *riba* are ruled out altogether and can never be taken advantage of. Thus the response of 8 respondents is correct.

It is also evident from Table 7.10 that only 8 respondents (2.1 per cent) know the structure of currency swaps whereas a large number of the respondents (97.9 per cent) are ignorant of it, giving a total of 380 responses with 4 responses missing. Besides, 7 respondents (1.8 per cent) rightly opine that it is unlawful to enter into currency swaps whereas the majority of the respondents (98.2 per cent) have no knowledge of the Islamic legal perspective on currency swaps, giving a total of 381 responses with 3 responses missing.

Table 7.10 indicates that 9 respondents (2.4 per cent) know how credit default swaps work while most of the respondents (97.6 per cent) are ignorant of them, giving a total of 380 responses with 4 responses missing. Further, 8 respondents (2.1 per cent) accurately believe that credit default swaps are embargoed, whereas a large number of the respondents (97.9 per cent) have no knowledge of the Islamic legal perspective on credit default swaps, giving a total of 381 responses with 3 responses missing.

Table 7.10 represents that 9 respondents (2.4 per cent) are *au fait* with the structure of total return swaps whereas the majority of the respondents (97.6 per cent) are not aware of it, giving a total of 380 responses with 4 responses missing. Furthermore, 8 respondents (2.1 per cent) are unerringly of the opinion that it is impermissible to enter into total return swaps whereas most of the respondents (97.9 per cent) do not

know the Islamic legal perspective on total return swaps, giving a total of 380 responses with 4 responses missing.

It is also manifest from Table 7.10 that 9 respondents (2.4 per cent) know the structure of Islamic swaps whereas a large number of the respondents (97.6 per cent) are ignorant of it, giving a total of 380 responses with 4 responses missing. In addition, only 1 respondent correctly opines that it is legitimate to enter into Islamic swaps; 7 respondents (1.8 per cent) believe it to be unlawful; and the majority of the respondents (97.9 per cent) have no knowledge of the Islamic legal perspective on Islamic swaps, giving a total of 381 responses with 3 responses missing.

Table 7.10 signifies that 8 respondents (2.1 per cent) know how the contract of swaption works while most of the respondents (97.9 per cent) are ignorant of it, giving a total of 380 responses with 4 responses missing. Moreover, 7 respondents (1.8 per cent) rightly believe that swaptions are illicit whereas a large number of the respondents (98.2 per cent) have no knowledge of the Islamic legal perspective on swaptions, giving a total of 381 responses with 3 responses missing.

7.3.3.5. Similarity of Financial Derivatives to Islamic Contracts

Table 7.11 deals with the question of similarity between financial derivatives and Islamic contracts. The respondents are asked whether forward contracts, futures contracts and options are consistent with the basic principles and modalities of traditional Islamic contracts, e.g. *salam*, *istisna* and *khiyar al-shart*.

Table 7.11: Similarity of financial derivatives to Islamic contracts

Are forward and futures contracts consistent with *salam* and *istisna*?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	197	51.3	51.3	51.3
	No	90	23.4	23.4	74.7
	I don't know	97	25.3	25.3	100.0
	Total	384	100.0	100.0	
Are options consistent with *khiyar al-shart*?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	234	60.9	61.3	61.3
	No	49	12.8	12.8	74.1
	I don't know	99	25.8	25.9	100.0
	Total	382	99.5	100.0	
Missing		2	.5		
Total		384	100.0		

Table 7.11 shows that the majority of the respondents (51.3 per cent) believe that forward and futures contracts are consistent with the basic principles and modalities of *salam* and *istisna*; 90 respondents (23.4 per cent) have the opposite opinion; and 97 respondents (25.3 per cent) are not aware of it, giving a total of 384 responses. As was stated before there are some similarities between *bai al-salam* and forward contracts as well as futures contracts. However, they differ in this respect that in *salam*, the price must be paid at the time of the conclusion of the contract which is not the case in forward or futures contracts. In *istisna*, it is not required to pay the price in advance, although it is allowed to do so but it could be paid in instalments or postponed to a future date. In this perspective, *istisna* is more consistent with forward contracts and futures contracts in which the price is also not paid in advance.

It is also evident from Table 7.11 that most of the respondents (61.3 per cent) opine that options are consistent with the basic principles and modalities of *khiyar al-shart*; 49 respondents (12.8 per cent) rightly answered in the negative; and 25.9% of the respondents have no knowledge of it, giving a total of 382 responses with 2 responses missing.

7.3.3.6. Use of Financial Derivatives

Table 7.12 deals with the use of financial derivatives. The respondents describe, according to their perception, what the main use of financial derivatives is and what they will use financial derivatives, if available, for.

Table 7.12: Use of financial derivatives

Use of financial derivatives					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Hedging	272	70.8	70.8	70.8
	Speculation	63	16.4	16.4	87.2
	Arbitrage	4	1.0	1.0	88.3
	I don't know	45	11.7	11.7	100.0
	Total	384	100.0	100.0	
Use of financial derivatives in case of availability					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Hedging	255	66.4	66.4	66.4
	Speculation	80	20.8	20.8	87.2
	Arbitrage	2	.5	.5	87.8
	None of them	47	12.2	12.2	100.0
	Total	384	100.0	100.0	

Table 7.12 shows that the majority of the respondents (70.8 per cent) believe that financial derivatives are mainly used for hedging; 63 respondents (16.4 per cent) rightly take the view that financial derivatives are used for speculation; only 4 respondents are of the opinion that financial derivatives are used for arbitrage; and 45 respondents (11.7 per cent) have no knowledge of the answer, giving a total of 384 responses. It is also evident from Table 7.12 that most of the respondents (66.4 per cent) want to use financial derivatives, if available, for hedging; 20.8% and .5% of the respondents want to use financial derivatives for speculation and arbitrage respectively whereas 47 respondents (12.2 per cent) have no interest in using financial derivatives, giving a total of 384 responses. These findings are more or less consistent with the findings of another study conducted by Mahmood and Rehman (2010) which represent that 55% of the respondents use derivatives for hedging purposes while 20% of the respondents consider derivatives to be suitable for speculation.

7.4. Risk Exposure and Management

Section C in the questionnaire embodies four parts pertaining to credit risk, market risk, currency risk and interest-rate risk. These parts go through, in the aggregate, twenty-one questions with respect to risk exposure and management. This section, on the whole, tries to explore the risk exposure of different business organizations, and to find out their entrepreneurial preferences for the instruments or techniques of risk management.

7.4.1. Credit Risk Exposure and Management

Table 7.13 deals with credit risk exposure and management. The respondents are asked to rank, by using five-point Likert scale, the severity of credit risk in their organization. They are also queried what instruments or techniques such as collateral, credit default swaps, *hatt wa ta'ajjal*, etc they use or want to use in order to mitigate credit risk.

Table 7.13: Credit risk exposure and management

Do you face credit risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	256	66.7	66.7	66.7
	No	128	33.3	33.3	100.0
	Total	384	100.0	100.0	
Severity of credit risk					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Low	8	2.1	3.1	3.1
	Low	50	13.0	19.5	22.7
	Medium	85	22.1	33.2	55.9
	High	78	20.3	30.5	86.3
	Very High	35	9.1	13.7	100.0
	Total	256	66.7	100.0	
Missing		128	33.3		
Total		384	100.0		
Do you use any instrument to manage credit risk?					

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	153	39.8	59.8	59.8
	No	103	26.8	40.2	100.0
	Total	256	66.7	100.0	
Missing		128	33.3		
Total		384	100.0		
Do you want to use any instrument to mitigate credit risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	45	11.7	43.7	43.7
	No	58	15.1	56.3	100.0
	Total	103	26.8	100.0	
Missing		281	73.2		
Total		384	100.0		
What instruments do you use or want to use to reduce credit risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Collateral	90	23.4	46.2	46.2
	Futures Contracts	57	14.8	29.2	75.4
	Guarantee	42	10.9	21.5	96.9
	Hatt Wa Ta'ajjal	6	1.6	3.1	100.0
	Total	195	50.8	100.0	
Missing		189	49.2		
Total		384	100.0		

Table 7.13 shows that the majority of the organizations (66.7 per cent) face credit risk while 33.3% of the organizations do not face it in the sample, giving a total of 384 responses. As far as the severity of credit risk is concerned, 8 organizations (3.1 per cent) face 'very low' credit risk; 50 organizations (19.5 per cent) face 'low' credit risk; most of the organizations (33.2 per cent) face 'medium' credit risk; 78 organizations (30.5 per cent) face 'high' credit risk; and 35 organizations (13.7 per cent) face 'very high' credit risk in the sample, giving a total of 256 responses with 128 responses (33.3 per cent) missing. It is pertinent to note that the number of missing responses is equivalent to the number of those organizations which do not face, as was stated above, credit risk.

It is also evident from Table 7.13 that a large number of the organizations (59.8 per cent) use various instruments to manage credit risk, whereas 103 organizations (40.2 per cent) do not use any instrument, giving a total of 256 responses with 128 responses missing. Out of 103 organizations which do not use any instrument or technique to manage credit risk, 45 organizations (43.7 per cent) want to use some instruments in order to mitigate credit risk while the majority of the organizations (56.3 per cent) do not want to use any instrument in this regard, giving a total of 103 responses with 281 responses missing.

In relation to the instruments or techniques used or wanted by the organizations to reduce credit risk, most of the organizations (46.2 per cent) use or want to use collateral; 57 organizations (29.2 per cent) use or want to use futures contracts; 42 organizations (21.5 per cent) use or want to use guarantee; and only 6 organizations (3.1 per cent) use or want to use *hatt wa ta'ajjal*, giving a total of 195 responses with 189 responses missing. It is interesting to note that in our sample, credit default swaps and total return swaps are neither in use nor in demand.

7.4.2. Market Risk Exposure and Management

Table 7.14 deals with market risk exposure and management. The respondents are asked to rank, by using five-point Likert scale, the severity of market risk in their organization. They are also queried what instruments or techniques such as *arbun* sale, *bai al-salam*, forward contracts, etc they use or want to use in order to reduce market risk.

Table 7.14: Market risk exposure and management

Do you face market risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	281	73.2	73.2	73.2
	No	103	26.8	26.8	100.0
	Total	384	100.0	100.0	
Severity of market risk					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Low	5	1.3	1.8	1.8
	Low	16	4.2	5.7	7.5
	Medium	66	17.2	23.5	31.0
	High	91	23.7	32.4	63.3
	Very High	103	26.8	36.7	100.0
	Total	281	73.2	100.0	
Missing		103	26.8		
Total		384	100.0		
Do you use any instrument to manage market risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	169	44.0	60.1	60.1
	No	112	29.2	39.9	100.0
	Total	281	73.2	100.0	
Missing		103	26.8		
Total		384	100.0		
Do you want to use any instrument to mitigate market risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	57	14.8	50.9	50.9
	No	55	14.3	49.1	100.0
	Total	112	29.2	100.0	
Missing		272	70.8		
Total		384	100.0		
What instruments do you use or want to use to reduce market risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	*Arbun* Sale	39	10.2	17.3	17.3
	Bai Al-Salam	29	7.6	12.9	30.2
	Forward Contracts	81	21.1	36.0	66.2

	Futures Contracts	29	7.6	12.9	79.1
	Islamic Swaps	6	1.6	2.7	81.8
	Istijrar	8	2.1	3.6	85.3
	Istisna	14	3.6	6.2	91.6
	Khiyar Al-Shart	11	2.9	4.9	96.4
	Options	7	1.8	3.1	99.6
	Other	1	.3	.4	100.0
	Total	225	58.6	100.0	
Missing		159	41.4		
Total		384	100.0		

Table 7.14 shows that the majority of the organizations (73.2 per cent) face market risk while 26.8% of the organizations do not face it in the sample, giving a total of 384 responses. As far as the severity of market risk is concerned, 5 organizations (1.8 per cent) face 'very low' market risk; 16 organizations (5.7 per cent) face 'low' market risk; 66 organizations (23.5 per cent) face 'medium' market risk; 91 organizations (32.4 per cent) face 'high' market risk; and most of the organizations (36.7 per cent) face 'very high' market risk in the sample, giving a total of 281 responses with 103 responses (26.8 per cent) missing. It is pertinent to note that the number of missing responses is equivalent to the number of those organizations which do not face, as was stated above, market risk.

It is also evident from Table 7.14 that a large number of the organizations (60.1 per cent) use various instruments to manage market risk, whereas 112 organizations (39.9 per cent) do not use any instrument, giving a total of 281 responses with 103 responses missing. Out of 112 organizations which do not use any instrument or technique to manage market risk, the majority of the organizations (50.9 per cent) want to use some instruments in order to mitigate market risk while 55 organizations (49.1 per cent) do not want to use any instrument in this regard, giving a total of 112 responses with 272 responses missing.

In relation to the instruments or techniques used or wanted by the organizations to reduce market risk, 39 organizations (17.3 per cent) use or want to use *arbun* sale; 29 organizations (12.9 per cent) use or want to use *bai al-salam*; most of the organizations (36 per cent) use or want to use forward contracts; 29 organizations

(12.9 per cent) use or want to use futures contracts; 6 organizations (2.7 per cent) use or want to use Islamic swaps; 8 organizations (3.6 per cent) use or want to use *istijrar*; 14 organizations (6.2 per cent) use or want to use *istisna*; 11 organizations (4.9 per cent) use or want to use *khiyar al-shart*; 7 organizations (3.1 per cent) use or want to use options; and only 1 organization uses or wants to use some other instrument, giving a total of 225 responses with 159 responses missing. It is interesting to note that in our sample, swaps are neither in use nor in demand.

7.4.3. Currency Risk Exposure and Management

Table 7.15 deals with currency risk exposure and management. The respondents are asked to rank, by using five-point Likert scale, the severity of currency risk in their organization. They are also queried what instruments or techniques such as currency swaps, foreign currency forwards, Islamic swaps, etc they use or want to use in order to manage currency risk.

Table 7.15: Currency risk exposure and management

Do you face currency risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	128	33.3	33.3	33.3
	No	256	66.7	66.7	100.0
	Total	384	100.0	100.0	
Severity of currency risk					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Low	7	1.8	5.5	5.5
	Low	17	4.4	13.3	18.8
	Medium	43	11.2	33.6	52.3
	High	42	10.9	32.8	85.2
	Very High	19	4.9	14.8	100.0
	Total	128	33.3	100.0	
Missing		256	66.7		
Total		384	100.0		
Do you use any instrument to manage currency risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Yes	68	17.7	53.1	53.1
	No	60	15.6	46.9	100.0
	Total	128	33.3	100.0	
Missing		256	66.7		
Total		384	100.0		
Do you want to use any instrument to mitigate currency risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	24	6.3	40.0	40.0
	No	36	9.4	60.0	100.0
	Total	60	15.6	100.0	
Missing		324	84.4		
Total		384	100.0		
What instruments do you use or want to use to reduce currency risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Currency Swaps	4	1.0	4.3	4.3
	Foreign Currency Forwards	57	14.8	62.0	66.3
	Foreign Currency Futures	22	5.7	23.9	90.2
	Foreign Currency Options	7	1.8	7.6	97.8
	Other	2	.5	2.2	100.0
	Total	92	24.0	100.0	
Missing		292	76.0		
Total		384	100.0		

Table 7.15 shows that 128 organizations (33.3 per cent) face currency risk while the majority of the organizations (66.7 per cent) do not face it in the sample, giving a total of 384 responses. As far as the severity of currency risk is concerned, 7 organizations (5.5 per cent) face 'very low' currency risk; 17 organizations (13.3 per cent) face 'low' currency risk; most of the organizations (33.6 per cent) face 'medium' currency risk; 42 organizations (32.8 per cent) face 'high' currency risk; and 19 organizations (14.8 per cent) face 'very high' currency risk in the sample, giving a total of 128 responses with 256 responses (66.7 per cent) missing. It is pertinent to note that the number of missing responses is equivalent to the number of those organizations which do not face, as was stated above, currency risk.

It is also evident from Table 7.15 that a large number of the organizations (53.1 per cent) use various instruments to manage currency risk, whereas 60 organizations (46.9 per cent) do not use any instrument, giving a total of 128 responses with 256 responses missing. Out of 60 organizations which do not use any instrument or technique to manage currency risk, 24 organizations (40 per cent) want to use some instruments in order to mitigate currency risk while the majority of the organizations (60 per cent) do not want to use any instrument in this regard, giving a total of 60 responses with 324 responses missing.

In relation to the instruments or techniques used or wanted by the organizations to reduce currency risk, 4 organizations (4.3 per cent) use or want to use currency swaps; most of the organizations (62 per cent) use or want to use foreign currency forwards; 22 organizations (23.9 per cent) use or want to use foreign currency futures; 7 organizations (7.6 per cent) use or want to use foreign currency options; and only 2 organizations use or want to use some other instrument, giving a total of 92 responses with 292 responses missing. It is interesting to note that in our sample, Islamic swaps are neither in use nor in demand.

7.4.4. Interest-Rate Risk Exposure and Management

Table 7.16 deals with interest-rate risk exposure and management. The respondents are asked to rank, by using five-point Likert scale, the severity of interest-rate risk in their organization. They are also queried what instruments or techniques such as forward rate agreements, interest-rate futures, interest-rate options, etc they use or want to use in order to allay interest-rate risk.

Table 7.16: Interest-rate risk exposure and management

Do you face interest-rate risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	133	34.6	34.6	34.6
	No	251	65.4	65.4	100.0
	Total	384	100.0	100.0	
Severity of interest-rate risk					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Low	13	3.4	9.8	9.8
	Low	21	5.5	15.8	25.6
	Medium	40	10.4	30.1	55.6
	High	39	10.2	29.3	85.0
	Very High	20	5.2	15.0	100.0
	Total	133	34.6	100.0	
Missing		251	65.4		
Total		384	100.0		
Do you use any instrument to manage interest-rate risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	49	12.8	37.1	37.1
	No	83	21.6	62.9	100.0
	Total	132	34.4	100.0	
Missing		252	65.6		
Total		384	100.0		
Do you want to use any instrument to mitigate interest-rate risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	47	12.2	56.6	56.6
	No	36	9.4	43.4	100.0
	Total	83	21.6	100.0	
Missing		301	78.4		
Total		384	100.0		
What instruments do you use or want to use to reduce interest-rate risk?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Forward Rate Agreements	73	19.0	76.8	76.8
	Interest-Rate Futures	15	3.9	15.8	92.6

	Interest-Rate Options	7	1.8	7.4	100.0
	Total	95	24.7	100.0	
Missing		289	75.3		
Total		384	100.0		

Table 7.16 shows that 133 organizations (34.6 per cent) face interest-rate risk while the majority of the organizations (65.4 per cent) do not face it in the sample, giving a total of 384 responses. As far as the severity of interest-rate risk is concerned, 13 organizations (9.8 per cent) face 'very low' interest-rate risk; 21 organizations (15.8 per cent) face 'low' interest-rate risk; most of the organizations (30.1 per cent) face 'medium' interest-rate risk; 39 organizations (29.3 per cent) face 'high' interest-rate risk; and 20 organizations (15 per cent) face 'very high' interest-rate risk in the sample, giving a total of 133 responses with 251 responses (65.4 per cent) missing. It is pertinent to note that the number of missing responses is equivalent to the number of those organizations which do not face, as was stated above, interest-rate risk.

It is also evident from Table 7.16 that 49 organizations (37.1 per cent) use various instruments to manage interest-rate risk, whereas a large number of the organizations (62.9 per cent) do not use any instrument, giving a total of 132 responses with 252 responses missing. Out of 83 organizations which do not use any instrument or technique to manage interest-rate risk, the majority of the organizations (56.6 per cent) want to use some instruments in order to mitigate interest-rate risk while 36 organizations (43.4 per cent) do not want to use any instrument in this regard, giving a total of 83 responses with 301 responses missing.

In relation to the instruments or techniques used or wanted by the organizations to reduce interest-rate risk, most of the organizations (76.8 per cent) use or want to use forward rate agreements; 15 organizations (15.8 per cent) use or want to use interest-rate futures; and only 7 organizations use or want to use interest-rate options, giving a total of 95 responses with 289 responses missing. It is interesting to note that in our sample, interest-rate swaps and swaptions are neither in use nor in demand.

7.5. Conclusion

This chapter analyzed the information provided by various business and financial institutions of Pakistan. The chapter reported on descriptive statistics, that is to say frequencies in order to interpret data culled from the seven-page demand side questionnaire. In our sample, a large number of the organizations have the legal status of sole proprietorship, and the services sector has the largest share in the responses received. The majority of the organizations use both Islamic and conventional banks for business purposes, and most of the respondents believe that current Islamic and conventional banking operations are different.

A large number of the respondents are of the opinion that the Islamic position on business and commercial transactions is that of permissibility. The majority of the respondents are familiar with different legal concepts, e.g. *khiyar al-shart*, *riba*, *maysir*, *gharar fahish*, *gharar yaseer*, *hatt wa ta'ajjal*, speculation based on relevant information, speculation based on excessive uncertainty, hedging, collateral and selling a commodity before owning or possessing it. Likewise most of the respondents are aware of the structure of traditional contracts, that is to say *istisna*, *salam*, *bai al-kali bil-kali*, *bai al-gha'ib*, *bai al-arbun* and *bai istijrar*. However, the respondents' knowledge of forward contracts, futures contracts, options and swaps is not completely consistent.

The chapter also explored the risk exposure of different business organizations, and ascertained their entrepreneurial preferences for the instruments or techniques of risk management.

Chapter 8

Demand for the Instruments of Risk Management in Pakistan: Inferential Statistics

8.1. Introduction

The erstwhile chapter went through descriptive statistics, that is to say frequencies of different variables, and attempted to place a concise interpretation on the results obtained. This chapter is a continuation of the previous chapter. It employs, as was stated in the chapter on the research framework and methodology, inferential statistics, and harnesses a number of non-parametric techniques, e.g. chi-square test for independence, Kruskal-Wallis Test, Spearman Rank Order Correlation (rho) and logistic regression to analyze and interpret the data. It is worth noting that the aforementioned tests are to be carried out on specific variables because some of the variables in the demand side questionnaire fall short of the assumptions and provisos required.

This chapter is divided up into nine broad sections altogether. Section 8.2. and Section 8.3. ascertain the sector-wise attitude to banking services and the sector-wise use of financial derivatives respectively. Section 8.4. describes the sector-wise risk exposure. Section 8.5. explores the use of and demand for the instruments of risk management. Section 8.6. discusses risk exposure and organizational features. Section 8.7. analyses the conceptual and contractual awareness and risk exposure. Section 8.8. investigates various factors influencing the use of and demand for the instruments of risk management. Finally, Section 8.9. sets forth the conclusion.

8.2. Sector-wise Attitude to Banking Services

This section analyses the attitude of the respondents towards banking services. By using chi-square test for independence Table 8.1 explores the relationship between the type of business and the banks used by various organizations.

Table 8.1: Relationship between type of business and banks used by the respondents

Crosstabulation						
			Banks used by the respondents			Total
			Islamic	Conventional	Both	
Type of business	Agriculture	Count	2	6	0	8
		% of Total	.5%	1.6%	.0%	2.1%
	Construction	Count	3	0	1	4
		% of Total	.8%	.0%	.3%	1.0%
	Financial Intermediation	Count	5	12	4	21
		% of Total	1.3%	3.1%	1.0%	5.5%
	Manufacturing	Count	6	22	23	51
		% of Total	1.6%	5.7%	6.0%	13.3%
	Real Estate	Count	5	4	5	14
		% of Total	1.3%	1.0%	1.3%	3.7%
	Services	Count	24	31	62	117
		% of Total	6.3%	8.1%	16.2%	30.5%
	Retail Trade	Count	29	21	33	83
		% of Total	7.6%	5.5%	8.6%	21.7%
	Wholesale Trade	Count	24	14	28	66
		% of Total	6.3%	3.7%	7.3%	17.2%
	Other	Count	4	5	10	19
		% of Total	1.0%	1.3%	2.6%	5.0%
Total		Count	102	115	166	383
		% of Total	26.6%	30.0%	43.3%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	42.188	16	.000
Likelihood Ratio	44.363	16	.000
Linear-by-Linear Association	.147	1	.702
N of Valid Cases	383		

Table 8.1 shows that in the agriculture sector, a large number of the organizations (1.6 per cent) use conventional banking services for business purposes. In the construction industry, the majority of the organizations (.8 per cent) use Islamic banks. In financial intermediation, most of the organizations (3.1 per cent) use conventional banks. In the manufacturing sector, a large number of the organizations (6 per cent) use both Islamic and conventional banking services for business purposes. In real estate, the organizations using Islamic banks and the organizations using both Islamic and conventional banks are equal in number. In relation to the remaining sectors, that is to say services, retail trade, wholesale trade and other, the majority of the organizations use both Islamic and conventional banking services for business purposes.

As noted before Islamic banks are currently able to offer at least 75% of the products available at conventional banks. On the consumer banking side, personal loans and credit cards still pose a challenge. On the corporate side, working capital loans are a challenge. None of the banks has any microfinance or agriculture business, although a few banks have started financing the SME sector. This gives a great opportunity to extend the reach of the Islamic banking sector. Islamic banking institutions prefer those modes of financing which belong to the low risk category. Therefore *murabaha* and *ijara* are the most attractive and popular modes of financing. However, the share of *diminishing musharaka* has recently grown, leading to the diversification of the Islamic banks' financing portfolio. The research findings outlined in Table 8.1 suggest that various sectors and industries tend to use those banks which could provide them with the required financial instruments as well as products. It is also evident that the Pearson Chi-Square value is 42.188, with the significance level of .000. Since the value of .000 is less than the alpha value of .05 the result is significant. This means that there is an association between the type of business and the banks used by various organizations.

By using chi-square test for independence Table 8.2 explores the relationship between the banks used by various organizations and their attitude to Islamic and conventional banking operations.

Table 8.2: Relationship between banks used by the respondents and their attitude to Islamic and conventional banking operations

Crosstabulation							
			Attitude to Islamic and conventional banking operations				Total
			They are different	Neither different nor similar	They are similar	I don't know	
Banks used by the respondents	Islamic	Count	85	8	4	5	102
		% of Total	22.2%	2.1%	1.0%	1.3%	26.6%
	Conventional	Count	24	27	40	24	115
		% of Total	6.3%	7.0%	10.4%	6.3%	30.0%
	Both	Count	62	33	43	28	166
		% of Total	16.2%	8.6%	11.2%	7.3%	43.3%
Total		Count	171	68	87	57	383
		% of Total	44.6%	17.8%	22.7%	14.9%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	92.933	6	.000
Likelihood Ratio	100.394	6	.000
Linear-by-Linear Association	32.557	1	.000
N of Valid Cases	383		

Table 8.2 indicates that a large number of the organizations (22.2 per cent) using Islamic banking services are of the opinion that Islamic and conventional banking operations are different, with 4 organizations believing they are similar. On the other hand, the majority of the organizations (10.4 per cent) using conventional banks find no difference in the Islamic and conventional banking operations, with 6.3% of the organizations opining they are different. Most of the organizations (16.2 per cent) using both Islamic and conventional banks hold the view that the Islamic and conventional banking operations are different. However, 43 organizations (11.2 per cent) observe that they are similar in nature. It is also evident from Table 8.2 that the Pearson Chi-Square value is 92.933, with the significance level of .000. Since the value of .000 is less than the alpha value of .05 the result is significant. This means

that there is an association between the banks used by various organizations and their attitude to Islamic and conventional banking operations.

8.3. Sector-wise Use of Financial Derivatives

Table 8.3 explores, by using chi-square test for independence, the relationship between business type and the use of financial derivatives in case of availability.

Table 8.3: Relationship between type of business and the use of financial derivatives in case of availability

Crosstabulation							
			Use of financial derivatives in case of availability				Total
			Hedging	Speculation	Arbitrage	None of them	
Type of business	Agriculture	Count	6	2	0	0	8
		% of Total	1.6%	.5%	.0%	.0%	2.1%
	Construction	Count	1	2	0	1	4
		% of Total	.3%	.5%	.0%	.3%	1.0%
	Financial Intermediation	Count	18	2	0	2	22
		% of Total	4.7%	.5%	.0%	.5%	5.7%
	Manufacturing	Count	40	8	0	3	51
		% of Total	10.4%	2.1%	.0%	.8%	13.3%
	Real Estate	Count	9	2	0	3	14
		% of Total	2.3%	.5%	.0%	.8%	3.6%
	Services	Count	82	16	0	19	117
		% of Total	21.4%	4.2%	.0%	4.9%	30.5%
	Retail Trade	Count	51	24	0	8	83
		% of Total	13.3%	6.3%	.0%	2.1%	21.6%
	Wholesale Trade	Count	38	19	1	8	66
		% of Total	9.9%	4.9%	.3%	2.1%	17.2%

	Other	Count	10	5	1	3	19
		% of Total	2.6%	1.3%	.3%	.8%	4.9%
Total		Count	255	80	2	47	384
		% of Total	66.4%	20.8%	.5%	12.2 %	100.0 %

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.282	24	.080
Likelihood Ratio	31.196	24	.148
Linear-by-Linear Association	3.803	1	.051
N of Valid Cases	384		

Table 8.3 shows that in the agriculture sector, a large number of the organizations (1.6 per cent) want to use financial derivatives, if available, for hedging, with only 2 organizations intending to use them for speculation. In the construction industry, the majority of the organizations (.5 per cent) want to use financial derivatives for speculative purposes. In financial intermediation, most of the organizations (4.7 per cent) want to take advantage of financial derivatives for hedging, with only 2 organizations intending to use them for speculation. In the manufacturing sector, a large number of the organizations (10.4 per cent) want to use financial derivatives for hedging purposes, with 8 organizations longing to use them for speculative purposes. In real estate, the majority of the organizations (2.3 per cent) want to use financial derivatives for hedging, with 3 organizations having no interest in the use of financial derivatives.

In relation to the services sector, Table 8.3 indicates that most of the organizations (21.4 per cent) want to use financial derivatives for hedging, with 4.9% of the organizations having no interest in the utilization of financial derivatives. In retail trade, a large number of the organizations (13.3 per cent) want to use financial derivatives for hedging, with 24 organizations intending to use them for speculation. In wholesale trade, the majority of the organizations (9.9 per cent) want to utilize financial derivatives for hedging, with 19 organizations longing to use them for speculative purposes. In the category of 'other', most of the organizations (2.6 per cent) want to use financial derivatives for hedging, with 1.3% of the organizations desirous of using them for speculation. It is also evident from Table 8.3 that the

Pearson Chi-Square value is 34.282, with the significance level of .08. Since the value of .08 is not less than the alpha value of .05 the result is not significant. This means that there is no association between the type of business and the use of financial derivatives in case of availability.

8.4. Sector-wise Risk Exposure

Table 8.4 explores, by using chi-square test for independence, the relationship between the type of business and different organizations' exposure to credit risk, market risk, currency risk and interest-rate risk.

Table 8.4: Sector-wise exposure to different kinds of risk

Exposure to credit risk: crosstabulation					
			Do you face credit risk?		Total
			Yes	No	
Type of business	Agriculture	Count	6	2	8
		% of Total	1.6%	.5%	2.1%
	Construction	Count	2	2	4
		% of Total	.5%	.5%	1.0%
	Financial Intermediation	Count	9	13	22
		% of Total	2.3%	3.4%	5.7%
	Manufacturing	Count	45	6	51
		% of Total	11.7%	1.6%	13.3%
	Real Estate	Count	5	9	14
		% of Total	1.3%	2.3%	3.6%
	Services	Count	68	49	117
		% of Total	17.7%	12.8%	30.5%
	Retail Trade	Count	55	28	83
		% of Total	14.3%	7.3%	21.6%
	Wholesale Trade	Count	48	18	66
		% of Total	12.5%	4.7%	17.2%
	Other	Count	18	1	19
		% of Total	4.7%	.3%	4.9%
Total		Count	256	128	384
		% of Total	66.7%	33.3%	100.0%

Exposure to credit risk: chi-square tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	35.710	8	.000

Likelihood Ratio		38.943	8	.000	
Linear-by-Linear Association		1.873	1	.171	
N of Valid Cases		384			
Exposure to market risk: crosstabulation					
			Do you face market risk?		Total
			Yes	No	
Type of business	Agriculture	Count	7	1	8
		% of Total	1.8%	.3%	2.1%
	Construction	Count	2	2	4
		% of Total	.5%	.5%	1.0%
	Financial Intermediation	Count	5	17	22
		% of Total	1.3%	4.4%	5.7%
	Manufacturing	Count	44	7	51
		% of Total	11.5%	1.8%	13.3%
	Real Estate	Count	11	3	14
		% of Total	2.9%	.8%	3.6%
	Services	Count	83	34	117
		% of Total	21.6%	8.9%	30.5%
	Retail Trade	Count	62	21	83
		% of Total	16.1%	5.5%	21.6%
	Wholesale Trade	Count	51	15	66
		% of Total	13.3%	3.9%	17.2%
	Other	Count	16	3	19
		% of Total	4.2%	.8%	4.9%
Total		Count	281	103	384
		% of Total	73.2%	26.8%	100.0%
Exposure to market risk: chi-square tests					
		Value	df	Asymp. Sig. (2-sided)	
Pearson Chi-Square		37.261	8	.000	
Likelihood Ratio		33.843	8	.000	
Linear-by-Linear Association		3.858	1	.050	
N of Valid Cases		384			
Exposure to currency risk: crosstabulation					
			Do you face currency risk?		Total
			Yes	No	
Type of business	Agriculture	Count	1	7	8
		% of Total	.3%	1.8%	2.1%
	Construction	Count	1	3	4
		% of Total	.3%	.8%	1.0%

	Financial Intermediation	Count	18	4	22
		% of Total	4.7%	1.0%	5.7%
	Manufacturing	Count	28	23	51
		% of Total	7.3%	6.0%	13.3%
	Real Estate	Count	2	12	14
		% of Total	.5%	3.1%	3.6%
	Services	Count	36	81	117
		% of Total	9.4%	21.1%	30.5%
	Retail Trade	Count	14	69	83
		% of Total	3.6%	18.0%	21.6%
	Wholesale Trade	Count	25	41	66
		% of Total	6.5%	10.7%	17.2%
	Other	Count	3	16	19
		% of Total	.8%	4.2%	4.9%
Total		Count	128	256	384
		% of Total	33.3%	66.7%	100.0%

Exposure to currency risk: chi-square tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	51.640	8	.000
Likelihood Ratio	51.847	8	.000
Linear-by-Linear Association	13.222	1	.000
N of Valid Cases	384		

Exposure to interest-rate risk: crosstabulation

			Do you face interest-rate risk?		Total
			Yes	No	
Type of business	Agriculture	Count	1	7	8
		% of Total	.3%	1.8%	2.1%
	Construction	Count	1	3	4
		% of Total	.3%	.8%	1.0%
	Financial Intermediation	Count	15	7	22
		% of Total	3.9%	1.8%	5.7%
	Manufacturing	Count	13	38	51
		% of Total	3.4%	9.9%	13.3%
	Real Estate	Count	2	12	14
		% of Total	.5%	3.1%	3.6%
	Services	Count	46	71	117
		% of Total	12.0%	18.5%	30.5%
	Retail Trade	Count	35	48	83
		% of Total	9.1%	12.5%	21.6%

	Wholesale Trade	Count	17	49	66
		% of Total	4.4%	12.8%	17.2%
	Other	Count	3	16	19
		% of Total	.8%	4.2%	4.9%
Total		Count	133	251	384
		% of Total	34.6%	65.4%	100.0%

Exposure to interest-rate risk: chi-square tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	25.768	8	.001
Likelihood Ratio	26.338	8	.001
Linear-by-Linear Association	.918	1	.338
N of Valid Cases	384		

Table 8.4 shows that in the agriculture sector, a large number of the organizations (1.6 per cent) face credit risk, with only 2 organizations facing no credit risk. In the construction industry, 2 organizations face credit risk against 2 organizations facing no credit risk. In financial intermediation, the majority of the organizations (3.4 per cent) face no credit risk, with 9 organizations facing the risk. In the manufacturing sector, most of the organizations (11.7 per cent) face credit risk, with only 6 organizations facing no credit risk. In real estate, a large number of the organizations (2.3 per cent) face no credit risk, with only 5 organizations facing the risk. As regards the remaining sectors, that is to say services, retail trade, wholesale trade and other, the majority of the organizations face credit risk, with varying percentage. It is also evident from Table 8.4 that the Pearson Chi-Square value of credit risk is 35.710, with the significance level of .000. Since the value of .000 is less than the alpha value of .05 the result is significant. This means that there is an association between the type of business and different organizations' exposure to credit risk.

Table 8.4 indicates that in the agriculture sector, a large number of the organizations (1.8 per cent) face market risk, with only 1 organization facing no market risk. In the construction industry, 2 organizations face market risk against 2 organizations facing no market risk. In financial intermediation, the majority of the organizations (4.4 per cent) face no market risk, with 5 organizations facing the risk. In the manufacturing sector, most of the organizations (11.5 per cent) face market risk, with only 7 organizations facing no market risk. In connection with the remaining sectors, that is

to say real estate, services, retail trade, wholesale trade and other, a large number of the organizations also face market risk, with varying percentage. Table 8.4 also reports that the Pearson Chi-Square value of market risk is 37.261, with the significance level of .000. Since the value of .000 is less than the alpha value of .05 the result is significant. This indicates that there is an association between the type of business and different organizations' exposure to market risk.

Table 8.4 also represents that in the agriculture sector and in the construction industry, a large number of the organizations face no currency risk. However, in financial intermediation and in the manufacturing sector, the majority of the organizations face currency risk. In relation to the remaining sectors, that is to say real estate, services, retail trade, wholesale trade and other, most of the organizations face no currency risk, with varying percentage. Table 8.4 describes that the Pearson Chi-Square value of currency risk is 51.640, with the significance level of .000. Since the value of .000 is less than the alpha value of .05 the result is significant. This signifies that there is an association between the type of business and different organizations' exposure to currency risk.

It is also evident from Table 8.4 that in the agriculture sector and in the construction industry, a large number of the organizations face no interest-rate risk. However, in financial intermediation, the majority of the organizations (3.9 per cent) face interest-rate risk. With respect to the remaining sectors, that is to say manufacturing, real estate, services, retail trade, wholesale trade and other, most of the organizations face no interest-rate risk, with varying percentage. The Pearson Chi-Square value of interest-rate risk is 25.768, with the significance level of .001. Since the value of .001 is less than the alpha value of .05 the result is significant. This represents that there is an association between the type of business and different organizations' exposure to interest-rate risk.

8.5. Use of and Demand for the Instruments of Risk Management

This section differentiates the organizations using various instruments of risk management from the organizations intending to use them. By using chi-square test

for independence Table 8.5 differentiates between the organizations using different instruments for credit risk management and the organizations intending to use them.

Table 8.5: Instruments for credit risk management

Crosstabulation					
			Do you use any instrument to manage credit risk?		Total
			Yes	No	
What instruments do you use or want to use to reduce credit risk?	Collateral	Count	68	22	90
		% of Total	34.9%	11.3%	46.2%
	Futures Contracts	Count	40	17	57
		% of Total	20.5%	8.7%	29.2%
	Guarantee	Count	39	3	42
		% of Total	20.0%	1.5%	21.5%
	Hatt Wa Ta'ajjal	Count	4	2	6
		% of Total	2.1%	1.0%	3.1%
Total		Count	151	44	195
		% of Total	77.4%	22.6%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.017	3	.046
Likelihood Ratio	9.415	3	.024
Linear-by-Linear Association	1.213	1	.271
N of Valid Cases	195		

Table 8.5 shows that a large number of the organizations (34.9 per cent) use collateral for credit risk management, whereas 22 organizations (11.3 per cent) want to use it. There are 40 organizations (20.5 per cent) which use futures contracts while 8.7% of the organizations want to use them; 39 organizations (20 per cent) use guarantee, with 1.5% of the organizations intending to use it; and 4 organizations (2.1 per cent) use *hatt wa ta'ajjal* whereas only 2 organizations want to use it, reporting that the use of and demand for *hatt wa ta'ajjal* remain at the lowest level in the sample. It is also evident from Table 8.5 that the Pearson Chi-Square value is 8.017, with the significance level of .046. Since the value of .046 is less than the alpha value of .05 the result is significant.

By using chi-square test for independence Table 8.6 differentiates between the organizations using different instruments for market risk management and the organizations intending to use them.

Table 8.6: Instruments for market risk management

Crosstabulation					
			Do you use any instrument to manage market risk?		Total
			Yes	No	
What instruments do you use or want to use to reduce market risk?	*Arbun* Sale	Count	27	12	39
		% of Total	12.0%	5.3%	17.3%
	Bai Al-Salam	Count	28	1	29
		% of Total	12.4%	.4%	12.9%
	Forward Contracts	Count	60	21	81
		% of Total	26.7%	9.3%	36.0%
	Futures Contracts	Count	15	14	29
		% of Total	6.7%	6.2%	12.9%
	Islamic Swaps	Count	6	0	6
		% of Total	2.7%	.0%	2.7%
	Istijrar	Count	7	1	8
		% of Total	3.1%	.4%	3.6%
	Istisna	Count	10	4	14
		% of Total	4.4%	1.8%	6.2%
	Khiyar Al-Shart	Count	7	4	11
		% of Total	3.1%	1.8%	4.9%
	Options	Count	7	0	7
		% of Total	3.1%	.0%	3.1%
	Other	Count	1	0	1
		% of Total	.4%	.0%	.4%
Total		Count	168	57	225
		% of Total	74.7%	25.3%	100.0 %

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.269	9	.008
Likelihood Ratio	27.763	9	.001
Linear-by-Linear Association	.023	1	.880
N of Valid Cases	225		

Table 8.6 shows that 27 organizations (12 per cent) use *arbun* sale for market risk management, whereas 12 organizations (5.3 per cent) want to use it. There are 28 organizations (12.4 per cent) which use *bai al-salam* while only 1 organization wants to use it. A large number of the organizations (26.7 per cent) use forward contracts, with 9.3% of the organizations intending to use them; 15 organizations (6.7 per cent) use futures contracts whereas 14 organizations (6.2 per cent) want to use them; 6 organizations (2.7 per cent) use Islamic swaps; 7 organizations (3.1 per cent) use *istijrar*, whereas only 1 organization wants to use it; 10 organizations (4.4 per cent) use *istisna* while 1.8% of the organizations want to use it; 7 organizations (3.1 per cent) use *khiyar al-shart*, with 1.8% of the organizations desirous of using it; 7 organizations (3.1 per cent) use options; and only 1 organization uses some other instrument in the sample. It is also evident from Table 8.6 that the Pearson Chi-Square value is 22.269, with the significance level of .008. Since the value of .008 is less than the alpha value of .05 the result is significant.

By using chi-square test for independence Table 8.7 differentiates between the organizations using different instruments for currency risk management and the organizations intending to use them.

Table 8.7: Instruments for currency risk management

Crosstabulation					
			Do you use any instrument to manage currency risk?		Total
			Yes	No	
What instruments do you use or want to use to reduce currency risk?	Currency Swaps	Count	4	0	4
		% of Total	4.3%	.0%	4.3%
	Foreign Currency Forwards	Count	49	8	57
		% of Total	53.3%	8.7%	62.0%
	Foreign Currency Futures	Count	11	11	22
		% of Total	12.0%	12.0%	23.9%
	Foreign Currency Options	Count	3	4	7
		% of Total	3.3%	4.3%	7.6%

	Other	Count	1	1	2
		% of Total	1.1%	1.1%	2.2%
Total		Count	68	24	92
		% of Total	73.9%	26.1%	100.0%
Chi-Square Tests					
		Value	df	Asymp. Sig. (2-sided)	
Pearson Chi-Square		16.325	4	.003	
Likelihood Ratio		16.539	4	.002	
Linear-by-Linear Association		11.805	1	.001	
N of Valid Cases		92			

Table 8.7 shows that 4 organizations (4.3 per cent) use currency swaps for currency risk management. A large number of the organizations (53.3 per cent) use foreign currency forwards while 8 organizations want to use them. There are 11 organizations (12 per cent) which use foreign currency futures against an equal number of the organizations intending to use them; 3 organizations (3.3 per cent) use foreign currency options whereas 4 organizations (4.3 per cent) want to use them; and only 1 organization uses as well as wants some other instrument in the sample. It is also evident from Table 8.7 that the Pearson Chi-Square value is 16.325, with the significance level of .003. Since the value of .003 is less than the alpha value of .05 the result is significant.

By using chi-square test for independence Table 8.8 differentiates between the organizations using different instruments for interest-rate risk management and the organizations intending to use them.

Table 8.8: Instruments for interest-rate risk management

Crosstabulation					
			Do you use any instrument to manage interest-rate risk?		Total
			Yes	No	
What instruments do you use or want to use to reduce interest-rate risk?	Forward Rate Agreements	Count	43	30	73
		% of Total	45.3%	31.6%	76.8%
	Interest-Rate Futures	Count	2	13	15
		% of Total	2.1%	13.7%	15.8%
	Interest-Rate Options	Count	3	4	7
		% of Total	3.2%	4.2%	7.4%
Total		Count	48	47	95
		% of Total	50.5%	49.5%	100.0%

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.515	2	.005
Likelihood Ratio	11.474	2	.003
Linear-by-Linear Association	5.130	1	.024
N of Valid Cases	95		

Table 8.8 shows that a large number of the organizations (45.3 per cent) use forward rate agreements for interest-rate risk management while 30 organizations want to use them. There are only 2 organizations which use interest-rate futures against 13.7% of the organizations intending to use them; 3 organizations (3.2 per cent) use interest-rate options whereas 4 organizations (4.2 per cent) want to use them, reporting that the use of interest-rate futures and the demand for interest-rate options remain at the lowest level in the sample. It is also evident from Table 8.8 that the Pearson Chi-Square value is 10.515, with the significance level of .005. Since the value of .005 is less than the alpha value of .05 the result is significant.

8.6. Risk Exposure and Organizational Features

This section examines the difference in various organizational features, e.g. legal status, type of business, etc and the severity of credit risk, market risk, currency risk and interest-rate risk in various business organizations.

8.6.1. Risk Exposure and Legal Status

Table 8.9 evaluates, by using the Kruskal-Wallis Test, whether there is a difference in the severity of credit risk, market risk, currency risk and interest-rate risk across different legal status of the organizations.

Table 8.9: Risk exposure and legal status[a, b]

	Legal status of the organization	N	Mean Rank	Chi-square	df	Asymp. Sig.
Severity of credit risk	Sole Proprietorship	171	126.63	11.539	3	.009
	Partnership	22	102.00			
	Private Company	42	158.14			
	Public Limited Company	21	112.21			
	Total	256				
Severity of market risk	Sole Proprietorship	195	142.94	12.895	4	.012
	Partnership	21	93.31			
	Private Company	46	161.03			
	Public Limited Company	18	129.19			
	Total	281				
	Other	1	54.50			
Severity of currency risk	Sole Proprietorship	62	56.01	12.150	4	.016
	Partnership	9	48.89			
	Private Company	28	76.64			
	Public Limited Company	28	76.84			
	Total	128				
	Other	1	46.00			
Severity of interest-rate risk	Sole Proprietorship	76	58.76	13.604	4	.009
	Partnership	9	54.50			
	Private Company	28	81.14			
	Public Limited Company	19	85.71			
	Total	133				
	Other	1	54.50			

a. Kruskal Wallis Test
b. Grouping Variable: Legal status of the organization

Table 8.9 shows that the chi-square value of credit risk is 11.539, whereas the degrees of freedom (df) and the significance level are 3 and .009 respectively. Since the significance level is less than the alpha level of .05 the results suggest that there is a statistically significant difference in the severity of credit risk across different legal status of the organizations. An inspection of the mean ranks indicates that private companies (mean rank = 158.14) have the highest severity scores, with partnership (mean rank = 102.00) reporting the lowest. It is also evident from Table 8.9 that the chi-square value of market risk is 12.895, whereas the degrees of freedom (df) and the significance level are 4 and .01 respectively. Since the significance level is less than the alpha level of .05 the results suggest that there is a statistically significant difference in the severity of market risk across different legal status of the organizations. An inspection of the mean ranks indicates that private companies (mean rank = 161.03) have the highest severity scores, with partnership (mean rank = 93.31) reporting the lowest.

In regard to the severity of currency risk, Table 8.9 represents that the chi-square value is 12.150, whereas the degrees of freedom (df) and the significance level are 4 and .01 respectively. Since the significance level is less than the alpha level of .05 the results suggest that there is a statistically significant difference in the severity of currency risk across different legal status of the organizations. An inspection of the mean ranks indicates that public limited companies (mean rank = 76.84) have the highest severity scores, with partnership (mean rank = 48.89) reporting the lowest. Table 8.9 also signifies that the chi-square value of interest-rate risk is 13.604, whereas the degrees of freedom (df) and the significance level are 4 and .009 respectively. Since the significance level is less than the alpha level of .05 the results suggest that there is a statistically significant difference in the severity of interest-rate risk across different legal status of the organizations. An inspection of the mean ranks indicates that public limited companies (mean rank = 85.71) have the highest severity scores, with partnership (mean rank = 54.50) reporting the lowest.

8.6.2. Risk Exposure and Type of Business

Table 8.10 evaluates, by using the Kruskal-Wallis Test, whether there is a difference in the severity of credit risk, market risk, currency risk and interest-rate risk across different types of business.

Table 8.10: Risk exposure and type of business[a, b]

	Type of business	N	Mean Rank	Chi-square	df	Asymp. Sig.
Severity of credit risk	Agriculture	6	130.50	16.587	8	.035
	Construction	2	108.00			
	Financial Intermediation	9	76.83			
	Manufacturing	45	119.17			
	Real Estate	5	71.00			
	Services	68	150.39			
	Retail Trade	55	122.15			
	Wholesale Trade	48	134.17			
	Other	18	116.83			
	Total	256				
Severity of market risk	Agriculture	7	90.29	23.897	8	.002
	Construction	2	181.50			
	Financial Intermediation	5	62.00			
	Manufacturing	44	125.16			
	Real Estate	11	145.18			
	Services	83	150.95			
	Retail Trade	62	157.83			
	Wholesale Trade	51	147.88			
	Other	16	84.72			
	Total	281				
Severity of currency risk	Agriculture	1	46.00	8.362	8	.399
	Construction	1	16.00			
	Financial Intermediation	18	75.75			
	Manufacturing	28	64.71			
	Real Estate	2	103.75			
	Services	36	62.29			
	Retail Trade	14	52.32			
	Wholesale Trade	25	64.52			

	Other	3	74.33			
	Total	128				
Severity of interest-rate risk	Agriculture	1	7.00	11.130	8	.194
	Construction	1	7.00			
	Financial Intermediation	15	87.40			
	Manufacturing	13	72.50			
	Real Estate	2	54.50			
	Services	46	63.59			
	Retail Trade	35	68.11			
	Wholesale Trade	17	60.15			
	Other	3	67.67			
	Total	133				

a. Kruskal Wallis Test
b. Grouping Variable: Type of business

Table 8.10 shows that the chi-square value of credit risk is 16.587, whereas the degrees of freedom (df) and the significance level are 8 and .03 respectively. Since the significance level is less than the alpha level of .05 the results suggest that there is a statistically significant difference in the severity of credit risk across different types of business. An inspection of the mean ranks indicates that the services sector (mean rank = 150.39) has the highest severity scores, with real estate (mean rank = 71.00) reporting the lowest. It is also evident from Table 8.10 that the chi-square value of market risk is 23.897, whereas the degrees of freedom (df) and the significance level are 8 and .002 respectively. Since the significance level is less than the alpha level of .05 the results suggest that there is a statistically significant difference in the severity of market risk across different types of business. An inspection of the mean ranks indicates that the construction industry (mean rank = 181.50) has the highest severity scores, with financial intermediation (mean rank = 62.00) reporting the lowest.

In regard to the severity of currency risk, Table 8.10 represents that the chi-square value is 8.362, whereas the degrees of freedom (df) and the significance level are 8 and .39 respectively. Since the significance level is not less than the alpha level of .05 the results suggest that there is no statistically significant difference in the severity of currency risk across different types of business. Table 8.10 also signifies that the chi-square value of interest-rate risk is 11.130, whereas the degrees of freedom (df) and the significance level are 8 and .19 respectively. Since the significance level is not

less than the alpha level of .05 the results suggest that there is no statistically significant difference in the severity of interest-rate risk across different types of business.

8.6.3. Risk Exposure and Banking Services

Table 8.11 evaluates, by using the Kruskal-Wallis Test, whether there is a difference in the severity of credit risk, market risk, currency risk and interest-rate risk across the banks used by various organizations for business purposes.

Table 8.11: Risk exposure and banking services[a, b]

	Banks used by the respondents	N	Mean Rank	Chi-square	df	Asymp. Sig.
Severity of credit risk	Islamic	63	109.74	7.039	2	.030
	Conventional	74	126.08			
	Both	118	138.95			
	Total	255				
Severity of market risk	Islamic	62	130.49	1.348	2	.510
	Conventional	83	143.04			
	Both	135	143.53			
	Total	280				
Severity of currency risk	Islamic	19	44.18	9.495	2	.009
	Conventional	48	62.30			
	Both	61	72.56			
	Total	128				
Severity of interest-rate risk	Islamic	30	59.62	1.920	2	.383
	Conventional	40	72.01			
	Both	62	66.27			
	Total	132				

a. Kruskal Wallis Test
b. Grouping Variable: Banks used by the respondents

Table 8.11 shows that the chi-square value of credit risk is 7.039, whereas the degrees of freedom (df) and the significance level are 2 and .03 respectively. Since the significance level is less than the alpha level of .05 the results suggest that there is a statistically significant difference in the severity of credit risk across different banks used by the business organizations. An inspection of the mean ranks indicates that the organizations using both Islamic and conventional banks (mean rank = 138.95) have

the highest severity scores, with Islamic banks (mean rank = 109.74) reporting the lowest. It is also evident from Table 8.11 that the chi-square value of market risk is 1.348, whereas the degrees of freedom (df) and the significance level are 2 and .51 respectively. Since the significance level is not less than the alpha level of .05 the results suggest that there is no statistically significant difference in the severity of market risk across different banks used by the business organizations.

In regard to the severity of currency risk, Table 8.11 represents that the chi-square value is 9.495, whereas the degrees of freedom (df) and the significance level are 2 and .009 respectively. Since the significance level is less than the alpha level of .05 the results suggest that there is a statistically significant difference in the severity of currency risk across different banks used by the business organizations. An inspection of the mean ranks indicates that the organizations using both Islamic and conventional banks (mean rank = 72.56) have the highest severity scores, with Islamic banks (mean rank = 44.18) reporting the lowest. Table 8.11 also signifies that the chi-square value of interest-rate risk is 1.920, whereas the degrees of freedom (df) and the significance level are 2 and .38 respectively. Since the significance level is not less than the alpha level of .05 the results suggest that there is no statistically significant difference in the severity of interest-rate risk across different banks used by the business organizations.

8.7. Conceptual and Contractual Awareness and Risk Exposure

This section describes the strength and direction of the linear relationship between the respondents' knowledge of various legal concepts and contracts discussed earlier and the severity of various kinds of risk faced by their business organizations. By using Spearman Rank Order Correlation (rho) Table 8.12 examines whether there is a relationship between the respondents' awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of credit risk, market risk, currency risk and interest-rate risk.

Table 8.12: Relationship between the respondents' awareness of legal concepts and contracts[1], and the severity of various kinds of risk[2]

	screr	smarr	scurr	sintrr	tcacon	tsacon	tsafderi
screr	1.000						
smarr	.296**	1.000					
scurr	-.081	-.126	1.000				
sintrr	.105	.126	.467**	1.000			
tcacon	-.138*	.236**	.249**	.338**	1.000		
tsacon	.127*	-.238**	.176*	.187*	.714**	1.000	
tsafderi	-.114**	-.210**	-.280**	-.021**	-.213**	-.175**	1.000

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

[1] **tcacon**[1] Total conceptual awareness of concepts; **tsacon**[2] Total structural awareness of contracts; **tsafderi**[3] Total structural awareness of financial derivatives
[2] **screr** Severity of credit risk; **smarr** Severity of market risk; **scurr** Severity of currency risk; **sintrr** Severity of interest-rate risk

The relationship between the respondents' awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of credit risk, market risk, currency risk and interest-rate risk was investigated. Table 8.12 shows that the Spearman rho value of the severity of credit risk and the total conceptual awareness of concepts (-.138) is negative, indicating a negative correlation between the total awareness of legal concepts and the severity of credit risk. The more awareness of legal concepts the respondents have, the less severity of credit risk they face because of the use of these concepts. There is a small correlation between the two variables (below .29), suggesting a weak relationship between the awareness of legal

[1] The researcher formulated this variable by combining eleven variables. These variables include conceptual awareness of *khiyar al-shart*, conceptual awareness of *riba*, conceptual awareness of *maysir*, conceptual awareness of *gharar fahish*, conceptual awareness of *gharar yaseer*, conceptual awareness of *hatt wa ta'ajjal*, conceptual awareness of speculation based on relevant information, conceptual awareness of speculation based on excessive uncertainty, conceptual awareness of hedging against different kinds of risk, conceptual awareness of collateral and conceptual awareness of selling a commodity before owning or possessing it.
[2] The researcher made up this variable by combining six variables. These variables embody structural awareness of *istisna*, structural awareness of *salam*, structural awareness of *bai al-kali bil-kali*, structural awareness of *bai al-gha'ib*, structural awareness of *bai al-arbun* and structural awareness of *bai istijrar*.
[3] This variable is composed of fifteen variables, that is to say structural awareness of forward contracts, structural awareness of foreign currency forwards, structural awareness of forward rate agreements, structural awareness of futures contracts, structural awareness of foreign currency futures, structural awareness of interest-rate futures, structural awareness of options, structural awareness of foreign currency options, structural awareness of interest-rate options, structural awareness of interest-rate swaps, structural awareness of currency swaps, structural awareness of credit default swaps, structural awareness of total return swaps, structural awareness of Islamic swaps and structural awareness of swaptions.

concepts and the severity of credit risk. However, the Spearman rho value of the severity of credit risk and the total structural awareness of contracts (.127) is positive, indicating a positive correlation between the total structural awareness of contracts and the severity of credit risk. Again, there is a small correlation between the two variables (below .29), suggesting a weak relationship between the structural awareness of contracts and the severity of credit risk. The Spearman rho value of the severity of credit risk and the total structural awareness of financial derivatives (-.114) is negative, indicating a negative correlation between the total structural awareness of financial derivatives and the severity of credit risk. The more structural awareness of financial derivatives the respondents have, the less severity of credit risk they face because of the use of derivatives instruments. There is a small correlation between the two variables (above .10), suggesting a weak relationship between the structural awareness of financial derivatives and the severity of credit risk.

Table 8.12 also indicates that the Spearman rho value of the severity of market risk and the total conceptual awareness of concepts (.236) is positive, indicating a positive correlation between the total awareness of legal concepts and the severity of market risk. There is a small correlation between the two variables (below .29), suggesting a weak relationship between the awareness of legal concepts and the severity of market risk. However, the Spearman rho value of the severity of market risk and the total structural awareness of contracts (-.238) is negative, indicating a negative correlation between the total structural awareness of contracts and the severity of market risk. The more structural awareness of contracts the respondents have, the less severity of market risk they face because of the use of these contracts. Again, there is a small correlation between the two variables (below .29), suggesting a weak relationship between the structural awareness of contracts and the severity of market risk. The Spearman rho value of the severity of market risk and the total structural awareness of financial derivatives (-.210) is also negative, indicating a negative correlation between the total structural awareness of financial derivatives and the severity of market risk. The more structural awareness of financial derivatives the respondents have, the less severity of market risk like credit risk they face because of the use of derivatives instruments. There is a small correlation between the two variables (below .29), suggesting a weak relationship between the structural awareness of financial derivatives and the severity of market risk.

It is also evident from Table 8.12 that the Spearman rho value of the severity of currency risk and the total conceptual awareness of concepts (.249) is positive, indicating a positive correlation between the total awareness of legal concepts and the severity of currency risk. There is a small correlation between the two variables (below .29), suggesting a weak relationship between the awareness of legal concepts and the severity of currency risk. The Spearman rho value of the severity of currency risk and the total structural awareness of contracts (.176) is also positive, indicating a positive correlation between the total structural awareness of contracts and the severity of currency risk. Again, there is a small correlation between the two variables (below .29), suggesting a weak relationship between the structural awareness of contracts and the severity of currency risk. However, the Spearman rho value of the severity of currency risk and the total structural awareness of financial derivatives (-.280) is negative, indicating a negative correlation between the total structural awareness of financial derivatives and the severity of currency risk. The more structural awareness of financial derivatives the respondents have, the less severity of currency risk they face because of the use of derivatives instruments. There is a small correlation between the two variables (below .29), suggesting a weak relationship between the structural awareness of financial derivatives and the severity of currency risk.

Table 8.12 represents that the Spearman rho value of the severity of interest-rate risk and the total conceptual awareness of concepts (.338) is positive, indicating a positive correlation between the total awareness of legal concepts and the severity of interest-rate risk. There is a medium correlation between the two variables (above .30), suggesting a moderate relationship between the awareness of legal concepts and the severity of interest-rate risk. The Spearman rho value of the severity of interest-rate risk and the total structural awareness of contracts (.187) is also positive, indicating a positive correlation between the total structural awareness of contracts and the severity of interest-rate risk. There is a small correlation between the two variables (below .29), suggesting a weak relationship between the structural awareness of contracts and the severity of interest-rate risk. However, the Spearman rho value of the severity of interest-rate risk and the total structural awareness of financial derivatives (-.021) is negative, indicating a negative correlation between the total structural awareness of financial derivatives and the severity of interest-rate risk. The

more structural awareness of financial derivatives the respondents have, the less severity of interest-rate risk they face because of the use of derivatives instruments. However, there is a very small correlation between the two variables (below .10), suggesting a weak relationship between the structural awareness of financial derivatives and the severity of interest-rate risk.

8.8. Factors Influencing the Use of and Demand for the Instruments of Risk Management

This section analyzes several factors influencing the use of and demand for various instruments or techniques to mitigate the severity of credit risk, market risk, currency risk and interest-rate risk. The section assesses how well the set of predictor (independent) variables predicts or explains the categorical dependent variable. It gives an indication of the adequacy of the set of predictor variables by assessing 'goodness of fit'. By using Binary Logistic Regression Table 8.13 explores what factors affect the use of and demand for the instruments or techniques of credit risk management.

Table 8.13: Factors affecting the use of and demand for the instruments or techniques of credit risk management

Dependent Variables[1]	Independent Variables[2]						Omnibus Tests of Model Coefficients
		screr	sacrec	sacdsrec	safutrec	sahrec	Chi-square (Sig.)
mcrerrec	Coeff.	.676	1.577	20.802	.238	1.552	33.670
	Sig.	.002	.001	.999	.586	.000	(.000)
uicrerrec	Coeff.	.529	.227		-.699	.510	7.394
	Sig.	.016	.723		.265	.241	(.116)

[1] **mcrerrec** Use of instruments to manage credit risk; **uicrerrec** Demand for instruments to mitigate credit risk

[2] **screr** Severity of credit risk; **sacrec** Conceptual awareness of collateral; **sacdsrec** Structural awareness of credit default swaps; **safutrec** Structural awareness of futures contracts; **sahrec** Conceptual awareness of *hatt wa ta'ajjal*

Binary Logistic Regression was performed in order to assess the impact of a number of factors on the use of and demand for the instruments or techniques of credit risk management. In Table 8.13, the Omnibus Tests of Model Coefficients show that the model of the use of instruments to manage credit risk is statistically significant as the value is .000 (p<.0005), with the chi-square value of 33.670. There are three significant variables (screr p = .002; sacrec p = .001; sahrec p = .000) which influence the use of different instruments or techniques of credit risk management. The rest of the variables, that is to say the structural awareness of credit default swaps and futures contracts did not contribute significantly to the model. The Omnibus Tests of Model Coefficients also represent that the model of the demand for instruments to mitigate credit risk is not statistically significant as the value is .116, with the chi-square value of 7.394.

By using Binary Logistic Regression Table 8.14 explores what factors affect the use of and demand for the instruments or techniques of market risk management.

Table 8.14: Factors affecting the use of and demand for the instruments or techniques of market risk management

Dep. Var.[1]	Independent Variables[2]												Omnibus Tests
		smr	arb	sal	for	fut	is	bis	ist	khi	opt	swa	Chi-squ. (Sig.)
mmr	Coef.	1.55	1.54	-.45	.529	-.22	22.20	.60	1.57	.676	-.40	-1.35	50.15 (.000)
	Sig.	.000	.000	.32	.016	.57	1.00	.07	.001	.002	.18	1.00	
immr	Coef.	.153	-.10	.288	-.09	.033		.029	-.80	.189	.062		2.956 (.966)
	Sig.	.454	.851	.670	.877	.954		.953	.230	.753	.894		

[1] **mmr** Use of instruments to manage market risk; **immr** Demand for instruments to mitigate market risk

[2] **smr** Severity of market risk; **arb** Structural awareness of *bai al-arbun*; **sal** Structural awareness of *salam*; **for** Structural awareness of forward contracts; **fut** Structural awareness of futures contracts; **is** Structural awareness of Islamic swaps; **bis** Structural awareness of *bai istijrar*; **ist** Structural awareness of *istisna*; **khi** Conceptual awareness of *khiyar al-shart*; **opt** Structural awareness of options; **swa** Structural awareness of swaptions

Binary Logistic Regression was performed in order to assess the impact of a number of factors on the use of and demand for the instruments or techniques of market risk management. In Table 8.14, the Omnibus Tests of Model Coefficients show that the model of the use of instruments to manage market risk is statistically significant as the value is .000 (p<.0005), with the chi-square value of 50.15. There are five significant variables (smr p = .000; arb p = .000; for p = .016; ist p = .001; khi p = .002) which influence the use of different instruments or techniques of market risk management. The rest of the variables, that is to say the structural awareness of *salam*, futures contracts, Islamic swaps, *bai istijrar*, options and swaptions did not contribute significantly to the model. The Omnibus Tests of Model Coefficients also represent that the model of the demand for instruments to mitigate market risk is not statistically significant as the value is .966, with the chi-square value of 2.956.

By using Binary Logistic Regression Table 8.15 explores what factors affect the use of and demand for the instruments or techniques of currency risk management.

Table 8.15: Factors affecting the use of and demand for the instruments or techniques of currency risk management

Dep. Var.[1]	Independent Variables[2]							Omnibus Tests
		scr	sacs	safcf	safcfut	safco	sais	Chi-square (Sig.)
mcr	Coef.	1.552	1.527	.529	.960	1.577	20.114	28.030
	Sig.	.000	1.000	.016	.053	.001	1.000	(.000)
imcr	Coef.	-.102		-.617	.206	-.019		1.165
	Sig.	.720		.294	.728	.973		(.884)

[1] **mcr** Use of instruments to manage currency risk; **imcr** Demand for instruments to mitigate currency risk

[2] **scr** Severity of currency risk; **sacs** Structural awareness of currency swaps; **safcf** Structural awareness of foreign currency forwards; **safcfut** Structural awareness of foreign currency futures; **safco** Structural awareness of foreign currency options; **sais** Structural awareness of Islamic swaps

Binary Logistic Regression was performed in order to assess the impact of a number of factors on the use of and demand for the instruments or techniques of currency risk management. In Table 8.15, the Omnibus Tests of Model Coefficients show that the

model of the use of instruments to manage currency risk is statistically significant as the value is .000 (p<.0005), with the chi-square value of 28.030. There are three significant variables (scr p = .000; safcf p = .016; safco p = .001) which influence the use of different instruments or techniques of currency risk management. The rest of the variables, that is to say the structural awareness of currency swaps, foreign currency futures and Islamic swaps did not contribute significantly to the model. The Omnibus Tests of Model Coefficients also represent that the model of the demand for instruments to mitigate currency risk is not statistically significant as the value is .884, with the chi-square value of 1.165.

By using Binary Logistic Regression Table 8.16 explores what factors affect the use of and demand for the instruments or techniques of interest-rate risk management.

Table 8.16: Factors affecting the use of and demand for the instruments or techniques of interest-rate risk management

Dep. Var.[1]	Independent Variables[2]						Omnibus Tests
		sintr	safra	saintrf	sairo	sairs	Chi-square (Sig.)
mintr	Coef.	1.552	.529	-.764	-.747	21.875	12.310
	Sig.	.000	.016	.139	.120	1.000	(.031)
imintr	Coef.	.676	-1.108	-.458	-.201		11.759
	Sig.	.002	.151	.521	.750		(.019)

[1] **mintr** Use of instruments to manage interest-rate risk; **imintr** Demand for instruments to mitigate interest-rate risk

[2] **sintr** Severity of interest-rate risk; **safra** Structural awareness of forward rate agreements; **saintrf** Structural awareness of interest-rate futures; **sairo** Structural awareness of interest-rate options; **sairs** Structural awareness of interest-rate swaps

Binary Logistic Regression was performed in order to assess the impact of a number of factors on the use of and demand for the instruments or techniques of interest-rate risk management. In Table 8.16, the Omnibus Tests of Model Coefficients show that the model of the use of instruments to manage interest-rate risk is statistically significant as the value is .031 (p<.05), with the chi-square value of 12.310. There are two significant variables in the model (sintr p = .000; safra p = .016) which influence the use of different instruments or techniques of interest-rate risk management. The

remaining variables, that is to say the structural awareness of interest-rate futures, interest-rate options and interest-rate swaps did not contribute significantly to the model. The Omnibus Tests of Model Coefficients also represent that the model of the demand for instruments to mitigate interest-rate risk is statistically significant as the value is .019 ($p<.05$), with the chi-square value of 11.759. There is, however, only one significant variable (sintr $p = .002$) which influences the demand for different instruments or techniques of interest-rate risk management. The rest of the variables, that is to say the structural awareness of forward rate agreements, interest-rate futures, interest-rate options and interest-rate swaps did not contribute significantly to the model.

8.9. Conclusion

This chapter was a continuation of the previous chapter. It employed a number of non-parametric techniques, e.g. chi-square test for independence, Kruskal-Wallis Test, Spearman Rank Order Correlation (rho) and logistic regression to analyze and interpret the data. By using chi-square test for independence this chapter inquired into the relationship between a number of variables, and differentiated the organizations using various instruments of risk management from the organizations intending to use them. The chapter also examined the difference in various organizational features, e.g. legal status, type of business, etc and the severity of credit risk, market risk, currency risk and interest-rate risk in various business organizations.

The chapter explored whether there is a relationship between the respondents' awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of credit risk, market risk, currency risk and interest-rate risk. It also analyzed several factors influencing the use of and demand for various instruments or techniques to mitigate the severity of different kinds of risk.

Chapter 9

Contextualization and Interpretation of the Research Findings

9.1. Introduction

The former two chapters analyzed the information provided by various business and financial institutions of Pakistan. Chapter 7 reported on descriptive statistics, that is to say frequencies of different variables, and attempted to place a concise interpretation on the results obtained. Chapter 8 employed inferential statistics, and harnessed a number of non-parametric techniques, e.g. chi-square test for independence, Kruskal-Wallis Test, Spearman Rank Order Correlation (rho) and logistic regression to analyze and interpret the data. This chapter contextualizes and explains the research findings set forth in the preceding chapters. It is pertinent to note that the interpretation of the research findings closely follows the sequence of the research questions as well as hypotheses outlined in Chapter 1.

This chapter is divided up into eight broad sections altogether. Section 9.2. canvasses the Islamic position on financial derivatives. Section 9.3. deals with risk exposure and management. Section 9.4. investigates risk exposure and organizational features. Section 9.5. examines conceptual and contractual awareness and risk exposure. Section 9.6. ascertains various factors influencing the use of and demand for the instruments of risk management. Section 9.7. goes through the constraints of the use of instruments for risk management in Pakistan. Finally, Section 9.8. sets forth the conclusion.

9.2. Islamic Position on Financial Derivatives

This section briefly contextualizes and interprets the findings of the four research questions (1, 2, 3 and 4) outlined in Chapter 1. The section also accentuates to have addressed them.

9.2.1. Islamic Stance on Commercial Transactions

Research question 1 is as follows:

What is the Islamic stance on business and commercial transactions in general?

As was stated in Chapter 3 the basic norm in case of transactions (*mu'amalat*) is that of permissibility (*ibahah*) and absence of prohibition. So, everything is permissible unless there is a clear injunction to the contrary. The logic appears that transactions are germane to individuals interacting with one another. The variety of this interaction is neither foreseeable nor capable of being complied with a regime of fixed rules and regulations. Besides, human needs and temporal circumstances invariably change within diverse geographical entities. The *Shari'ah* has therefore laid down some rules with respect to transactions in general terms in order that people can seek guidance at contrasting places and in different epochs. The research findings reported in Chapter 7 show that a large number of the respondents (71.1 per cent) are of the opinion that the Islamic position on business and commercial transactions is that of permissibility, suggesting that the majority of the respondents are correctly acquainted with the Islamic stance on transactions.

9.2.2. Contemporary Thinking on Financial Derivatives

Research question 2 is as follows:

What are the contentions of contemporary Muslim jurists and scholars with respect to financial derivatives?

As noted in Chapter 4 the majority of the contemporary scholars have generally disallowed to trade in forward contracts, futures contracts, options and swaps. In contrast, some scholars are of the opinion that financial derivatives are permissible. There is no denying the fact that those types of financial derivatives which involve *riba* such as interest-rate futures, interest-rate options, interest-rate swaps and swaptions are ruled out altogether and can never be taken advantage of. Similarly, those derivatives which proceed on gambling, inordinate uncertainty, alcohol, pork and other inadmissible commodities are also precluded. But as far as commodity derivatives are concerned current objections to forward contracts, futures contracts and options constitute, in accordance with the Islamic principle of permissibility which renders all commercial transactions *Shari'ah*-compliant in the absence of a clear prohibition, the most discouraging form of imitation. It was argued in Chapter 4 that derivatives instruments are at bottom a new phenomenon of this age which have no precedent or parallel in the conventional law of transactions (*mu'amalat*). Hence their legality or otherwise should consequently be looked into with the Islamic viewpoint of general permissibility in relation to transactions.

9.2.3. Islamic Viewpoint on Hedging

Research question 3 is as follows:

Is hedging against different kinds of risk consistent with the directives and objectives of the Shari'ah?

It was enunciated in Chapter 3 that all the injunctions of the *Shari'ah* are directed towards the realization of the following five objectives of the *Shari'ah* (*maqasid al-Shari'ah*):

1) Preservation of religion
2) Preservation of life
3) Preservation of progeny
4) Preservation of intellect
5) Preservation of wealth

It is blindingly obvious that the protection of wealth is one of the objectives of the *Shari'ah*. Failure to protect one's wealth in highly risky conditions is, according to the Islamic commands, most reprehensible. It was a fortiori elucidated in Chapter 4 that hedging is quite in conformity with the Islamic rationality. The research findings reported in Chapter 7 indicate that a large number of the respondents (81.5 per cent) take the view that it is allowed to hedge against different kinds of risk. This result suggests that the majority point of view on hedging is spot on.

9.2.4. Financial Derivatives and Traditional Islamic Contracts

Research question 4 is as follows:

Are financial derivatives akin to and congruent with the basic principles and modalities of traditional Islamic contracts?

It was stated in Chapter 4 that there is no absolute parallel to forward contracts, futures contracts and options in the Islamic commercial law. Although some provisions of the Islamic commercial law are in sync with certain aspects of these contracts, but they, in the aggregate, tend to depart from the basic framework of Islamic contracts. In, for instance, *salam*, the price must be paid at the time of the conclusion of the contract which is not the case in forward or futures contracts. In *istisna*, it is not required to pay the price in advance, although it is allowed to do so but it could be paid in instalments or postponed to a future date. In this perspective, *istisna* is more consistent with forward contracts and futures contracts in which the price is also not paid in advance. The research findings reported in Chapter 7 represent that a large number of the respondents (51.3 per cent) believe that forward and futures contracts are consistent with the basic principles and modalities of *salam* and *istisna*, whereas 90 respondents (23.4 per cent) have the opposite opinion, and rightly so. In addition, the majority of the respondents (61.3 per cent) opine that options are consistent with the basic principles and modalities of *khiyar al-shart* while 49 respondents (12.8 per cent) correctly answered in the negative.

It was concluded in Chapter 4 that forward contracts and futures contracts are allowed to benefit from. However, only hedgers can take advantage of them. These instruments can never be used for purely speculative purposes where making or taking delivery is not intended. Although it is not necessary to pay the complete price to the seller at the time of the contract yet some other precautionary measures such as a bank guarantee or a fair amount of money to be given to the seller should be taken to ensure that pure speculation is scrupulously forestalled and the delivery would certainly be made. Under the circumstances if, for example, a large amount of money is given to the seller at the time of the contract the proscription of *bai al-kali bil-kali* would no longer be applicable because *bai al-kali bil-kali* comes about where the settlement by both parties is deferred to a future date, but that is not the case here. Options trading is also permissible because it is simply an extension of the fundamental concept of freedom and legitimacy given by the *Shari'ah* in relation to commercial transactions. The research findings reported in Chapter 7 also note that a large number of the respondents are of the opinion that it is permissible to enter into forward and futures contracts. However, 66 respondents (17.2 per cent) are of the opinion that options are permissible; 19 respondents (4.9 per cent) deem them to be impermissible; and the majority of the respondents (77.9 per cent) are unacquainted with the Islamic legal perspective on options.

9.3. Risk Exposure and Management

This section compendiously contextualizes and explains the findings of the four research questions (5, 6, 7 and 8) outlined in Chapter 1. The section also accentuates to have addressed them.

9.3.1. Risk Exposure of Business Organizations

Research question 5 is as follows:

What is the risk exposure of different business organizations?

It was demonstrated in Chapter 7 that a large number of the organizations (66.7 per cent) face credit risk while 33.3% of the organizations do not face it. The chi-square test for independence reported in Chapter 8 shows that in the agriculture sector, the majority of the organizations (1.6 per cent) face credit risk, with only 2 organizations facing no credit risk. In the construction industry, 2 organizations face credit risk against 2 organizations facing no credit risk. In financial intermediation, most of the organizations (3.4 per cent) face no credit risk, with 9 organizations facing the risk. In the manufacturing sector, a large number of the organizations (11.7 per cent) face credit risk, with only 6 organizations facing no credit risk. In real estate, the majority of the organizations (2.3 per cent) face no credit risk, with only 5 organizations facing the risk. As regards the remaining sectors, that is to say services, retail trade, wholesale trade and other, most of the organizations face credit risk, with varying percentage. It is also evident from the research findings that 8 organizations (3.1 per cent) face 'very low' credit risk; 50 organizations (19.5 per cent) face 'low' credit risk; a large number of the organizations (33.2 per cent) face 'medium' credit risk; 78 organizations (30.5 per cent) face 'high' credit risk; and 35 organizations (13.7 per cent) face 'very high' credit risk in the sample.

The majority of the organizations (73.2 per cent) face market risk while 26.8% of the organizations do not face it. The chi-square test for independence reported in Chapter 8 shows that in the agriculture sector, most of the organizations (1.8 per cent) face market risk, with only 1 organization facing no market risk. In the construction industry, 2 organizations face market risk against 2 organizations facing no market risk. In financial intermediation, a large number of the organizations (4.4 per cent) face no market risk, with 5 organizations facing the risk. In the manufacturing sector, the majority of the organizations (11.5 per cent) face market risk, with only 7 organizations facing no market risk. In connection with the remaining sectors, that is to say real estate, services, retail trade, wholesale trade and other, most of the organizations also face market risk, with varying percentage. It is also evident from the research findings that 5 organizations (1.8 per cent) face 'very low' market risk; 16 organizations (5.7 per cent) face 'low' market risk; 66 organizations (23.5 per cent) face 'medium' market risk; 91 organizations (32.4 per cent) face 'high' market risk; and a large number of the organizations (36.7 per cent) face 'very high' market risk in the sample.

There are 128 organizations (33.3 per cent) which face currency risk while the majority of the organizations (66.7 per cent) do not face it. The chi-square test for independence reported in Chapter 8 shows that in the agriculture sector and in the construction industry, most of the organizations face no currency risk. However, in financial intermediation and in the manufacturing sector, a large number of the organizations face currency risk. In relation to the remaining sectors, that is to say real estate, services, retail trade, wholesale trade and other, the majority of the organizations face no currency risk, with varying percentage. It is also evident from the research findings that 7 organizations (5.5 per cent) face 'very low' currency risk; 17 organizations (13.3 per cent) face 'low' currency risk; most of the organizations (33.6 per cent) face 'medium' currency risk; 42 organizations (32.8 per cent) face 'high' currency risk; and 19 organizations (14.8 per cent) face 'very high' currency risk in the sample.

There are 133 organizations (34.6 per cent) which face interest-rate risk while a large number of the organizations (65.4 per cent) do not face it. The chi-square test for independence reported in Chapter 8 shows that in the agriculture sector and in the construction industry, the majority of the organizations face no interest-rate risk. However, in financial intermediation, most of the organizations (3.9 per cent) face interest-rate risk. With respect to the remaining sectors, that is to say manufacturing, real estate, services, retail trade, wholesale trade and other, a large number of the organizations face no interest-rate risk, with varying percentage. It is also evident from the research findings that 13 organizations (9.8 per cent) face 'very low' interest-rate risk; 21 organizations (15.8 per cent) face 'low' interest-rate risk; the majority of the organizations (30.1 per cent) face 'medium' interest-rate risk; 39 organizations (29.3 per cent) face 'high' interest-rate risk; and 20 organizations (15 per cent) face 'very high' interest-rate risk in the sample.

9.3.2. Structural and Legal Awareness

Research question 6 is as follows:

Are the business entrepreneurs apprised of the structure of and Islamic legal stance on several Islamic as well as conventional concepts and contracts, including financial derivatives?

It was explained in Chapter 7 that a large number of the respondents are acquainted with the concept of *khiyar al-shart*, *riba*, *maysir*, *gharar fahish*, *gharar yaseer*, *hatt wa ta'ajjal*, speculation based on relevant information, speculation based on excessive uncertainty, hedging, collateral and selling a commodity before owning or possessing it. The majority of the respondents are also *au fait* with the structure of *istisna*, *salam*, *bai al-kali bil-kali*, *bai al-gha'ib*, *bai al-arbun* and *istijrar*. In addition, most of the respondents are familiar with the structure of forward contracts, foreign currency forwards, forward rate agreements, futures contracts, foreign currency futures and interest-rate futures. However, a large number of the respondents are not conversant with the structure of options, foreign currency options, interest-rate options, interest-rate swaps, currency swaps, credit default swaps, total return swaps, Islamic swaps and swaptions.

It was also pointed out that the majority of the respondents are aware of the Islamic legal perspective on *khiyar al-shart*, *riba*, *maysir*, *gharar fahish*, speculation based on relevant information, speculation based on excessive uncertainty, hedging against different kinds of risk, collateral, *istisna*, *salam*, *bai al-arbun*, *bai istijrar*, forward contracts and futures contracts. However, most of the respondents are unacquainted with the Islamic legal perspective on *gharar yaseer*, *hatt wa ta'ajjal*, selling a commodity before owning or possessing it, *bai al-kali bil-kali*, *bai al-gha'ib*, foreign currency forwards, forward rate agreements, foreign currency futures, interest-rate futures, options, foreign currency options, interest-rate options, interest-rate swaps, currency swaps, credit default swaps, total return swaps, Islamic swaps and swaptions.

9.3.3. Use of Financial Derivatives

Research question 7 is as follows:

What will the business entrepreneurs use financial derivatives, if available, for?

As discussed in Chapter 2 derivatives markets have a great opportunity for liquidity by attracting different types of traders. These traders include hedgers, speculators and arbitrageurs. Hedgers enter into derivatives contracts to safeguard their position from adverse movements in the prices of commodities concerned. Speculators, on the other hand, assume the role of either the bull or the bear depending upon their perceptions of the price movements. They bet that the price will either increase or go down. Arbitrageurs are averse to risk. They enter into such contracts that can give them risk-free profits. They always look for price imperfections in the markets. The research findings reported in Chapter 7 spell out that a large number of the respondents (66.4 per cent) want to use financial derivatives, if available, for hedging; 20.8% and .5% of the respondents want to use financial derivatives for speculation and arbitrage respectively whereas 47 respondents (12.2 per cent) have no interest in using financial derivatives.

The chi-square test for independence further represent that in the agriculture sector, the majority of the organizations (1.6 per cent) want to use financial derivatives, if available, for hedging, with only 2 organizations intending to use them for speculation. In the construction industry, most of the organizations (.5 per cent) want to use financial derivatives for speculative purposes. In financial intermediation, a large number of the organizations (4.7 per cent) want to take advantage of financial derivatives for hedging, with only 2 organizations intending to use them for speculation. In the manufacturing sector, the majority of the organizations (10.4 per cent) want to use financial derivatives for hedging purposes, with 8 organizations longing to use them for speculative purposes. In real estate, most of the organizations (2.3 per cent) want to use financial derivatives for hedging, with 3 organizations having no interest in the use of financial derivatives.

In relation to the services sector, it is also evident from the research findings that a large number of the organizations (21.4 per cent) want to use financial derivatives for hedging, with 4.9% of the organizations having no interest in the utilization of financial derivatives. In retail trade, the majority of the organizations (13.3 per cent) want to use financial derivatives for hedging, with 24 organizations intending to use them for speculation. In wholesale trade, most of the organizations (9.9 per cent) want to utilize financial derivatives for hedging, with 19 organizations longing to use them for speculative purposes. In the category of 'other', a large number of the organizations (2.6 per cent) want to use financial derivatives for hedging, with 1.3% of the organizations desirous of using them for speculation.

9.3.4. Use of and Demand for the Instruments of Risk Management

Research question 8 is as follows:

What is the use of and demand for instruments of risk management in various business and economic sectors of Pakistan?

The research findings reported in Chapter 8 indicate that a large number of the organizations (34.9 per cent) use collateral for credit risk management, whereas 22 organizations (11.3 per cent) want to use it. There are 40 organizations (20.5 per cent) which use futures contracts while 8.7% of the organizations want to use them; 39 organizations (20 per cent) use guarantee, with 1.5% of the organizations intending to use it; and 4 organizations (2.1 per cent) use *hatt wa ta'ajjal* whereas only 2 organizations want to use it, reporting that the use of and demand for *hatt wa ta'ajjal* remain at the lowest level in the sample. It is interesting to note that credit default swaps and total return swaps are neither in use nor in demand for credit risk management.

There are 27 organizations (12 per cent) which use *arbun* sale for market risk management, whereas 12 organizations (5.3 per cent) want to use it. Moreover, 28 organizations (12.4 per cent) use *bai al-salam* while only 1 organization wants to use it. A large number of the organizations (26.7 per cent) use forward contracts, with

9.3% of the organizations intending to use them; 15 organizations (6.7 per cent) use futures contracts whereas 14 organizations (6.2 per cent) want to use them; 6 organizations (2.7 per cent) use Islamic swaps; 7 organizations (3.1 per cent) use *istijrar*, whereas only 1 organization wants to use it; 10 organizations (4.4 per cent) use *istisna* while 1.8% of the organizations want to use it; 7 organizations (3.1 per cent) use *khiyar al-shart*, with 1.8% of the organizations desirous of using it; 7 organizations (3.1 per cent) use options; and only 1 organization uses some other instrument in the sample. It is interesting to note that swaps are neither in use nor in demand for market risk management.

There are 4 organizations (4.3 per cent) which use currency swaps for currency risk management. A large number of the organizations (53.3 per cent) use foreign currency forwards while 8 organizations want to use them. There are 11 organizations (12 per cent) which use foreign currency futures against an equal number of the organizations intending to use them; 3 organizations (3.3 per cent) use foreign currency options whereas 4 organizations (4.3 per cent) want to use them; and only 1 organization uses as well as wants some other instrument in the sample. It is interesting to note that Islamic swaps are neither in use nor in demand for currency risk management.

It is also evident from Chapter 8 that a large number of the organizations (45.3 per cent) use forward rate agreements for interest-rate risk management while 30 organizations want to use them. There are only 2 organizations which use interest-rate futures against 13.7% of the organizations intending to use them; 3 organizations (3.2 per cent) use interest-rate options whereas 4 organizations (4.2 per cent) want to use them, reporting that the use of interest-rate futures and the demand for interest-rate options remain at the lowest level in the sample. It is interesting to note that interest-rate swaps and swaptions are neither in use nor in demand for interest-rate risk management.

It was described in Chapter 5 that the following five banks have been granted the licence to conduct derivatives business as Authorized Derivatives Dealers (ADDs) in Pakistan:

- Citibank
- Deutsche Bank
- Habib Bank Limited
- Standard Chartered Bank (Pakistan) Limited
- United Bank Limited

The Financial Derivatives Business Regulations (FDBR) formulated by the State Bank of Pakistan (SBP) spell out that the following derivatives transactions are permitted to carry out:

a) Foreign Currency Options
b) Forward Rate Agreements
c) Interest Rate Swaps

The Regulations categorically enunciate that only aforementioned transactions are allowed; no other derivatives transaction shall be undertaken except with the express prior approval of the State Bank of Pakistan. Currency swaps are not covered under the Financial Derivatives Business Regulations. Banks have to seek permission from SBP on individual basis. While granting approval for currency swaps, SBP's primary consideration is to ensure that these transactions are being conducted for hedging purposes only.

It is noteworthy that apart from the aforesaid derivatives transactions, some other financial derivatives, that is to say forward contracts, foreign currency forwards, futures contracts, interest-rate options, etc are also offered by several financial institutions in Pakistan. These financial institutions include Bank Islami Pakistan Limited, Allied Bank Limited, Dubai Islamic Bank Pakistan, the Punjab Provincial Cooperative Bank Limited, Bank Alfalah Limited, National Bank of Pakistan and AlBaraka Bank (Pakistan) Limited. In addition, Pakistan Mercantile Exchange (PMEX) is the first and only commodity futures exchange in Pakistan. It provides a world-class commodity futures trading platform for market participants. Gold, silver, crude oil and other commodity futures are bought and sold on the Pakistan Mercantile Exchange.

Financial derivatives are actively used in several other Muslim countries into the bargain. According to the International *Shari'ah* Research Academy for Islamic Finance (2011) exchange-traded derivatives have gained momentum in Malaysia. Also, the Iranian Islamic Capital Market launched futures contracts for gold bullion in June 2008. The Iranian Islamic Capital Market plans to extend the Islamic futures market for other assets to boot.[1]

Selvi and Turel (2010) also point out that 35% of the non-financial companies listed on the Istanbul Stock Exchange (ISE) and 85% of the banks in Turkey use derivatives instruments. As regards the purpose of use, they further report that 82% of the non-financial companies and 86% of the banks mainly use derivatives for hedging purposes. Although the firms are aware of derivatives instruments offered by Turkish Derivatives Exchange (TurkDEX), most of them are reluctant to use derivatives on account of high transaction costs, volatile market conditions, and lack of education and experience (Yilmaz & Kurun 2007, p. 180). In Pakistan, Mahmood and Rehman (2010) also conclude that the use of derivatives instruments is not so robust, mainly due to the undeveloped derivatives market. However, the report of the Securities and Exchange Commission of Pakistan (2006) sets out the prerequisites and a proposed plan for the introduction of exchange-traded derivatives in Pakistan. The report recommends that:

- The regulators should create and expand the legal infrastructure.
- The regulators, exchanges and intermediaries should adopt International Best Practices (IBP) for risk management.
- The regulators, exchanges and intermediaries should build competent staff at all levels.
- Market infrastructure, including exchanges, clearing-houses and intermediaries should be upgraded.

[1] For details, see International *Shari'ah* Research Academy for Islamic Finance 2011, pp 620-621

9.4. Risk Exposure and Organizational Features

This section tersely contextualizes and elucidates the findings of the following four non-directional hypotheses outlined in Chapter 1. The section also accentuates to have tested them.

3.1) There is a difference in the severity of credit risk across various organizational features.
3.2) There is a difference in the severity of market risk across various organizational features.
3.3) There is a difference in the severity of currency risk across various organizational features.
3.4) There is a difference in the severity of interest-rate risk across various organizational features.

As was stated in Chapter 7 a large number of the organizations (63.3 per cent) have the legal status of sole proprietorship; 53 organizations (13.8 per cent) work in partnership; private and public limited companies are 48 (12.5 per cent) and 39 (10.2 per cent) respectively; and just 1 organization falls into the category of 'other'. Also, the services sector has the largest share (30.5 per cent) in the responses received, whereas only 4 organizations (1 per cent) belong to the construction industry. There are 8 organizations (2.1 per cent) in agriculture; 22 organizations (5.7 per cent) in financial intermediation; 51 organizations (13.3 per cent) in manufacturing; 14 organizations (3.6 per cent) in real estate; 83 organizations (21.6 per cent) in retail trade; 66 organizations (17.2 per cent) in wholesale trade; and 19 organizations (4.9 per cent) in the category of 'other'. It is also evident from the research findings that the majority of the organizations (43.3 per cent) use both Islamic and conventional banks for business purposes while 26.6% and 30% of the organizations use Islamic and conventional banking services respectively in the sample. The chi-square test for independence reported in Chapter 8 indicate that in the agriculture sector, most of the organizations (1.6 per cent) use conventional banking services for business purposes. In the construction industry, a large number of the organizations (.8 per cent) use Islamic banks. In financial intermediation, the majority of the organizations (3.1 per

cent) use conventional banks. In the manufacturing sector, most of the organizations (6 per cent) use both Islamic and conventional banking services for business purposes. In real estate, the organizations using Islamic banks and the organizations using both Islamic and conventional banks are equal in number. In relation to the remaining sectors, that is to say services, retail trade, wholesale trade and other, a large number of the organizations use both Islamic and conventional banking services for business purposes.

The Kruskal-Wallis Test reported in Chapter 8 point out that there is a statistically significant difference in the severity of credit risk across different legal status of the organizations. Private companies have the highest severity scores, with partnership reporting the lowest. There is also a statistically significant difference in the severity of credit risk across different types of business. The services sector has the highest severity scores, with real estate reporting the lowest. Again, there is a statistically significant difference in the severity of credit risk across different banks used by the business organizations. The organizations using both Islamic and conventional banks have the highest severity scores, with Islamic banks reporting the lowest.

There is a statistically significant difference in the severity of market risk across different legal status of the organizations. Private companies have the highest severity scores, with partnership reporting the lowest. Also, there is a statistically significant difference in the severity of market risk across different types of business. The construction industry has the highest severity scores, with financial intermediation reporting the lowest. On the contrary, there is no statistically significant difference in the severity of market risk across different banks used by the business organizations.

There is a statistically significant difference in the severity of currency risk across different legal status of the organizations. Public limited companies have the highest severity scores, with partnership reporting the lowest. On the contrary, there is no statistically significant difference in the severity of currency risk across different types of business. There is a statistically significant difference in the severity of currency risk across different banks used by the business organizations. The organizations using both Islamic and conventional banks have the highest severity scores, with Islamic banks reporting the lowest.

The Kruskal-Wallis Test further substantiate that there is a statistically significant difference in the severity of interest-rate risk across different legal status of the organizations. Public limited companies have the highest severity scores, with partnership reporting the lowest. In contrast, there is no statistically significant difference in the severity of interest-rate risk across different types of business. Again, there is no statistically significant difference in the severity of interest-rate risk across different banks used by the business organizations.

9.5. Conceptual and Contractual Awareness and Risk Exposure

This section succinctly contextualizes and accounts for the findings of the following four non-directional hypotheses outlined in Chapter 1. The section also accentuates to have tested them.

3.5) *There is a relationship between the awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of credit risk.*

3.6) *There is a relationship between the awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of market risk.*

3.7) *There is a relationship between the awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of currency risk.*

3.8) *There is a relationship between the awareness and perception of different legal concepts and contracts, including financial derivatives and the severity of interest-rate risk.*

The Spearman Rank Order Correlation (rho) reported in Chapter 8 indicates that there is a negative correlation between the total awareness of legal concepts and the severity of credit risk. This finding suggests that the more awareness of legal concepts the respondents have, the less severity of credit risk they face. However, there is a positive correlation between the total structural awareness of contracts and the severity of credit risk. Since no Islamic contract for credit risk management was asked

in the questionnaire this finding signifies little. There is a negative correlation between the total structural awareness of financial derivatives and the severity of credit risk, reporting that the more structural awareness of financial derivatives the respondents have, the less severity of credit risk they face.

It is evident from the Spearman Rank Order Correlation (rho) that there is a positive correlation between the total awareness of legal concepts and the severity of market risk. Since only one Islamic concept, that is to say *khiyar al-shart* was asked for market risk management this finding does not substantially signify. On the contrary, there is a negative correlation between the total structural awareness of Islamic contracts and the severity of market risk, indicating that the more structural awareness of Islamic contracts the respondents have, the less severity of market risk they face. Again, there is a negative correlation between the total structural awareness of financial derivatives and the severity of market risk. This finding points out that the more structural awareness of financial derivatives the respondents have, the less severity of market risk like credit risk they face.

There is a positive correlation between the total awareness of legal concepts and the severity of currency risk. This finding signifies little because no legal concept of currency risk management was asked in the questionnaire. Similarly, there is a positive correlation between the total structural awareness of Islamic contracts and the severity of currency risk. Again, no Islamic contract for currency risk management was asked in the questionnaire; this finding is not significant. However, there is a negative correlation between the total structural awareness of financial derivatives and the severity of currency risk, interpreting that the more structural awareness of financial derivatives the respondents have, the less severity of currency risk they face.

The Spearman Rank Order Correlation (rho) also demonstrates that there is a positive correlation between the total awareness of legal concepts and the severity of interest-rate risk. This finding does not signify because no legal concept of interest-rate risk management was asked in the questionnaire. Further, there is a positive correlation between the total structural awareness of Islamic contracts and the severity of interest-rate risk. Again, no Islamic contract for interest-rate risk management was asked in the questionnaire; this finding is not significant. However, there is a negative

correlation between the total structural awareness of financial derivatives and the severity of interest-rate risk, explaining that the more structural awareness of financial derivatives the respondents have, the less severity of interest-rate risk they face.

9.6. Factors Influencing the Use of and Demand for the Instruments of Risk Management

This section concisely contextualizes and expounds the findings of the following research question 9 outlined in Chapter 1. The section also accentuates to have addressed it.

What factors do influence the use of and demand for various instruments or techniques to mitigate the severity of credit risk, market risk, currency risk and interest-rate risk?

Binary Logistic Regression was performed in Chapter 8 to assess the impact of a number of factors on the use of and demand for the instruments or techniques of risk management. The research findings indicate that three variables, that is to say severity of credit risk, conceptual awareness of collateral and conceptual awareness of *hatt wa ta'ajjal* influence the use of different instruments or techniques of credit risk management. In other words, the use of different instruments or techniques of credit risk management depends on the severity of credit risk, conceptual awareness of collateral and conceptual awareness of *hatt wa ta'ajjal*. The research findings also demonstrate that the model of the demand for instruments to mitigate credit risk is not statistically significant.

There are five significant variables, namely severity of market risk, structural awareness of *bai al-arbun*, structural awareness of forward contracts, structural awareness of *istisna* and conceptual awareness of *khiyar al-shart* which affect the use of different instruments or techniques of market risk management. In other words, the use of different instruments or techniques of market risk management banks on the severity of market risk, structural awareness of *bai al-arbun*, structural awareness of forward contracts, structural awareness of *istisna* and conceptual awareness of *khiyar*

al-shart. The research findings also represent that the model of the demand for instruments to mitigate market risk is not statistically significant.

It is evident from Binary Logistic Regression that there are three significant variables, that is the severity of currency risk, structural awareness of foreign currency forwards and structural awareness of foreign currency options which influence the use of different instruments or techniques of currency risk management. In other words, the use of various instruments or techniques of currency risk management depends on the severity of currency risk, structural awareness of foreign currency forwards and structural awareness of foreign currency options. In addition, the research findings elucidate that the model of the demand for instruments to mitigate currency risk is not statistically significant.

Binary Logistic Regression demonstrate that only two variables, e.g. severity of interest-rate risk and structural awareness of forward rate agreements influence the use of different instruments or techniques of interest-rate risk management. In other words, the use of various instruments or techniques of interest-rate risk management depends on the severity of interest-rate risk and structural awareness of forward rate agreements. The research findings further point out that the model of the demand for instruments to mitigate interest-rate risk is statistically significant. There is, however, only one significant variable, that is to say the severity of interest-rate risk which influences the demand for different instruments or techniques of interest-rate risk management.

9.7. Constraints of the Use of Instruments for Risk Management

This section pithily contextualizes and explicates the findings of the following research question 10 outlined in Chapter 1. The section also accentuates to have addressed it.

What are the possible constraints and problems with reference to the use of instruments for risk management in different business and economic sectors of Pakistan?

A couple of possible constraints as well as problems in relation to the use of instruments for risk management are as follows:

1) It was reported in Chapter 7 that a large number of the organizations (59.8 per cent) use various instruments to manage credit risk, whereas 103 organizations (40.2 per cent) do not use any instrument. Out of 103 organizations which do not use any instrument or technique to manage credit risk, 45 organizations (43.7 per cent) want to use some instruments in order to mitigate credit risk while the majority of the organizations (56.3 per cent) do not want to use any instrument in this regard. Also, most of the organizations (60.1 per cent) use various instruments to manage market risk, whereas 112 organizations (39.9 per cent) do not use any instrument. Out of 112 organizations which do not use any instrument or technique to manage market risk, a large number of the organizations (50.9 per cent) want to use some instruments in order to mitigate market risk while 55 organizations (49.1 per cent) do not want to use any instrument in this regard. It was also stated in Chapter 7 that the majority of the organizations (53.1 per cent) use various instruments to manage currency risk, whereas 60 organizations (46.9 per cent) do not use any instrument. Out of 60 organizations which do not use any instrument or technique to manage currency risk, 24 organizations (40 per cent) want to use some instruments in order to mitigate currency risk while most of the organizations (60 per cent) do not want to use any instrument in this regard. Further, 49 organizations (37.1 per cent) use various instruments to manage interest-rate risk, whereas a large number of the organizations (62.9 per cent) do not use any instrument. Out of 83 organizations which do not use any instrument or technique to manage interest-rate risk, the majority of the organizations (56.6 per cent) want to use some instruments in order to mitigate interest-rate risk while 36 organizations (43.4 per cent) do not want to use any instrument in this regard. It was noticed whilst administering the questionnaires that the respondents who do not want to utilize the instruments or techniques of risk management are either unacquainted with their structure or, quite often, not aware of their adequate and proper use. Hence it is proposed that the Islamic as well as conventional financial institutions had better provide their clientele and other business entrepreneurs with the required risk management counselling.

2) As noted above the State Bank of Pakistan has generally allowed trading in foreign currency options, forward rate agreements and interest rate swaps. It was discussed in Chapter 2 that foreign currency options are used to hedge against a foreign exchange exposure, whereas forward rate agreements and interest rate swaps are used for interest-rate risk management. Since forward rate agreements and interest rate swaps entail *riba*, and the exchange of currencies is not hand-to-hand in foreign currency options these instruments are, according to the Islamic commercial law, embargoed to benefit from. The illicit features of these instruments *ipso facto* make them impracticable for those people who are desirous of using only *Shari'ah*-compliant instruments. It is therefore suggested that the State Bank of Pakistan should also introduce other *Shari'ah*-compliant instruments, that is to say *istisna*, *salam*, *bai al-arbun*, *istijrar*, forward contracts, futures contracts, options and Islamic swaps, and allow Islamic as well as conventional banks to employ them for risk management. However, the banks engaged in derivatives transactions ought to ensure, by taking some precautionary measures such as a bank guarantee or a fair amount of money to be given to the seller, that pure speculation is scrupulously forestalled and the delivery would certainly be made.

9.8. Conclusion

This chapter discussed how the research questions and hypotheses of this study were addressed and tested. The chapter attempted to contextualize and interpret the research findings set forth in the former chapters. It described that the basic norm in case of transactions (*mu'amalat*) is that of permissibility (*ibahah*) and absence of prohibition. The majority of the contemporary scholars have generally disallowed to trade in forward contracts, futures contracts, options and swaps. In contrast, some scholars are of the opinion that financial derivatives are permissible. It was concluded that forward contracts and futures contracts are allowed to benefit from. However, only hedgers can take advantage of them. These instruments can never be used for purely speculative purposes where making or taking delivery is not intended. Options trading is also permissible because it is simply an extension of the fundamental

concept of freedom and legitimacy given by the *Shari'ah* in relation to commercial transactions.

The chapter explored possible constraints and problems with reference to the use of instruments for risk management in different business and economic sectors of Pakistan. The researcher learnt that the respondents who do not want to utilize the instruments or techniques of risk management are either unacquainted with their structure or, quite often, not aware of their adequate and proper use. Hence it was proposed that the Islamic as well as conventional financial institutions had better provide their clientele and other business entrepreneurs with the required risk management counselling. Besides, the State Bank of Pakistan should also introduce other *Shari'ah*-compliant instruments, that is to say *istisna*, *salam*, *bai al-arbun*, *istijrar*, forward contracts, futures contracts, options and Islamic swaps, and allow Islamic as well as conventional banks to employ them for risk management.

Chapter 10

Conclusion

10.1. Introduction

This study was undertaken with the aim of exploring the legitimacy or otherwise of financial derivatives according to the Islamic commercial law, and ascertaining the demand for instruments of risk management in various business and economic sectors of Pakistan. In order to accomplish this broad aim, the Islamic stance on financial contracts and transactions was canvassed, varied contentions of contemporary scholars in relation to financial derivatives were thoroughly discussed, and 600 questionnaires were disseminated at random to ascertain the demand for instruments of risk management in various business and economic sectors of Pakistan. The information provided by different business and financial institutions of Pakistan was adequately deconstructed and interpreted.

This concluding chapter is divided up into five broad sections altogether. Section 10.2. ponders over the research findings and laconically recapitulates the salient conclusions drawn from them. Section 10.3. explores various limitations of the study. Section 10.4. puts forward several recommendations for the future research. Finally, Section 10.5. sets out the epilogue.

10.2. Ponderation on the Research Findings

The basic norm in case of transactions (*mu'amalat*) is that of permissibility (*ibahah*) and absence of prohibition. Therefore everything is permissible unless there is a clear injunction to the contrary. Taking this Islamic principle into consideration, some scholars are of the opinion that it is allowed to benefit from financial derivatives for hedging which is quite in conformity with the Islamic rationality. However, the majority of the contemporary scholars have generally disallowed to trade in forward

contracts, futures contracts, options and swaps. There is no denying the fact that those types of financial derivatives which involve *riba* such as interest-rate futures, interest-rate options, interest-rate swaps and swaptions are ruled out altogether and can never be taken advantage of. Similarly, those derivatives which proceed on gambling, inordinate uncertainty, alcohol, pork and other inadmissible commodities are precluded into the bargain.

There is no absolute parallel to forward contracts, futures contracts and options in the Islamic commercial law. Although some provisions of the Islamic commercial law are in sync with certain aspects of these contracts, but derivatives, in the aggregate, tend to depart from the basic framework of Islamic contracts. Thus the legality or otherwise of commodity derivatives must be examined in the light of Islamic viewpoint of general permissibility on transactions. This study concluded that forward contracts and futures contracts are allowed to benefit from. However, only hedgers can take advantage of them. These instruments can never be used for purely speculative purposes where making or taking delivery is not intended. Although it is not necessary to pay the complete price to the seller at the time of the contract yet some other precautionary measures such as a bank guarantee or a fair amount of money to be given to the seller should be taken to ensure that pure speculation is scrupulously forestalled and the delivery would certainly be made. If, for example, a large amount of money is given to the seller at the time of the contract the proscription of *bai al-kali bil-kali* would no longer be applicable because *bai al-kali bil-kali* comes about where the settlement by both parties is deferred to a future date, but that is not the case here. This amount of money would later on be adjusted to the total price. Options trading is also permissible because it is simply an extension of the fundamental concept of freedom and legitimacy given by the *Shari'ah* in relation to commercial transactions.

A large number of the organizations face credit risk and market risk. On the contrary, the majority of the organizations do not face currency risk and interest-rate risk. Most of the organizations face 'medium' credit risk, currency risk and interest-rate risk whereas a large number of the organizations face 'very high' market risk in the sample.

The majority of the respondents are acquainted with the concept of *khiyar al-shart*, *riba*, *maysir*, *gharar fahish*, *gharar yaseer*, *hatt wa ta'ajjal*, speculation based on relevant information, speculation based on excessive uncertainty, hedging, collateral and selling a commodity before owning or possessing it. Most of the respondents are also *au fait* with the structure of *istisna*, *salam*, *bai al-kali bil-kali*, *bai al-gha'ib*, *bai al-arbun*, *istijrar*, forward contracts, foreign currency forwards, forward rate agreements, futures contracts, foreign currency futures and interest-rate futures. However, a large number of the respondents are not conversant with the structure of options, foreign currency options, interest-rate options, interest-rate swaps, currency swaps, credit default swaps, total return swaps, Islamic swaps and swaptions.

The majority of the respondents are aware of the Islamic legal perspective on *khiyar al-shart*, *riba*, *maysir*, *gharar fahish*, speculation based on relevant information, speculation based on excessive uncertainty, hedging against different kinds of risk, collateral, *istisna*, *salam*, *bai al-arbun*, *bai istijrar*, forward contracts and futures contracts. However, most of the respondents are unacquainted with the Islamic legal perspective on *gharar yaseer*, *hatt wa ta'ajjal*, selling a commodity before owning or possessing it, *bai al-kali bil-kali*, *bai al-gha'ib*, foreign currency forwards, forward rate agreements, foreign currency futures, interest-rate futures, options, foreign currency options, interest-rate options, interest-rate swaps, currency swaps, credit default swaps, total return swaps, Islamic swaps and swaptions.

As far as the demand for the instruments of credit risk management is concerned there are 22 organizations (11.3 per cent) which want to use collateral; 8.7% of the organizations are desirous of using futures contracts; 1.5% of the organizations intend to use guarantee; and only 2 organizations long to use *hatt wa ta'ajjal* for credit risk management. As regards market risk management, there are 12 organizations (5.3 per cent) which want to use *arbun* sale; only 1 organization is desirous of using *bai al-salam*; 9.3% of the organizations intend to use forward contracts; 14 organizations (6.2 per cent) long to use futures contracts; only 1 organization wants to use *istijrar*; 1.8% of the organizations are desirous of using *istisna*; and 1.8% of the organizations intend to use *khiyar al-shart* for market risk management. In relation to currency risk management, there are 8 organizations which want to use foreign currency forwards; 11 organizations (12 per cent) are desirous of using foreign currency futures; and 4

organizations (4.3 per cent) intend to use foreign currency options for currency risk management. With respect to interest-rate risk management, there are 30 organizations which want to use forward rate agreements; 13.7% of the organizations are desirous of using interest-rate futures; and 4 organizations (4.2 per cent) intend to use interest-rate options for interest-rate risk management. The research findings represent that a large number of the respondents want to use these instruments, if available, for hedging purposes.

It is evident from the research findings that private companies have the highest severity scores of credit risk, with partnership reporting the lowest; the services sector has the highest severity scores of credit risk, with real estate reporting the lowest; and the organizations using both Islamic and conventional banks have the highest severity scores of credit risk, with Islamic banks reporting the lowest. Also, private companies have the highest severity scores of market risk, with partnership reporting the lowest; and the construction industry has the highest severity scores of market risk, with financial intermediation reporting the lowest. Besides, public limited companies have the highest severity scores of currency risk, with partnership reporting the lowest; and the organizations using both Islamic and conventional banks have the highest severity scores of currency risk, with Islamic banks reporting the lowest. Further, public limited companies have the highest severity scores of interest-rate risk, with partnership reporting the lowest.

The research findings suggest that the more awareness of legal concepts the respondents have, the less severity of credit risk they face; and the more structural awareness of financial derivatives the respondents have, the less severity of credit risk they face. Furthermore, the more structural awareness of Islamic contracts the respondents have, the less severity of market risk they face; and the more structural awareness of financial derivatives the respondents have, the less severity of market risk like credit risk they face. In addition, the more structural awareness of financial derivatives the respondents have, the less severity of currency risk they face. Moreover, the more structural awareness of financial derivatives the respondents have, the less severity of interest-rate risk they face.

The research findings indicate that the use of different instruments or techniques of credit risk management depends on the severity of credit risk, conceptual awareness of collateral and conceptual awareness of *hatt wa ta'ajjal*. Also, the use of different instruments or techniques of market risk management banks on the severity of market risk, structural awareness of *bai al-arbun*, structural awareness of forward contracts, structural awareness of *istisna* and conceptual awareness of *khiyar al-shart*. Besides, the use of various instruments or techniques of currency risk management depends on the severity of currency risk, structural awareness of foreign currency forwards and structural awareness of foreign currency options. Further, the use of various instruments or techniques of interest-rate risk management depends on the severity of interest-rate risk and structural awareness of forward rate agreements. Lastly, there is only one significant variable, that is to say the severity of interest-rate risk which influences the demand for different instruments or techniques of interest-rate risk management.

The researcher learnt while administering the questionnaires that the respondents who do not want to utilize the instruments or techniques of risk management are either unacquainted with their structure or, quite often, not aware of their adequate and proper use. It is therefore proposed that the Islamic as well as conventional financial institutions had better provide their clientele and other business entrepreneurs with the required risk management counselling. Another issue relates to the Islamic legal implications of foreign currency options, forward rate agreements and interest rate swaps permitted by the State Bank of Pakistan. The illicit features of these instruments *ipso facto* make them impracticable for those people who are desirous of using only *Shari'ah*-compliant instruments. It is thus suggested that the State Bank of Pakistan should also introduce other *Shari'ah*-compliant instruments, that is to say *istisna*, *salam*, *bai al-arbun*, *istijrar*, forward contracts, futures contracts, options and Islamic swaps, and allow Islamic as well as conventional banks to employ them for risk management. However, the banks engaged in derivatives transactions ought to ensure, by taking some precautionary measures such as a bank guarantee or a fair amount of money to be given to the seller, that pure speculation is scrupulously forestalled and the delivery would certainly be made.

10.3. Limitations of the Study

Although this study brought forth meaningful research findings by successfully addressing the research questions, testing the hypotheses, achieving the objectives, and accomplishing the aim of this research, the researcher had to face the following limitations as well as challenges whilst carrying out the research:

1) All questionnaires were given out to the organizations operating in two commercial and industrial cities of Pakistan, namely Lahore and Faisalabad. The researcher wanted to extend the incidence of the survey into Karachi as well but on account of the precarious and worsening situation of law and order in Karachi, it had to be abandoned.
2) The researcher randomly gave out 600 questionnaires to the organizations belonging to various types of business. Ideally, the questionnaires ought to have been distributed on an equal basis among all sectors but unfortunately, a number of business organizations demonstrated no interest in the survey and repudiated to respond. Consequently equal distribution of the questionnaires could not materialize. In addition, several questionnaires had to be spurned because of incomplete responses.
3) The researcher was desirous of conducting some interviews with various religious scholars to elicit their contentions in connection with the controversial issues canvassed in the theoretical part of the study. The scholars whom the researcher wanted to interview and who could give their expert opinion in this regard hailed from Karachi. No interviews could be conducted, thanks to the perennial mayhem and violence in the city.
4) As the population from which the sample was drawn was not normally distributed, and the data were collected on nominal and ordinal scales the researcher could not harness parametric techniques in order to analyze and interpret the data.
5) The researcher wanted to investigate what instruments of risk management are currently being offered by different financial institutions of Pakistan. With this end in view, a supply side questionnaire was drawn up and sent by e-mail to a number of Islamic as well as conventional banks. Unfortunately the response

rate was discouragingly low. Therefore the issues relating to the supply of instruments of risk management could not be addressed.

10.4. Recommendations for the Future Research

Having discussed the limitations of this study which were identified during the research process, the following are the recommendations and suggestions for the future research:

1) Future studies might expand the scope of the survey by including more cities and regions in Pakistan, thereby garnering useful information from more business organizations.
2) Future studies might utilize parametric techniques in order to draw further meaningful, robust and significant inferences from the information provided by various organizations.
3) In addition to the questionnaires, a number of interviews with experts in risk management might also be conducted in future studies. This will positively give the future researcher some practical suggestions in relation to the subject-matter.
4) The issues with respect to the supply of instruments of risk management might be addressed in future studies.

10.5. Epilogue

This study was undertaken with the aim of exploring the legitimacy or otherwise of financial derivatives according to the Islamic commercial law, and ascertaining the demand for instruments of risk management in various business and economic sectors of Pakistan. The strenuous and determined efforts exercised by the researcher to accomplish the aim of this study yielded highly useful and significant results. As the erstwhile chapters indicate this study minutely highlights to have addressed the research questions, tested the hypotheses, achieved the objectives, and accomplished the aim of the research. It is hoped that some, if not all, parts of this research would be

of benefit to and applied by the Islamic as well as conventional financial institutions in Pakistan and elsewhere.

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Appendix 1

Risk Management Guidelines for Islamic Banking Institutions

An overview of the principles described in these Guidelines is as follows:[1]

General

Principle 1: IBIs shall have in place a comprehensive risk management and reporting process, including appropriate board and senior management oversight, to identify, measure, monitor, report and control relevant categories of risks. The process shall take into account appropriate steps to comply with the *Shari'ah* rules and principles and to ensure the adequacy of relevant risk reporting to the supervisory authority.

- The Board of Directors (BOD) shall approve of the risk management objectives, strategies, policies and procedures that are consistent with the financial condition, risk profile and risk tolerance of the IBI.
- The BOD shall ensure the existence of an effective risk management structure for conducting IBI's activities, including adequate systems for measuring, monitoring, reporting and controlling risk exposure.
- The BOD shall approve of limits on aggregate financing and investment exposures to avoid concentration of risk and ensure that IBI holds adequate capital against these exposures. The BOD shall review the effectiveness of the risk management activities periodically and make appropriate changes as and when necessary.
- Senior management shall execute the strategic direction set by the BOD on an ongoing basis and set a clear line of authority and responsibility for managing, monitoring and reporting risks. The senior management shall ensure that the financing and investment activities are within the approved limits.

[1] For a detailed explication of these principles, see State Bank of Pakistan (2007)

Credit Risk

Principle 2: IBIs shall have in place a strategy for financing using various instruments in compliance with the *Shari'ah* whereby they recognize the potential credit exposures that may arise at different stages of the various financing agreements.

- While setting the level of risk appetite relating to counterparties, IBIs shall ensure that (a) the expected rate of return on a transaction is commensurate with the risks incurred, and (b) excessive credit risk at both individual and portfolio levels and risk concentration are being managed effectively.

Principle 3: IBIs shall carry out a due diligence review in respect of counterparties prior to deciding on the choice of an appropriate Islamic financing instrument.

- IBIs shall establish policies and procedures defining eligible counterparties, the nature of approved *Shari'ah*-compliant financing and types of appropriate financing instruments. IBIs shall obtain sufficient information to permit a comprehensive assessment of the risk profile of the counterparty prior to the financing being granted.
- In a financing involving several related agreements, IBIs need to be aware of the binding obligations arising in connection with credit risk associated with the underlying assets to each agreement. IBIs shall ensure that all components of the financial structure are contractually independent, although these may be executed in a parallel manner, despite their interrelated nature.

Principle 4: IBIs shall have in place appropriate methodologies for measuring and reporting the credit risk exposures arising under each Islamic financing instrument.

Principle 5: IBIs shall have in place *Shari'ah*-compliant credit risk mitigating techniques appropriate for each Islamic financing instrument.

Equity Investment Risk

Principle 6: IBIs shall have in place appropriate strategies, risk management and reporting processes in respect of the risk characteristics of equity investments, including *mudarabah* and *musharakah* investments.

- IBIs shall use *Shari'ah*-compliant risk-mitigating techniques which reduce the impact of possible capital impairment of an investment. This may include the use of *Shari'ah*-compliant security from the partner.

Principle 7: IBIs shall ensure that their valuation methodologies are appropriate and consistent, and assess the potential impacts of their methods on profit calculations and allocations. The methods shall be mutually agreed between the IBIs and the *mudarib* and/or *musharakah* partners.

Principle 8: IBIs shall define and establish the exit strategies in respect of their equity investment activities, including extension and redemption conditions for *mudarabah* and *musharakah* investments, subject to the approval of the institution's *Shari'ah* Advisor.

Market Risk

Principle 9: IBIs shall have in place an appropriate framework for market risk management in respect of all assets held, including those that do not have a ready market and/or are exposed to high price volatility.

Liquidity Risk

Principle 10: IBIs shall have in place a liquidity management framework, taking into account separately and on an overall basis their liquidity exposures in respect of each category of current accounts and PLS deposits.

- Due to the dual role of IBIs in meeting their obligations to current account-holders and managing the expectations of their PLS deposit-holders, the IBIs should make periodical cash flow analyses under various market scenarios and conditions.

Principle 11: IBIs shall assume liquidity risk commensurate with their ability to have sufficient recourse to *Shari'ah*-compliant funds to mitigate such a risk.

Rate of Return Risk

Principle 12: IBIs shall establish a comprehensive risk management and reporting process to assess the potential impacts of market factors affecting rates of return on assets in comparison with the expected rates of return for PLS deposit-holders.

- IBIs shall assess the effect of the level of their dependency on current account-holders' funds. Although no returns are expected by current account-holders, the sudden withdrawal of these funds would have an adverse impact on the overall potential rate of return for IBIs.

Principle 13: IBIs shall have in place an appropriate framework for managing displaced commercial risk, where applicable.

Operational Risk

Principle 14: IBIs shall have in place adequate systems and controls, including *Shari'ah* Advisor, to ensure compliance with the *Shari'ah* rules and principles.

- IBIs shall ensure that they comply with the *Shari'ah* rules and principles at all times as advised by the *Shari'ah* Advisor as well as SBP with respect to their products and activities. This means that *Shari'ah* compliance considerations are taken into account whenever the IBIs accept deposits and investment funds, provide finance and carry out investment services for their customers.

Principle 15: IBIs shall have in place appropriate mechanisms to safeguard the interests of all fund providers. Where PLS deposit-holders' funds are commingled with the IBIs' own funds, the IBIs shall ensure that the bases of asset, revenue, expense and profit allocations are established, applied and reported in a manner consistent with the IBIs' fiduciary responsibilities.

- IBIs shall adequately disclose information on a timely basis to their PLS deposit-holders and the markets in order to provide a reliable basis for assessing their risk profiles and investment performance, as prescribed by SBP from time to time.

Appendix 2

Financial Derivatives Business Regulations

An overview of the Financial Derivatives Business Regulations (FDBR) formulated by the State Bank of Pakistan (SBP) is as follows:[1]

General

1) State Bank of Pakistan (SBP) is the supervisory authority for all banks and Development Finance Institutions (DFIs) engaging in derivatives business. Financial institutions engaging in derivatives business shall obtain the approval of the State Bank of Pakistan and be subject to the supervision and scrutiny of the State Bank of Pakistan.
2) Financial Institutions, in these Regulations, means Scheduled Commercial Banks, Development Finance Institutions, Non-Banking Finance Companies (NBFC) as well as branches of foreign banks located in Pakistan.

Permissible Activity

3) Derivatives transactions currently permitted under the Regulations include:

a) Foreign Currency Options
b) Forward Rate Agreements
c) Interest Rate Swaps

No derivatives transaction other than those permitted within these Regulations shall be undertaken except with the express prior approval of the State Bank of Pakistan.

[1] For further details, see State Bank of Pakistan 2004, pp 1-10

4) While conducting derivatives transactions, financial institutions shall comply with all relevant regulations such as Foreign Exchange Regulations and other regulations issued by the State Bank of Pakistan from time to time.

Operational, Dealing and Risk Standards

5) A financial institution shall establish a Risk Management System, Internal Control System and Processing System commensurate with the nature, scale and complexity of its derivatives business.
6) Senior management of a financial institution shall understand the risks of engaging in derivatives transactions. They shall review and approve of the policies, procedures, organization and authorization of the business operation system and risk management system. They shall have access to information at any time in respect of such risks through an independent risk management function, a sound examination and reporting system, and shall supervise and manage derivatives business accordingly.
7) A financial institution shall formulate clear standards on the qualifications of dealers, analysts and other staff, and shall provide the relevant staff with training that corresponds to the complexity of derivatives transactions and risk management so as to ensure that they possess the necessary skills and qualifications.
8) A financial institution shall formulate relevant policies to assess the suitability of its counterparties, including the assessment of whether its counterparties fully understand the terms of the contracts, to ascertain whether the proposed derivatives transactions are consistent with the objectives of the counterparties and to assess the credit risk of the counterparties.
9) While conducting derivatives transactions with institutions and individuals, the financial institution shall disclose the risks involved in derivatives transactions, and shall obtain a written confirmation from such institutions or individuals in order to ensure that they have understood and have the ability to bear the risks in these derivatives transactions.
10) The information to be disclosed by the financial institution to such institutions or individuals shall include at least the following:

a) The contents of the derivatives contracts and a summary of the risks involved.
b) Significant factors that may affect the potential loss arising out of the derivatives transactions.

11) A financial institution may properly and reasonably use collateral or other credit risk reduction techniques to mitigate the credit risk of its counterparties, adopt proper measures to assess the credit risk and adopt risk control measures accordingly.
12) A financial institution shall use proper risk assessment methods to assess the market risk of derivatives transactions and manage the market risk based on marked-to-market principle. It shall also adjust the scale of its derivatives business, the types of transactions and the level of risk exposure accordingly.
13) A financial institution shall, based on the scale and types of the derivatives transactions, make adequate arrangements for liquidity to ensure its ability to perform contractual obligations even in extraordinary market conditions.
14) A financial institution shall set up a sound operational risk control mechanism and system to strictly control any operational risk.

Reporting and Disclosure

15) A financial institution shall submit reports on its derivatives transactions to the State Bank of Pakistan.
16) No derivatives transaction will be executed by the Authorized Derivatives Dealer/Non-Market Maker Financial Institution unless International Swaps and Derivatives Association (ISDA) Agreement has been exchanged with the other entity.
17) State Bank of Pakistan can examine the material and statements of the financial institution in relation to derivatives business at any time, and periodically examine whether the categories of derivatives transactions in which the financial institution is engaged are appropriate in the context of its risk management system, internal control system and business processing system.

18) Any financial institution conducting derivatives transactions as Non-Market Maker Financial Institution (NMI) or Authorized Derivatives Dealer (ADD) without obtaining the status of NMI or ADD shall render itself liable for punitive actions under the Banking Companies Ordinance 1962/other applicable laws which may lead to the cancellation of its licence under such laws.

Appendix 3

DURHAM ISLAMIC FINANCE PROGRAMME

DURHAM UNIVERSITY, UK

Dear Sir/Madam

I am currently doing Ph.D. in Islamic finance at Durham University, United Kingdom. The topic of my dissertation is 'Islamic Perspective on Financial Derivatives: Demand for Instruments of Risk Management in Various Businesses of Pakistan'.

This research explores the legitimacy or otherwise of financial derivatives according to the Islamic commercial law, and ascertains the demand for instruments of risk management in various business and economic sectors of Pakistan.

With this end in view, I would be deeply grateful to you for your participation, as this study is a part of the research leading to a Ph.D. at the School of Government and International Affairs, Durham University, United Kingdom.

Your responses will be kept **strictly confidential** and will only be used for achieving the aim of the research. This questionnaire is to be filled in by a relevant person in the organization.

By responding to the questions you are giving your consent that the information can be used for my research. If you have any queries feel free to contact me on 0044 782 740 5573 or at m.a.ehsan@durham.ac.uk

Yours sincerely

Muhammad Asif Ehsan

Research Project on
'Islamic Perspective on Financial Derivatives: Demand for Instruments of Risk Management in Various Businesses of Pakistan'

Section A: General Information

1. Name of the Organization: _____

2. Respondent's Position: _____

3. Year of Establishment: _____

4. Number of Branches/Offices: _____

5. Number of Employees: _____

6. Legal Status of the Organization (*Please mark the appropriate box with* ×):

Sole Proprietorship	☐	Partnership	☐
Private Company	☐	Public Limited Company	☐

Other (*Please specify*): _____

7. Type of Business (*Please mark the appropriate box with* ×):

Agriculture	☐	Construction	☐
Financial Intermediation	☐	Manufacturing	☐
Real Estate	☐	Services	☐
Retail Trade	☐	Wholesale Trade	☐

Other (*Please specify*): _____

8. Most recent balance sheet figures for the year 2010:

	Local Currency (Rs.)
Total Assets	
Total Liabilities	
Equity	
Total Debt	
Cash and/or Interest-Bearing Securities	
Accounts Receivable	

9. Which bank/s do you use for business purposes? (*Please mark the appropriate box with* ×):

Islamic ☐ Conventional ☐ Both ☐

10. What do you think about current Islamic and conventional banking operations? (*Please mark the appropriate box with* ×):

They are different	☐	Neither different nor similar	☐
They are similar	☐	I don't know	☐

Section B: Awareness and Perception of Islamic Finance

1. What is the Islamic position on business and commercial transactions in general? (*Please mark the appropriate box with* ×):

Permissibility ☐ Impermissibility ☐ I don't know ☐

2. Are you aware of the following Islamic as well as conventional contracts/concepts? Also, indicate the Islamic point of view on them. (*Please mark the appropriate boxes with* ×):

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Istisna					
Khiyar al-shart					
Salam					
Riba (interest)					
Maysir (gambling)					
Gharar fahish (substantial uncertainty)					
Gharar yaseer (trivial uncertainty)					
Speculation based on relevant information					
Speculation based on excessive uncertainty					
Hedging against different kinds of risk					

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Bai al-kali bil-kali (sale of one debt for another)					
Bai al-gha'ib (sale of unseen)					
Bai al-arbun					
Bai istijrar					
Collateral					
Hatt wa ta'ajjal					
Selling a non-existent commodity					
Deferring both payment and delivery of the subject-matter to a later date					
Selling a commodity before owning or possessing it					
Forward Contracts					
Foreign Currency Forwards					
Forward Rate Agreements					
Futures Contracts					
Foreign Currency Futures					

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Interest-Rate Futures					
Options					
Foreign Currency Options					
Interest-Rate Options					
Interest-Rate Swaps					
Currency Swaps					
Credit Default Swaps					
Total Return Swaps					
Islamic Swaps					
Swaptions					

3. Are forward contracts and futures contracts consistent with the basic principles and modalities of traditional Islamic contracts, e.g. *salam* and *istisna*? (*Please mark the appropriate box with* ×):

Yes ☐ No ☐ I don't know ☐

4. Are options consistent with the basic principles and modalities of traditional Islamic contract, i.e. *khiyar al-shart*? (*Please mark the appropriate box with* ×):

Yes ☐ No ☐ I don't know ☐

5. What are financial derivatives mainly used for? (*Please mark the appropriate box with* ×):

Hedging ☐ Speculation ☐
Arbitrage ☐ I don't know ☐

6. What will you use financial derivatives (if available) for? (*Please mark the appropriate box with* ×):

Hedging ☐ Speculation ☐
Arbitrage ☐ None of them ☐

Section C: Risk Exposure and Management

Part I: Credit Risk

(The risk that a counterparty will default on an obligation or delay payment)

1. Do you face credit risk? Yes ☐ No ☐

If YES please answer the following questions. If NO please move to part II.

2. How would you rank the severity of credit risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5

3. Do you use any instrument or technique to manage credit risk? Yes ☐ No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate credit risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part II.

5. What instruments/techniques do you use or want to use to reduce credit risk? (*Please mark the appropriate box with* ×):

Collateral	☐	Credit Default Swaps	☐
Futures Contracts	☐	Guarantee	☐
Hatt Wa Ta'ajjal	☐	Total Return Swaps	☐

Other (*please specify*): _____

Part II: Market Risk

(The risk that the prices may change)

1. Do you face market risk? Yes ☐ No ☐

If YES please answer the following questions. If NO please move to part III.

2. How would you rank the severity of market risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5

3. Do you use any instrument or technique to manage market risk? Yes ☐ No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate market risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part III.

5. What instruments/techniques do you use or want to use to reduce market risk? (*Please mark the appropriate box with* ×):

Arbun Sale	☐	*Bai Al-Salam*	☐
Forward Contracts	☐	Futures Contracts	☐
Islamic Swaps	☐	*Istijrar*	☐
Istisna	☐	*Khiyar Al-Shart*	☐
Options	☐	Swaps	☐

Other (*please specify*): _____

Part III: Currency Risk

(The risk that changes in exchange rates will affect the profitability)

1. Do you face currency risk? Yes ☐ No ☐

If YES please answer the following questions. If NO please move to part IV.

2. How would you rank the severity of currency risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5

3. Do you use any instrument or technique to manage currency risk?

Yes ☐ No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate currency risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part IV.

5. What instruments/techniques do you use or want to use to reduce currency risk? (*Please mark the appropriate box with* ×):

Currency Swaps	☐	Foreign Currency Forwards	☐
Foreign Currency Futures	☐	Foreign Currency Options	☐
Islamic Swaps	☐	Other (*please specify*): _____	

_____

Part IV: Interest-Rate Risk

(The risk arising from changes in interest rates)

1. Do you face interest-rate risk? Yes ☐ No ☐

If YES please answer the following questions. If NO please move to question 6.

2. How would you rank the severity of interest-rate risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5

3. Do you use any instrument or technique to manage interest-rate risk?

Yes ☐ No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate interest-rate risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to question 6.

5. What instruments/techniques do you use or want to use to reduce interest-rate risk? (*Please mark the appropriate box with* ×):

Forward Rate Agreements	☐	Interest-Rate Futures	☐
Interest-Rate Options	☐	Interest-Rate Swaps	☐
Swaptions	☐	Other (*please specify*): _____	

_____

6. Please identify other forms of risk, if any, in your organization and indicate how they are managed.

Risk/s	**Management Technique/s**
_____	_____
_____	_____
_____	_____

Please send the completed questionnaire back to:

Muhammad Asif Ehsan (m.a.ehsan@durham.ac.uk)
Durham Islamic Finance Programme, IMEIS, SGIA
The Al-Qasimi Building, Durham University
Durham DH1 3TU, UK

Thank you for your time and cooperation

Appendix 4

DURHAM ISLAMIC FINANCE PROGRAMME

DURHAM UNIVERSITY, UK

Dear Sir/Madam

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By responding to the questions you are giving your consent that the information can be used for my research. If you have any queries feel free to contact me on 0044 782 740 5573 or at m.a.ehsan@durham.ac.uk

Yours sincerely

Muhammad Asif Ehsan

Research Project on
'Islamic Perspective on Financial Derivatives: Demand for Instruments of Risk Management in Various Businesses of Pakistan'

Section A: General Information

1. Name of the Organization: Engro Chemical Pakistan Ltd

2. Respondent's Position: Process Engineer

3. Year of Establishment: 1995

4. Number of Branches/Offices: 3

5. Number of Employees: 223

6. Legal Status of the Organization (*Please mark the appropriate box with* ×):

Sole Proprietorship	☐	Partnership	☐
Private Company	☐	Public Limited Company	×
Other (*Please specify*): _____			

7. Type of Business (*Please mark the appropriate box with* ×):

Agriculture	×	Construction	☐
Financial Intermediation	☐	Manufacturing	☐
Real Estate	☐	Services	☐
Retail Trade	☐	Wholesale Trade	☐
Other (*Please specify*): _____			

8. Most recent balance sheet figures for the year 2010:

	Local Currency (Rs.)
Total Assets	150000000
Total Liabilities	500000
Equity	139580000
Total Debt	19120000
Cash and/or Interest-Bearing Securities	2200000
Accounts Receivable	7000000

9. Which bank/s do you use for business purposes? (*Please mark the appropriate box with* ×):

Islamic	☐	Conventional	×	Both	☐

10. What do you think about current Islamic and conventional banking operations? (*Please mark the appropriate box with* ×):

They are different	☐	Neither different nor similar	×
They are similar	☐	I don't know	☐

Section B: Awareness and Perception of Islamic Finance

1. What is the Islamic position on business and commercial transactions in general? (*Please mark the appropriate box with* ×):

Permissibility ☐ Impermissibility ☐ I don't know ×

2. Are you aware of the following Islamic as well as conventional contracts/concepts? Also, indicate the Islamic point of view on them. (*Please mark the appropriate boxes with* ×):

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Istisna	×		×		
Khiyar al-shart	×		×		
Salam		×			×
Riba (interest)	×			×	
Maysir (gambling)	×			×	
Gharar fahish (substantial uncertainty)		×			×
Gharar yaseer (trivial uncertainty)	×			×	
Speculation based on relevant information	×		×		
Speculation based on excessive uncertainty		×			×
Hedging against different kinds of risk		×			×

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Bai al-kali bil-kali (sale of one debt for another)	×				×
Bai al-gha'ib (sale of unseen)		×			×
Bai al-arbun	×			×	
Bai istijrar		×			×
Collateral	×		×		
Hatt wa ta'ajjal	×				×
Selling a non-existent commodity	×			×	
Deferring both payment and delivery of the subject-matter to a later date	×		×		
Selling a commodity before owning or possessing it		×			×
Forward Contracts	×		×		
Foreign Currency Forwards		×			×
Forward Rate Agreements		×			×
Futures Contracts	×				×
Foreign Currency Futures		×			×

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Interest-Rate Futures		×			×
Options	×		×		
Foreign Currency Options	×				×
Interest-Rate Options		×			×
Interest-Rate Swaps		×			×
Currency Swaps		×			×
Credit Default Swaps		×			×
Total Return Swaps		×			×
Islamic Swaps		×			×
Swaptions		×			×

3. Are forward contracts and futures contracts consistent with the basic principles and modalities of traditional Islamic contracts, e.g. *salam* and *istisna*? (*Please mark the appropriate box with* ×):

Yes × No ☐ I don't know ☐

4. Are options consistent with the basic principles and modalities of traditional Islamic contract, i.e. *khiyar al-shart*? (*Please mark the appropriate box with* ×):

Yes ☐ No ☐ I don't know ×

5. What are financial derivatives mainly used for? (*Please mark the appropriate box with* ×):

Hedging × Speculation ☐
Arbitrage ☐ I don't know ☐

6. What will you use financial derivatives (if available) for? (*Please mark the appropriate box with* ×):

Hedging ☐ Speculation ×
Arbitrage ☐ None of them ☐

Section C: Risk Exposure and Management

Part I: Credit Risk

(The risk that a counterparty will default on an obligation or delay payment)

1. Do you face credit risk? Yes × No ☐

If YES please answer the following questions. If NO please move to part II.

2. How would you rank the severity of credit risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
			×	

3. Do you use any instrument or technique to manage credit risk? Yes × No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate credit risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part II.

5. What instruments/techniques do you use or want to use to reduce credit risk? (*Please mark the appropriate box with* ×):

Collateral	☐	Credit Default Swaps	☐
Futures Contracts	×	Guarantee	☐
Hatt Wa Ta'ajjal	☐	Total Return Swaps	☐

Other (*please specify*): _____

Part II: Market Risk

(The risk that the prices may change)

1. Do you face market risk? Yes × No ☐

If YES please answer the following questions. If NO please move to part III.

2. How would you rank the severity of market risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
				×

3. Do you use any instrument or technique to manage market risk? Yes × No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate market risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part III.

5. What instruments/techniques do you use or want to use to reduce market risk? (*Please mark the appropriate box with* ×):

Arbun Sale	×	*Bai Al-Salam*	☐
Forward Contracts	☐	Futures Contracts	☐
Islamic Swaps	☐	*Istijrar*	☐
Istisna	☐	*Khiyar Al-Shart*	☐
Options	☐	Swaps	☐

Other (*please specify*): _____

Part III: Currency Risk

(The risk that changes in exchange rates will affect the profitability)

1. Do you face currency risk? Yes × No ☐

If YES please answer the following questions. If NO please move to part IV.

2. How would you rank the severity of currency risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
		×		

3. Do you use any instrument or technique to manage currency risk?

Yes × No ☐

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4. Do you want to use any instrument to mitigate currency risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part IV.

5. What instruments/techniques do you use or want to use to reduce currency risk? (*Please mark the appropriate box with* ×):

Currency Swaps	☐	Foreign Currency Forwards	×
Foreign Currency Futures	☐	Foreign Currency Options	☐
Islamic Swaps	☐	Other (*please specify*): _____	

_____

Part IV: Interest-Rate Risk

(The risk arising from changes in interest rates)

1. Do you face interest-rate risk? Yes × No ☐

If YES please answer the following questions. If NO please move to question 6.

2. How would you rank the severity of interest-rate risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
×				

3. Do you use any instrument or technique to manage interest-rate risk?

Yes ☐ No ×

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate interest-rate risk? Yes × No ☐

If YES please answer the following question. If NO please move to question 6.

5. What instruments/techniques do you use or want to use to reduce interest-rate risk? (*Please mark the appropriate box with* ×):

Forward Rate Agreements	×	Interest-Rate Futures	☐
Interest-Rate Options	☐	Interest-Rate Swaps	☐
Swaptions	☐	Other (*please specify*): _____	

_____

6. Please identify other forms of risk, if any, in your organization and indicate how they are managed.

Risk/s	**Management Technique/s**
_____	_____
_____	_____
_____	_____

Please send the completed questionnaire back to:

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Durham DH1 3TU, UK

Thank you for your time and cooperation

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By responding to the questions you are giving your consent that the information can be used for my research. If you have any queries feel free to contact me on 0044 782 740 5573 or at m.a.ehsan@durham.ac.uk

Yours sincerely

Muhammad Asif Ehsan

Research Project on
'Islamic Perspective on Financial Derivatives: Demand for Instruments of Risk Management in Various Businesses of Pakistan'

Section A: General Information

1. Name of the Organization: Askari Bank Limited

2. Respondent's Position: Relationship Manager

3. Year of Establishment: 1993

4. Number of Branches/Offices: 200-250

5. Number of Employees: 6000

6. Legal Status of the Organization (*Please mark the appropriate box with* ×):

Sole Proprietorship	☐	Partnership	☐
Private Company	☐	Public Limited Company	×
Other (*Please specify*): _____			

7. Type of Business (*Please mark the appropriate box with* ×):

Agriculture	☐	Construction	☐
Financial Intermediation	×	Manufacturing	☐
Real Estate	☐	Services	☐
Retail Trade	☐	Wholesale Trade	☐
Other (*Please specify*): _____			

8. Most recent balance sheet figures for the year 2010:

	Local Currency (Rs.)
Total Assets	
Total Liabilities	
Equity	
Total Debt	
Cash and/or Interest-Bearing Securities	
Accounts Receivable	

9. Which bank/s do you use for business purposes? (*Please mark the appropriate box with* ×):

Islamic	☐	Conventional	×	Both	☐

10. What do you think about current Islamic and conventional banking operations? (*Please mark the appropriate box with* ×):

They are different	☐	Neither different nor similar	×
They are similar	☐	I don't know	☐

Section B: Awareness and Perception of Islamic Finance

1. What is the Islamic position on business and commercial transactions in general? (*Please mark the appropriate box with* ×):

Permissibility × Impermissibility ☐ I don't know ☐

2. Are you aware of the following Islamic as well as conventional contracts/concepts? Also, indicate the Islamic point of view on them. (*Please mark the appropriate boxes with* ×):

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Istisna	×		×		
Khiyar al-shart	×		×		
Salam	×		×		
Riba (interest)	×			×	
Maysir (gambling)	×			×	
Gharar fahish (substantial uncertainty)	×			×	
Gharar yaseer (trivial uncertainty)	×		×		
Speculation based on relevant information	×		×		
Speculation based on excessive uncertainty	×				×
Hedging against different kinds of risk	×				×

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Bai al-kali bil-kali (sale of one debt for another)	×			×	
Bai al-gha'ib (sale of unseen)	×		×		
Bai al-arbun	×		×		
Bai istijrar	×		×		
Collateral	×		×		
Hatt wa ta'ajjal	×			×	
Selling a non-existent commodity	×			×	
Deferring both payment and delivery of the subject-matter to a later date	×		×		
Selling a commodity before owning or possessing it	×			×	
Forward Contracts	×		×		
Foreign Currency Forwards	×		×		
Forward Rate Agreements	×		×		
Futures Contracts	×		×		
Foreign Currency Futures	×		×		

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Interest-Rate Futures		×			×
Options		×			×
Foreign Currency Options		×			×
Interest-Rate Options		×			×
Interest-Rate Swaps		×			×
Currency Swaps		×			×
Credit Default Swaps		×			×
Total Return Swaps		×			×
Islamic Swaps		×			×
Swaptions		×			×

3. Are forward contracts and futures contracts consistent with the basic principles and modalities of traditional Islamic contracts, e.g. *salam* and *istisna*? (*Please mark the appropriate box with* ×):

Yes × No ☐ I don't know ☐

4. Are options consistent with the basic principles and modalities of traditional Islamic contract, i.e. *khiyar al-shart*? (*Please mark the appropriate box with* ×):

Yes × No ☐ I don't know ☐

5. What are financial derivatives mainly used for? (*Please mark the appropriate box with* ×):

Hedging × Speculation ☐
Arbitrage ☐ I don't know ☐

6. What will you use financial derivatives (if available) for? (*Please mark the appropriate box with* ×):

Hedging × Speculation ☐
Arbitrage ☐ None of them ☐

Section C: Risk Exposure and Management

Part I: Credit Risk

(The risk that a counterparty will default on an obligation or delay payment)

1. Do you face credit risk? Yes × No ☐

If YES please answer the following questions. If NO please move to part II.

2. How would you rank the severity of credit risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
	×			

3. Do you use any instrument or technique to manage credit risk? Yes × No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate credit risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part II.

5. What instruments/techniques do you use or want to use to reduce credit risk? (*Please mark the appropriate box with* ×):

Collateral	☐	Credit Default Swaps	☐
Futures Contracts	☐	Guarantee	×
Hatt Wa Ta'ajjal	☐	Total Return Swaps	☐

Other (*please specify*): _____

Part II: Market Risk

(The risk that the prices may change)

1. Do you face market risk? Yes ☐ No ×

If YES please answer the following questions. If NO please move to part III.

2. How would you rank the severity of market risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5

3. Do you use any instrument or technique to manage market risk? Yes ☐ No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate market risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part III.

5. What instruments/techniques do you use or want to use to reduce market risk? (*Please mark the appropriate box with* ×):

Arbun Sale	☐	*Bai Al-Salam*	☐
Forward Contracts	☐	Futures Contracts	☐
Islamic Swaps	☐	*Istijrar*	☐
Istisna	☐	*Khiyar Al-Shart*	☐
Options	☐	Swaps	☐

Other (*please specify*): _____

Part III: Currency Risk

(The risk that changes in exchange rates will affect the profitability)

1. Do you face currency risk? Yes × No ☐

If YES please answer the following questions. If NO please move to part IV.

2. How would you rank the severity of currency risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
			×	

3. Do you use any instrument or technique to manage currency risk?

Yes × No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate currency risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part IV.

5. What instruments/techniques do you use or want to use to reduce currency risk? (*Please mark the appropriate box with* ×):

Currency Swaps	☐	Foreign Currency Forwards	×
Foreign Currency Futures	☐	Foreign Currency Options	☐
Islamic Swaps	☐	Other (*please specify*): _____	

_____

Part IV: Interest-Rate Risk

(The risk arising from changes in interest rates)

1. Do you face interest-rate risk? Yes × No ☐

If YES please answer the following questions. If NO please move to question 6.

2. How would you rank the severity of interest-rate risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
			×	

3. Do you use any instrument or technique to manage interest-rate risk?

Yes × No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate interest-rate risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to question 6.

5. What instruments/techniques do you use or want to use to reduce interest-rate risk? (*Please mark the appropriate box with* ×):

Forward Rate Agreements	×	Interest-Rate Futures	☐
Interest-Rate Options	☐	Interest-Rate Swaps	☐
Swaptions	☐	Other (*please specify*): _____	

_____

6. Please identify other forms of risk, if any, in your organization and indicate how they are managed.

Risk/s	**Management Technique/s**
_____	_____
_____	_____
_____	_____

Please send the completed questionnaire back to:

Muhammad Asif Ehsan (m.a.ehsan@durham.ac.uk)
Durham Islamic Finance Programme, IMEIS, SGIA
The Al-Qasimi Building, Durham University
Durham DH1 3TU, UK

Thank you for your time and cooperation

DURHAM ISLAMIC FINANCE PROGRAMME

DURHAM UNIVERSITY, UK

Dear Sir/Madam

I am currently doing Ph.D. in Islamic finance at Durham University, United Kingdom. The topic of my dissertation is 'Islamic Perspective on Financial Derivatives: Demand for Instruments of Risk Management in Various Businesses of Pakistan'.

This research explores the legitimacy or otherwise of financial derivatives according to the Islamic commercial law, and ascertains the demand for instruments of risk management in various business and economic sectors of Pakistan.

With this end in view, I would be deeply grateful to you for your participation, as this study is a part of the research leading to a Ph.D. at the School of Government and International Affairs, Durham University, United Kingdom.

Your responses will be kept **strictly confidential** and will only be used for achieving the aim of the research. This questionnaire is to be filled in by a relevant person in the organization.

By responding to the questions you are giving your consent that the information can be used for my research. If you have any queries feel free to contact me on 0044 782 740 5573 or at m.a.ehsan@durham.ac.uk

Yours sincerely

Muhammad Asif Ehsan

Research Project on
'Islamic Perspective on Financial Derivatives: Demand for Instruments of Risk Management in Various Businesses of Pakistan'

Section A: General Information

1. Name of the Organization: Amtex Limited

2. Respondent's Position: Deputy Manager Accounts

3. Year of Establishment: 1962

4. Number of Branches/Offices: 7

5. Number of Employees: More than 10 000

6. Legal Status of the Organization (*Please mark the appropriate box with* ×):

Sole Proprietorship	☐	Partnership	☐
Private Company	☐	Public Limited Company	×

Other (*Please specify*): _____

7. Type of Business (*Please mark the appropriate box with* ×):

Agriculture	☐	Construction	☐
Financial Intermediation	☐	Manufacturing	×
Real Estate	☐	Services	☐
Retail Trade	☐	Wholesale Trade	☐

Other (*Please specify*): _____

8. Most recent balance sheet figures for the year 2010:

	Local Currency (Rs.)
Total Assets	
Total Liabilities	
Equity	
Total Debt	
Cash and/or Interest-Bearing Securities	
Accounts Receivable	

9. Which bank/s do you use for business purposes? (*Please mark the appropriate box with* ×):

Islamic ☐ Conventional ☐ Both ×

10. What do you think about current Islamic and conventional banking operations? (*Please mark the appropriate box with* ×):

They are different	×	Neither different nor similar	☐
They are similar	☐	I don't know	☐

Section B: Awareness and Perception of Islamic Finance

1. What is the Islamic position on business and commercial transactions in general? (*Please mark the appropriate box with* ×):

Permissibility × Impermissibility ☐ I don't know ☐

2. Are you aware of the following Islamic as well as conventional contracts/concepts? Also, indicate the Islamic point of view on them. (*Please mark the appropriate boxes with* ×):

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Istisna	×		×		
Khiyar al-shart	×		×		
Salam	×		×		
Riba (interest)	×			×	
Maysir (gambling)	×			×	
Gharar fahish (substantial uncertainty)	×			×	
Gharar yaseer (trivial uncertainty)	×		×		
Speculation based on relevant information	×		×		
Speculation based on excessive uncertainty	×			×	
Hedging against different kinds of risk	×		×		

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Bai al-kali bil-kali (sale of one debt for another)	×			×	
Bai al-gha'ib (sale of unseen)	×			×	
Bai al-arbun	×		×		
Bai istijrar	×		×		
Collateral	×		×		
Hatt wa ta'ajjal	×				×
Selling a non-existent commodity	×			×	
Deferring both payment and delivery of the subject-matter to a later date	×		×		
Selling a commodity before owning or possessing it	×				×
Forward Contracts	×		×		
Foreign Currency Forwards	×		×		
Forward Rate Agreements	×		×		
Futures Contracts	×		×		
Foreign Currency Futures	×		×		

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Interest-Rate Futures	×			×	
Options		×			×
Foreign Currency Options		×			×
Interest-Rate Options		×			×
Interest-Rate Swaps		×			×
Currency Swaps		×			×
Credit Default Swaps		×			×
Total Return Swaps		×			×
Islamic Swaps		×			×
Swaptions		×			×

3. Are forward contracts and futures contracts consistent with the basic principles and modalities of traditional Islamic contracts, e.g. *salam* and *istisna*? (*Please mark the appropriate box with* ×):

Yes × No ☐ I don't know ☐

4. Are options consistent with the basic principles and modalities of traditional Islamic contract, i.e. *khiyar al-shart*? (*Please mark the appropriate box with* ×):

Yes × No ☐ I don't know ☐

5. What are financial derivatives mainly used for? (*Please mark the appropriate box with* ×):

Hedging × Speculation ☐
Arbitrage ☐ I don't know ☐

6. What will you use financial derivatives (if available) for? (*Please mark the appropriate box with* ×):

Hedging × Speculation ☐
Arbitrage ☐ None of them ☐

Section C: Risk Exposure and Management

Part I: Credit Risk

(The risk that a counterparty will default on an obligation or delay payment)

1. Do you face credit risk? Yes × No ☐

If YES please answer the following questions. If NO please move to part II.

2. How would you rank the severity of credit risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
		×		

3. Do you use any instrument or technique to manage credit risk? Yes × No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate credit risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part II.

5. What instruments/techniques do you use or want to use to reduce credit risk? (*Please mark the appropriate box with* ×):

Collateral	×	Credit Default Swaps	☐
Futures Contracts	☐	Guarantee	☐
Hatt Wa Ta'ajjal	☐	Total Return Swaps	☐

Other (*please specify*): _____

Part II: Market Risk

(The risk that the prices may change)

1. Do you face market risk? Yes × No ☐

If YES please answer the following questions. If NO please move to part III.

2. How would you rank the severity of market risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
		×		

3. Do you use any instrument or technique to manage market risk? Yes × No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate market risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part III.

5. What instruments/techniques do you use or want to use to reduce market risk? (*Please mark the appropriate box with* ×):

Arbun Sale	☐	*Bai Al-Salam*	☐
Forward Contracts	☐	Futures Contracts	×
Islamic Swaps	☐	*Istijrar*	☐
Istisna	☐	*Khiyar Al-Shart*	☐
Options	☐	Swaps	☐

Other (*please specify*): _____

Part III: Currency Risk

(The risk that changes in exchange rates will affect the profitability)

1. Do you face currency risk? Yes × No ☐

If YES please answer the following questions. If NO please move to part IV.

2. How would you rank the severity of currency risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
			×	

3. Do you use any instrument or technique to manage currency risk?

Yes × No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate currency risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part IV.

5. What instruments/techniques do you use or want to use to reduce currency risk? (*Please mark the appropriate box with* ×):

Currency Swaps	☐	Foreign Currency Forwards	×
Foreign Currency Futures	☐	Foreign Currency Options	☐
Islamic Swaps	☐	Other (*please specify*): _____	

_____

Part IV: Interest-Rate Risk

(The risk arising from changes in interest rates)

1. Do you face interest-rate risk? Yes ☐ No ×

If YES please answer the following questions. If NO please move to question 6.

2. How would you rank the severity of interest-rate risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5

3. Do you use any instrument or technique to manage interest-rate risk?

Yes ☐ No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate interest-rate risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to question 6.

5. What instruments/techniques do you use or want to use to reduce interest-rate risk? (*Please mark the appropriate box with* ×):

Forward Rate Agreements	☐	Interest-Rate Futures	☐
Interest-Rate Options	☐	Interest-Rate Swaps	☐
Swaptions	☐	Other (*please specify*): _____	

_____

6. Please identify other forms of risk, if any, in your organization and indicate how they are managed.

Risk/s	**Management Technique/s**
_____	_____
_____	_____
_____	_____

Please send the completed questionnaire back to:

Muhammad Asif Ehsan (m.a.ehsan@durham.ac.uk)
Durham Islamic Finance Programme, IMEIS, SGIA
The Al-Qasimi Building, Durham University
Durham DH1 3TU, UK

Thank you for your time and cooperation

DURHAM ISLAMIC FINANCE PROGRAMME

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Dear Sir/Madam

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This research explores the legitimacy or otherwise of financial derivatives according to the Islamic commercial law, and ascertains the demand for instruments of risk management in various business and economic sectors of Pakistan.

With this end in view, I would be deeply grateful to you for your participation, as this study is a part of the research leading to a Ph.D. at the School of Government and International Affairs, Durham University, United Kingdom.

Your responses will be kept **strictly confidential** and will only be used for achieving the aim of the research. This questionnaire is to be filled in by a relevant person in the organization.

By responding to the questions you are giving your consent that the information can be used for my research. If you have any queries feel free to contact me on 0044 782 740 5573 or at m.a.ehsan@durham.ac.uk

Yours sincerely

Muhammad Asif Ehsan

Research Project on
'Islamic Perspective on Financial Derivatives: Demand for Instruments of Risk Management in Various Businesses of Pakistan'

Section A: General Information

1. Name of the Organization: Mian Enterprises

2. Respondent's Position: Owner

3. Year of Establishment: 2000

4. Number of Branches/Offices: 1

5. Number of Employees:

6. Legal Status of the Organization (*Please mark the appropriate box with* ×):

Sole Proprietorship	×	Partnership	☐
Private Company	☐	Public Limited Company	☐

Other (*Please specify*): _____

7. Type of Business (*Please mark the appropriate box with* ×):

Agriculture	☐	Construction	☐
Financial Intermediation	☐	Manufacturing	☐
Real Estate	☐	Services	×
Retail Trade	☐	Wholesale Trade	☐

Other (*Please specify*): _____

8. Most recent balance sheet figures for the year 2010:

	Local Currency (Rs.)
Total Assets	16000000
Total Liabilities	310000
Equity	18070000
Total Debt	220000
Cash and/or Interest-Bearing Securities	900000
Accounts Receivable	1700000

9. Which bank/s do you use for business purposes? (*Please mark the appropriate box with* ×):

Islamic × Conventional ☐ Both ☐

10. What do you think about current Islamic and conventional banking operations? (*Please mark the appropriate box with* ×):

They are different	×	Neither different nor similar	☐
They are similar	☐	I don't know	☐

Section B: Awareness and Perception of Islamic Finance

1. What is the Islamic position on business and commercial transactions in general? (*Please mark the appropriate box with* ×):

Permissibility × Impermissibility ☐ I don't know ☐

2. Are you aware of the following Islamic as well as conventional contracts/concepts? Also, indicate the Islamic point of view on them. (*Please mark the appropriate boxes with* ×):

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Istisna	×		×		
Khiyar al-shart	×		×		
Salam		×			×
Riba (interest)	×			×	
Maysir (gambling)	×			×	
Gharar fahish (substantial uncertainty)		×			×
Gharar yaseer (trivial uncertainty)	×			×	
Speculation based on relevant information	×		×		
Speculation based on excessive uncertainty	×				×
Hedging against different kinds of risk	×		×		

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Bai al-kali bil-kali (sale of one debt for another)	×				×
Bai al-gha'ib (sale of unseen)		×			×
Bai al-arbun	×		×		
Bai istijrar		×			×
Collateral					
Hatt wa ta'ajjal	×				×
Selling a non-existent commodity	×				×
Deferring both payment and delivery of the subject-matter to a later date	×			×	
Selling a commodity before owning or possessing it		×			×
Forward Contracts	×		×		
Foreign Currency Forwards	×			×	
Forward Rate Agreements	×		×		
Futures Contracts		×			×
Foreign Currency Futures	×			×	

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Interest-Rate Futures	×			×	
Options	×		×		
Foreign Currency Options	×			×	
Interest-Rate Options		×			×
Interest-Rate Swaps		×			×
Currency Swaps		×			×
Credit Default Swaps		×			×
Total Return Swaps		×			×
Islamic Swaps		×			×
Swaptions		×			×

3. Are forward contracts and futures contracts consistent with the basic principles and modalities of traditional Islamic contracts, e.g. *salam* and *istisna*? (*Please mark the appropriate box with* ×):

Yes ☐ No ☐ I don't know ×

4. Are options consistent with the basic principles and modalities of traditional Islamic contract, i.e. *khiyar al-shart*? (*Please mark the appropriate box with* ×):

Yes × No ☐ I don't know ☐

5. What are financial derivatives mainly used for? (*Please mark the appropriate box with* ×):

Hedging × Speculation ☐
Arbitrage ☐ I don't know ☐

6. What will you use financial derivatives (if available) for? (*Please mark the appropriate box with* ×):

Hedging × Speculation ☐
Arbitrage ☐ None of them ☐

Section C: Risk Exposure and Management

Part I: Credit Risk

(The risk that a counterparty will default on an obligation or delay payment)

1. Do you face credit risk? Yes × No ☐

If YES please answer the following questions. If NO please move to part II.

2. How would you rank the severity of credit risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
	×			

3. Do you use any instrument or technique to manage credit risk? Yes × No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate credit risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part II.

5. What instruments/techniques do you use or want to use to reduce credit risk? (*Please mark the appropriate box with* ×):

Collateral	×	Credit Default Swaps	☐
Futures Contracts	☐	Guarantee	☐
Hatt Wa Ta'ajjal	☐	Total Return Swaps	☐

Other (*please specify*): _____

Part II: Market Risk

(The risk that the prices may change)

1. Do you face market risk? Yes × No ☐

If YES please answer the following questions. If NO please move to part III.

2. How would you rank the severity of market risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
		×		

3. Do you use any instrument or technique to manage market risk? Yes × No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate market risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part III.

5. What instruments/techniques do you use or want to use to reduce market risk? (*Please mark the appropriate box with* ×):

Arbun Sale	☐	*Bai Al-Salam*	×
Forward Contracts	☐	Futures Contracts	☐
Islamic Swaps	☐	*Istijrar*	☐
Istisna	☐	*Khiyar Al-Shart*	☐
Options	☐	Swaps	☐

Other (*please specify*): _____

Part III: Currency Risk

(The risk that changes in exchange rates will affect the profitability)

1. Do you face currency risk? Yes ☐ No ×

If YES please answer the following questions. If NO please move to part IV.

2. How would you rank the severity of currency risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5

3. Do you use any instrument or technique to manage currency risk?

Yes ☐ No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate currency risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part IV.

5. What instruments/techniques do you use or want to use to reduce currency risk? (*Please mark the appropriate box with* ×):

Currency Swaps	☐	Foreign Currency Forwards	☐
Foreign Currency Futures	☐	Foreign Currency Options	☐
Islamic Swaps	☐	Other (*please specify*): _____	

_____

Part IV: Interest-Rate Risk

(The risk arising from changes in interest rates)

1. Do you face interest-rate risk? Yes ☐ No ×

If YES please answer the following questions. If NO please move to question 6.

2. How would you rank the severity of interest-rate risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5

3. Do you use any instrument or technique to manage interest-rate risk?

Yes ☐ No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate interest-rate risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to question 6.

5. What instruments/techniques do you use or want to use to reduce interest-rate risk? (*Please mark the appropriate box with* ×):

Forward Rate Agreements	☐	Interest-Rate Futures	☐
Interest-Rate Options	☐	Interest-Rate Swaps	☐
Swaptions	☐	Other (*please specify*): _____	

_____

6. Please identify other forms of risk, if any, in your organization and indicate how they are managed.

Risk/s	**Management Technique/s**
_____	_____
_____	_____
_____	_____

Please send the completed questionnaire back to:

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Dear Sir/Madam

I am currently doing Ph.D. in Islamic finance at Durham University, United Kingdom. The topic of my dissertation is 'Islamic Perspective on Financial Derivatives: Demand for Instruments of Risk Management in Various Businesses of Pakistan'.

This research explores the legitimacy or otherwise of financial derivatives according to the Islamic commercial law, and ascertains the demand for instruments of risk management in various business and economic sectors of Pakistan.

With this end in view, I would be deeply grateful to you for your participation, as this study is a part of the research leading to a Ph.D. at the School of Government and International Affairs, Durham University, United Kingdom.

Your responses will be kept **strictly confidential** and will only be used for achieving the aim of the research. This questionnaire is to be filled in by a relevant person in the organization.

By responding to the questions you are giving your consent that the information can be used for my research. If you have any queries feel free to contact me on 0044 782 740 5573 or at m.a.ehsan@durham.ac.uk

Yours sincerely

Muhammad Asif Ehsan

Research Project on
'Islamic Perspective on Financial Derivatives: Demand for Instruments of Risk Management in Various Businesses of Pakistan'

Section A: General Information

1. Name of the Organization: Hussain Autos

2. Respondent's Position: Chief Executive

3. Year of Establishment: 2007

4. Number of Branches/Offices: 1

5. Number of Employees:

6. Legal Status of the Organization (*Please mark the appropriate box with* ×):

Sole Proprietorship	×	Partnership	☐
Private Company	☐	Public Limited Company	☐

Other (*Please specify*): _____

7. Type of Business (*Please mark the appropriate box with* ×):

Agriculture	☐	Construction	☐
Financial Intermediation	☐	Manufacturing	☐
Real Estate	☐	Services	☐
Retail Trade	×	Wholesale Trade	☐

Other (*Please specify*): _____

8. Most recent balance sheet figures for the year 2010:

	Local Currency (Rs.)
Total Assets	6400000
Total Liabilities	600000
Equity	7300000
Total Debt	900000
Cash and/or Interest-Bearing Securities	600000
Accounts Receivable	1800000

9. Which bank/s do you use for business purposes? (*Please mark the appropriate box with* ×):

Islamic ☐ Conventional ☐ Both ×

10. What do you think about current Islamic and conventional banking operations? (*Please mark the appropriate box with* ×):

They are different	☐	Neither different nor similar	☐
They are similar	×	I don't know	☐

Section B: Awareness and Perception of Islamic Finance

1. What is the Islamic position on business and commercial transactions in general? (*Please mark the appropriate box with* ×):

Permissibility ☐ Impermissibility ☐ I don't know ×

2. Are you aware of the following Islamic as well as conventional contracts/concepts? Also, indicate the Islamic point of view on them. (*Please mark the appropriate boxes with* ×):

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Istisna	×		×		
Khiyar al-shart	×		×		
Salam	×				×
Riba (interest)	×			×	
Maysir (gambling)		×			×
Gharar fahish (substantial uncertainty)	×		×		
Gharar yaseer (trivial uncertainty)		×			×
Speculation based on relevant information	×		×		
Speculation based on excessive uncertainty	×		×		
Hedging against different kinds of risk	×				×

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Bai al-kali bil-kali (sale of one debt for another)	×		×		
Bai al-gha'ib (sale of unseen)	×		×		
Bai al-arbun		×			×
Bai istijrar	×		×		
Collateral	×		×		
Hatt wa ta'ajjal	×				×
Selling a non-existent commodity		×			×
Deferring both payment and delivery of the subject-matter to a later date	×		×		
Selling a commodity before owning or possessing it	×		×		
Forward Contracts	×			×	
Foreign Currency Forwards	×		×		
Forward Rate Agreements		×			×
Futures Contracts	×			×	
Foreign Currency Futures		×			×

	Awareness of Structure		Islamic Legal Perspective		
	Yes	No	Permissible	Impermissible	I don't know
Interest-Rate Futures	×				×
Options		×			×
Foreign Currency Options	×		×		
Interest-Rate Options	×				×
Interest-Rate Swaps		×			×
Currency Swaps		×			×
Credit Default Swaps		×			×
Total Return Swaps		×			×
Islamic Swaps		×			×
Swaptions		×			×

3. Are forward contracts and futures contracts consistent with the basic principles and modalities of traditional Islamic contracts, e.g. *salam* and *istisna*? (*Please mark the appropriate box with* ×):

Yes ☐ No ☐ I don't know ×

4. Are options consistent with the basic principles and modalities of traditional Islamic contract, i.e. *khiyar al-shart*? (*Please mark the appropriate box with* ×):

Yes × No ☐ I don't know ☐

5. What are financial derivatives mainly used for? (*Please mark the appropriate box with* ×):

Hedging ☐ Speculation ×
Arbitrage ☐ I don't know ☐

6. What will you use financial derivatives (if available) for? (*Please mark the appropriate box with* ×):

Hedging × Speculation ☐
Arbitrage ☐ None of them ☐

Section C: Risk Exposure and Management

Part I: Credit Risk

(The risk that a counterparty will default on an obligation or delay payment)

1. Do you face credit risk? Yes × No ☐

If YES please answer the following questions. If NO please move to part II.

2. How would you rank the severity of credit risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
	×			

3. Do you use any instrument or technique to manage credit risk? Yes × No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate credit risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part II.

5. What instruments/techniques do you use or want to use to reduce credit risk? (*Please mark the appropriate box with* ×):

Collateral	☐	Credit Default Swaps	☐
Futures Contracts	×	Guarantee	☐
Hatt Wa Ta'ajjal	☐	Total Return Swaps	☐

Other (*please specify*): _____

Part II: Market Risk

(The risk that the prices may change)

1. Do you face market risk? Yes × No ☐

If YES please answer the following questions. If NO please move to part III.

2. How would you rank the severity of market risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5
			×	

3. Do you use any instrument or technique to manage market risk? Yes × No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate market risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part III.

5. What instruments/techniques do you use or want to use to reduce market risk? (*Please mark the appropriate box with* ×):

Arbun Sale	×	*Bai Al-Salam*	☐
Forward Contracts	☐	Futures Contracts	☐
Islamic Swaps	☐	*Istijrar*	☐
Istisna	☐	*Khiyar Al-Shart*	☐
Options	☐	Swaps	☐

Other (*please specify*): _____

Part III: Currency Risk

(The risk that changes in exchange rates will affect the profitability)

1. Do you face currency risk? Yes ☐ No ×

If YES please answer the following questions. If NO please move to part IV.

2. How would you rank the severity of currency risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5

3. Do you use any instrument or technique to manage currency risk?

Yes ☐ No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate currency risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to part IV.

5. What instruments/techniques do you use or want to use to reduce currency risk? (*Please mark the appropriate box with* ×):

Currency Swaps	☐	Foreign Currency Forwards	☐
Foreign Currency Futures	☐	Foreign Currency Options	☐
Islamic Swaps	☐	Other (*please specify*): _____	

_____

Part IV: Interest-Rate Risk

(The risk arising from changes in interest rates)

1. Do you face interest-rate risk? Yes ☐ No ×

If YES please answer the following questions. If NO please move to question 6.

2. How would you rank the severity of interest-rate risk in your organization? (*Please mark the appropriate box with* ×):

Very Low	Low	Medium	High	Very High
1	2	3	4	5

3. Do you use any instrument or technique to manage interest-rate risk?

Yes ☐ No ☐

If NO please answer the following question. If YES please move to question 5.

4. Do you want to use any instrument to mitigate interest-rate risk? Yes ☐ No ☐

If YES please answer the following question. If NO please move to question 6.

5. What instruments/techniques do you use or want to use to reduce interest-rate risk? (*Please mark the appropriate box with* ×):

Forward Rate Agreements	☐	Interest-Rate Futures	☐
Interest-Rate Options	☐	Interest-Rate Swaps	☐
Swaptions	☐	Other (*please specify*): _____	

_____

6. Please identify other forms of risk, if any, in your organization and indicate how they are managed.

Risk/s	**Management Technique/s**
_____	_____
_____	_____
_____	_____

Please send the completed questionnaire back to:

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The Al-Qasimi Building, Durham University
Durham DH1 3TU, UK

Thank you for your time and cooperation