A Comparison of Speculation and Hedging in Derivative Market

Nor Fahimah Mohd Razif[1*], Shamsiah Mohamad [2], and Noor Sakinah Samsulkamal [3]

[1]Department of Fiqh and Usul, Academy of Islamic Studies, University of Malaya, Kuala Lumpur, Malaysia
norfahimah@um.edu.my
[2]International Shariah Research Academy for Islamic Finance, Kuala Lumpur, Malaysia
shamsiah@isra.my
[3]Department of Fiqh and Usul, Academy of Islamic Studies, University of Malaya, Kuala Lumpur, Malaysia
sakinahsk01@gmail.com
[*]Corresponding author

Abstract: This study examines the activity of speculation and hedging that have been executed in derivative markets since risk allocation should be facilitated in the markets in accordance to objective of shariah (Islamic Law) which is in an intersected line with the purpose of Islamic economics to ensure the well-being of society and the market efficiency. Therefore, this paper **e**ncapsulating the discussion around their operational activity, and shariah issues related to speculation and hedging in derivative market. Descriptive and textual analysis approach is adopted and all data extracted from journals and articles from websites have been used as references by searching some keywords for instance: "speculation", "hedging", "risk management", "derivative markets" and "forward/future markets". This study concluded that hedging is an activity to reduce the risks associated with uncertainty, while speculation is a bet against the movements of the market to profit from fluctuations in the price of derivatives. Notwithstanding the fact that some scholars might accept a certain kind of speculation to help delegate and distribute risk to those who can afford to bear it, the constructive regulations must be taken to ensure the derivative contracts employed by Islamic Financial institutions are carried out only for the purpose of hedging.

Keywords: Derivative Markets, Islamic Hedging, Islamic Finance, Risk Management, Speculation

Introduction

The first financial derivative emerged in Chicago in the early 1970s in response to increasing interest rates, exchange rates and volatile prices. In the three decades before the credit crunch of 2008 and global financial crisis, financial derivative contracts grew rapidly to constitute a major component of the U.S. financial system (Ali 2014). However, the financial services industry has changed irrevocably because of the credit crisis (Naughton 2000; Syed 2015) and many now agree with Warren Buffet's long held view, which depicts derivative as "financial weapons of mass destruction" (Baigent and Massaro 2005).

From the biggest corporation involved in foreign markets to the smallest company, exposure to financial risk cannot be avoided and managing that risk is vital to the financial viability of the firm. By employing derivative, companies and individuals can transfer for a price any undesired risk to other parties who have risks that offset or who want to assume that risk (Chance 2004). However, risk can also be increased with the use of derivatives (Naughton 2000). The speculative behavior of a few has caused catastrophic consequences. Some of the more famous financial scandals caused by speculation on the derivative market involve Barings Bank, China Aviation Oil, Sumitomo Corporation, Amaranth Advisors Enron, Barings Bank, Volkswagen Inc., Proctor and Gamble, and Sears, just to mention a few (Karen 2005; Syed 2015). In simple terms, derivatives are financial instruments most often offered by banks to assist companies in managing their exposures to certain market fluctuations.

No organization can escape exposure to risk which is present in the general environment in which the firm operates. For instance, border tariffs imposed by the Canadian government on goods entering this country affect the prices corporations charge to consumers for products. Risk is also present in specific industries. For instance, fishing industry firms are exposed to the risk of quotas set by federal programs to protecting dwindling fish stocks. These quotas can be unpredictable and affect revenue significantly. Increasing the prices to consumers is not always an effective means of recuperating lost revenue due to the probable presence of substitutes (Karen 2005).

Such behavior underlines the difficulty in distinguishing between hedging and speculation. If all exposed financial risks were hedged using either a derivative or natural hedging, one would argue

that no speculation is taking place. If the company policy is to hedge 50% of all exposures, does this mean they are speculating on the 50% unhedged? Some independent auditors might call this speculation while others would disagree; arguing that following company policy is not speculation.

The issue of derivatives leads us to consider one further area, the question of hedging and speculation. Investors may seek to protect their underlying investments by buying and selling derivatives such as options and futures. But derivative markets also have an element of speculation, because a well-functioning derivative market depends on the interaction of speculators and hedgers (Johnson 1960; Naughton 2000). The question to be considered is whether the practice of hedging and speculation is acceptable from Islamic perspective because the derivative instruments remain controversial in Islamic finance. There are strong objections regarding the use of derivatives in Islamic finance while other scholars believe it is necessary in the current business environment.

Therefore, the article is structured as follows. The first section gives background material on the financial derivatives contracts. The second section discuss the concept of hedging and speculation and their practices in derivative market. The next section offers a critical and comparative analysis of the shariah issues arise from both speculation and hedging. The fourth section gives a conclusion.

Financial Derivatives

Derivatives are financial asset whose values are dependent on underlying asset or known variables (Loader 2005). For example, the changing value of a crude oil futures contract depends primarily on the upward or downward movement of oil prices (Morris 2003). These contracts are legally binding agreements, made on the trading screen of stock exchanges, to buy or sell an asset in the future. The underlying asset can be anything, from a share, index, interest rate, bond, rupee dollar exchange rate, crude oil, sugar, soybean, coffee, cotton or whatever else is being traded (Mishra and Debasish 2007).

Derivatives allows risk diversification, enhances liquidity management, supplement cash markets at lower funding cost, and ensure an efficient transmission of funds from lender to borrowers (Syed 2015; Naughton 2000). Financial derivatives contracts are settled at a future date, and are therefore not performed in the present market (Subramani 2011; Bacha 2007). Basically, derivative products are used for various purposes. However, the product is usually sold for a purpose whether hedging, arbitrage, or speculation. Hedgers use derivatives to reduce financial risk (Kolb 1993). While the arbitrager and speculators use derivatives to profit from the differences in market prices based on speculation made on the movement of market prices (McCafferty and Wasendorf 1993; Elgari 2009).

The most commonly used financial derivatives contracts: forwards, futures, options and swaps. A forward contract is an agreement where the buyer agrees to buy from the seller an underlying asset for a fixed price during a future period of time (Levinson 2010; Rosalan et. al. 2006). The transaction will not be completed until some agreed-upon date in the future and the delivery date and quantity are all set when the future is created. The seller has a legal obligation to make delivery on specified date and the buyer is obliged to take delivery on specified date and make payments (Nuradli and Sanep 2005). The purpose of a forward contract is to avoid price uncertainty and lock in a price for a future transaction (Janakiramanan 2011). In a forward contract, no initial payment is required hence, this kind of contract can be used for either hedging or speculation (Machiraju 2002).

A futures contract is essentially a standardized forward contract (Hull 2007). It is an agreement between a buyer and seller at specified time to deliver a specified asset at a certain time in the future for a certain price. The price is competitively determined by "open outcry" on the trading floor or through a computer-based market. The contract, if taken to maturity, is fulfilled by a cash payment of price and actual delivery of the item on the delivery date based on the settlement price for that date (Saunders and Cornett 2007). While the futures contract specifies that an exchange will take place in the future, the purpose of the futures exchange is to minimise the risk of default by either party (McDowell 2011).

Fundamentally, futures contracts are similar to forward contracts, however, there are three major differences between futures and forward contracts. First, futures contracts are traded on exchanges, whereas forward contracts are not. Consequently, futures contracts are much more liquid, and there is no default or credit risk. However, this advantage must be offset against the fact that futures contracts are standardized and cannot be adapted to meet the firm's precise needs. Second, futures

contracts require both parties (buyer and seller) to settle differences daily rather than waiting for expiration of the contract. Thus, if a firm buys a futures contract for oil, and oil prices go down, the firm is obliged to pay the seller of the contract the difference. Because futures contracts are settled at the end of each day, they are converted into a sequence of one-day forward contracts. This can influence their pricing. Third, when a futures contract is bought or sold, the parties are required to put up a percentage of the price of the contract at a "margin". This operates as a performance bond, ensuring there is no default risk (Aswath 2008).

In contrast to futures, option is the right to buy or sell a certain amount of an underlying financial asset at a specified price for a given period of time (Sherin 2008). Based on this principle, option contracts are classified into two broad categories: call option and put option. A call option gives the holder the right to buy an underlying asset by a certain date for a certain price. The seller is under an obligation to fulfil the contract and is paid a price of this which is called "the call option premium" or "call option price". A put option gives the holder the right to sell an underlying asset by a certain date for a certain price. The buyer is under an obligation to fulfil the contract and is paid a price for this, which is called "the put option premium" or "put option price" (Bhat 2009). The purpose of an option contract is to provide the offeree with time to evaluate the main contract offer (Frey 2001). Options are used for hedging, risk management, speculation or investment (Tucker 1991; Obaidullah 1999).

Swaps are contractual arrangements between two parties who agree to exchange, over time and according to predetermined rules, streams of payment of the same amount of indebtedness (Cullinane 2010). Swaps objectives are stated to include hedging of financial risks, reducing financing costs, conducting large-scale operations for more and more profit, access to new markets and, mostly, undertaking speculative activities to maximise the gains (Bacha 2007).

Muslim scholars adopted different approach in discussing the issues of derivatives contract. Some discuss it from the aspect of the structure of derivative contract itself, some discuss it from the point of tradability in the market. While this paper will review the legality of derivatives contract from the aspect of objective in employing the derivatives contract which are hedging and speculation. Whether the usage of hedging or speculation in derivative market are in accordance with Islamic principles.

The Concept of Hedging and Speculation and Their Practices in Derivative Market

Before delving further into the permissibility of hedging, we should first look into the definition of hedging. In Arabic language, the term hedging is known as *tahawwut* which origins from the word *hata*. The linguistic meaning of the word *hiyatah* includes precaution, protection, and/or patronage (Ibn Manzur n.d). The technical meaning of the word *tahawwut* in the field of finance is: the adoption of processes and arrangements and the selection of the contractual formats that guarantee the reduction of risks to a minimum while maintaining good possibilities for return on investment (Elgari, n.d). Therefore, the authors, after studying several sources, have come up with own definition of hedging, which is an act of protecting an asset or investment from the uncertain market, the individual engaged in the act of hedging is called the hedger. While hedger is a person who enters the market not for the purpose of gaining profits from the price change but rather to manage risk to the minimum.

Most commodity trading theorists have visualized the hedger as a dealer in the "actual" commodity who desires " insurance " against the price risks he faces. For example, if he purchases a unit of the commodity at a given spot price and the price falls (rises) prior to his reselling it, he is exposed to a capital loss (gain), in addition to whatever merchandising profit he receives, by the amount of that price change. According to these theorists he would typically protect his inventory position of x units from the risk of such price fluctuation by simultaneously selling a sufficient number of future contracts to cover delivery of x units; when he resells his inventory, he would simultaneously liquidate his position in futures by purchasing the same number of contracts (of the same future) as before. If the net change in spot price is equal to the net change in the price of his future, i.e., if the price movements are parallel to each other, the gain he enjoys in one market offsets the loss in the other and he would be left with only his "normal" merchandising profit. Otherwise he would be left with a residual capital gain or loss (Johnson 1960).

Meanwhile, Kaldor (1939), Emery (1969), Friedman (1987), David Pearce (1992), and Szado (2011), define speculation as the practice of purchasing of any property, commodity or security with the motive of merely to resale at later time in short holding to obtain a quick profit or capital gain by anticipating the price change (short term gain) by high risk-taking from the financial trading, possibly without the adequate research. It also focuses on attaining profit solely from price fluctuation as an income and capital gain, but not the fundamental value of securities and dividend. It involves uncertainties and risk of possession upon luck or chance in order to gain future profit (Emery 1969). Risk is a key element in speculation as the expectation of risk itself is namely as speculation. Expectation of fluctuation value is important to realize gain (Wong 1998). Most of the definitions of speculation have to do with the assumption of risk in the process of taking advantage in price difference upon buying and selling of an asset (Rafikov and Saiti 2017). It takes a greater risk to ensure a greater return. Therefore, the authors, after studying several sources, have come up with own definition of speculation, which is an act of buying of asset and selling it back for the purpose of making a capital gain in the short period and the risk involved therein.

Related to speculation is the practice of arbitrage. An arbitrageur is a particular type of speculator who seeks to obtain a risk-free return with a zero investment. An example of a potential arbitrage opportunity is the existence of identical assets at different prices in different markets (Naughton 2000). Technically, anyone who buys or shorts a derivatives with the expectation of a favorable price change is a speculator. For example, assume a speculator believes that TNB's stock price will increase to RM140 within the next two months. TNB's stock price opened at RM129.07 on May 15, 2017. Since the speculator does not want to tie up his capital in one stock by buying 1,000 shares of TNB, he buys 10 call option contracts with a strike price of RM130 and an expiration date on July 17, 2017. Therefore, if the stock price increases above RM130, the speculator could exercise his right to buy 1,000 shares of TNB at RM130. Assume TNB's stock price increases to RM140 on July 16, 2017. The speculator could exercise his right to buy 1,000 shares and sell those shares for RM140 and net a profit of RM10,000 ((RM140-RM130) * 1,000).

Shariah Issues in Hedging and Speculation

From the definition of hedging, we could deduce that hedging is a form of managing and reducing risk which corresponds to Islam's call to repelling harm. An example from the Holy Quran on the encouragement for hedging is found in Surah Yusof, verses 47-49 where Prophet Yusof AS advised the Egyptians to cultivate their lands for seven fertile years and store some of the produce each year as a preparation for seven years of draught (Syed 2015). The verses provide clear example that hedging is permissible and encouraged in Islam (Fahimah 2012).

Hedging also has a basis in the Hadith. One of the hadith that illustrates the importance of managing risks is about Bedouin Arab who asked the Prophet Muhammad on which is better; to leave his camel, or to tie it. The Prophet told him to tie his camel first and then have *tawakal* (trust and dependence) to Allah (al-Tirmidhi, n.d). The hadith emphasizes that risk must be managed before reliance on Allah SWT.

Thus, with the evidence from the Quran and Hadith, it can be concluded that the concept of hedging is in line with Islam as long as it does not violate shariah law. Hedging transactions must be free from the elements of *riba, gharar*[1], *maysir*[2], injustice, deception, fraud, exploitation, monopoly and should not involve the usage of prohibited trading goods. These prohibitions provide the distinct difference between Islamic hedging applied by Islamic financial institutions and the conventional hedging practiced by non-Islamic financial institutions.

While the concept of hedging is allowed in Islam, it is the application of the derivative instruments that does not follow the Shariah principles. Islamic hedging shall be used solely for hedging transactions that relate to real economic activities and not for speculative purposes. Therefore, speculation is among the objection for employing the derivative instruments.

What is the difference between hedging and speculation? While hedging is all about averting risk, speculators like to take risks (Syed 2015). The hedgers try to eliminate as much risk as possible so they can lock in great prices for goods that they use or produce. The hedging side of the commodities market is made of commercial producers, such as farmers, and the consumers who purchase the

produce. In futures contracts that are hedged for instance, there is a physical product that is bought and sold and delivered at the end of the trade. The motive for hedging is the protection of an underlying investment. Hedging is just one of the risk minimization techniques used by investors. For example, investors hold diversified portfolios of stocks to eliminate a significant element of risk associated with holding single stocks or undiversified portfolios (Naughton 2000). Speculators on the other hand predict the direction the market is moving on, so they can make a profit on the movement of the prices (Nevi and Jeffers 2009). A trader may open a long (buy) position in a futures contract with the expectation to profit from rising prices. If the price of the commodity rises, the trader may make a profit and in a falling market, the speculator can try to profit by shorting (selling short) the instrument. If price drops, the position will be profitable. They have no intention of buying or selling actual physical products (Chapra 1988; Khan 1995; Usmani 1999; Nuradli and Sanep 2005; al-Masri 2007; Khan 2008).

Hedgers reduce their risk by taking an opposite position in the market to what they are trying to hedge. The ideal situation in hedging would be to cause one effect to cancel out another. For example, assume that a company specializes in producing jewelry and it has a major contract due in six months, for which gold is one of the company's main inputs. The company is worried about the volatility of the gold market and believes that gold prices may increase substantially in the near future. In order to protect itself from this uncertainty, the company could buy a six-month futures contract in gold. This way, if gold experiences a 10% price increase, the futures contract will lock in a price that will offset this gain. As you can see, although hedgers are protected from any losses, they are also restricted from any gains. Depending on a company's policies and the type of business it runs, it may choose to hedge against certain business operations to reduce fluctuations in its profit and protect itself from any downside risk. Speculators make bets or guesses on where they believe the market is headed. For example, if a speculator believes that a stock is overpriced, he or she may short sell the stock and wait for the price of the stock to decline, at which point he or she will buy back the stock and receive a profit. Speculators are vulnerable to both the downside and upside of the market; therefore, speculation can be extremely risky.

Therefore, one of the most difficult aspects of designing a derivative market is the issue of *maysir* or gambling (Hossein 2010). This concept covers speculation in the derivative market, that is, trading in derivative purely for short-term gains resulting from uncertainty in the market. Therefore, speculation in its worst form is gambling (Obaidullah 1999). In Western markets, moderate levels of speculation are regarded as quite acceptable. Speculators keep the market more watchful of what is happening and their trading improves liquidity (Figlewski 1979). The interaction of rationale investors, those that trade on "true" information relating to the stock, and speculators, who trade on "noise", help to keep the market efficient in a Western sense (Black 1986). According to Bacha (1999), trading volume of futures indicates an extensive amount of speculative behavior. He stated that the total trading volume is often much larger than the underlying volume. This huge divergence between underlying assets and trading volume has to do with risk dissipation. The extensive amount of speculative behavior is no doubt prohibited by Shariah rules because it is similar to gambling.

Another unacceptable practice related to speculation is the creation of excessive uncertainty, or *gharar* (Naughton 2000). Entering into a contract, in this case a purchase or sale of derivative contracts, with another party when there is excessive risk associated with the transaction, is not acceptable. This may apply in a very volatile market. Both a buyer and a seller should not transact business when the outcome of the deal is highly uncertain (Kazmi 1994). However, derivatives are risky and market participants are attracted to them because the higher the risk of a derivatives, the higher the expected return.

Bacha (1999), Kamali (2002), Smolarski et. al. (2006), and the Malaysian Securities Commission's Shariʿah Advisory Council (SAC) (2007), on the other hand, believe that speculation on the derivative markets are permissible within Islamic finance. Bacha believes that elimination of speculative activity would hurt rather than help; without speculators, hedgers suffer. According to Kamali, speculation cannot be eliminated; even *mudarabah*[3] and *musyarakah*[4] are highly speculative. He argues further that speculation shifts risk from those who do not want it to those who do. Other advantages are price discovery, hedging production planning, trading vehicles, arena for profitable commerce that can avert the flight of much needed funds to foreign markets. Smolarski also adds to the argument, that it is a risk-reducing instrument and is able to protect against financial loss. Since the

contracts are standardized, in terms of quantity and duration, there is mutual consent between the parties. The clearing house ensures the contract is carried out fairly thus the *gharar*[3] element is hugely reduced.

Besides, according to Fahim Khan, speculation can be divided into two kinds; the first is, speculation that is unrelated to any real activity and is meant to be merely a financial or monetary transaction or non-productive exchange. It is simply a way of making good guesses with no intention of receiving or delivering. According to him, this kind of speculation is unacceptable. The second form of speculation occurs when it is a part of some real activities, helping to shift risks from the producers who unable to bear all the risk to those who can afford to bear it. For instance, getting liquidity for farmers to increase their volume of production is a desirable and permissible activity despite the fact that it involves speculation (Khan 1995).

On that note, we can conclude that speculation is permissible within certain extent because if we eliminate speculation from derivative market, the result is a contract that hedgers would find difficult to use. The interaction of speculators and hedgers would be missing from the market. While hedging with derivatives is done to protect a position in the cash market, the ability to achieve this depends to some extent on the involvement of speculators. Speculators buy and sell derivative contracts to make a profit without necessarily having any involvement in the cash market. Speculators are regarded as essential in modern futures markets because they assume the risk that hedgers desire to transfer from their own shoulders (Samuelson 1958). They also contribute to the liquidity of the derivative market and over time their involvement reduces the volatility of the market.

Some people may see speculators as dangerous gamblers, but speculators actually provide much-needed liquidity to markets and are thus a vital component of market efficiency. Without them, many commodities markets, for example, would virtually grind to a halt because the only participants would be farmers and food companies. With fewer participants in a market, bid-ask spreads would widen, and it would be much harder for buyers and sellers to find each other. The resulting illiquidity would dramatically increase the risk in that market.

Conclusion

In this paper we have reviewed a range of issues relating to speculation and hedging in derivative market. Islam approves of hedging and acknowledges the need to minimize risks and reduce potential losses. In this era of globalization, businesses that engage in international trade are exposed to market risks especially related to foreign exchange risk and profit rate risk. Close risk monitoring is required in order to be alert with any adverse market movements that may have a negative impact on their balance sheet and income statement. The best way to manage this risk issue is to hedge the existing position either fully or partially depending on preference and expectation of future market movements. Islamic finance institutions play a very important intermediary role in this hedging chain. In contrast, speculation is not acceptable in Islam, but the absence of speculation would deter the market therefore measures would have to be taken to control speculative trading. While we must accept that speculation and related activity has to be contained, it is not inconceivable that derivative contracts can be restructured to overcome the technical problems that at present inhibit their use. Developments in countries such as Malaysia indicate that considerable progress has already been made in this direction.

Acknowldgement

This article is based on work supported by the Ministry of Higher Education Malaysia, University of Malaya and INCEIF under RPIF-03-16UM project.

Notes

1. *Gharar* in the context of buying and selling, means that there is an element of uncertainty in the contract.
2. *Maysir* is form of gambling transactions that are considered as totally inequitable in Islam. It refers to the easy acquisition of wealth by chance, whether or not it deprives the other's right

3. *Mudarabah* is a contract which involves agreement between two parties, namely *rabb mal* (investor) who provides 100% of the fund, and *mudarib* (entrepreneur) who manages the project in accordance with Shariah principles. Any profit from this investment will be apportioned based on the pre agreed ratio at the inception of the agreement. However, any losses will be fully borne by the *rabb mal.*
4. *Musyarakah* is an agreement between between two or more partners, whereby each partner provide funds to be used in a venture.

References

Ali Alshamrani (2014) A Critical Evaluation of the Regulatory Framework for the Application of Islamic Financial Derivatives in the Kingdom of Saudi Arabia, Journal of Islamic Banking and Finance 2 (1): 269-303.

Al-Masri, Rafiq Yunus (2007) Speculation between Proponents and Opponents. J.KAU Islamic Econ 20 (1): 43-52.

Al-Tirmidhi, Muhammad b. `Isa b. Saurah (n.d.) Sunan al-Tirmidhi. Al-Riyad: Maktabah al-Ma`arif li al-Nashr wa al-Tawzi`.

Askari, Hossein et al. (2010) The Stability of Islamic Finance: Creating a Resilient Financial Environment for a Secure Future. Singapore: John Wiley and Sons (Asia) Ptd. Ltd.

Bacha, Obiyathulla Ismath (2007) Financial Derivative: Markets and Applications in Malaysia. Kuala Lumpur: McGraw-Hill.

Bacha, Obiyathulla Ismath (1999) Derivative Instruments and Islamic Finance: Some Thoughts for a Reconsideration. International Journal of Islamic Financial Services 1 (1): 1-17.

Baigent, G. Glenn and Massaro, Vincent G. (2005) Derivatives and the 1987 Market Crash. Management Research News 28 (1): 94-105.

Bhat, Sudhindra (2009) Security Analysis & Portfolio Management. New Delhi: Anurag Jain for Excel Books India, New Delhi.

Chance, Don M. (2004) An Introduction to Derivatives and Risk Management. Ohio: Thomson Learning.

Chapra, M. U.(1988) Towards an Islamic Financial System. Journal of Islamic Economics 1 (2): 1-30.

Cullinane, Paul (2010) Incorporating derivatives data in the National Accounts and Balance of Payments, Economic & Labour Market Review 4(4): 44-45.

Damodaran, Aswath (2008) Strategic Risk Taking: A Framework for Risk Management. New Jersey: Pearson Prentice Hall.

Elgari, Mohammed Ali (2009) The Islamic Perspective on Derivatives: The Frontiers of Innovation in Islamic Finance Second Oxford Islamic Finance Round-Table, Oxford Islamic Finance Dar Al-Istithmar.

Elgari, Mohammed Ali (n.d) Hedging, Mechanism in Islamic Financial Institutions. In the Proceeding of Seventh Conference of Shariah Boards of the Islamic Financial Institutions in Jeddah.

Emery, Henry Crosby (1969) Speculation on the Stock and Produce Exchange of the United States. USA: Greenwood Press.

Frey, Martin A. and Frey, Phyllis Hurley (2001) Essentials of Contract Law. Canada: Delmar.

Friedman, Jack P. (1987) Dictionary of Business Terms. New York: Barron's.

Hull, John (1997) Options, Futures and Other Derivatives. USA: Prentice Hall.

Ibn al-Manzur, Abu al-Fadl Jamal al-Din Muhammad b. Makram (n.d) Lisan al-`Arab. Vol. 4. Qaherah: Dar al-Ma`arif.

Janakiramanan, Sundaram (2011) Derivatives and Risk Management. India: Dorling Kindersley (India) Pvt. Ltd.

Johnson, Leland L. (1960) The Theory of Hedging and Speculation in Commodity Futures. The Review of Economic Studies 27 (3): 139-151.

Kaldor, Nicholas (1939) Speculation and Economic Stability. Oxford Journal Review of Economic Studies 7 (1): 1-27.

Kazmi, A. A. (1994) Islamic Financial Instruments. Journal of Islamic Banking and Finance 11(1): 42–45.

Khan, Muhammad Akram (2008) Commodity Exchange and Stock Exchange in an Islamic Economy. In An Introduction to Islamic Economics & Finance, eds. Sheikh Ghazali Sheikh Abod et.al. Kuala Lumpur: Cert Publications Sdn. Bhd.

Khan, Fahim (1995) Islamic Futures and Their Markets With Special Reference to Their Role in Rural Financial Market, Research Paper no. 32. Jeddah: Islamic Research and Training Institute Islamic Development Bank.

Kolb, Robert W. (1993) Financial Derivatives. Miami: Kolb Publishing Company.

Levinson, Marc (2010) Guide to Financial Markets. United Kingdom: The Economist Newspaper Ltd. 221

Loader, David (2005) Clearing and Settlement of Derivatives. Oxford: Elsevier.

Machiraju, H R (2002) International Financial Markets and India. New Delhi: New Age International.

McCafferty, Thomas A. and Wasendorf, Russell R. (1993) All About Options. Kuala Lumpur: Golden Books Centre Sdn. Bhd.

McDowell, Bennett A. (2011) Survival Guide for Traders: How to Set Up and Organize Your Trading Business. United Kingdom: John Wiley & Sons.

Mishra, Bishnupriya and Debasish, Sathya Swaroop (2007) Financial Derivatives. New Delhi: Anurag Jain for Excel Books India.

Morris, Virginia B. and Morris, Kenneth M. (2003) Dictionary of Financial Terms. New York: Lightbulb Press, Inc.

Naughton, Shahnaz and Naughton, Tony (2000) Religion, Ethics and Stock Trading: The Case of an Islamic Equities Market," Journal Business Ethics 23: 145-159.

Nevi Danila and Jeffers, Agatha E. (2009) Derivatives: an Islamic Perspective. Journal of International Finance and Economics 9 (3): 90.

Nor Fahimah Mohd Razif, Shamsiah Mohamad and Noor Naemah Abd Rahman (2012) Permissibility of Hedging in Islamic Finance. Middle-East Journal of Scientific Research 12 (2): 155-159.

Nuradli Ridzwan Shah Mohd Dali and Sanep Ahmad (2005). A Review of Forward, Futures, and Options From The Shariah Perspective: From Complexity to Simplicity. Paper presented at Seminar Ekonomi & Kewangan Islam (SEKI 2005) in ESSET Bangi, 29-30 August 2005.

Obaidullah, Mohammed (1998) Financial Engineering with Islamic Options. Islamic Economic Studies 6 (1): 73-103.

Obaidullah, Mohammed (1999) Option in Islamic Contract: Potential Tools for Risk Management. J.KAU Islamic Econ 11: 3-26.

Pearce, David W. (1992) The MIT Dictionary of Modern Economics Fourth Edition. Britain.

Rafikov, Ildus and Saiti Buerhan (2017) An Analysis of Financial Speculation: From the Maqasid al-Shariah Pespective. Humanomics 33 (1): 2-14.

Rosalan Ali, Noryati Ahmad and Ho Soke Fun (2006) Introduction to Malaysian Derivatives. Shah Alam: Universiti Teknologi MARA.

Samuelson, Paul A. (1958) Economic: An Introductory Analysis. New York: McGraw Hill.

Saunders, A. and Cornett, M.M. (2007) Financial Markets and Institutions. New Delhi: Tata McGraw-Hill Publishing Company Limited.

Securities Commission (2007) Resolutions of the Securities Commission Shariah Advisory Council. Kuala Lumpur: Securities Commission.

Sherin Kunhibava (2008) Flexibility Versus Fairness Conventional Derivatives and Islamic Derivatives. In Essential Readings in Islamic Finance, ed. Mohd Daud Bakar and Engku Rabiah Adawiyah Engku Ali. Kuala Lumpur: Cert Publications.

Smolarski, Jan, Michael Schapek and Muhammad Iqbal Tahir (2006) Permissibility and Use of Options for Hedging Purpose in Islamic Finance. Thunderbird International Business Review 48 (3): 425-443.

Subramani, R. Venkata (2011) Accounting for Investments, Fixed Income Securities and Interest Rate Derivatives: A Practitioner's Handbook. United Kingdom: John Wiley & Sons, Ltd, Volume 2. 269

Syed Thajudeen, Kulsanofer. (2015). Conventional Futures: Major Issues from Islamic Law of Contract's Perspective. INCEIF, pp. 1-28.

Szado, Edward (2011) Defining Speculation: The First Step toward a Rational Dialogue. The Journal of Alternative Investments 14 (1): 75-82.

Touche, Karen Lightstone (2005) Derivatives: Risk Management Tool or Management Hazard? The Workplace Review: 11-13.

Tucker, Alan L. (1991) Financial Futures, Options, and Swaps. USA: West Publishing Company.

Usmani, Muhammad Taqi (1999) What Shariah Expert Say: Futures, Options and Swaps. International Journal of Islamic Financial Services 1 (1): 1-3.

Wong, So-Ling, Sophia. (1998) Analysis of The Relationship Among Speculation, Shortage Of Land And Housing Supply. Master thesis University of Hong Kong.