Permissibility and Use of Options for Hedging Purposes in Islamic Finance

Jan Smolarski ■ Michael Schapek ■ Mohammad Iqbal Tahir

Executive Summary

The debate concerning permissibility and use of options in Islamic finance is ongoing, and the issue is far from settled. Current analyses on this issue appear to focus on taking of unnecessary risks (gharar), the perceived lack of a physical asset in an options contract, and the possibility of exploitation of the ignorant. To the extent that these factors are involved, options are not permitted under Islamic teachings (the Shariah).

In this article, we investigate whether options may be permitted for hedging purposes in Islamic finance. We use equity options as an example in our analysis. After providing a brief overview of options markets, we review the existing literature and critically examine other work such as the religious decrees (fatwas). We also provide two examples, one each of call and put options, to illustrate the managerial issue of use of options for hedging purposes.

Our analysis shows that options may be permitted for hedging purposes in Islamic finance as long as the underlying economic activities are themselves permissible (halal) from an Islamic point of view. The analysis also indicates that one of the key issues is

Dr. Jan Smolarski is an assistant professor at the Department of Finance at Stockholm University School of Business where he teaches finance and entrepreneurship. He is currently on leave spending the 2006 spring semester at Instituto de Empresa in Madrid, Spain. Dr. Smolarski’s research interests include mergers and acquisitions and risk management in private equity funds. Dr. Smolarski is a member of the editorial board of the Journal of Private Equity, the Journal of Small Business Management, the International Journal of Emerging Markets, and the European Journal of International Management. In addition to his academic experience, Professor Smolarski has worked in industry for Geosource Inc., the Coca-Cola Company, and as CEO of Trema Treasury Management Group, a global midsize software company. He has also served on the boards of directors of several companies, both public and private.

Michael Schapek is a controller for the Australian Embassy in Stockholm, Sweden. He studied at the Stockholm School of Economics and at the Stockholm University School of Business. Mr. Schapek has previously worked in various senior management positions at SHB, a large Swedish bank, and as vice-president of risk management at JP Bank, a midsized Nordic bank specializing in fixed income trading and portfolio management.

Dr Mohammad Iqbal Tahir is Deputy Head (Accounting) at the Department of Accounting, Finance and Economics at Griffith University, Brisbane, Australia. He teaches courses in accounting as well as finance. Currently he is visiting GIFT University, Gujranwala, Pakistan, as a professor. Dr Tahir has held visiting positions at the University of Nottingham, U.K., and Stockholm University, Sweden. His research interests include applications of stochastic calculus in accounting and finance, Islamic accounting and finance, and capital markets. He is on the editorial boards of the Asian Review of Accounting and the Malaysian Accounting Review.
related to unnecessary risk taking. The avoidance or reduction of such risks in hedging situations is largely dependent on the settlement and clearing function of the exchanges trading options, which effectively provides a guarantee of delivery. Mutual consent for entering into or canceling contracts and the issue of intangible assets also play a role in determining if options are permissible under the Shariah. We conclude the article by urging experts of Islamic jurisprudence to understand the theory and mechanics of options and use group ijithad (consensus opinion of Islamic scholars) in conjunction with academics and experts in financial markets and instruments on this vital issue in contemporary finance for the benefit of the Islamic world as well as those trading with the Islamic world. © 2006 Wiley Periodicals, Inc.

INTRODUCTION

Islamic financial institutions have grown in size and importance in the last two to three decades. According to Aggarwal and Yousef (2000), Islamic financial institutions operate in more than 60 countries and hold in excess of $100 billion in assets. In most of these countries, they operate alongside traditional banks, but there are a few countries where only Islamic banks are allowed. Zaher and Hassan (2001) anticipate that Islamic finance will account for 40 to 50 percent of savings by Muslims within ten years.

Islamic financial institutions offer instruments that are consistent with Islamic teachings (the Shariah), which are governed by two primary sources—the Muslim Holy Book (the Qur’an) and the Sunnah of Prophet Muhammad (pbuh).1 The Sunnah literally translates as “method” and comprises all that the Prophet “said, did, or agreed to.” As Islamic banking and finance expand, additional products are being developed. Some products and services are similar to those found in traditional banking and finance but adapted for Islamic needs. Others are unique to Islamic banking. Options and other nonlinear instruments are examples of traditional financial products that have been or are in the process of being implemented in Islamic financial systems.

The debate concerning the permissibility and use of options2 in Islamic finance is ongoing, and it appears that the issue has not been settled. Conventional banks have embraced the use of options, both for hedging purposes and for the purpose of developing new products suitable to the needs of their customers. While the difference between conventional banking and Islamic banking is essentially over the prohibition of interest (riba), options do not explicitly involve interest, and, therefore, the difference in their use may not differ significantly among conventional and Islamic banks. On the other hand,
there are a number of issues that need to be addressed in order for options to be allowed under the Shariah. These include prohibition of gambling (maysir), unnecessary risk taking (gharar), and of transactions based on ignorance (jahl), trading in permitted (halal) products only, presence of mutual consent for entering into or canceling contracts and the nature of the underlying asset (mal).

Options have not been studied extensively in the Islamic economic literature. Kamali (1999) maintains that the concept of derivatives is a new issue with little or “no precedent in the works of authority in fiqh (i.e., Islamic jurisprudence).” Since the legitimacy of options and, hence, their use depends heavily on religious decrees (fatwas) of Islamic jurists, it is imperative to critically analyze these fatwas and their underpinnings. A majority of the fatwas issued on the subject favor impermissibility of options and tend to focus on the gambling and speculative aspect of options and perceived lack of a physical asset in an options contract. These decrees ignore the hedging aspect of options and often lack a detailed discussion of the mechanics of options markets. This suggests that the issues at hand have not been studied in sufficient detail.

This study investigates whether equity options used for hedging purposes are allowed under the Shariah and thus permissible in Islamic finance. As mentioned earlier, permissibility and use of options are interrelated. Kamali (1999) and Schaik (2001) state that there is not much jurisprudence about the permissibility of derivatives in Islamic finance. One contribution that this study is intended to make is that it critically examines the existing literature and the fatwas to enable a conclusion to be drawn concerning the permissibility of options for hedging purposes in Islamic finance. For the purposes of this study, hedging refers to risk reduction, where the term risk has the usual definition of “actual results varying from the expected outcomes.” No distinction is made between positive or negative outcomes. We only discuss options and focus on their use for hedging purposes. Two examples are provided, one each of call and put options, to illustrate the managerial focus of use of options for hedging purposes. To our knowledge, previous research has not examined this issue. We do not discuss other derivatives, although we recognize that some of the issues discussed in this study would apply equally to other derivatives.

The method that we employ in this study to reach our conclusions is essentially the method of triangulation. Triangulation may be defined as comparing different types of information. Mårtensson (2001) regards “triangulation as means of alternative interpretation rather than a search for the absolute truths.”
This article is organized as follows. In the second section, we present a short overview of Islamic finance as it relates to options; a detailed discussion is beyond the scope of this article. We quote the relevant verses from the Qur’an and briefly describe the Shariah requirements for financial transactions and instruments. We present literature review in the third section, followed by discussion and analysis in the fourth section, which also includes two examples of the managerial use of options for hedging purposes. The fifth section concludes the article. Since we expect this article to be read by practitioners and scholars who may not have an in-depth knowledge about options, we have included a brief introduction to options in the third section. We have also included a short list of terminology at the end of the article for the benefit of those who may not be familiar with the various terms used in Islamic finance.

ISLAMIC FINANCE

In Islam, there is no separation between “religious and temporal affairs,” and business activities, like personal conduct, are to be regulated by the Shariah. In Islam, there is no separation between “religious and temporal affairs,” and business activities, like personal conduct, are to be regulated by the Shariah (Gambling & Karim, 1991, p. 28; Karim, 1995, p. 286). As stated earlier, the two primary sources of the Shariah are the Qur’an and the Sunnah. The major source of the Sunnah is the written compilations of the Tradition (the hadith) of Prophet Muhammad (pbuh). The most authentic among these compilations is Sahih Al-Bukhari (see the translation by Khan, 1997). While the Qur’an is believed by the Muslims to be the revealed word of God, the hadith, being the Tradition of the Prophet, can be described as the prophetic clarification of the Qur’an. There is also a supplementary source known as ijitihad. The literal meaning of ijitihad is “to exert oneself.” In practice, however, ijitihad occurs either through a consensus of Islamic scholars or through reasoning by analogy, in situations not explicitly covered by the Qur’an and the Sunnah.

Islamic finance is governed essentially by the prohibition of interest (riba) and gambling (maysir). Two of the verses dealing with riba and maysir are as follows:

"Those who devour usury will not stand except as stands one whom the evil one by his touch hath driven to madness. That is because they say: Trade is like usury, but God hath permitted trade and forbidden usury. (Qur’an 2:275)"

"They ask thee concerning wine and gambling. Say: In them is great sin, and some profit for men; but the sin is greater than the profit. (Qur’an 2:219)"

Jan Smolarski • Michael Schapek • Mohammad Iqbal Tahir

In Islam, there is no separation between “religious and temporal affairs,” and business activities, like personal conduct, are to be regulated by the Shariah.
Assad (1984) translates *maysir* as “games of chance” instead of “gambling.”

Based on verses from the Qur’an and the various *hadith*, Islamic scholars have concluded that all financial instruments and transactions in general must meet a number of criteria in order to be considered permissible (*halal*) (Bacha, 1999; Billah, 1997, p. 221; Usmani, 1999, pp. 204–214). To begin with, all financial instruments and transactions must be free from *riba*, corruption (*rishwah*), *maysir*, unnecessary risk (*gharar*), and ignorance (*jahl*). The underlying business activities must be *halal*. Furthermore, the contract must be fair and have mutual consent of the parties to the contract.

Mutual consent is needed not only when entering into transactions but also in canceling transactions. Many of these requirements are also recognized by conventional financial institutions and regulatory agencies. Conventional banks typically manage risks in detail so as not to get involved in either gambling or unnecessary risk taking. They also do not usually engage in trading in prohibited goods and substances, although their definition may differ from that of Islamic banks. Also, most conventional banks do not allow their customers to trade options without special permission and, in some cases, training. Therefore, in our opinion, major differences between conventional banks and Islamic banks include the concept of *riba* and fairness. Islamic banks are not allowed to charge or receive interest. While some Islamic banks are not-for-profit or charitable organizations, most are commercial entities and expect to make a profit on their activities.

In our view, Islamic financial institutions are more like a combination of a venture capital fund and a traditional bank rather than banks in the conventional sense. Aggarwal and Yousef (2000) do not find that Islamic financial institutions offer long-term financing beyond five years. This is consistent with traditional venture capital-style financing, which is seldom offered for more than five years. One could say that Islamic banks are risk takers to a greater degree than their conventional counterparts. This means, at least in theory, that Islamic financial institutions make money not only through transaction fees but also through profit sharing. Since the prohibition of *riba* is a religious injunction, Islamic financial institutions tend to use financial products and arrangements that have been sanctioned by the appropriate religious authorities. According to Honohan (2001), major modes of Islamic financing are *mudarabah*, *musharakah*, and *murabahah*. Mudarabah and *musharakah* are similar to venture financing, whereas *murabahah*, which is the most widely used financial contract in Islamic banks, is sim-
ilar to leasing with the intent of cash flow smoothing. Both of these concepts are widely used in conventional financial institutions as well.

LITERATURE REVIEW

The literature review is divided into two subsections. The first subsection is a brief overview of options markets in general, with specific emphasis on hedging operations. The second subsection reviews research papers and fatwas that deal with the use of options in Islamic finance.

Options Theory

Western academic and practitioner journals and books covering derivatives and other nonlinear financial instruments are plentiful (see, for example, Tucker, 1991). The purpose of this subsection is not to review specific literature but rather give the reader an overview of how options work. We begin with two definitions. According to Galitz (1995):

1. A call option is the right to buy a given quantity of an underlying asset at a given price on or before a given date.
2. A put option is the right to sell a given quantity of an underlying asset at a given price on or before a given date.

For the purposes of this study, we focus on European-style options that are exercisable only at a specific date. American-style options are exercisable anytime during a specified time period. Note that an option confers the right but does not impose an obligation to buy or sell the underlying asset. In other words, the holder of an option has the right to exercise but does not have the obligation to do so. Options are available on a variety of assets such as stocks (equity), bonds, commodities, and foreign currencies, to name a few. This study specifically deals with the permissibility of using equity options for hedging purposes.

Without going into the mathematical aspects of options, several salient features of options are important. First, a buyer of a call option purchases the right to acquire a specified number of shares at a predetermined price at a predetermined date. The seller of the call option agrees to sell the stock to the buyer of the call option at a predetermined price at a predetermined date. An example will make this clearer.

Person A wishes to buy 100 shares of IBM on December 31, 2003, at $120 per share. The current price of IBM shares is $120 per share. Suppose the market price of an IBM call option is $10 per option
right. Typically, this type of situation may occur when person A has to acquire the shares at a later date and wishes to lock in the price. Person A, therefore, buys call options at $10 per option. This gives him the right to buy IBM shares at $120. If IBM shares were trading at $140 on December 31, 2003, person A would exercise the option and buy the shares at $120, the predetermined price. The result is a profit of $10 per share, the difference between the market price of $140 minus the strike price of $120 and the $10 premium paid to acquire the option. The profit of $10 per share is incidental to the motive of person A, which was to hedge the price of IBM shares.

Since trading in options is a zero-sum game, a person B is needed to make this particular transaction work. Person B sells an option to person A whereby he agrees to sell 100 shares of IBM on December 31, 2003, for the predetermined price of $120 per share. Person B receives $10 per call option as the premium for entering into the contract. Suppose that person B already owns the shares, which he had purchased previously for $50 per share. In technical jargon, this is referred to as “writing covered calls.” If one does not own the underlying asset, in this case the IBM shares, it is referred to as “writing uncovered or naked calls.” The reason for person B wanting to enter into such a contract is that he does not believe that IBM shares will increase in price.

Note that the above example is only for illustrative purposes. If person B who owns the IBM shares wants to hedge his position, he would purchase a put option, which gives him the right to sell the shares at the strike price of, say, $120 at a standardized maturity date. If at the maturity date, the shares are selling at less than $120, he will exercise his option; otherwise, he will let it expire and sell the shares in the market.

A final note on option pricing is in order. Options are priced according to different methods, but the most common and generic methods are those of Black and Scholes (1973) and Cox, Ross, and Rubenstein (1979). We are, however, not concerned with this issue, as the pricing of options is beyond the scope of this article.

Islamic Literature Applied to Options
As mentioned earlier, the Islamic literature relating to options is scant, and further in-depth studies are needed. However, the existing research is interesting since it provides some useful insight into the current thinking.

argues that options do not have any vitiating elements of riba, gharar, or maysir and are permissible in Islam as long as the contractual agreement or the underlying asset is in conformity with the Islamic values. Kamali (1999) builds upon his 1997 paper and puts forward a case for an Islamic derivatives market in Malaysia. Obaidullah (1998) attempts to design a specific Islamic options contract that could be used in managing certain forms of risk. Bacha (1999) examines the evolution and benefits of forwards, futures, and options, and makes a case for why they are needed.

Much of the work by Islamic scholars is of a highly juridical nature. Since the legitimacy of options and, hence, their use depends heavily on the religious decrees (fatwas) of Islamic jurists, most of whom favor impermissibility of options, we need to critically examine these fatwas and their underpinnings. A number of scholars—notably Ahmad Hasan (Kamali, 1997, pp. 37–38), Abu Sulayman (Kamali, 1997, pp. 39–41) and Mufti Muhammad Taqi Usmani (Usmani, 2000)—have all objected to options, but for different reasons. Ahmad Hassan objects on two grounds. First, he considers that under the Islamic jurisprudence (fiqh) doctrine of khiyar al-shart (option of stipulation), maturity beyond three days is unacceptable. This is refuted by Kamali (1997, p. 28) by quoting two classical Islamic scholars—namely, Imam Malik and Imam Hanbal, both of whom hold the view that options may be of any duration agreed to between the contracting parties. Second, in his view, the buyer of the option has many more benefits than the seller, which is oppressive and unjust. This is not correct, given that the option premium is determined in a fair manner and it compensates the seller for taking a short position. Abu Sulayman finds options acceptable when considered in the light of bai al-urbun but objects to them because he thinks they are independent of the underlying asset and, therefore, there is no justification for the seller to charge the premium. This view is also incorrect, as the option pricing theory clearly links the option price to several variables, including the price of the underlying asset. By charging the premium, the seller is simply receiving compensation for granting a right to the buyer (Kamali, 1997, p. 30).

Mufti Muhammad Taqi Usmani, the former Justice of the Shariah Court of Pakistan issued a fatwa (2000) about options. In answering a series of questions relating to trading in stocks and stock options, he states that trading in stocks is permissible under certain conditions, but equity options are not permissible in the Shariah. A close scrutiny of the questions and Mufti Usmani’s response to them reveals that his ruling about options is based on the profit-making
activities from buying and selling options, not hedging. In view of the significance of his fatwa from an academic perspective, his reasons and our analysis are presented in the next section.

**DISCUSSION AND ANALYSIS**

Mufti Usmani gives two reasons as to why he considers that equity options are not permissible under the *Shariah*.

First, he considers that “the option is not something tangible which can be bought or sold.” This argument is open to debate. If we accept this argument, equity trading and venture capital would also not be allowed under the *Shariah*, and this is clearly not the case. Options are always issued on some underlying asset and they do represent claims against assets in both an indirect and direct way. Direct in the sense that options are claims against stocks and indirectly because stocks represent a residual claim against the company’s underlying assets. It is well known in the finance literature (Black & Scholes, 1973, p. 649; Merton, 1973, p. 178) that a share is indeed a call option on the assets of the firm. According to Kamali (1997), the *Shariah* allows the concept of usufruct (*manafaah*), a term that may be used to define seeds, trees, and fruits that have not yet grown but the right to these exists. In the case of usufruct, the buyer purchases the right to a future harvest (for example, dates) that have yet to grow. We, therefore, conclude similar to Kamali (1997) that non-tangible assets are, to a certain extent, allowed under the *Shariah*. We will explore this issue further when we discuss hedging by a hedger who owns the underlying asset.

Second, the Mufti states that options trading “has an element of *gharar* or *qimar* (gambling).” In all fairness to the Mufti, this is only relevant in the specific example given in the question, which deals specifically with buying and selling options for the sole purpose of making a profit. The *fatwa* is quite narrow in scope and does not deal with risk-reduction situations where options are bought and sold to prevent losses. In fact, it may be argued that not using options for hedging purposes is a form of gambling since it increases the risk of the portfolio.

Besides these two reasons, Mufti Usmani also states that options are bad for the economy and he refers to a book named *Apocalypse Roulette: The Lethal World of Derivatives* by Richard Thomson, which apparently deals primarily with currency futures. In the context of options, we emphasize that the consequences of not using equity options for hedg-
ing purposes may be equally catastrophic. An example will illustrate the point. Norsk Vekst (NV), a Norwegian publicly quoted venture capital fund, invested in a telecommunications company, Utfors. During 2000, the stake was at its peak, valued at approximately €550 million, or better than 30 times the initial investment. Today, the stake is worth less than the invested amount. According to an analysis of NV’s annual report, the company did not reduce its risk exposure. The resulting losses affected both institutions and their shareholders. It would appear that disallowing equity options to hedge equity portfolios potentially does great harm to the society and the economy. In Islam, the concept of *waqf* (religious endowment) provides an analogous situation. The Prophet (pbuh) said: “Keep the assets and dedicate the fruits of charitable ends” (Kamali, 1999). The *waqf* has played an important role in developing the Islamic community. If the endowment is made up of shares in companies and if options are allowed under the *Shariah*, they may be used to hedge against depreciation of the value of the *waqf*. We present two examples, one each for call and put options, to illustrate the use of options for hedging purposes by the Islamic *waqf*.

**Use of Options by an Islamic *Waqf* for Hedging Purposes**

**Example 1.** Suppose it is September 2004. An Islamic *waqf* is expecting an income of $100,000 to be received with certainty in December 2004, which it wishes to use for purchasing 1,000 Microsoft shares to add to its existing investment portfolio. Market information about Microsoft shares and December call options on Microsoft shares is as follows:

- Exercise price = $100
- Current share price = $98
- Price of a European call option to buy one share = $5
- Initial investment to buy 1,000 call options = $5,000

If, at the expiration of the call option in December 2004, Microsoft’s share price is $120, the call option will be exercised for a profit of

\[ ($120 - $100) \times 1,000 - $5,000 = $15,000 \]

If, on the other hand, Microsoft’s share price in December is less than $100, the option will not be exercised and shares will be bought in the open market.

Thus, by following this strategy, the Islamic *waqf* can have the option to purchase the shares at $100. It can take advantage of favorable
price movements but not exercise the option if the price is below the exercise price.

**Example 2.** Suppose it is September 2005. The Islamic *waqf* buys December 2005 put options to sell 1,000 Microsoft shares (purchased in December 2004 at $100 each). The following market information is available:

- Exercise price = $130
- Current share price = $125
- Price of a European put option to sell one share = $6
- Initial investment to buy 100 put options = $6,000

If, at the expiry of the put option in December 2005, Microsoft’s share price is $110, the option will be exercised for a profit of

\[
(130 - 110) \times 1,000 - 6,000 = 14,000
\]

If, on the other hand, Microsoft’s share price in December is more than $130, the option will not be exercised and shares will be sold in the open market for even a greater profit.

Thus, by following this strategy, the Islamic *waqf* can have the option to sell the shares at $130. It can benefit from favorable price movements but not exercise the option if the price is above the exercise price.

**Other Issues.** We note that the concept of *jahl* (ignorance) was not covered in Mufti Usmani’s *fatwa*. As stated earlier, one of the requirements of the *Shariah* is that all transactions be free from *jahl*. This is designed to prevent exploitation of the ignorant. Traditional banks and financial institutions such as SEB in Sweden and Merrill Lynch in the United States/United Kingdom, at the request of financial authorities, regulate who can and cannot trade options for reasons, among others, similar to *jahl*. This control is often based on knowledge and experience of the customer. A customer with little investment knowledge may not be allowed to trade options due to excessive risks. On the contrary, persons with the appropriate knowledge may be given full trading permission. It is also common to ascertain whether the customer can “afford” any losses, which may result from derivatives trading. Thus, the concept of *jahl* is practiced by both traditional and Islamic banks, although there are significant differences in its operationalization.

El-Gamal (2001) has written an economic analysis of *riba* and associated financial instruments. His argument is based on the contention
that riba cannot be explained by exploitation alone. As an example, he quotes the following hadith:

Gold for gold, silver for silver, wheat for wheat, barley for barley, dates for dates, and salt for salt; like for like, hand to hand, in equal amounts; and any increase is riba.

He argues that the transaction prohibited here need not involve a temporal element. He is of the view that the hadith deals with injustice. This, however, presents a problem if we discuss options from a microeconomic perspective. Since options represent a zero-sum opportunity, for every buyer of an option, there must be a seller. If it is possible to sell one good in exchange for another at market prices (both parties being well informed), it follows that this is done where the marginal utilities of the transacting parties are equal. From the classical economic point of view, this allocates resources in the most efficient way and, therefore, does not represent injustice. Consequently, we can state that the two parties entering into an options contract do so on just terms. The central theme of justice is, according to El-Gamal (2001), achieved by fairly compensating both parties. This is manifested in the concept of mutual consent. At the point when the options transaction takes place, it does indeed take place at a fair price for both parties, determined according to supply-and-demand conditions and all publicly available information in a competitive market. Otherwise, the parties, both being fully informed, would not enter into the transaction. Subsequent to consummating the transaction, the market price will differ, and this will clearly result in the parties receiving different compensation in the future.

El-Gamal (2001) also quotes another hadith:

The messenger of Allah (pbuh) said: Let not the city-dweller sell on behalf of an incoming bedouin. Leave the people so that Allah may make them benefit from one another.

This hadith is quite symmetric, and “benefiting from one another” is a fixed-sum game in which one person’s relative loss is another person’s gain.

A Qu’ranic verse (4:29) states:

O ye who believe! Eat not up your property among yourselves unjustly except it be a trade amongst you by mutual consent.

Thus, mutual consent is required in the sale of goods and property for a transaction and contract to be lawful under the Shariah. A mod-
ern economy is, among other things, characterized by standardization in buying and selling goods and services. One of the main drivers of standardization in financial markets is fairness between professional and private, as well as large and small investors.

Standardization is also important in transactions involving goods and services where each item under contract is small. Drawing up customized contracts for each transaction would be prohibitively expensive and may even hinder commerce. Option contracts are voluminous, but each contract tends to be of relatively low value.

The settlement and clearing function provided by organized options exchanges ensures that options contract terms except the price are standardized. In other words, each option contract is standardized in terms of duration, quantity, type of option, and so on. This also suggests that mutual consent is not only present when entering into such contracts but also that mutual consent is assured through the trading, settlement, and clearing process, which is performed by a third party. A party that is dissatisfied with the price of the option after entering into the initial transaction may sell the option or enter into an offsetting position at will.

The relation of the fairness hadith discussed above and the Qu’ranic verse requiring mutual consent is also important as the third party, which monitors the trading, settlement, and clearing process, ensures that the terms of the contract agreed to by mutual consent are carried out as promised. Trading operations and functions deal with functional gharar and the clearing and settlement functions refer to operational gharar. This process helps to ensure that gharar prevention is maximized, since there is a substantial reduction in the risk within the financial system. Thus, the requirement that functional and operational gharar be avoided is largely met.

The rules of the Shariah that govern contracts require the avoidance of functional gharar. The intent of the rules appears to be the avoidance of excessive risk taking, which threatens the ability to fulfill the contract terms. To understand the issues involved requires careful analysis. First, we believe that taking risks is allowed under the Shariah, which also allows the contracting parties to reduce risk. For example, mudarabah financing involves risk sharing governed by the general rule of “no pain, no gain.” The financier (rab al-mal) may impose risk-reducing guidelines in order to minimize the possibility of losses. Such rules and guidelines may include prohibiting certain types of transactions such as credit transactions or
transactions with certain parties. The financier may also impose controls on the general manager, such as not giving him authority to enter into transactions above a certain amount without prior approval of the investor.

Another example of financing is musharakah, which refers to financing through equity participation where profit and losses are split equally unless otherwise agreed upon. Taking risk in and of itself is not prohibited by the Shariah, but we acknowledge that the difference between speculation, risk taking, and investing is difficult to define. We support the definition provided by Kamali (1999)—namely, “speculation deals with risks that are necessarily present but gambling creates risks that would otherwise be non-existent.” We argue that speculation is not present in using options for hedging purposes. Hedging does not eliminate risk but provides a means for risk reduction, which is allowed under the Shariah. An oil company drilling for oil does not expect to find oil every time it drills a hole. Instead, it expects to drill some dry holes and some holes where oil will flow. This may be thought of as informed speculation, similar to options, but it is not gambling, as the oil company has information, albeit imperfect, about where to drill. Some oil companies produce better results compared to others, but this is primarily a function of successful risk management. This is similar to hedging by using options.

To sell what one does not own or sell what is not present is generally forbidden in the Shariah, but it seems that the issue of concern here is one of delivery. For example, it would be imprudent to sell fish that have not been caught or sell a yet-to-be-born female camel when one does not know if a female camel will be born. The underlying issue is the ability to deliver the goods and services that have been promised. Obviously, this would be an important issue in the case of fungible goods and goods where specific performance is required.

In this article, we are concerned with hedging, which implies that the hedger already owns the underlying asset and is capable of delivering. This would certainly be the case where a direct hedge is involved (e.g., where a portfolio manager holds shares in the company and purchases put options). As long as he held the shares, he would be able to deliver them according to the options contract.

However, there may be situations where an indirect hedge is required. An example is when a portfolio manager has an investment where no exchange-traded options are available to hedge the underlying asset. This is often the case for shares of medium-size and
smaller companies. In such cases, the portfolio manager may be able to construct a hedge by using options of another firm in the same industry or on a relevant index. For example, if a portfolio manager owns DaimlerChrysler shares but options are, for whatever reason, not available, it is still possible to construct a hedge if options are available for a similar company such as BMW. Note that the manager does not own BMW shares. What is important is the level of price correlation between BMW shares and DaimlerChrysler shares. If the correlation is +1, a perfect price movement exists (i.e., if BMW shares move up by 1%, so do DaimlerChrysler shares). In this scenario, the portfolio manager can buy put options in BMW. Any losses on DaimlerChrysler shares will be offset by gains on the BMW puts.

Since the portfolio manager does not own BMW shares, certain situations may arise when he is required to deliver BMW shares. The financial institution that allows such transactions is required to keep sufficient capital to meet the financial obligation to acquire BMW shares. Thus, the issue of *gharar* is not relevant in this case. It may, however, be relevant for the so-called over-the-counter (OTC) options contracts. OTC options are normally customized to fit a specific situation and do not necessarily involve a third-party settlement and clearing process. Typically, trading in OTC options does not take place, as they are illiquid.

Canceling transactions is the subject of significant discussion in many *hadiths*. Basically, the seller and buyer have the right to cancel or confirm the sale unless they agree otherwise. In options trading, they would not have the option of directly canceling the trade with the other party, as the third party is the guarantor of performance. While it is possible in a contract to have the option to cancel for a specified time period, this is not the case in options trading. This has implications for the options trading process in two ways. First, the trading process on organized exchanges ensures that the parties have the option of not entering into transactions until they wish to do so. Second, once an option contract is entered into, the parties cannot cancel the transaction with each other directly. It can only be done in a marketplace. Since the third party stands as a guarantor of not only the contract performance but also of liquidity, the buyer (seller) of an option may cancel his/her trade by either selling (buying) the option or entering into a counter trade with another party.

This concludes our discussion of the various issues that are relevant to determine the permissibility of options in the *Shariah* for hedging purposes. In the light of our analysis, we conclude that there is nothing objectionable from the *Shariah* point of view if options are used...
in Islamic finance for hedging purposes. In fact, it may be argued that not using options for hedging purposes is a form of gambling, since it increases the risk of the portfolio. The *fatwas* of Islamic jurists, the majority of whom favor impermissibility of options, are simply a consequence of their unfamiliarity with the option pricing theory and the mechanics of options markets. We urge them to understand the theory and mechanics of options and use group *ijitihad* (Al-Alwani, 1997) in conjunction with academics and experts in financial markets and instruments in this vital area of contemporary finance.

**CONCLUSIONS**

In this study, we have investigated whether the use of equity options for hedging purposes is permissible in Islamic finance. Our analysis has focused on the mechanics of options trading, settlement, and clearing functions of the options trading exchanges, the intangible asset argument, and the purpose of trading options. Our overall conclusion is that equity options are allowed in Islamic finance for the purpose of hedging.

There are four important conclusions from this study. First, the *Shariah* requirement that financial transactions and instruments be free from *jahl* is practiced by conventional as well as Islamic banks in respect of options. Both types of financial institutions treat options in a similar fashion. Conventional banks apply restrictions when their customers trade options (e.g., they may require them to have adequate training or prohibit inexperienced customers to sell uncovered options). These measures seem supported in Islamic banking as well. Second, hedging an underlying position for risk-reduction purposes appears to be permissible under the *Shariah*. This is largely predicated on the existence of a third party (or parties) handling the trading, and the settlement and clearing process in order to maximize *gharar* avoidance. Third, the cancellation requirement of the *Shariah* is fulfilled in the case of options by the hedger by either selling the option or entering into an offsetting transaction. Fourth, our investigation indicates that it is necessary to move beyond the preconceived notions about options and analyze their intended use in order to ascertain their permissibility under the *Shariah*. We suggest that this approach may assist experts of Islamic jurisprudence to undertake group *ijitihad* in conjunction with academics and experts in financial markets and instruments on issues in contemporary finance that have significant financial implications for the Islamic world.
ACKNOWLEDGMENTS

The authors gratefully acknowledge the valuable comments of participants of the 2003 Congress of the European Accounting Association, held in Seville, Spain; the staff seminar at the School of Accounting, Banking and Finance, Griffith University, Brisbane, Australia; and the 2003 Asian Academic Accounting Association Conference, held in Seoul, South Korea. The helpful comments of the three anonymous reviewers are also highly appreciated.

TERMINOLOGY

Al-khiyarat Options

Bai al-urbun A transaction in which a buyer places an initial good-faith deposit with the seller. If the buyer decides to proceed with the transaction, the final payment is adjusted for the deposit. If the buyer decides not to proceed with the transaction, the deposit is retained by the seller.

Fatwa A religious decree by a qualified Islamic scholar

Fiqh Islamic jurisprudence

Gharar Uncertainty; reckless and unnecessary risk

Hadith The Tradition of Prophet Muhammad (pbuh)

Halal Lawful according to the Shariah

Haram Unlawful according to the Shariah

Ijtihad Consensus opinion of Islamic scholars, or reasoning through analogy in situations not explicitly covered by the Qur’an and the Sunnah

Jahl Ignorance

Khiyar al-shart Option of stipulation

Mal Tangible asset

Maysir Gambling or games of chance

Mudarabah A financing arrangement involving a concept of risk sharing governed by the general rule of “no pain, no gain.” This is similar to a Western-style venture capital investment. The financial institution provides funding and the entrepreneur contributes time and effort and exercises control over day-to-day operations of the business venture. Profits are shared according to an agreed-upon ratio, but losses are borne solely by the financier.

Murabahah In its classic form, this is the so-called markup transaction, where a financial institution buys an asset on behalf of a client and adds a markup, which is amortized on a deferred basis.

Musharakah Financing through equity participation where profits and losses are split equally unless otherwise agreed upon.
Contrary to mudarabah, both parties supply capital, expertise, and management.

Rab al-mal Person or organization providing the capital in a mudarabah

Riba Interest

Sunnah All that Prophet Muhammad (pbuh) said, did, and agreed to

Waqf Religious endowment

Sources: Aggarwal and Yousef (2000); Bacha (1999); Edwardes (2001); Honohan (2001); and Zaheer and Hassan (2001).

NOTES

1. This stands for “peace be upon him” and is customarily added whenever the name of any of the prophets is mentioned. We follow this courtesy in the article.

2. In Islamic finance literature, options are referred to as al-khiyarat.

3. One must make a distinction between what Prophet Muhammad (pbuh) said in his capacity as a prophet of God, and what he expressed as a personal point of view. The former is obligatory, while the latter does not fall into this category. For clarification, please see the Qur’an (e.g., 3:31 and 18:110) and Hadith # 5831 in Sahih Muslim translated by Siddiqui (1986). We are grateful to one of the reviewers for making this point. The statement “In Islam there is no separation between religious and temporal affairs” represents the prevalent classical view, although an alternative view is to confine religion to spiritual matters alone.

4. Riba is forbidden in Islam, whether it is riba al-fadl, which refers to taking goods of superior quality and returning goods of inferior quality, or riba al-nasi’ah, which refers to interest earned on lent money.

5. Translation from the Qu’ran are taken from Ali (1996).

6. In a mudarabah, a financial institution provides funding and the entrepreneur contributes time and effort. Profits are shared according to an agreed-upon ratio, but losses are borne solely by the financier. In a musharakah, both parties supply capital and expertise, and profits and losses are shared in an agreed-upon ratio. A murabahah is a financing scheme whereby a financial institution buys an asset on behalf of a client and adds a profit margin, which is amortized on a deferred basis.

7. We ignore actual option expiration dates in this analysis.

8. According to the Black-Scholes model, options are priced on the basis of certain variables, one of which is related to the time value of money (TVM). Since TVM involves applying a discount factor (i.e., an interest rate), it would appear that the concept of TVM might not be allowed under the Shariah. El-Gamal (2001) provides several citations where both views are supported. Also, the concept of murabahah incorporates TVM since it represents a deferment of receiving the money (i.e., the price). Thus, the increase (price over cost) is fully justified and represents compensation for accepting a deferment of money received.

9. According to Honohan (2001), Islamic banks have been slow to adopt the use of risk-reducing techniques. He also suggests that “deconstructing the logic of the instruments and reformulating them in a riba-free context is not always straightforward.”

10. Since Kamali (1997) has discussed the fatwas by Ahmad Hassan and Abu Sulayman in detail, we will focus mainly on the fatwa of Usmani (2000) in this article.

11. It is a transaction in which a buyer places an initial good-faith deposit with the seller. If he proceeds with the transaction, the payment is adjusted for the initial deposit. If he decides not to proceed with the transaction, the deposit is retained by the seller.

REFERENCES


