

Principle and Application of Risk Management and Hedging Instruments in Islamic Finance

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1. Introduction

Risk is an integral part of financial transactions. As financial intermediary such as a bank, the issue of risk is more challenging especially operating in a competitive and volatile market environment. Consequently, financial institutions are subjected to a wide array of risks in the course of their operations. Increasing complexity and convergence of financial activities in the last few decades has resulted in multiplicity of risk. Among the common types of risks including financial, operational, business and event risk. The sustainability, viability and survivability of a financial institution depends on how effective and efficient the organizations manage their risks.

As for Islamic financial institutions, there are certain specific issues that require special attention with regards to risk and risk management. This is partly due to the different orientation of Islamic finance towards risk. Since Islamic finance is based on Shariah, risks are more aligned on the basis of contract types and various Shariah principles that underlined every financial transactions. With the rise of sophistication of Islamic finance in recent years, there is a genuine need to address the concern of financial institutions over underlying financial risks arising from various Islamic financial transactions and product structures. As a result, many risk management instruments are started to be structured in a Shariah-compliant manner with restricted objective and parameter mainly as a tool for hedging purposes.

This paper aims to delineate the concept of risk and risk management from Islamic perspectives. In particular, the paper focuses on the application of various hedging instruments to address to concern of Islamic financial institutions over financial risk management. The Islamic financial risk management market to date is still at a very infancy stage. This is mainly due to the incompatibility nature of various financial risk management tool, namely derivatives instruments

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to the fundamental principles of Shariah. However, in recognition of a legitimate need to protect investors against various financial risk exposures and market volatility, some Shariah scholars have taken the view that certain hedging arrangements may be allowed, provided that the instrument itself is structured in a Shariah-compliant manner.

Against this backdrop, the paper is structured as follows. The next section discusses the concept of risk from Islamic perspective. The issue of risk management is deliberated in Section 3 in details so as to provide a better understanding of the genuine concern over the need to address various risk exposures, which may cause detrimental effect to the whole operation of Islamic financial institutions in an increasingly sophisticated market. Section 4 highlights the various Islamic risk management products which have been developed along the established tawarruq and wa'ad structures. The illustrations provided on Islamic hedging instruments for this paper shall be restricted to Islamic FX Forward, FX Swap and FX Cross Currency Swap.

2. Risk from Islamic Perspective

Risk generally means a measurement of unpredictability or uncertainty of future events. In finance it can be taken as the amount one potentially stands to lose by a transaction or the probabilities of each possible outcome being known. For example, a high-risk investment can be expected to yield higher interest rate than a low-risk investment.¹

In an Arabic Islamic finance lexicon, the word mukhāṭarah is commonly used to connote risk. The word mukhāṭarah itself derived from an Arabic root word 'khatar', which implies several meanings such as exposure and fear or destruct² or an exalted position³. The technical meaning of mukhāṭarah in the context of Islamic financial transactions can be deemed from various different contexts. Among the technical meanings of mukhāṭarah enunciated by different scholars include the following:

(a) Gharar (Uncertainty)

¹ *Dictionary of international Accounting Terms, Series Editor: John O E Clark, Financial World Publishing-UK,2001, page 184.*

² Al-Rāzī, Mukhtār al-Ṣiḥāḥ, p.173.

الْحَطَرُ الْإِشْرَافُ عَلَى الْمَالِ وَخَوْفُ التَّلَبُّ

³ Ibn Fāris, Mu‘jam Maqāyis al-Lughah, Vol. 2, p.199.

Risk or mukhāṭarah is normally associated to uncertainty or gharar. This can be deduced from the words of Imam Shafi'e in his masterpiece, al-Umm:

فَهُوَ مَفْسُوحٌ مِنْ قِبَلِ شَيْئَيْنِ: أَحَدُهُمَا: أَنَّهُ تَبَايَعَاهُ قَبْلَ أَنْ يَمْلِكَهُ الْبَائِعُ وَالثَّانِي أَنَّهُ عَلَى مُخَاطَرَةٍ أَنَّكَ إِنْ اشْتَرَيْتَهُ عَلَى كَذَا أُرْبِحُكَ فِيهِ كَذَا

“A contract is void from two perspectives: First the issue of selling before the seller has actually owned the subject matter of the sales. Second, is when the sales is executed on the basis of mukhāṭarah (uncertainty).⁴ In this context, the word mukhāṭarah is actually referring to uncertainty

(b) Maysir (Gambling)

Ibn al-Qayyim al-Jawziyyah relates mukhāṭarah or risk to the issue of gambling as mentioned in the following text:

وَالْمُخَاطَرَةُ مُخَاطَرَتَانِ: وَالْخَطَرُ الثَّانِي: الْمَيْسِرُ الَّذِي يَتَضَمَّنُ أَكْلَ الْمَالِ بِالْبَاطِلِ

Meaning: "And risk can be in two forms.....second, in the form of gambling which basically consuming property in unjust manner."⁵

Juristic Opinion on Risk

Even though, some scholars relate risk to uncertainty and gambling, not all risks can be deemed to be prohibited. There are some risks that must be borne as part of the intrinsic nature and requirements of a contract. In this regards, Ibn Taimiyyah further explained about the nature of risk from Shariah perspectives:

"وَأَمَّا الْمُخَاطَرَةُ فَلَيْسَ فِي الْأَدِلَّةِ الشَّرْعِيَّةِ مَا يُوجِبُ تَحْرِيمَ كُلِّ مُخَاطَرَةٍ؛ بَلْ قَدْ عَلِمَ أَنَّ اللَّهَ وَرَسُولَهُ لَمْ يُحَرِّمَا كُلَّ مُخَاطَرَةٍ، وَلَا كُلَّ مَا كَانَ مُتَرَدِّدًا بَيْنَ أَنْ يَعْزُمَ أَوْ يَعْزَمَ أَوْ يَسَلَّمَ... وَلَكِنْ يُحَرِّمُ مِنْ هَذِهِ الْأَنْوَاعِ

⁴ Al-Syafie, Al-Umm, Vol. 3, p.39.

⁵ Ibn Al-Qayyim, Zād al-Ma‘ād, Vol. 5, p. 723.

ما يَشْتَمِلُ عَلَى أَكْلِ الْمَالِ بِالْبَاطِلِ، وَالْمُوجِبُ لِلتَّحْرِيمِ عِنْدَ الشَّارِعِ أَنَّهُ أَكْلُ مَالٍ بِالْبَاطِلِ، كَمَا يَحْرُمُ أَكْلُ الْمَالِ بِالْبَاطِلِ وَإِنْ لَمْ يَكُنْ مُخَاطَرَةً؛ لَا أَنَّ مُجَرَّدَ الْمُخَاطَرَةِ مُحَرَّمٌ.....”⁶

Meaning: “There is no Shariah evidence to categorically prohibit all forms of risks. In fact, Allah and His Messenger do not prohibit all types of risks, or all activities which are doubtful in terms of whether it is profitable or loss or safe (neither profitable nor loss)...Instead, the type of risk which is prohibited concerning consumption of property in an unjust or wrongful manner. The main reason for prohibition from Shariah viewpoint is mainly concerned the unjust consumption of property even without the element of risk. Risk alone does not constitute prohibition..”

Based on the above assertion, risk can be generally categorized into three main types namely, permissible, non-permissible risk and manageable risk. The following discusses the respective types of risk as identified by the jurists:

1. Permissible risk

The permissible risk relates to mundane economic activities involving transactions which have added-value in order to generate returns. This is the type of risk that is inevitable; in fact, it must be borne because it is part of the demands and norms of Shari‘ah-compliant contracts and transactions. This is based on the fundamental legal maxim “*al-ghunm bil-ghurm*” (الغنم بالغرم) which means “entitlement to profit is accompanied by responsibility for attendant expenses and possible loss.” This maxim is extracted from several *ḥadīths* of the Prophet (peace be upon him); among them:

الخراج بالضمان

“[Entitlement to] profit is dependent on responsibility [for attendant expenses and possible loss and defects].”⁷

⁶ Ibn Taymiyyah, *al-Mustadrak ‘alā Majmū‘ Fatāwā Shaykh al-Islām*, t.t., 1418H, Vol.4, p.66.

⁷ Ḥadīth narrated by ‘Ā’ishah (may Allah be pleased with her) (Abū Dāwūd, ḥadīth no. 1464; Aḥmad 49:6, ḥadīth nos. 161, 208, 237; Ibn Mājah, 2:754; Sunnan al-Bayhaqī, 5:321). There is a conflicting view among scholars regarding the authenticity of this ḥadīth; some, such as Ibn Ḥazm, said that it is not authentic, but others, such as Ibn

Indeed the justification of returns or profits earned is based on the value-added elements associated with the economic transaction. There is another Islamic legal maxim corresponds to this:

يُسْتَحَقُّ الرَّبْحُ إِمَّا بِالْمَالِ وَإِمَّا بِالْعَمَلِ وَإِمَّا بِالضَّمَانِ⁸

"The justification of profits are either based on effort, or through property invested or liability assumed"

Based on the above maxim, the jurists almost unanimous in allowing returns and profits which are commensurate by the added or counter-values in any of the following forms; namely: First, utilization of one's property through investment or trading activities; second, effort taken to conduct the transaction; and third, risk or liabilities assumed through ownership. These three criteria are based on various Prophet's hadith.

For example, in a sale contract, the seller must bear all risks related to the commodity sold, such as the risk of defects, loss, value depreciation, etc., until the goods are sold and delivered to the buyer. It is only after the buyer takes possession of the goods that the risks of loss, defects, or value depreciation in the goods sold can be transferred from the seller to the buyer.⁹ These responsibilities are features of complete ownership (*milkiyyah tammah*). Any conditions imposed at variance with this rule will result in the contract becoming void.

Similarly in investment activities, direct participation in performance of the asset is one of the fundamental requirements under Shariah. The participation constitutes entrepreneurial investment that conveys clearly identifiable rights and obligations for which investors are entitled to receive a commensurate return in the form of state-contingent payments relative to asset performance. In other words, the investor and

al-Qaṭṭān, ruled that it is an authentic ḥadīth. Nevertheless, the fiqh maxim 'al kharāj bil-ḍamān' is based on several other ḥadīths.

⁸ Jamharatul al-Qawaid al-Fiqhiyyah, Vol.1 p.332)

⁹ Shaykh Dr. Muhammad Ali Elgari has interpreted this ḥadīth to refer to a few specific risks, that is risk related to the safety of the commodity and not the risk of loss in business. See Dr. Muhammad Ali Elgari, *Al-Taḥawwuṭāt al-Badīlah 'an al-Ḍamān fī al-Mushārakāt wa al-Ṣukūk al-Istithmāriyyah*, Ḥawliyyat al-Barakah, no. 10, (Jeddah: Majmū'at Dallah al-Barakah, 2008), p. 315.

capital owner share investment risk and accrue profit only if the investment asset yield income.

2. Non-permissible risk

The basic distinction between permissible and non-permissible risk is premised upon the statement made by Ibn Taimiyyah mentioned earlier, who distinguished between two types of risk. In principle, the prohibited risk is mainly due to the element of unjust consumption of property or 'aklu al-maali bi al-baatil'. The principle is taken from the Quranic verse:

يَا أَيُّهَا الَّذِينَ آمَنُوا لَا تَأْكُلُوا أَمْوَالِكُمْ بَيْنَكُمْ بِالْبَاطِلِ إِلَّا أَنْ تَكُونَ تِجَارَةً عَنْ تَرَاضٍ مِنْكُمْ

"O you who believe! Eat not up your property among yourselves unjustly except it be a trade amongst you, by mutual consent. And do not kill yourselves (nor kill one another). Surely, Allah is Most Merciful to you" (An-Nisa':29)

The prohibition of unjust consumption of property is the type of risk that can cause any trading or transaction to become void, according to the Sharī'ah. Jurists link this risk to the element of excessive uncertainty, known in Arabic as *gharar jasīm* or *gharar fāhish*. Included in this category is *gharar* caused by elements of gambling (*maysir*), which is a zero-sum game¹⁰ forbidden by the Sharī'ah. *Fiqh* books identify a number of aspects in which *gharar fāhish* may occur:

- a. Uncertainty or risk related to existence (غرر في الوجود) – for example, buying or selling something that is not present (*bay' al-ma'dūm*), as in the purchase or sale of fruits that do not yet exist.¹¹

¹⁰ The Arabic term *gharar* also connotes risk (*khaṭar*). Shaykh al-Suwailem discusses the meaning of *gharar* in the zero-sum game context. What is meant by a zero-sum game is a situation where one party wins and gets benefits from the losses of the second party. Because both sides compete to get profit and not to do charity, this transaction is more referred to getting wealth in the harmful way, which is strongly condemned in the Qu'ran. It is also seen as a form of gambling which will foster a feeling of hatred, as is mentioned in the Qur'ān. See Sami Ibrahim al-Suwailem, *al-Taḥawwuṭ fī al-Tamwīl al-Islāmī*, pp. 81-89.

¹¹ See al-Kāsānī, *Badā'i' al-Ṣanā'i'*, (11:186).

- b. Uncertainty or risk related to taking ownership (غرر في الحصول) – for example, the purchase or sale of wild camels.¹²
- c. Uncertainty or risk related to quantity (غرر في المقدار) – for example, a sale contract in which the sale price is not known or a rental contract where the rental value is unknown.¹³
- d. Uncertainty or risk related to quality (غرر في الصفة) – for example, uncertainty about the type or specifications of the goods which are the subject of a contract.¹⁴
- e. Uncertainty or risk related to the time of payment (غرر في الأجل) – for example, a sale for deferred payment when the date is not fixed.¹⁵

Besides the element of excessive uncertainty (gharar faahish) which constitutes one of the important indicators for the 'unjust consumption of property', other indicators which may affect the validity of a transaction that may cause it to be deemed as impermissible include the following:

- i. Transaction involves riba (الربا)
- ii. Transaction involves deception and fraud (الغش والتزوير)
- iii. Transaction involves element of exploitation and monopoly (الاحتكار)
- iv. Transactions based on property which is taken without the owner's consent
- v. (المال المحرم المأخوذ بإذن المالك)
- vi. Transactions based on gambling and zero-sum game (القمار والميسر)
- vii. Transactions involves prohibited trading goods (الاتجار بالمحرمات)

3. Tolerable risk to be avoided

Apart from the two risk categories discussed above, (permissible and non-permissible risk), there is yet another type of risk, one that is tolerable but avoidable. At times, it becomes necessary to protect against this type of risk. However, the

¹² See Ibn Muflih, *Al-Mubdi' Sharḥ al-Muqni'*, (4:437).

¹³ See Ibn 'Ābidīn, *Radd al-Muhtār*, (5:37); al-Kāsānī, *Badā'i' al-Ṣanā'i' fī Tartīb al-Sharā'i'*, (11:247).

¹⁴ See al-Sarkhasī, *al-Mabsūt*, (14:78).

¹⁵ See al-Kāsānī, *Badā'i' al-Ṣanā'i'* (11:186).

instrument or method used to avoid, minimize or protect asset value against this risk must use a Sharī'ah-sanctioned approach.

Sheikh Dr Hussein Hamid Hassan outlined three Sharī'ah pre-conditions for managing this type of risk:

- a. The instrument or approach used to manage risk of this category must not contravene the Sharī'ah principle of *al-ghunm bil-ghurm*.
- b. The instrument employed to manage this risk does not involve excessive ambiguity (*gharar jasīm*). For example, it cannot be used to manage a product which from the beginning contains this *gharar jasīm* element, such as a futures product, short selling, options, etc.
- c. The instrument or approach to be used must comply with Sharī'ah principles and only be used to avoid or manage risk allowed by Sharī'ah.¹⁶

In the light of this type of risk, the foregoing discussion focuses on risk management mechanism and instruments in Islamic finance.

3. Risk Management in Islamic Finance

Islamic financial institutions, like their conventional counterparts are exposed to wide array of risks, which may broadly be classified into financial, business and operational risks. Financial risk will generally include credit, market and liquidity risk. Business risk is a combination of management risk and strategic risk. Operational risk can arise due to people, processes, systems and several other factors. Each category of risk is the possibility of suffering adverse effects in that category. For the purpose of this paper, the focus shall be on market risk. Thus market risk is the risk of losses arising from adverse movements in market prices. Market risk includes foreign exchange risk (unanticipated movements in exchange rates), profit rate risks (changes in the net profit income as a result of changes in profits and shifts in composition of assets and liabilities)

¹⁶ See debate in Hussein Hamid Hassan (2009) Basic Sharia Principles Governing Risk Management, paper presented in Harvard-LSE Workshop on Risk Management. London School of Economics, February 26, 2009. Also in Hussein Hamid Hassan (2008) *Murā'ah Maqāsid al-Sharī'ah wa Ma'ālāt al-Af'āl fi al-'Amal al-Maṣrafī al-Islāmī*, in *Hawliyyat al-Barakah*, no. 10, p. 228.

One of the important instruments for risk management in the operations of financial institutions is hedging. A general definition of hedging is: efforts to minimize risk being faced¹⁷. In other words, hedging is a process which ensures that the flow of actual funds is sufficient to finance investment and financing activities needed by financial institutions. In the context of managing liabilities, hedging is defined as a framework to link any imbalances between companies' assets and liabilities.¹⁸

The concept of hedging in the conventional framework is one strategy for managing and minimizing risk in an economic activity, such as business or investment. It does not in any way connote the elimination of risk altogether. Consequently, Islamic finance has prescribed certain measures to manage and minimize risk. This is in line with the spirit and direction of Divine Guidance, the Quran and the Tradition of the Prophet Muhammad peace be upon him, which among others advocates the concept of preservation of wealth as one of the most important objectives of Shariah. In the Quran for example, Allah directs human beings to record debts and business dealings and to take witnesses (Al-Quran; 2:282-283). This prevents the possibility of a party denying his obligation towards another party, which could lead to a loss of capital. The verse also stresses that if the dealing takes place during a journey, Allah allows collateral to be taken for the debt, if no record is made. Such actions are suggested so that the debtor is aware and is responsible in fulfilling his respective obligation.

In the light of these clear and strong evidences from the Qu'ran and Sunnah on the need to manage risks, the jurists of both the past and the present have consistently supported risk management and hedging concept. This corresponds to the principle of preservation of wealth, which is one of the basic objectives of Shari'ah. In fact it is made very clear in a *hadith* which states that if one dies protecting his family and property, his death is considered martyrdom¹⁹. Therefore, striving to defend and protect wealth from financial risks is more encouraged because it may not only harm individual but society as a whole.

¹⁷ Coyle, Bryan (2000) *Hedging Currency Exposure*, (United Kingdom: Financial World Publishing), p. 14.

¹⁸ Vantakesh, Raj and Vijaya Vantakesh (1994), *Interest Rate and Currency Swaps: The Market Products and Application*, (Chicago: Probus Publishing), p. 67.

¹⁹ The corresponding hadith as follows: مَنْ قُتِلَ دُونَ مَالِهِ فَهُوَ شَهِيدٌ "Whoever dies in protecting his property, he dies as a martyr" (Sahih al-Bukhari, Vol.3, p.136)

Islam has promulgated a variety of rules related to the preservation of property and wealth; it has prohibited misappropriating the property of others by acts such as stealing and devouring the wealth of orphans. It also interdicts incompetent people from handling financial matters. This would include the mentally impaired, children, and those (the *sufahā'*) who demonstrate imprudence and wastefulness in managing property. Islam also provides guidelines for ways to develop and use wealth, such as in business and investment activities.

All this demonstrates the emphasis Islam places on the process of acquiring and maintaining assets in ways that are both *ḥalāl* and safe. Islamic law also gives attention to types of persons and their level of competencies when conducting trade because disregarding this may result in loss of wealth, a risk that should be best avoided. Thus, there are eligibility requirements for every contract, and it is acknowledged that one's expertise can influence the profit and loss in any investment. In fact, the Muslim Ummah is required to avoid harm, based on an authentic hadith, 'لَا ضَرَرَ، لَا ضِرَارَ فِي الْإِسْلَامِ' which means 'In Islam, harm should neither be initiated nor reciprocated.'²⁰. A number of important legal maxims are derived from this hadith, among them:

- i- '*Al-ḍarar yuzāl,*' which means 'Harm must be eliminated.'
- ii- '*Al-ḍarar yuzāl bi qadril-imbkān,*' which means 'Harm must be eliminated as much as possible.'
- iii- '*Daf' ul-maḍarrah muqaddamun 'alā jalbil-manfa'ah,*' which means 'Repelling harm takes priority over seeking benefit.'

There are many more *fiqh* maxims which support efforts to manage risks and avoid harm to religion, lives, property or other *maqāṣid* of the Sharī'ah. This is because the use of *fiqh* maxims developed by the jurists is universal, as long as it does not go against the demands of Sharī'ah.

It can be understood from the discussion on risk from the perspective of *maqāṣid* and *maṣlaḥah* that any harm or risk to property must be resolved or efficiently curbed. From the *maqāṣid* perspective, any prospective business or investment issue must go through a comprehensive analysis process to determine the benefits and risk or harm contained in it before it is executed. If it is likely to bring about major harm or loss, it should be proposed that the transaction be cancelled. Apart from the *fiqh* of *maqāṣid*, this matter is also suggested by the *fiqh* of *awlawiyyāt*

²⁰ It could also be interpreted to mean that one should neither inflict harm on oneself nor on others.

(the *fiqh* of priorities), and the *fiqh* of *muwāzanah* (the *fiqh* of giving relative weights to the benefit and harm of a given act).

Islam recognizes that risk is common in business, but it also acknowledges that it can be managed and minimized if strategic steps are taken. Hence, Islam condemns two extremes of behavior with regard to risk. The first is total risk avoidance by obtaining profits without assuming any risk, which is the case with *ribā*. The second is excessive risk-taking in activities that have elements of gambling. Islam encourages taking calculated risk to obtain profits. Among several risk-management methods that have been discussed and that jurists consider permissible are limiting the scope and level of risk to be taken in any investment, diversifying investment instruments, and obtaining a third-party guarantee. There are others as well.²¹

Since the Sharī‘ah acknowledges the concept of hedging and its importance, the instruments and steps taken to achieve this are encouraged as long as they do not violate a Sharī‘ah ruling.²² Among the scholars who have discussed financial hedging, evaluated conventional hedging instruments, and made efforts to develop Sharī‘ah-compliant alternatives are Dr. Sami al-Suwailem, Dr. Mohamed Ali Elgari, Dr. Abdul Sattar Abu Ghuddah, the International Islamic Fiqh Academy, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), the Dallah al-Barakah Sharī‘ah Advisory Council, the Sharī‘ah committees of other Islamic financial institutions, and many others. Most of them do not reject the concept of financial risk management. They admit its importance in Islamic financial markets; however, they differ as to what Sharī‘ah-compliant hedging mechanisms can be developed. They agree that hedging is valid, but it cannot be thought of as a tool to totally eliminate risks.²³

Furthermore, the jurists have consistently asserted that the instruments and mechanisms used to manage risk must not in any way violate a Shariah ruling. This assertion is strongly entrenched to the Shariah principle that ‘end does not justify mean’. This was explained in detail in the 28th

²¹ See Dr. Muhammad Elgari, *Al-Taḥawwuṭāt al-Badīlah ‘an al-Ḍamān fī al-Mushārahāt wa al-Ṣukūk al-Istithmāriyyah*, Ḥawliyyat al-Barakah, no. 10, (Jeddah: Majmū‘at Dallah al-Barakah, 2008), p. 316.

²² Ibid.

²³ According to Dr Abdul Sattar Abu Ghuddah, even though the Sharī‘ah suggests preservation of wealth is a form of benefit to avoid harm, but the effort to manage risk must use instruments allowed by Sharī‘ah. Nevertheless the norm of investment in Islam which naturally is exposed to risk does not permit risk to be eliminated in totality. See in Dr. Abdul Sattar Abu Ghuddah (2007), *Buḥūth fī al-Mu‘āmalāt wa al-Asālib al-Maṣrafiyyah al-Islāmiyyah*, al-Juz al-Thāmin, No. 8, (Jeddah: Majmū‘at Dallah al-Barakah). p. 101.

Barakah Symposium in Jeddah on September 16, 2007, which specifically discussed the issue of hedging (*tahawwut*). The resolution issued was as follows:

1. In Islamic financial activities, the pre-condition is that investors bear the risks. This is based on the principle of ‘*al-ghunmu bi al-ghurmi*’ which means that entitlement to profit is accompanied by responsibility for attendant expenses and possible loss. This is backed by the *Hadith* ‘*Inna al-Kharaj Bi al-Dhaman*’ which means the entitlement to profit from something is dependent on responsibility for attendant expenses and possible loss and defects (Hadith narrated by al-Tirmizi, Abu Dawud, Ibn Majah and Ahmad). Therefore, any investment activities based on the separation between “*al-ghunm*” (profit) and “*al-ghurm*” (losses), where investors are qualified to receive profits without bearing “*daman*” (responsibility for losses or risks), are not allowed. Any contracts or contractual terms which are meant to guarantee investment capital and profit are contradictory to the Shariah.
2. Minimising and avoiding risks are permissible if managed in line with Shariah mechanisms, contract and instruments, as long as they do not bring about matters that contravene Shariah principles (Resolution No. 2:28).

4. Islamic Hedging Instruments

Islamic financial institutions have come up with various structure of Islamic version of hedging instruments to minimize the risk of market fluctuation including foreign currency exchange rate risk and other market risk. Amongst the prominent Islamic hedging instruments which are currently being structured and widely used in treasury include Islamic FX forward, Islamic FX Swap, Islamic Cross-Currency Swap, Islamic Profit-rate Swap and Islamic Option. This section shall illustrate some of the instruments and their respective Islamic underlying contracts and principles used for hedging, namely Islamic FX Forward, Islamic FX Swap and Islamic FX Cross-Currency Swap :

i. Islamic FX Forward

In conventional finance, FX forward has been used predominantly to manage and hedge against risk of fluctuation in currency exchange rate risk. FX forward is essentially a

derivative instrument that involves an arrangement of two parties to conduct a sale in future at a price fixed today. Both settlement and delivery will only happen in future agreed dates while the contract is sealed today.

From the Shariah viewpoint, the problem with the conventional FX forward structure arises when the parties involved want to exchange the currency sometime in the future but have already fixed a rate today while the contract is also sealed today. This contravenes to the basic Shariah rules governing the exchange of currency (bay` al-sarf). In bay` al-sarf, it is a requirement for an exchange which involves two different currencies to be transacted on spot basis.

There are many *Hadith* which govern the rules regarding the exchange of currencies. The best known *Hadith* is the one reported on the authority of Ubadah ibn al-Samit, to the effect that the Prophet (peace be upon him) said:

الدَّهَبُ بِالذَّهَبِ، وَالْفِضَّةُ بِالْفِضَّةِ، وَالْبُرُّ بِالْبُرِّ، وَالشَّعِيرُ بِالشَّعِيرِ، وَالتَّمْرُ بِالتَّمْرِ، وَالْمِلْحُ بِالْمِلْحِ،
مِثْلًا بِمِثْلٍ، سَوَاءً بِسَوَاءٍ، يَدًا بِيَدٍ، فَإِذَا اِخْتَلَفَتْ هَذِهِ الْأَصْنَافُ، فَبِيعُوا كَيْفَ شِئْتُمْ، إِذَا كَانَ يَدًا بِيَدٍ

“Gold for gold, silver for silver, wheat for wheat, barley for barley, dates for dates, salt for salt - like for like, equal for equal, and hand-to-hand (spot); if the commodities differ, then you may sell as you wish, provided that the exchange is hand to hand or spot transaction”²⁴

The reference made to gold and silver in the above hadith, is analogous to paper and coin money as a medium of exchange in today’s world. The currency of each country is considered as being of a kind that is different from that of other countries, as they are ‘constructive money’ according to the decision of the International Islamic Fiqh Academy (based in the Kingdom of Saudi Arabia).

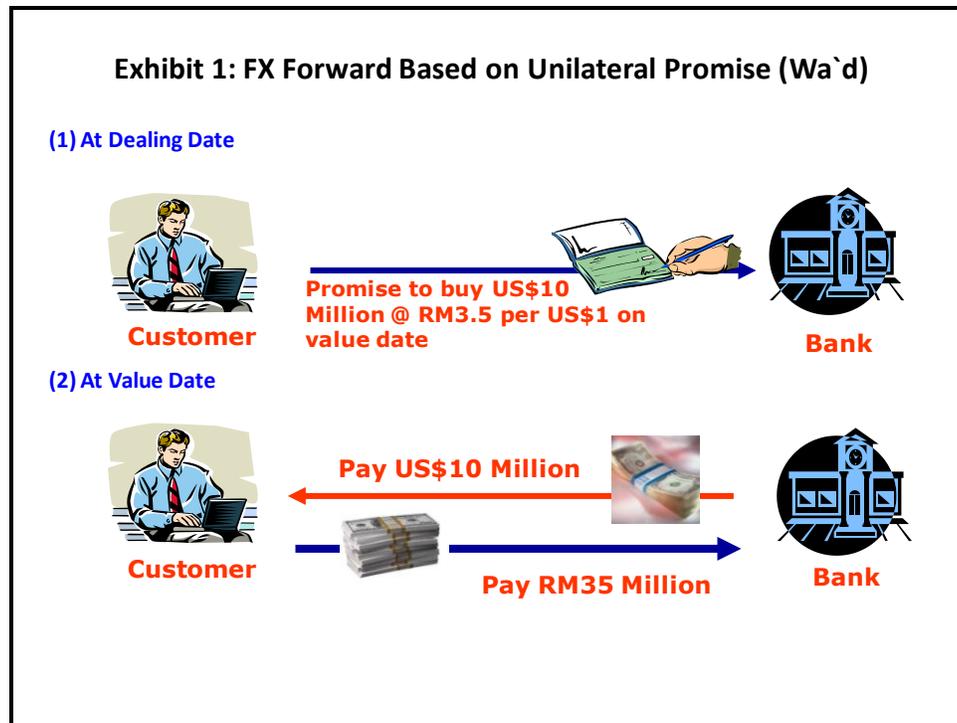
²⁴ Sahih Muslim, Vol.3, p.1211.

Consequently, Islamic FX Forward is structured based on Shariah principles and contracts to achieve the same objectives of its conventional counterpart, which is mainly to hedge against currency rate fluctuation risks. For the Islamic FX forward there are three main structures which are commonly offered in the Islamic financial market today. One structure is based on the contract bay` al-tawarruq (commodity murabahah transaction). The second is structured using the concept of promise or Wa`d, and third is based on two unilateral promises or Wa`dan.

a. **Islamic FX Forward Based on Wa`d (Unilateral Promise)**

Wa`d is an Arabic word which literally means “a promise”. The value of the *wa`d* in Shariah is similar to the value of a social promise in Common Law. The promise may have moral force in that breaking it may provoke opprobrium (social blame) but it does not entail legal obligations or legal sanctions. The Islamic Fiqh Academy has decided that the *wa`d* is “obligatory not only in the eyes of God but also in a court of law” when: it is made in commercial transactions; it is a unilateral promise; and it has caused the promisee to incur liabilities. Also it is a requirement that the actual sale – if the promise was in respect of selling a certain asset – to be concluded at the time of exchange of the offer and the acceptance (known in Arabic as *majlis al-aqad*) and not at the time of the *wa`d*. The promisee also has the possibility to claim actual damages from the promissor, if the latter backs out on a *wa`d*.

Exhibit 1 illustrates the modus operandi of FX forward based on Unilateral Promise (Wa`d) principle.



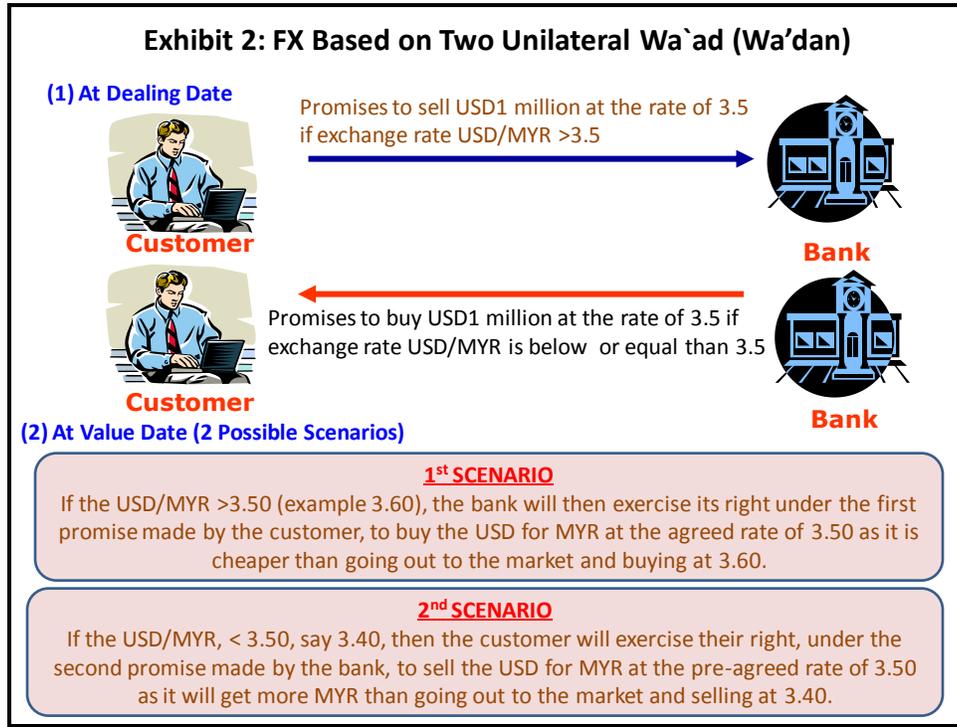
A brief description of the FX forward based on Wa`d as illustrated in Exhibit 1 above is given as follows:

1. On dealing date a customer promises to purchase US\$10 million at the rate of RM3.5 per US\$1 on value date (a certain date in future).
2. On the value date, the actual execution of foreign exchange contract is sealed, whereby the customer fulfils his promise by purchasing US\$10 million from the bank. In return, the customer sells RM35 million to the bank at the predetermined promised rate RM3.5:US\$1 regardless whatever actual rate in the market on the value date.

b. Islamic FX Forward Based on Wa`dan (Two Unilateral Promises)

Another form of FX forward is structured based on Wa`dan principle. Wa`dan is two unilateral promises given by two parties to each others in which both promises is not connected to each other and its application depend on two different conditions. To illustrate how these two unilateral promises are used in structuring an Islamic

currency forward, let us take the same example as discussed previously. The illustration is depicted in Exhibit 2 below:



1. The Customer promises the Bank that it will sell USD1 million for MYR at a USD/MYR exchange rate of 3.50 (i.e. for MYR 3.5 million) on 2nd June 2010; if the USD/MYR exchange rate is above 3.50.
2. The Bank promises the Customer that it will buy USD1 million for MYR at a USD/MYR exchange rate of 3.50 (i.e. for MYR 3.5 million) on 2nd June 2010; if the USD/MYR exchange rate is below or equal to 3.50.

Let us assume the USD/MYR rate on the 2nd June 2010, is above 3.50 (example 3.60), the bank then will exercise its right, under the first promise made by the Customer, to buy the USD for MYR at the agreed rate of 3.50 as it is cheaper than going out to the market and buying at 3.60. Conversely, if the rate on the 2nd June 2010 falls below 3.50, say 3.40, then the customer will exercise its right, under the second promise made by the Bank, to sell the USD for MYR at the pre-agreed rate of 3.50 as it will get more MYR than going out to the market and selling at 3.40.

Therefore in all the possible scenarios discussed above, the actual trade of currencies will only take place on the maturity date (as in our example above 2nd June 2010). Hence, it is claimed that the structure does not violate the Shariah requirements pertaining to currency trading which require the currencies to be traded on spot basis.

The major concerns pertaining to this structure is the similarity of two unilateral promises (*wa`dan*) to bilateral promises (*muwa`adah*) which has been a contentious Shariah issue for a long time. Bilateral promise is promise given by two parties to each other on the same subject matter and the effect of the promise will take place at the same time. This promise might be associated with certain conditions or without any conditions. An example of such promise is when A promise to sell certain commodity to B at a certain date and B in return promise A to buy the same commodity on the same date. The two promises might be connected to certain situation such as the fluctuation of price of the commodity at the time of transaction.

The objection to this kind of promise is the effect of such promise is similar to contract taking the view which says that promise is binding. This means, when two unilateral promise is agreed, it will give the effect of a contract as the obligation of both parties are established at the point of promise which is similar to contract. (Islamic Fiqh Academy Decision No. (3/2). In addition, some argues, if such a contract is binding to both parties, then it falls within the prohibition of selling a debt for a debt and is, thus, not permitted. However, if it is not binding on either party then it is permitted. (First Barakah Conference, *Fatwa* No. 13)

In fact, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) in its Shariah Standard No.1 on Trading Currencies clearly mentioned that: “*A bilateral promise is prohibited in currency trading when it is binding upon both parties, even when it is done to treat the risk of decline in a currency’s value. As for a unilateral promise from one party only, that is permissible, even if it is binding*”.

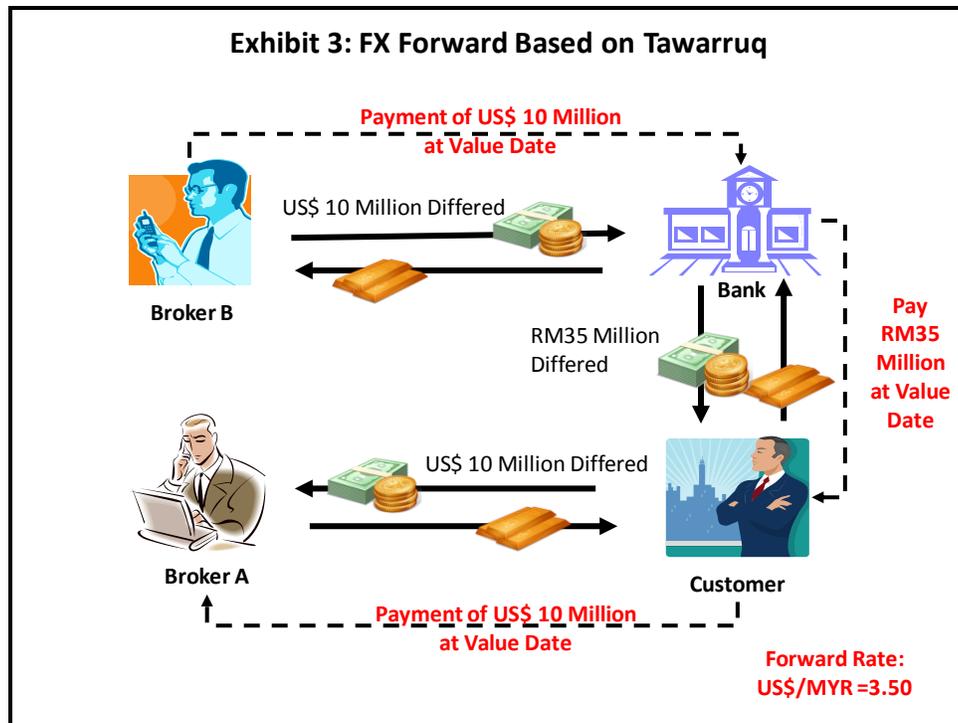
Despite the criticisms and unresolved Shariah matters and the entangling of the issue of two unilateral promises in structuring the Islamic forward currency product, many

Islamic financial institutions especially in the Middle East are applying it. There are not many discussion has taken place related to this topic, however, many scholars has approved it and deem it different from muwaadah.

However, the approvals given by many Shariah committees of the respective financial institutions are subjected to the condition that the instrument is exclusively used for hedging purposes. This means that an Islamic forward product can only be used as an insurance activity aimed at protecting an asset from adverse change, which can be an unexpected and undesirable change in the value of an asset. This also implies that an Islamic forward cannot be used for funding and trading activity by means of speculation to generate profit as widely practiced in conventional finance.

c. Islamic FX Forward Based on Tawarruq

For some institutions who are not in favor of promissory-based structure, they may opt for alternative structure which is based on tawarruq. Tawarruq can be in the form of series of murabahah sales transactions or musawamah sales transactions. The latter is used if one has difficulty to determine the cost price of the underlying commodity to be transacted. Exhibit 3 illustrates the mechanism of Islamic FX forward which is structured based on tawarruq principle.



A brief description of the FX forward based on tawarruq as illustrated in Exhibit 3 above is given as follows:

1. Customer who wishes to purchase RM35 million will first buy a commodity (aluminium, crude palm oil etc.) for US\$10 million from Broker A on deferred terms, payable on the value date.
2. Once having ownership over the commodity, the customer sells the commodity to the bank for RM35 million (based on the forward rate of US\$ to RM3.5) on deferred terms, payable on the value date.
3. Upon getting the ownership of the commodity, the bank then sells the commodity to Broker B for US\$10 million. The price will be settled on value date.
4. At value date, all the obligations will be settled. In this case, bank will get US\$10 million for the commodity which was sold on the dealing date. At the same time, bank needs to settle its obligation to customer for the commodity purchased on deferred basis for the agreed price of RM35 million. Customer has to also settle his obligation to the Broker A at the price of US\$10 million.

Therefore the end economic implications from the whole tawarruq transactions as depicted in Exhibit 7.10 above are:

- Customer essentially succeeds in obtaining RM35 million at the hedged forward rate of US\$:RM=3.5.
- Bank also manages to exchange the RM35 million to US\$10 at the hedged forward rate of US\$:RM=3.5

d. Islamic FX Swap

Technically, a swap can be defined as a bilateral contractual agreement in which both parties agree to simultaneously make periodic payments in exchange for two different streams of cash flow. This payment is referred to as the legs or sides of the swap and is determined based on hypothetical values of underlying assets called notional. The swap agreement can be executed by exchanging an asset or liability in the same or different currencies or a floating interest-rate stream with another of fixed rate or vice versa. Generally, the main purposes of swaps is to hedge against financial risks. Compared to other derivative products, a swap can be used more effectively as a hedging mechanism against risks related to interest rates or currency exchange markets. This instrument is also considered to be more suitable for hedging risks of a long-term nature; i.e., for more than 10 years.²⁵ Hedging is more effective through this swap instrument because the structured flow of funds can reduce risk.

FX Swap involves two foreign currency exchanges, at the beginning and at the expiry date (FX Swap involves exchange and re-exchange of foreign currency). This dual exchange makes this FX swap different from a forward contract. In the forward contract, the exchange only takes place once. For instance, one side wants to change US dollars (USD) for Malaysian ringgits (MYR). After the exchange between USD and MYR, the forward contract will expire. MYR will not be changed back to USD in a forward contract.

However, in the FX swap mechanism, the exchange takes place more than once. For example, Bank A converts USD100 million to MYR350 million (assuming that this is the

²⁵ Marshal, John and Kennedy Kapner (1990) *The Swaps Handbook*, (New York: New York Institute of Finance).

spot rate). On the maturity date, the MYR will be converted back to USD on a forward rate that was agreed upon at the beginning of the contract.

FX Swap can also be seen as a combination of a spot and forward contract. At the beginning, there is an exchange of currency, where USD is converted to MYR (spot). On the same day, both sides will execute the forward contract to reconvert MYR to USD at the forward rate. FX Swaps are usually executed for a short-term period, less than a year. The purpose of an FX Swap is to obtain foreign currency in a short period of time, which will be converted back into the original currency at maturity.

From the Sharī'ah point of view, the problem in the FX Swap contract arises when the parties involved want to exchange currency at some time in the future but fix a rate today when the contract is concluded. This contravenes the *bay' al-ṣarf* ruling that it must be transacted on a spot basis.

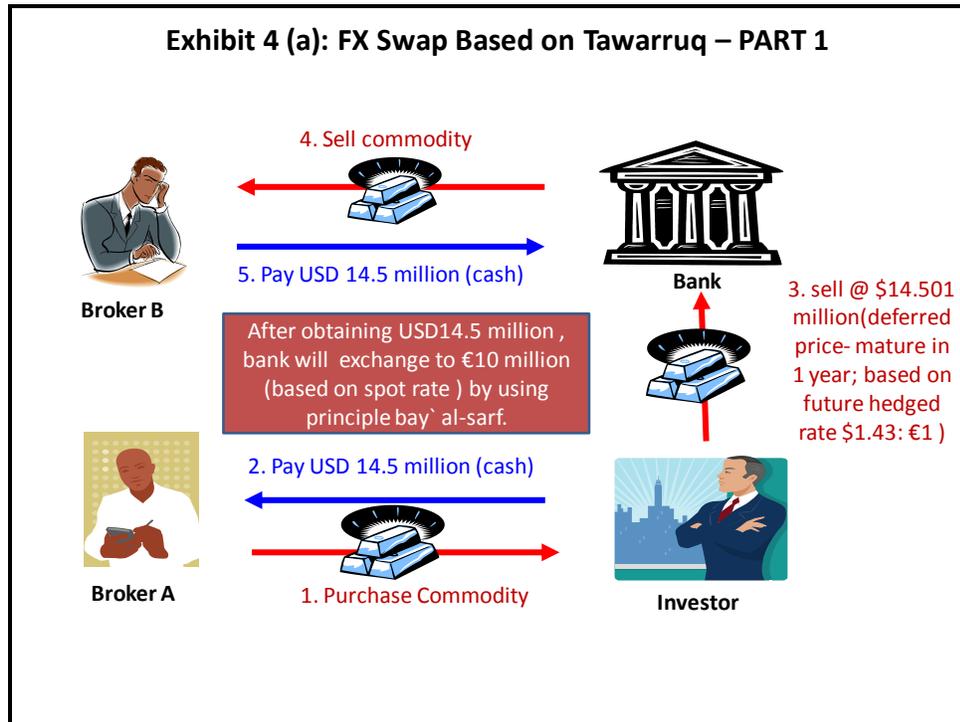
To resolve this problem, an FX structure based on Sharī'ah principles has been developed. For Islamic FX Swap, there are two structures in the market. One structure is based on the contract of *bay' al-tawarruq* and the other adopts the concept of *wa'd*. Both structures are further discussed in the following sub-sections.

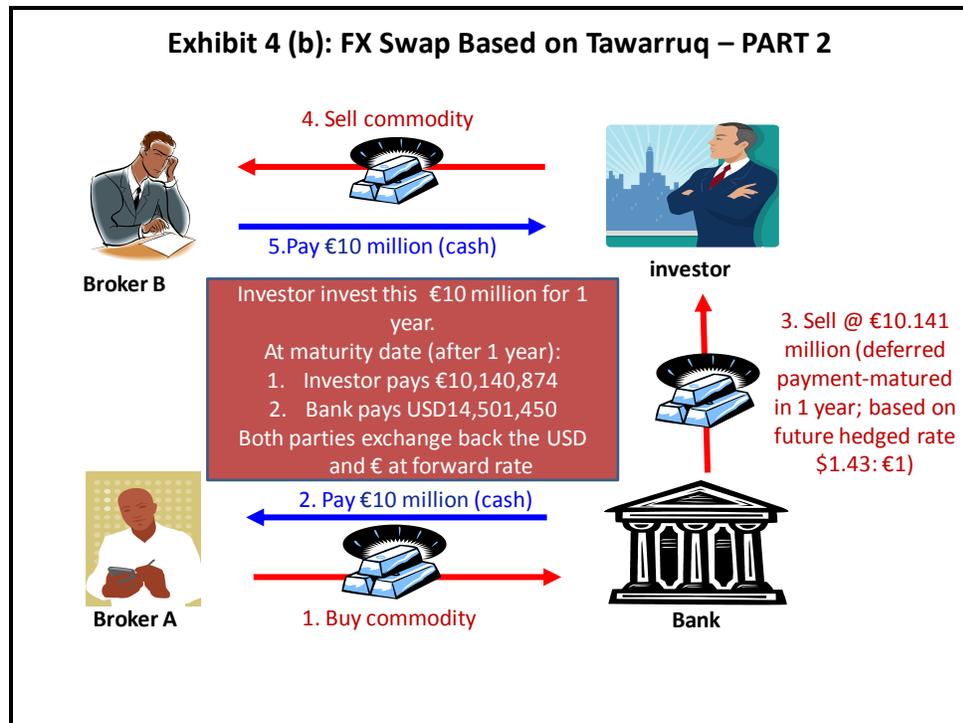
a. Islamic FX Swap Based on Tawarruq

The structure based on *tawarruq* is normally designed with two *tawarruq* transactions (at the beginning) that allow the same effect as FX Swap to be achieved. As an illustration, say an investor has USD14.5 million that he wants to invest in euros (€) but does not want to be exposed to fluctuation in the currency market. This FX Swap product aims to protect the investor from the risks of fluctuation in currency rates. Supposing, in the example above, today's spot rate is USD1.45 for €1.

If the investor exchanges USD for €, he would get €10 million on the first day. He invests the money, and after one year, when he wants to exchange it back to USD, the exchange rate has changed to 1.40. Thus, he would only receive USD14 million (suffering a loss of USD0.5 million compared to his original position).

This depends on the currency exchange rate. If after a period of a year, the USD/€ rate is 1.50, then the investor obtains USD15 million (a profit of USD0.5 million compared to the original position). If the investor applies an FX Swap, he would fix the forward rate and would not be exposed to any loss or gain. This is what is meant by hedging.





The explanation of Exhibit 4 (a-b) is as follows:

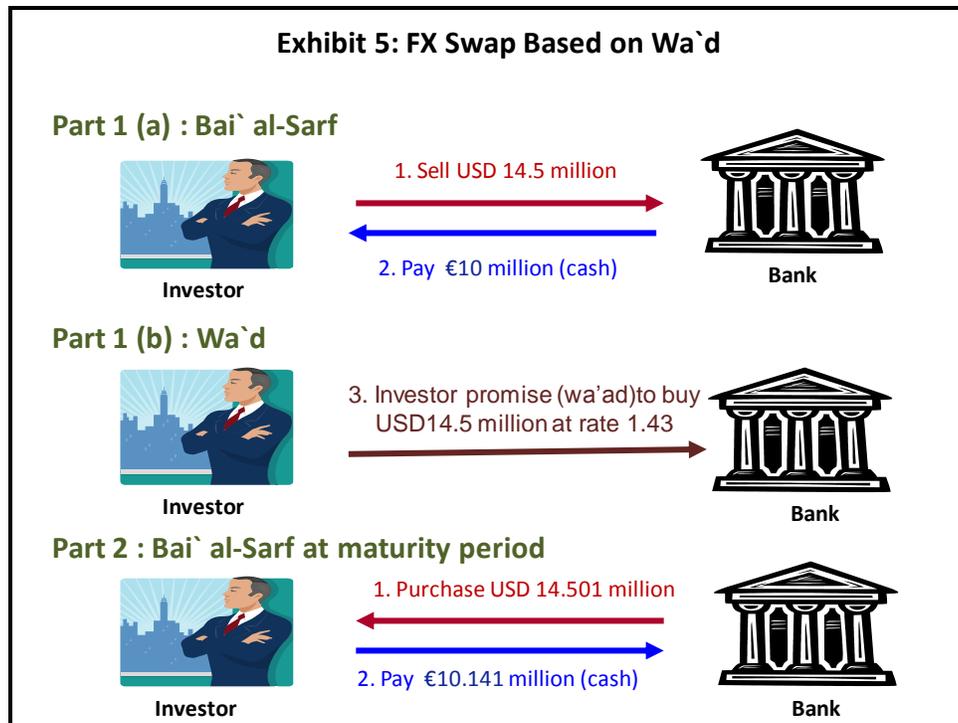
1. The investor who has the USD will buy the commodity (through the bank that is the agent) worth USD14.5 million by cash.
2. Thereafter, he will sell the commodity that was bought to the bank (based on the forward rate) at the price of USD14,501,450 by credit (USD1,450 additional profit compared to the cost price). The bank will make the payment after one year. This transaction gives the investor a return in USD. However, this still has not achieved the investor's objective of wanting to invest in €.
3. The bank that bought the commodity earlier will now sell the commodity to another broker and obtain USD14.5 million in cash.
4. Now the bank needs €, so the bank changes USD14.5 million to €10 million (based on today's rate). With this money, the bank will buy the commodity from Broker B at the value of €10 million.
5. After owning the commodity, the bank then sells it to the investor at the price of €10,140,874 by credit. Payment will be made after a year.
6. The investor will sell the commodity to Broker A and obtain €10 million.

The economic implication of the above transaction is that the investor has succeeded in exchanging USD14.5 million for €10 million. He can also invest this €10 million for one year. At the end of the expiry of one year, the investor needs to pay the price of the commodity that was bought from the bank (refer to transaction 5) totalled at €10,140,874. The bank also has to pay the investor USD14,501,450 the result of the transaction just now (refer to transaction 2). The end result of the payments at the expiry date, is that both sides have converted USD and € at the forward rate.

This *tawarruq* is done only at the beginning of an FX swap and there is no other transaction during the maturity period because the objective of the FX Swap is to exchange foreign currency only at the beginning and at the end and not in between.

b. Islamic FX Swap Based on Wa`d

The second structure for an FX Swap is based on the concept of *wa`d* (promise). The investor who has USD 14.5 million can sell this USD to the bank on a spot basis to obtain €. This is *bay` al-sarf* on the spot. Thereafter the investor will promise the bank to enter into a *bay` al-sarf* contract at a future time at today's rate, so at the future date the investor will get back the USD without being exposed to the risks of currency fluctuation. Briefly, the Islamic FX involves *bay` al-sarf* at the beginning along with *wa`d* to carry out another *bay` al-sarf* at the future date. At the expiry period, the second *bay` al-sarf* will be implemented to get back the original currency. Exhibit 5 illustrates the mechanism of Islamic FX Swap based on *wa`d*.



c. Islamic Cross-Currency Swap

Like the Islamic FX Swap, the Islamic Cross-Currency Swap also applies *tawarruq* principles and contracts in its structure. The only difference is that this Islamic Cross-Currency Swap not only involves the principal value at the beginning and end, but also the stream of cashflow during the lifespan of the product. Hence, it involves a series of commodity *murabahah* transactions based on a *tawarruq* contract.

For example, say a company has USD100 million to be invested. This company wants to invest in euros (€) and not USD, but worries about the possible fluctuations of the currency. Say this company wants to buy a recently issued *sukuk* based on the € currency; the amount is USD100 million. This *Sukuk* will give a quarterly return every year. Let's say the maturity period of this *Sukuk* is 1.5 years.

To allow the investor to invest in the *Sukuk* without being exposed to the currency fluctuation risk, the bank can execute the cross-currency swap with the said company. There are three stages of transactions that need to be implemented by both sides:

- i. **Stage 1: Initiation:** The exchange of principal value (i.e. USD100 million changed to €66.67 million). This involves *bay` al-sarf* (selling USD to obtain €). Through

bay' al-sarf, the company will obtain €, and it can be used to buy the *Sukuk*. At the same time, a promise will be offered at this stage to ensure that the principal value will be changed back at the same rate on the expiry date.

- ii. **Stage 2: During the investment period (the life of the swap):** Every quarter this company will receive return from the *Sukuk* in € currency. Assuming it is *Sukuk ijārah* and the return is based on the rental-rate-based EURIBOR benchmark, it means the return received by the company will change according to the EURIBOR floating rate at each quarterly year. Yet, the company wants the return in USD. To allow the income to be exchanged from euros to dollars, the company and bank will enter into two *tawarruq* exchanges, like FX Swap, every quarterly period. Thus, during the 1.5 year duration, a series of six *tawarruq* transactions will be executed. To ensure that one side does not withdraw from the transaction, the investor will be asked to give *wa`d* that he will conduct a specified number of *tawarruq* transactions with the bank.

In each quarter, the investor will receive income from his investment in € securities, but will want to change it into USD; so the investor will buy from the Bank the commodity, valued in €, while the Bank will buy the commodity, valued in USD, from the investor. Because the investor has income from the € investment, it will be used to pay the Bank's commodity selling price. Besides that, the Bank needs to pay the price of the commodity that was bought from the investor in USD. This transaction is shown in Diagram 2 below. The amount or value of the transaction in every quarter is based on the EUR and USD rates. This is shown in Table 5.

It must be said that *murabahah* here is done by cash. It does not involve a credit period. Effectively, in each quarter, the investor will change his income, which is euro-based (€), into USD. In this structure, both sides (bank and investor) will pay the floating rate (that is, the price fixed according to the rate in each quarter). However, this swap can also be done at a fixed-floating rate and fixed-fixed rate.

iii. **Stage 3: Maturity:** At maturity, the principal value will be changed back. Once again, *bay` al-sarf* will be executed, where the investor will sell € to obtain his USD back. The exchange rate used is the FX spot rate at the initiation.

Exhibit 6 (a) till (d) depicts graphical illustration on the structure.

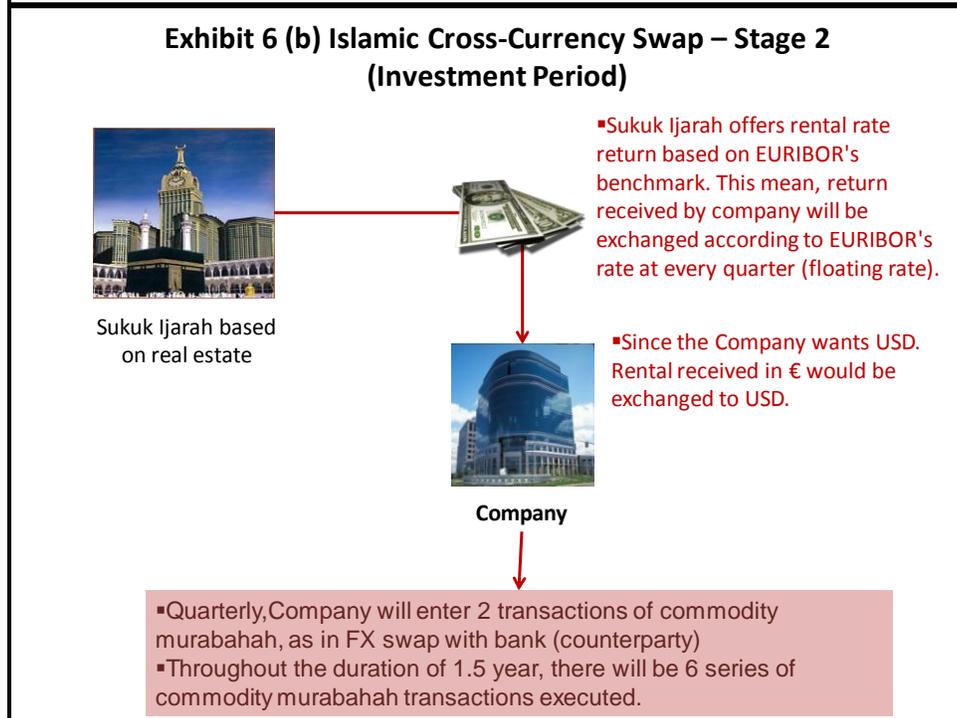
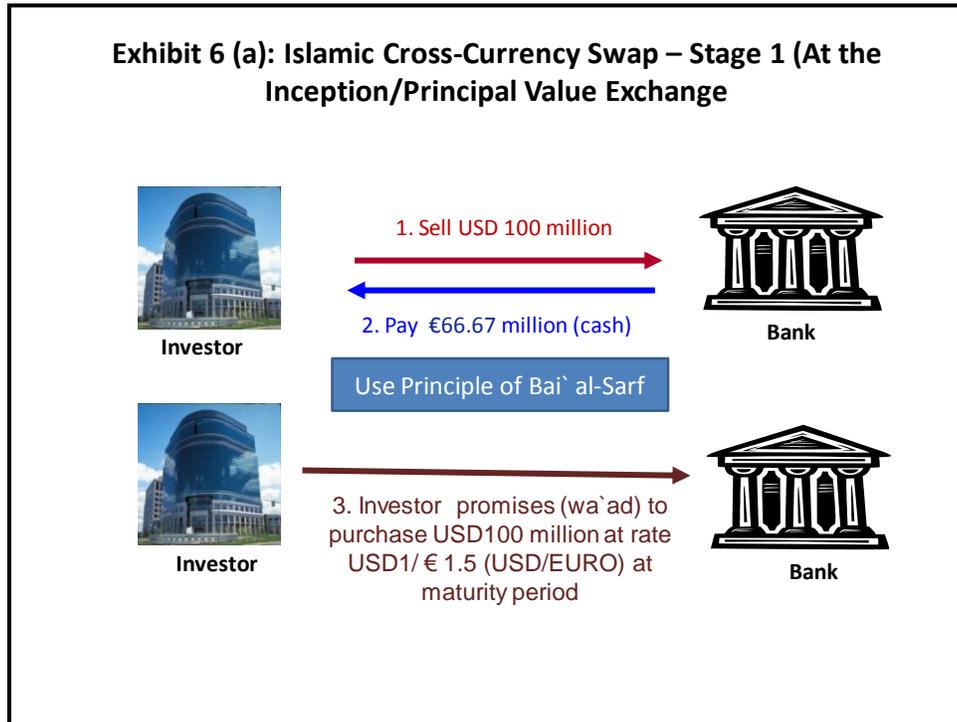


Exhibit 6 (c) Islamic Cross-Currency Swap – Stage 2 Tawarruq Transaction

The outcome from tawarruq transactions for every quarter is:

1. Investor buys commodity from bank and pays in € (use proceeds of sukuk).
2. Bank then buys commodity from investor and pays in USD (Effectively, investor managed to exchange the proceeds in € to USD value which the rate is determined at every quarter)

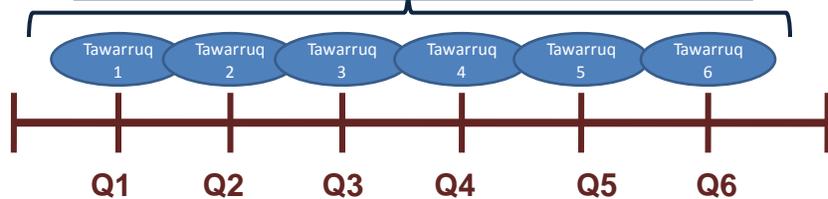


Exhibit 6 (d) Islamic Cross-Currency Swap – Stage 3 At Maturity (After selling back Sukuk at price €66.67 million)



Investor



Bank

Use principle of Bai` al-Sarf
(Sell and buy at rate USD1/ €
1.5 (USD/EURO))

5. Conclusion

This paper has discussed the concepts and mechanisms of Shariah-compliant financial risk management instruments. As highlighted in the beginning of the paper, the increasingly sophistication in financial market coupled with market volatility has led to contemporary Shariah scholars' acceptance of a sphere of financial risk management products. Consequently, this paper also provides justifications regarding the need for risk management, especially through hedging instruments, in today's Islamic finance operations. Specifically, this paper focuses on three commonly used derivatives instruments in Islamic financial risk management namely Islamic FX forward, Islamic FX swap and Islamic cross-currency swap products that have been structured and altered to meet the requirements of the Shariah.

Apparently, the most important aspect which differentiates hedging instruments in the Islamic financial system compared to the conventional system is the need for these instruments and operations to comply with all the principles of the Shariah. Although the implication and economic effects of these products introduced in the Islamic financial system seem to be very similar to those of conventional products, what is more important is that the substance of the structure must be in line with the principles and objectives of the Shariah (*maqasid al-Shariah*). This is to avoid any kind of deviation or abusive use of this instrument for purpose that is not allowed in Shariah such as for speculative reason.

In the final analysis, the Islamic derivatives instruments are not without objection and criticism mainly due to the potentially abuse for speculation and the violation of the Islamic tenets of distributive justice and equal risk sharing. Therefore, while these instruments seem to satisfy the needs of the financial institutions and investors who are already familiar with the established conventional derivative products which form an intrinsic and lucrative component of their day to day transactions, the challenge for Islamic finance is to ensure strict compliance with the principles of Shariah and the purpose for which these product were structured.

