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**Market Risk Management in Islamic Finance:
An Economic Analysis of the Rationale,
Permissibility, and Usage of Derivative Hedging
Instruments**

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Abstract

The examination of the topic of market risk management in Islamic finance is a complex endeavour. At a basic level, the subject matter, being multifarious in a manner that mixes religion and economics, requires the conjoining of religious faith with scientific objectivity in order to ascertain the truth contained in the scripture as it pertains to the *Mua'amalat* (dealings between individuals) matter of entering into financial contracts with others to manage market risk exposures.

Moreover, the complexity is compounded due to the need to disentangle the ambiguity that has beset the discourse on the topic due to historically being mostly legal-centric with a focus on debating the contractual elements rather than attempting to comprehensively address the myriad issues that relate to market risk management in contemporary contexts. These issues, for the most part, revolve around the reliance on market risk transfer as a strategy and derivative contracts, with monetary underlying variables, as tools to implement that strategy.

Thus, the journey of investigating the rationale, permissibility, and usage of derivative hedging instruments for market risk management in Islamic finance is, essentially, an undertaking that seeks to engage in a wide-ranging and multi-layered examination of the subject matter as well as the exploration of new areas of relative significance. This, in turn, and subsequent to the analysis of data generated from documentary sources and forty-one interviews which were collected from numerous sources within four locations, led to the elaboration of the contention that market risk management through derivative instruments for legitimate hedging purposes should not be prohibited in the *Shari'a*, albeit with certain conditions that limit unproductive behaviour.

The basis for the aforementioned contention is built on the fact that market risk management has undergone a paradigm shift in how exposures are identified and measured as well as in the emergence of innovative tools which can result in a better

ability to address the opportunities and challenges facing institutions that provide value to society (i.e., the real sector). Moreover, there is little substantive evidence that proves that the utilization of derivative instruments *for hedging purposes* leads its users to partaking in transactions that circumvent the prohibition of *Riba* (usury), *Gharar* (excessive uncertainty), and *Maysir* (gambling).

In effect, the derivative instruments used for the management of market risks are not only disassociated from usurious debt transactions, they are also transacted in the financial markets in a manner that is transparent to all the parties involved. Along the same lines, the prohibition of *Maysir*, which is apparently an overarching concern, should be conceptualized with the focus on the proscription of the act of gambling, not necessarily the instruments (e.g., derivatives) and/or any particular framework (e.g., zero-sum arrangements).

Ultimately, one should be cognizant of the fact that the true intentions of Islamic jurisprudence in *Mua'amalat* (as a manifestation of divine guidance) always centre on human well-being. Accordingly, the religious prohibitions are, in essence, within the realm of acts that adversely affect human well-being. This is a constant theme that is present throughout the thesis; and is one that exists at the heart of a wider aspiration of its adoption to a greater extent than is currently present in the Islamic finance discourse.

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Chapter One: Introduction

The twentieth century has certainly been an interesting period in human history in terms of opportunities and challenges in the economic and financial realms. The advent of globalization and the continued formation of new structures of the international financial architecture (e.g., rise and fall of the Bretton Woods system, Washington Consensus, etc.) along with the concomitant revolution in information technology have contributed to not only increasing the profit potential for businesses around the world, but also to augmenting the complexity and uncertainty that they have to contend with in search for that profit.

The past century also saw the (re)introduction of Islamic finance as defined by the economic doctrine of the *Shari'a* with its three pillars of the prohibition of *Riba* (usury), *Gharar* (excessive uncertainty), and *Maysir* (gambling). For *Riba*, the fundamental basis for its proscription can broadly be related to the elimination of the injustices linked to the financial slavery of individuals by opportunist money lenders who strive to benefit from the sanctity of debt repayment obligations in Islam without any of the commensurate risks that exist in the world of commerce.

The prohibition of *Gharar* is focused on the increase of the certainty of commercial transactions by reducing the information asymmetry as well as the elimination of the malicious devouring of the property of others by dishonesty, deception, or taking advantage of informational ignorance. As for *Maysir*, the objective of Islamic jurisprudence is the promotion of a productive work ethic that increases well-fare (both at the individual level and to society) as opposed to concentrating on the unearned gains of gambling with all its associated anti-social behaviour.¹

Notably, within its relatively short history, modern Islamic finance, which is built on the Islamic theory of *Qiyas* (analogical reasoning) that is centred on linking modern-day financial transactions to the commercial practices of the early Muslim community in the seventh century, has had the challenging task of attempting to

¹ These definitions are elaborated by the researcher from the references used in the course of the research.

provide a sustainable alternative to an advanced “conventional” financial system that is by no means static in nature in that it continues to evolve to address, and arguably also introduce, new issues in the global financial markets.

At the heart of the dynamism of conventional finance are theories built mainly on neoclassical economic foundations that, with the assistance of mathematical computing advances, have been significant in shaping the discourse in the domain of risk and return. Consequently, conventional finance has had the unique advantage of a fairly well-developed universe of processes as well as instruments that identify, measure, and manage the various risk exposures facing investors (especially entities in the real sector²).

In contrast, when one examines the theory and practice of risk management in Islamic finance, it can be discerned that the Islamic finance industry has been in the difficult position of endeavouring to reconcile the real risk management demands by business entities in the global Islamic community with the challenges posed by the seemingly rigid stances of some of the *Shari'a* scholars. Accordingly, in the realm of the management of market risks (particularly interest/profit rates, currency, and commodity risks), these restrictive stances have, in effect, resulted in the proscription in the usage of the majority of hedging instruments, which have derivative-like features, even if they are utilized with a legitimate commercial rationale.

The ensuing problem, of course, in undertaking appropriate market risk management becomes endogenous to an Islamic finance industry that, in modern form, has grown tremendously from its humble beginnings in the 1950s and 1960s with the mutual banking experiments in Pakistan, Egypt, and Malaysia that were followed by institutionalized banking practices in the 1970s in Dubai, Saudi Arabia, and Kuwait (El-Gamal, 2006, p. 163). More specifically, the Islamic finance industry has grown to an estimated size of US\$ 1.1 trillion by the end of 2012; and in the Middle East and North Africa region (including Turkey) the industry has recorded a CAGR of twenty per cent in the five years ending 2010 vis-à-vis nine per cent by the leading

² The real sector, for the purposes of the discussion, comprises all economic sectors, including the banking institutions that facilitate their operations, especially in relation to dealing with market risks.

conventional banks (E&Y, 2011).³ This, it should be pointed out, comes mainly from countries that are endowed with large natural resources and are experiencing high population growth rates in addition to harbouring a desire of seeking to positively interact with an increasingly globalized setting of commercial and financial practices.

Effectively, the aforementioned growth, which can be observed to exist at multiple levels in the Islamic finance industry, inevitably transposes the nature of inherent market risks in Islamic finance from a sedentary role to a position of dominance in the elaboration and implementation of corporate strategies not only for the competitiveness of enterprises seeking to operate within the confines of the economic doctrine of the *Shari'a*, but also even for their survival in the international market place. In fact, it has been widely acknowledged by many observers that the Islamic finance industry will not be able to sustainably continue on this growth trajectory, and may even regress, without a proper market risk management framework that can effectively deal with the complex risks that exist in today's globalized economy (Chapra & Khan, 2000; Moody's, 2010).

Subsequent to the foregoing background, it may be stated that the present research is formulated with the objective of advancing knowledge on the topics of market risk management and derivative hedging instruments in the Islamic finance industry by way of a comprehensive and multi-layered examination of the juridical and economic discourse on the subject matter in addition to the exploration of new areas of relevant significance in order to arrive at proper understanding. This objective, in turn, is translated into two research aims: Firstly, the research seeks to inject economic-centred theories, along with a wider elaboration of the *modus operandi* of the financial markets, into the Islamic finance discourse on the subject matter. Secondly, it will attempt to examine the rationale for the various stances on the permissibility (both in favour and against) of derivatives hedging instruments in a manner that not only accounts for the numerous instruments currently existing in the financial markets, but also some of the proposed solutions in the Islamic finance space.

³ Islamic banking assets with commercial banks globally. CAGR is compound annual growth rate.

The research questions that will be explored in the thesis, for their part, are: 1) What is the basis for the proscriptions of the usage of derivative hedging instruments for market risk management in the Islamic finance industry, and 2) What is the basis for allowing derivative hedging instruments for market risk management in the Islamic finance industry?

In essence, the attainment of the research aims and the responses to the research questions are expected to assist in the overcoming of what can arguably be described as an incomplete appreciation by some of the participants in the Islamic finance industry of the economic and financial principles that underlie what is inherently an economic subject matter. This, it will be shown, can be evident by the nature of the current commentary in the Islamic finance industry that regularly places paramount importance on the form of the contracts and instruments rather than the religious substance (which has economic rationales) that regulate its existence.

Consequently, more often than not, the end result observed is a mixture of macro-level (e.g., eliminate all derivative hedging instruments from society) and micro-level (e.g., Arabic-named byzantine transactions) recommendations with little insight on how these recommendations relate to existing economic theories, introduce new theories that can better explain the economic behaviour of individuals, or even how they are meant to be implemented in a dynamic and interconnected globalized setting along with the externalities (both positive and negative) that can result in the course of that implementation.

Thus, the thesis will elaborate a multidimensional perspective of the subject matter of the research in the most wide-ranging manner possible through the examination of all the pertinent angles, including the investigation into areas that have hitherto been relatively unexplored in the Islamic finance industry. The aspired outcome, it should be asserted in this introduction chapter, is not so much the simple focus on espousing a position on the permissibility of derivative hedging instruments, as it is on seeking to increase the sustainability of the Islamic finance industry by way of ensuring that

market risk exposures are managed in the most effective and efficient manner possible.

With that, apart from this introduction (chapter one) and conclusion (chapter nine), the research aims and questions have propelled the thesis to be divided into three broad parts comprising seven substantive chapters. The first part contains two chapters that can be thought of as the foundation of the research that is contained in the thesis. Specifically, chapter two delves into the conceptualization of truth in Islamic thought, which is deemed to be pertinent in a discussion that relates to religious injunctions that were elaborated by *Shari'a* scholars with a belief in the injunctions' inherent legitimacy due to the perception of a superior proximity to the truth contained in the Islamic scripture (i.e., *Quran* and *Ahadith*). Chapter three outlines the research design of the thesis in terms of the deductive research strategy employed in addition to the research methods that entail the collection and analysis of documentary resources (fundamental and derived) as well as interviews with respondents in four distinct groups of stakeholders in the Islamic finance industry.

The second part, in turn, includes three chapters that concentrate on the aspects in the discourse that are associated with the topics of market risk management and derivative instruments. In essence, the fourth chapter of the thesis commences the substantive discussion with a wide view on the identification and measurement of market risks as well as the strategies (and their rationales) that are used in dealing with them. The fifth chapter attempts to add depth to the discussion by probing the economic aspects of derivative instruments along with an undertaking of instrument-specific analysis, both of which are often overlooked in the descriptive-natured commentary on the subject matter in the Islamic finance literature. As for the sixth chapter, which is a key chapter in the thesis, it endeavours to examine, in detail, the discourse on derivatives in Islamic finance through the analysis of the juridical, academic, and practitioner perspectives, including a scrutiny of the design of contemporary derivatives in the Islamic finance industry.

The third part of the thesis, for its part, seeks to add new facets to the consideration of market risk management and derivatives that were, despite its relative neglect in the literature on the subject matter, deemed by the researcher to be important to understanding due to their existence in the commentary imparted by the respondents in the course of the interviews. This includes the seventh chapter that centres on the unease of *Shari'a* scholars in condoning the permissibility of financial instruments that have monetary benchmarks, such as interest rate and foreign exchange, as underlying variables. The unease, in turn, can be discerned to have resulted in a systemic avoidance of an effective debate on the recognition of these contracts (or even their “Islamic” equivalents) on the financial statements of the entities that use them in the Islamic finance industry. The eighth chapter, as the final substantive chapter of the thesis, concerns the constant perception of a static association between the prohibition of *Maysir* (gambling) and derivative instruments, which was a recurring theme in the existing discourse on derivative instruments in Islamic finance.

Chapter Two: Research Philosophy

Introduction

The resurgence of Islamic thought in the latter half of the 20th century has provided a basis for unity among the world's Muslim population. This unity served as a call to action that demanded the adherents of the religion to work together to supplant the western-dominated culture in Muslim countries with one that is *truly* Islamic. In fact, it could be argued that the root of the most organized opposition movements during that period in predominately Muslim countries has been the aspiration of political, social, and economic reforms that follow *true* Islamic law.

Beyond the euphoria of latest successes of political Islam, this transformation poses challenges in the discernment of whether the unity for Muslims is based on a real, and shared, understanding of Islam that is based on the constant mediation between written text that includes the Quran and *Ahadith*⁴, the scientific interpretation of that text, and contemporary understanding that is implicitly based on the various theories of truth as well as the theoretical perspectives that frame its existence.

This chapter will seek to address that ambiguity by delving into the relevant theories of truth from western and Islamic viewpoints, which include the correspondence, consensus, and pragmatic theories of truth, as well as the critical rationalism and hermeneutical (interpretivism and historical) theoretical perspectives. These theories and theoretical perspectives will, in turn, be linked to Islamic theories that include *Maslaha* (public interest), *Qiyas* (analogical reasoning), and *Ijma'a* (consensus) in order to develop a wider and more comprehensive answer to the question of "What is truth in Islamic thought?"

As a basis for the attempted response that will be elaborated to the aforementioned question, one may conjecture that while the truth in many facets of the Islamic faith

⁴ *Ahadith* is the plural of *Hadith* as "Sayings" of the Prophet Muhammad (Peace Be Upon Him [PBUH]), which form one of the main pillars of *Shari'a* along with the Quran as a base. Other religious texts include the work of Muslim jurist that include, but are not limited, to the founders of the four schools of thought in Islam.

can be considered static in time and space (*Al-Thawabit*), especially in acts of *Ibadah* (worship), it is acknowledged that Islam allows for change and dynamism (*Al-Mutaghayarat*) through intellect and reasoning in the context of *Mua'amalat* (dealings between individuals).⁵ This reality, in turn, has implications in how we define truth in Islam and what that means in terms of enforcement.

Section I: Theories of Truth: Perspectives of Islam

Truth, however it is constructed, does have particular ontological assumptions about the nature of reality (Blaikie, 2000) as well as some theoretical perspectives that shape the logic in the construction of that reality (Crotty, 1998). More specifically, Crotty states that “ontology is the study of being. It is concerned with ‘what is’, with the nature of existence, with the structure of reality as such” (Crotty, 1998). With that definition, one can observe that in Islam, ontology is mainly realist in nature in that it views reality as existing independently of our senses, ideation, and volition (Bunge, 1993). In other words, God, the divine guidance manifested by the scripture, among other fundamental themes in Islam exist outside of the human mind despite the fact that they are central objectives of human intellectual comprehension of universal existence.

Further granularity to the ontological assumptions behind the Islamic faith can be obtained through an examination of the relevant theories of truth, particularly the correspondence theory of truth. This theory, which originated during the time of the early philosophers such as Aristotle⁶ and Plato,⁷ proposes that truth naturally corresponds to a particular object and reality. The theory was further elaborated by Avicenna (Ibn Sīnā) in his *Metaphysics* contribution as part of *The Healing* volumes and was later refined by Thomas Aquinas in the 14th century through an in-depth evaluation, as part of his *Quodlibeta*, of the theories advocated by Aristotle and Avicenna.

⁵ This position builds on the distinction articulated by Al-Shatibi between considerations of worship and *mua'amalat* (Al-Shatibi, 2004, p. 6).

⁶ In his work in *Metaphysic, Categories, and De Interpretatione*.

⁷ In his work in *Cratylus* and *Sophist*.

In the context of Islamic thought, the philosophy of Avicenna is particularly pertinent as it is unique in that it merges the correspondence theory of truth, as elaborated by his philosophical predecessors, with the Islamic tradition. For Avicenna, truth can be defined as:

“‘Truth’ is also said of the veridical belief in the existence [of something]. Hence nothing is more worthy of this reality than [the object] of veridical belief who, in addition to [being the object of] the veridical [belief], has permanence – with His permanence being due to Himself, not to another...Hence, He is the most entitled to be [the] Truth” (Avicenna & Marmura, 2005)

Avicenna’s definition of truth is interpreted by Thomas Aquinas as: “the truth in each thing...is nothing else than the property of its being which has been established in it” (Aertsen, 1988, p. 152). Aertsen further elaborates on the philosophies of Avicenna and the interpretation of Aquinas by asserting that a being is “a true thing insofar as it has the form proper to its nature, its specific essence” (Aertsen, 1988, p. 152)

Interestingly, Aquinas also introduces the importance of the mind in the formulation of the truth in that he states that “‘truth is the equation of thing and intellect’, which he restates as: ‘a judgement is said to be true when it conforms to the external reality’” (Stanford, 2002) This statement in Aertsen’s view considers that truth is the correspondence (or coming together) of the movements of thought and the dynamics of being (Aertsen, 1988).

The consolidation of the aforementioned perspectives, therefore, propose that the correspondence theory of truth advances the position that: Firstly, truth (in a form proper to its nature, being, or essence) exists and it does so independently of the human mind. Secondly, the use of words denoting cognition, thought, and intellect by the various philosophers indicates that human beings will ultimately seek to reasonably ascertain the truth and its agreement with reality.

Notably and as highlighted previously, Avicenna’s view on the theory of truth has a strong religious orientation. Avicenna, as is customary in Islam, believes that truth and the existent reality are in effect the belief that a being exists. This being is God.

In fact, the Quran is replete with indications of the truth being God and/or emanating from divine will.⁸ Thus, the truth in Islam is, in effect, anything that can get us closer to Him. This view of the truth can be further refined by stating that Him can also be used to mean His commands as given in the Quran and through his messengers, especially Muhammad (PBUH⁹) through the various *Ahadith*. In fact, God has repeatedly indicated that the chief purpose of the human mind is to rationally reflect on the messages in addition to the signs and parables included in the Quran.¹⁰

Within the realm of the theories of truth, two other theories have relevance to Islamic thought. These theories are the consensus theory of truth and the pragmatic theory of truth. Although, within the context of Islamic thought, for a more holistic understanding, these theories should be examined as theories that are complementary to the correspondence theory of truth, which is fundamental to Islam rather than substitutes.

The consensus theory of truth is best presented through the work of Jürgen Habermas and Charles Sanders Peirce.¹¹ For Habermas, the realist ontology of having reality and truth existing independently of our senses is inadequate. This is because it does not take into account what he calls communicative knowledge (i.e., discourse) and because it does not allow for self-reflection in that it does not apply itself to itself (Hesse, 1978).

Habermas, therefore, attempts to dissociate truth from correspondence to an objective reality and locate it within the realm of consensus in what he calls the “Theory of Communicative Competence,” which refers to our ability to argue the validity of what has been unreflectively formulated by the scientists (Hesse, 1978). Thus, the objective experience by scientists, including intellectualization and reasoning, is a necessary condition for truth but does not produce truth, as such. It is

⁸ Quran, 2:147; 3:154

⁹ Peace Be Upon Him

¹⁰ Quran, 2:219; 6:65, 6:97, 6:98; 30:58; 39:27

¹¹ Pierce’s views on truth lend themselves to the range of the consensus theory of truth rather than his own classification of his work into pragmatic theory of truth. For more on that see Richard Kirkham’s *Theories of Truth* (1992), p. 79

in the discourse and sharing of communicative knowledge that the statements made by scientists, through observations and analyses, are made into truths through argumentative reasoning.

According to Habermas, if the formulation of truth was not through argumentative reasoning and relied instead on experience alone, then ultimate truth would have to depend on the production of new experiences as opposed to reinterpreting old experiences (Hesse, 1978). This observation, and its consequences, is quite relevant to the Islamic thought since there will be *no* other versions of the Quran and there shall be *no* new Prophets.¹²

Further, this discourse as part of the reinterpretation of old experiences becomes necessary “when beliefs lose their unproblematic status as the result of practical difficulties, or when novel circumstances pose questions about the natural world” rather than an environment when experiences by scientists are viewed as unproblematic in the course of the daily practical engagement with reality (Stanford, 2007).

As opposed to Habermas’ notion of the superiority of consensus over correspondence, Charles Sanders Peirce advances the opinion that both are important in the search for truth as well as reality. Reality, Peirce says, “is that mode of being by virtue of which the real thing is as it is, irrespectively of what any mind or any definite collection of minds may represent it to be” (Peirce, 1934, p. 395). Science, for its part, has the objective of the investigation of the truth, which when carried out endlessly leads to scientific belief (Peirce, 1934).

For Peirce, truth and falsity, however, are “characters confined to propositions. A proposition is a sign which separately indicates its object” (Peirce, 1934, p. 397). He goes on to say that when “a proposition is true is to say that every interpretation of it is true...and we speak of believing in a proposition, having in mind an entire collection of equivalent propositions with their partial interpretants....the

¹² Quran, 2:23-24; 33:40

interpretation of a proposition is itself a proposition. Any necessary inference from a proposition is an interpretation of it. When we speak of truth and falsity, we refer to the possibility of the proposition being refuted” (Peirce, 1934, p. 397).

The notions of propositions and interpretations, consequently, lead to the concept of consensus on truth. Thus for Peirce, the real “is that which, sooner or later, *information and reasoning* would finally result in”(Peirce, 1934, p. 186; emphasis added). This concept of reality “essentially involves the notion of a COMMUNITY [sic], without definite limits, and capable of a definite increase in knowledge.”(Peirce, 1934, p. 186).

Interestingly, the above views demonstrate the belief by Peirce that scientific investigation and rational reasoning toward consensus will lead to a “foreordained goal” of the inability of man to escape the “predestinate opinion” toward truth. This, for him, is the great law of the truth (Peirce, 1934, p. 268). However, he recognizes that prior to reaching the predestinate opinion toward truth there will be falsity along the way in that a proposition and an interpretation may be refuted as untrue, which, in essence, implies that true propositions and interpretations (in an absolute sense) must transcend across space and time. Further, Peirce noted that when a falsity is not discovered and the error of which is unrecognizable, it continues to be perceived as having no error (Peirce, 1934), which decrees that it is tentatively accepted as true.

This last point is also shared by Habermas in that he states that to say something is true (through consensus) is to indefinitely extend it throughout time and space (Hesse, 1978, p. 381) and that this becomes problematic when it confronts practical difficulties (Stanford, 2007) which question its veracity.

Therefore, one can conclude that science and consensus, when analysed together, merely lead to temporary truths that can be refuted across time and space through information and reasoning (i.e. propositions and interpretations) in the quest for the ultimate truth that exists independently of our senses. This view shall be elaborated further in the discussion of critical rationalism in the Theoretical Perspective section

below as well as shall form a contemporary philosophical basis for the Islamic theory of *Igma'a* (consensus) in the Islamic Thought section that will follow.

The pragmatic theory of truth, or more precisely its instrumentalist branch as promoted by William James¹³, adds yet another angle to the examination of the truth in Islam, especially in relation to truth and falsity in the *Shari'a* treatment of contemporary issues. As a background, in a fashion similar to the correspondence theory of truth, James believed that reality, as a test of truth, depends on the mind (Kirkham, 1992). “An experience, perceptual or conceptual, must conform to reality in order to be true,” he exclaimed in his writings on the matter (James, 1909, p. 59).

However, it is in the definition of reality that pragmatism emerges from the shadow of correspondence. In essence, pragmatism, as advocated by James, can provide a basis for a reality, and consequently truth, if it proves useful to those who believe that it is, including religious beliefs (James & Kuklick, 1981). This is exemplified by his quote that “any idea that helps us to *deal* [sic], whether practically or intellectually, with either the reality or its belongings, that does not entangle our progress in frustrations, that *fits* [sic], in fact and adapts our life to the reality’s whole setting...will hold true for that reality” (James, 1907, p. 102).

Thus, truth, for James, is not so much related to an objective entity or reality as in the correspondence theory of truth or through discourse as in the consensus theory of truth, it is concerned with the mind and its perception of utility. The shape of that perception is a factor of the usefulness of whatever the mind confirms as being the truth.

James, however, further articulates his opinion with an explicit view that satisfaction (i.e., utility) is derived from the usefulness of an idea if it is in fact *comprehensive* and covers the *long run* (James, 1907; Kirkham, 1992). However, since the

¹³ William James’ views were at some parts contradictory and incomplete, as demonstrated by Richard Kirkham’s *Theories of Truth* (1992), pages 87-88. However, even with the contradictions, the instrumentalist theory, as advocated by James is useful in garnering a fuller understanding of one of the main philosophies of truth.

comprehensiveness of an idea, especially in elements of faith, and the duration of its applicability are unknown, even with these two criteria as central objectives, one can assume, once more, that utility (and therefore truth) is tentative.

The pragmatic theory of truth is interesting in the exploration of truth in Islam in that it resembles some Islamic concepts, such as *Qiyas* (analogical reasoning) and *Maslaha* (public interest), which will be explored in the coming sections, as well as provides a much needed relief to the complexity posed by the amalgamation in Islamic thought of the correspondence and consensus theories of truth. This is especially relevant as one explores the difficulties arising in the truth formation process due to critical rationalism and hermeneutics as outlined in the next section.

Section II: Theoretical Perspectives on the Path to the Truth

The examination of contemporary economic issues, as in the current thesis, within the context of Islamic thought straddles many theoretical perspectives, which as stated earlier can be conceptualized as a process of logic in the construction of reality. Effectively, Critical Rationalism (also known as Post-Positivism), as developed by Karl Popper in the 1930s, and Hermeneutics (Interpretivism and Historical Hermeneutics) are important links to the ontological assumption of realism in Islam, especially when viewed from a complex integrated approach that includes a melange of elements of the correspondence, consensus, and pragmatic theories of truth.

As a background, positivism, which was founded by Auguste Comte in the early 19th century, advances the position that only objective observation and analysis through the senses can be viewed as real and worthy of the attention of science (Blaikie, 2000). Critical rationalism, for its part, while sharing positivism's ontological assumption of realism does not believe that experimentation and senses lead to outright undisputable knowledge of reality. This is because critical rationalism does not distinguish between observational data and theoretical statements since all observations are considered to be theory dependent (Blaikie, 2000).

More specifically to critical rationalism, in his *Conjectures and Refutations: The Growth of Scientific Knowledge*, Popper does not believe that scientists generate new knowledge through observation and experimentation alone, but rather by way of engaging in a continual process of conjecture and falsification (Popper, 1969). Essentially, in critical rationalism, there is an emphasis on logic and a critical scientific process that seeks to continuously generate and falsify theories to move ever closer to truth, which will, theoretically, never be achieved. In effect, Popper believes that “every scientific statement must remain *tentative for ever* [sic]” (Popper, 1959, p. 280) until it is refuted. This is because the search for truth, which does exist, is elusive because we will never know when we have arrived at it (Blaikie, 2000).

Popper then concludes by saying that “science never pursues the illusory aim of making its answers final, or even probable. Its advance is, rather, towards the infinite yet attainable aim of ever discovering new, deeper, and more general problems, and of subjecting its ever tentative answers to ever renewed and ever more rigorous tests” (Popper, 1959, p. 281). However, instead of rendering science as an irrelevant self-indulging process, he maintains that that striving for knowledge and searching for the truth are the strongest motives for scientific discovery.

Notably, the aforementioned “infinite yet attainable aim” of discovery need not assume an incremental approach of conjectures and refutations. This was the chief message contained in Thomas Kuhn’s ground breaking book: *The Structure of Scientific Revolutions*, wherein he challenged the view that scientific progress can only be achieved by way of incremental increases in knowledge within certain parameters as defined by existing paradigms. Instead, he proposed the concept of scientific revolutions that espoused the view that there are times in human history when a particular paradigm proves inadequate in explaining new findings, challenges and contradictions thereby ushering in a “Paradigm Shift” in scientific thought that reshapes the discourse on a particular subject matter. In making his argument, Kuhn used the example of the difficulty in maintaining Ptolemaic earth-centric

astronomical beliefs within the newly formed theories in the 17th century that supported the Copernican sun-centred view (Kuhn, 1970).

Returning to Popper's views on critical rationalism, one may find that his introduction of the concept of belief into the realm of critical rationalism is quite interesting, especially in matters of science, in that he advances the position that scientific motives are guided by *unscientific* faith in the truth. In particular, he states that "only in our subjective experiences of conviction, in our subjective faith, can we be 'absolutely certain'" (Popper, 1959, p. 280).

The views of critical rationalism, especially the last point, were predated, in a sense, by the concept of "necessary truths" as elaborated by Imam Al-Ghazali in the 11th century. Specifically, during his quest for *certain knowledge*, Imam Al-Ghazali, never himself a partisan of philosophical thought as evidenced by his book: *Incoherence of the Philosophers* (1997), became acutely aware (to the point of a two month illness) that the human mind cannot entertain the possibility of infallible and error-free knowledge. Eventually, the relief for him was his belief that the necessary truths in the universe do not depend upon strict and infinitely enduring proof, but rather rests upon the mercy of God (Al-Ghazali & Watt, 1953).

Thus, critical rationalism can be related to Islamic thought in that it not only introduces a faith element to the scientific process, which the field of religious studies (especially the observation and analysis of the scripture) is considered to be a beneficiary of, but also relates to the theories of *Ijma'a* (consensus) and *Qiyas* (analogical reasoning) in Islam, which together provide a foundation for the infinite search for truth.

In fact, the Quran explicitly expresses the reality that human knowledge is finite and incomplete¹⁴ and the inclusion of this divine message within this latter part of the Quran may indicate that humans should endlessly continue to strive for true knowledge and should not assume that their knowledge of Islam is omnipotent. For

¹⁴ Quran, 102:3-5

if this were the case, Islamic research institutions (e.g., Al-Azhar) would cease to exist since their role would be no longer needed due to the human attainment of all-inclusive knowledge of the truth.

The second theoretical perspective of relevance in the exploration of truth in Islam is hermeneutics with its interpretivism and historical branches. The term 'hermeneutics' itself came into modern use in the seventeenth century and is considered the science of biblical interpretation (Crotty, 1998). In particular, Kearney states that interpretivism in hermeneutics can be defined as: "a method for deciphering indirect meaning, a reflective practice of unmasking hidden meanings beneath apparent ones. While this method had originally been used by theologians to investigate the inner meanings of sacred texts, it was radically redeployed by modern thinkers like Dilthey, Heidegger, Gadamer and Ricoeur to embrace man's general being in the world as an agent of language" (Kearney, 1991, p. 277).

Essentially, interpretivism hermeneutics views texts as means for transmitting meaning, beliefs, and values from one time to another. It, therefore, seeks to become not only concerned with searching for meaning in religious texts (as in the case of religious hermeneutics), but to also partake in an expanded role of inquiry of how texts can and should be applied (Crotty, 1998).

With that, Ricoeur, while adhering to Dilthey's differentiation between interpretation (*Auslegung*) and understanding/comprehension (*Verstehen*), states that hermeneutics concerns the rules required for the interpretation of written documents (Ricoeur, 1973, p. 91). The indicated difference between interpretation and understanding is quite important in the hermeneutical process according to this branch of thought. For while these two concepts can be considered two sides to the same coin, they are quite distinct on many levels, not the least of which is language, temporal distance, and analysis.

The rules of interpretation that are referred to by Ricoeur could, from a structural sense, be related to the notion of linguistics as developed by Ferdinand de Saussure

in his *Cours de Linguistique Générale*. Essentially, de Saussure develops a system of linguistics that contains institutional elements called *la langue* as well as innovational aspects that he labelled as *la parole* which together make up *le langage* (Saussure et al., 1986).

The work of de Saussure is further illuminated by Rulon Wells (1958) who, for his part, asserts that *language*, as a system, can be examined through its highly formulized rules. Within this system, *la langue* is the official and traditional stock of signs (including grammatical rules) that promote comprehension between individuals from the same speech-community. *La parole*, in contrast, is both active and individual in that it is often associated with the innovational use of language through words whereby new definitions and meanings are constantly being developed (Wells, 1958).

Therefore, from the writings of de Saussure and the perspectives of Ricoeur (and Dilthey), one can imagine language as a system that contains various building blocks and processes (i.e., rules) such as words that build sentences bound together by grammar that produce meaning which ultimately lead to interpretation that direct to understanding.

Notwithstanding the above, Ricoeur appears to have been cognizant of the challenges facing this version of interpretational hermeneutics that is based primarily on words and linguistics for understanding in that he also cautions the readers by stating the proposition that any text is not a mere sequence of sentences that are all equal and separately understandable (Ricoeur, 1973). In effect, he advises that there needs to be a certain element of judgment in recognizing the circularity of understanding from construing the whole based on the parts (i.e., words and sentences) and comprehending the parts based on the character of the whole.

Furthermore, it is perhaps necessary to note that the meaning elucidated by a word in relation to an object can be interpreted, and therefore, understood on different, and possibly contradictory, levels depending on the prevailing perceptions of the subject

matter and the distinct theoretical positions of the interpreter. These theoretical positions which centre on words as a fundamental criteria for understanding the truth, in turn, could be perceived as emanating from the ancient debate between ‘conventionalism’ to ‘naturalism’ as illuminated in Plato’s *Cratylus*. Effectively, the contradictions between these views have made the relationship between word and meaning, the subject and object, truth and falsity in the context of linguistics, which is central to all religions, become subjective and quite complex.

Within contemporary Islamic thought, the complexity of the interpretation and proper understanding of seemingly common words such as *Shoura* (i.e., opinion of the cognitive elites vs. binding will of the people), *Dinar* (unit of account vs. an asset), *Riba* (any return in percentage terms vs. an usurious increase in indebtedness of individuals), *Iqamit Al Hadd* (absolute code for punishment vs. adaptable rules for the enforcement of moral conduct), *Quama* (male dominance of women vs. rules of behaviour between the sexes) among others provide but a few distinguished examples.

More specifically, linguistic conventionalism advances the position that the association between word and object is determined by a consensus within a speech-community that determines the appropriate convention which applies to a particular word. In contrast, naturalism believes that there is a natural bond between an object and its name that is independent of convention and therefore cannot be arbitrarily changed.

Needless to say, there are limits and challenges that face each theory taken individually. To commence with, a language, as a formalized system of communication that transcends time and space, even with its innovative components, can’t arbitrarily change the association between word and object simply by convention. Conversely, a language system, as a precursor and a product of discourse, does, for myriad reasons, evolve under different temporal and spatial conditions, which defies the static nature of a word belonging naturally to its object. In addition, the imperfect relationship between *la langue* (institutional) and *la parole*

further complicates the challenges of a language system and its relation to an object in the context of understanding and truth.

The key to overcoming the challenges faced by Ricoeur's of placing words and linguistics at the heart of understanding and truth, according to Gadamer, in his seminal work *Truth and Method*, is the acknowledgement that "no truth can be attained in language" (Gadamer, 1989, p. 407). Thus, while there is no such thing as knowledge without language, the object, particularly in the realm of religious scriptures, does not necessarily acquire the distinction of being true as the result of linguistics. Rather, on the contrary, the adequacy of the word, within language, is a function of the multifarious epistemology that is independent of the object that it attempts to embody as it confers a finite set of meanings to an infinite range of possibilities.

In theology, the case of the divine word in the religious scripture, as communicated by God, is a case in point as it produces a special component of complication to linguistics within the sphere of religion. For as asserted by Gadamer: "[I]f the whole of the divine mind is expressed in the divine word, then the processual element in this word signifies something for which we basically have no analogy. Insofar as in knowing itself, the divine mind likewise knows all beings, the word of God is the word of the Spirit that knows and creates everything in one intuition" (Gadamer, 1989, p. 423). In sum, the divine word is the truth.¹⁵

Therefore, there is an element of incompleteness to *human* words within the realm of theology that affects understanding when one examines subjects that are related to religion. This is because human words (whether in Hebrew, Aramaic, Greek, or Arabic) are not only finite verbally, but also not as perfect (or true) as the words of God in the mind of the Divine. Consequently, humans, unlike God, are not only incapable of expressing their minds completely with one word (i.e., we require multiple words as linguistic intermediaries to knowledge), but also traditionally

¹⁵ Quran, 4:122

human minds exhibit temporal and contextual finitude that limit the universality of language.

In the face of the aforementioned challenges, Gadamer illuminates a path to truth formation by way of linguistics in that he states that “agreeing about a language is not a paradigmatic case but rather a special case – agreeing about an instrument, a system of signs, that does not have its being in dialogue but serves rather to convey information” (Gadamer, 1989, p. 444). Furthermore, due to the numerous languages on earth, one has to acknowledge that while there can be a general congruence of the various language systems regarding a particular concept, topic, or subject matter that there will likely not be perfect equivalence. This is particularly relevant in language systems with inter-temporal and spatial differences that rest on their unique version of the world.

Moreover, as in the critical rationalist tradition, these linguistic characterizations shall not exist undisputed for eternity, since they may prove false in the future as our knowledge of the universe expands to new and previously unattainable levels. For this, Gadamer teaches us that “there is not possible consciousness, however infinite, in which any traditionary ‘subject matter’ would appear in the light of eternity. Every appropriation of tradition is historically different; which does not mean that each one represents only an imperfect understanding of it. Rather, each is the experience of an ‘aspect’ of the thing itself. The paradox that is true of all traditionary material, namely of being one and the same and yet of being different proves that all interpretations is, in fact, speculative” (Gadamer, 1989, p. 468).

It could, therefore, be conceivable that that the definitions and meanings given to the myriad concepts in Islamic jurisprudence are susceptible to re-interpretation and re-examination from a linguistic and conceptual viewpoints due to the changing nature of things. This was best stated by Gadamer, in his review of the writings of Nicholas of Cusa, in that he says:

“In a certain sense, all actual designations are arbitrary, and yet they have a necessary connection with the natural expression (*nomen naturale*) that corresponds to the thing itself (*forma*). Every expression is fitting (*congruum*), but not everyone is exact (*precisum*). Such a theory of language presupposes not that the things

(formae) to which the words are attached belong to a pre-established order of original models that human knowledge is gradually approaching, but that this order is created by differentiation and combination out of the given nature of things...For in this case, it is not a question of variation in expression but of variation in the perception of things and of the formation of the concepts that follow it” (Gadamer, 1989, p. 435)

That said, the message of God in the Quran is stern for those who wish to proceed to falsehood by changing the true meaning of the words of God through re-interpretation and re-examination that is intentionally incorrect¹⁶ and overlooking the proper message (e.g., ideality in the subject matter). In fact, God is explicit in stating that no one can alter his words, which are the ultimate truth.¹⁷ Specifically, God stated: “Have you not considered how Allah presents an example, [making] a good word like a good tree, whose root is firmly fixed and its branches [high] in the sky? It produces its fruit all the time, by permission of its Lord. And Allah presents examples for the people that perhaps they will be reminded.”¹⁸

The views of Gadamer are quite interesting, particularly in the field of religious studies in that, as opposed to Dilthey and Ricoeur, Gadamer does not draw a strong distinction between interpretation and understanding in a framework that is based on linguistics. In fact, for Gadamer interpretation *is* understanding, whereby he states that “understanding and interpretation are indissolubly bound together” (Gadamer, 1989, p. 399) because “*language occurs in interpreting* [sic]” (Gadamer, 1989, p. 386). Thus, it is not so much the mastery of language, with all its rules, as suggested by Ricoeur, that is important in hermeneutics (especially in relation to deciphering religious scripture) as much as it is primacy of conceptual articulation, through the medium of language, of the subject matter itself.

The last point is perhaps where the interpretivism branch of hermeneutics as viewed by Gadamer and Ricoeur can come together. Conceptual articulation (especially in matters of religion) *through discourse* of an objective reality is where the truth resides, not in the individual words, not even in all the stock of words of a particular

¹⁶ Quran, 2:59, 2:75, 2:256; 17:41

¹⁷ Quran, 2:144; 3:60; 6:34, 6:73, 6:115; 8:7; 10:64, 10:82; 18:27; 42:24; 86:14

¹⁸ Quran, 14:24-26. Sahih International Translation.

language, no matter how perfect it is perceived (Cooke, 1984). This was well verbalized by Gadamer in that he stated that “it is not the word (anoma) but the logos [i.e., discourse] that is the bearer of truth. From this, it necessarily follows that being expressed, and thus being bound to language, is quite secondary to the system of relations within which the logos articulates and interprets” (Gadamer, 1989, p. 412).

The case of written text, as a form of discourse, is particularly important, especially in religious subject matter that has a large historical orientation. In effect, instead of having religious texts addressed to only one reader (which it does at any one time), it is addressed to an audience that the writing itself creates with an almost universal range. The counterpart of the author of the text is, in essence, anyone who knows how to read (or listen to someone who reads).

In addition, there is also a unique sense of duality in any particular text. This duality starts at the basic character of texts themselves in that on the one hand, texts, as mentioned by Droysen, are an “enduringly fixed expressions of life” (Droysen & Hübner, 1937) that provide a window to the past; yet on the other hand, texts are an ensemble of references of the world, past and present, that lights up our own situation (Ricoeur, 1973).

The aforementioned duality does have implications on meaning and understanding, which were best recognized by Gadamer (Gadamer, 1989). On the positive end, as opposed to speech, the meaning of what is written exists purely for itself in the abstract ideality of language in a manner that is identifiable and repeatable. However, the paramount weakness of texts, which was demonstrated by Plato, is that the author can no longer come to the aid of written word if it falls victim to misunderstanding, either intentional or unintentional (Plato Seventh Letter). As a result, “the meaning of what has been said is to be stated anew, simply on the basis of the words passed on by the means of written signs” (Gadamer, 1989, p. 395). In religious texts, such as the Quran, neither the author of the text nor his messengers can assist in clarifying any error or ambiguity. It is, therefore, within the realm of

discourse based on intellect and reason along with faith that can ultimately lead to the truth.

In other words, it is a matter of judgment through reason and faith of the reader that serve to bridge the gap between the spirit of the original words, through discourse, within the context of the subject matter and their contemporary interpretation. However, as with the critical rationalism theoretical perspective, the gap can never be completely closed due to many reasons, not the least of which is the fact that every interpretation has to adapt itself to the particular language structure and hermeneutical situation, which is partly dependent on the tradition to which it belongs.

With that, it is important to acknowledge that the dependence of the interpretation on the structure and hermeneutical situation does not change the character of the text itself. This can be evident in that the form of text, however ancient, is continuously contemporaneous due to a unique co-existence of past and present whereby a genuine opportunity to change and widen the horizon presents itself and provides a real possibility to enrich the world by a new and deeper dimension of understanding (Gadamer, 1989, p. 391)

The understanding is not arrived at solely by reasoning one's way back to the past, but also by having a present involvement, in a manner that is common to present life, of what is being communicated through the discourse of the text. Further, the understanding is augmented with the realization that even though we may have more than one interpretation, that it is the *same* text that is presenting itself in each one of those interpretations even if they are oriented by the reader's own linguistic orientation of the world (Gadamer, 1989).

Essentially, the multiple interpretations is the result of the text forcing us to make interpretive conjectures, as a result of the language structure and hermeneutical situation, that can be tested, criticized, and falsified, which in turn lead to the true meaning of the text attempting to assert itself. In fact, within the sphere of

interpretation, the conjectures and falsifications can be thought of as products of the logic of qualitative probability that, due to the inherent subjective uncertainty that rest on faith, lead to *validation* rather than the empirical *verification* of scientific laws (Ricoeur, 1973).

Effectively, an interpretation must not only be probable, but more probable than another in light of the language system, what is perceived of the past, known of the present, and within the realm of theology, the signs of God that illuminate faith.¹⁹ However, it is the distinction between validation and verification that is valuable in that regard because it allows the interpreter to move between the limits of dogmatism and scepticism and all the probable interpretations in between to seek an agreement, even if this agreement based on the most probable interpretation.

Historical hermeneutics, for its part, as the second branch of hermeneutics of relevance to the elaboration of truth in Islam, was predominantly elucidated by Gadamer as being not so much a subjective act than a complex process of transmission in which the past (the strange) and the present (the familiar) are being constantly mediated. In doing so, historical hermeneutics adds another layer to hermeneutics, alongside interpretivism, in that it advances the importance of appreciating the significance of temporal distance and its effects on understanding due to the prejudices and preconceptions of the interpreter's consciousness (Gadamer, 1989).

As part of the historical mediation in the quest for greater understanding, Gadamer states that it is important to realize that “every age has to understand a transmitted text in its own way, for the text belongs to the whole tradition whose content interests the age and in which it seeks to understand itself” (Gadamer, 1989, p. 296). Thus, in the case of *Shari'a*, one can observe that Muslims today try to understand the Quran and *Ahadith* through a constant mediation between three forces: the Quran and *Ahadith* as they are written during the time of the Prophet (PBUH), as they are interpreted (and re-interpreted) through time, especially during the time of the Imams

¹⁹ Quran: 2:118

of the four main “*Madhahibs*” or “Ways/Schools” in Islam (i.e., Maliki, Shafi’i, Hanbali, and Hanafi), and finally as they can be understood in modern times. The first force was acknowledged in the Quran as a means for remembrance²⁰ while the other forces are products of the theories of *Qiyas* (analogical reasoning), *Ijma’a* (consensus), and *Maslaha* (public interest) that will be elaborated below.

Historical hermeneutics, therefore, complements the interpretivism branch of hermeneutics, with its focus on the subjectiveness of linguistics in the process of truth formation, in that it seeks to actively include the historical consciousness perspective, with all its prejudices and preconceptions, to the fore of understanding. In addition, historical hermeneutics seeks to also actively demonstrate the powerful effect of the reality and efficacy of history within the perception of truth itself. This last point is labelled the “history of effect” (Gadamer, 1989).

The history of effect is a crucial concept to consider in the evaluation of *Shari’a* directives in relation to some contemporary issues. The concept, essentially, proposes the need to appreciate the unrecognized and unregulated force of historical consciousness that affects our understanding of text (in this case religious text), especially when historical objectivism is *assumed* to operate in an elevated position within the process of critical scientific inquiry (Gadamer, 1989). In effect, while truth and reality are objective, as in the realist ontology behind Islamic thought, our understanding, due to temporal distance, may not be endowed with the same degree of objectivity causing an ultimate deformation in knowledge.

In particular, one of the negative effects of temporal distance is the introduction of the notions of culture and custom (*‘Adah*) within the interpretation of a religious text that places layers of assumptions that can affect the understanding of concepts and events in a different time, place, and condition. This is what Gadamer calls the “hermeneutical situation.” The awareness of a situation itself, however, is a task of particular difficulty because “the very idea of a situation means that we are not standing outside of it and hence are unable to have any objective knowledge of it”

²⁰ Quran, 28:51; 37:3

(Gadamer, 1989, p. 301). Therefore, one can observe a noticeable medley between what the truth is in religious scripture and what can be considered to be the work of custom due to the powerful effect of the temporal and contextual distance on interpretation and understanding overall.

The solution to the impasse of mediating the past (tradition through historically effected consciousness) with the present, in Gadamer's view, is to bring together the horizon of the past and the horizon of the present in a merged horizon whereby the concepts of the historical past are regained in a wide-ranging way that includes a wider comprehension of them. One may venture to assume that within Islamic thought that *Qiyas* (analogical reasoning) and *Ijma'a* (consensus) are tools for that purpose.

The overall objective of the fusion of horizons ultimately leads to Droysen's and Gadamer's "hermeneutic rule," which states that we must strive to "understand the whole in terms of detail and the detail in terms of the whole" (Droysen & Hübner, 1937, p. 10; Gadamer, 1989, p. 291) in harmonious circular process as a way to expand the unity of the understood meaning centrifugally. The failure to achieve this harmony means that understanding has failed.

In spite of its negatives, temporal distance does, however, have important positive effects on our understanding of an object because it allows the true meaning of an object to emerge fully. According to Gadamer:

“[T]he discovery of the true meaning of a text or a work of art is never finished; it is in fact an infinite process. Not only are fresh sources of error constantly excluded, so that all kinds of things are filtered out that obscure the true meaning; but new sources of understanding are continually emerging that reveal unsuspected elements of meaning. The temporal distance that performs the filtering process is not fixed, but is itself undergoing constant movement and extension. And along with the negative side of the filtering process brought about by temporal distance there is also the positive side, namely the value it has for understanding” (Gadamer, 1989, p. 298).

The aforementioned view on the positive effects of the temporal distance can be related to critical rationalism and its viewpoint on the elaboration of the truth. This

is because historical hermeneutics serves in the role of the link of the finitude of the historical experience with the contemporary environment in the wider process of scientific inquiry that deals with propositions, interpretations, and refutations that are central to the search of truth and the acknowledgement of reality (Crotty, 1998).

At the heart of the role of historical hermeneutics as the aforementioned link is ceaseless research with all its qualitative infiniteness (Droysen & Hübner, 1937, p. 316; Gadamer, 1989). For in contrast to research in the natural sciences where the *tentative* results and understanding are more apparent to the senses through experimentation, the results of research into historical subject matter (i.e., understanding the past), even though a science according to Dilthey (Dilthey, Makkreel, & Rodi, 1989), can never come into view. This was best stated by Gadamer in that he says “historical research does not seek knowledge of laws and cannot appeal to the decisiveness of experiment. For the historian is separated from his object by the infinite mediation of tradition” (Gadamer, 1989, pp. 212-213).

Thus, within the domain of history, as in linguistics, it can be construed that truth resides in the realm of validation through probability by way of the use of unlimited research and scientific analysis (hence we need Islamic research institutions and the Islamic academic discipline after all) that rest on elements of intellect, reason, and faith rather than through a verification of an undisputed version of comprehension based on language and history that confirms or negates the basis of a certain event, practice, and/or directive. Interestingly, this, within Islamic thought, was best illustrated by Imam Al Shatibi in that he teaches that the universal sources of the *Shari'a* (e.g., the mind of the Divine) is true, whereas the particulars of the interpretation of the Quran and *Sunnah*, within certain limits, are in the realm of the probable in that they are subject to change (Amanat & Griffel, 2007).

Section III: Islamic Thought on the Conceptualization of the Truth

Within the context of Islam, the theories of *Maslaha* (public interest), *Qiyas* (analogical reasoning), and *Ijma'a* (consensus) contribute to the discourse into the

process of reason within the established theories of truth in that they can produce a unity in Islamic thought, even if these theories are utilitarian in nature and their directives are not expected to extend to infinity. This is because of the reality of religious commands, as per the *Shari'a*, which have been undergoing changes, through extension and/or adaptation, in the past and will probably continue to do so in the future with the advent of new propositions and interpretations that consider all the relevant factors in a context that is centred on obedience and submissiveness to the true will of God.

Specifically, Ibn Khaldun details four sources of legal evidence in Islam in that he states:

“The basic sources of legal evidence [in Islam] are the Qur'an and, then, the traditions [*Ahadith*] which clarify the Qur'an. Then, general consensus [*Igma'a*] took its place next to the Qur'an and the traditions (Sunnah). Now many of the things that happened after the Prophet are not included in the established texts. Therefore, they compared and combined them with the established evidence that is found in the texts, (and drew their conclusions from analogy [*Qiyas*]) according to certain rules that governed their combinations. This assured the soundness of their comparison of two similar (cases), so that it could be assumed that one and the same divine law covered both cases. This became (another kind of) legal evidence, because the early (Muslims) all agreed up on it. This is analogy, the fourth kind of evidence” (Ibn Khaldun, Rosenthal, & Dawood, 1969, p. 347).

The foundation, or more appropriately the rationale, of the third and fourth source of legal evidence in Islam, namely *Igma'a* and *Qiyas*, is the theory of *Maslaha*. *Maslaha* translates literally into interest (or benefit); however, in its usage in Islam it tends to be generally associated with the many rather than the few (or individual) in how it deals with religious directives. Thus, *Maslaha* can be thought of as the ethical end of increasing the piety of Muslims in addition to the well-being of mankind (i.e., public interest) by legitimizing rulings based on the concepts of *Igma'a* and *Qiyas*, which, in turn, depend on either specific references in the scripture and/or *Maqasid Al Shari'a* (i.e., objectives of Islamic law). The opposite of *Maslaha*, in contrast, is *Mafsada* (i.e., public harm). Therefore, according to the theory of *Maslaha*, Islamic law should seek to increase *Maslaha* and/or reduce any *Mafsada*.

The development of the theory of *Maslaha* effectively commenced in the 11th century through the writings of the Shafi'i jurists Al-Ghazali and Al-Razi; it was later developed by Al-Maliki jurists Al-Qarafi and Al-Shatibi as well as the Hanbali jurist Al-Tufi (Opwis, 2007). In effect, since its establishment, *Maslaha*, as a theory of utility (or reduction of hardship), has been used to extend and adapt the *Shari'a* to not only matters that are derivations of the rulings that existed at the time of the Prophet (PBUH) (e.g., inheritance, guardianship, etc.) but also to the changing circumstances and specific issues facing Muslims in different times and geographies.

Needless to say, the challenge of *Maslaha*, and the source of hesitancy of jurists in the history of Islamic thought of elaborating it, is that it may be a source of opening the gates of falsity, doubt, and illegitimacy in Islam due to the prospective insertion of subjectivity and arbitrariness in the formulation of Islamic law. This hesitancy can be made more apparent in the distinction of the extension vis-à-vis the adaptation of *Shari'a* in that while the extension, even if speculative, of the *Shari'a* can be construed as an extension of the truth, the adaptation can be particularly problematic because it may imply that what was long held as true may be false or at least partly true.

For example, the objective of prohibition of *Riba* (usury) is focused on limiting the financial slavery of individuals by opportunist money lenders, but the restrictions placed on central banking, asset pricing, and risk management (including insurance) may only be partly true and require a broader conceptualization of the truth in that particular subject matter (i.e., it is not the colour of the wine that makes it prohibited in Islam, but rather it is its intoxicating effect).

It can also be evident that, in a fashion similar to critical rationalism, a particular truth can be re-defined by other truths that emerge in time and space. Thus, the religious command of fasting during the month of Ramadan for Muslims is clear on its directive of *Fajr* (dawn) to *Maghrib* (sunset) absentness, which is a form of truth. However, the divine creation of the earth, its rotation around the sun, and its slight inclination also creates yet another truth for Muslims in the extreme north, namely

midnight sun in the summer. The second truth clearly affects the adherence to the first truth, due to hardship²¹ which, in turn, ultimately requires the use of intellect, reason, and faith.

With that challenge in mind, Muslim thinkers have worked to devise a framework through *Qiyas* and *Igma'a* that limits the scope of the use of *Maslaha* as well as developed a set of procedural criteria that seek to objectively elaborate the truth of the divine will that revolved around the concepts of consensus and pragmatism, major elements of which were discussed in the previous sections.

In terms of the scope for *Maslaha*, Al-Ghazali in his *Al-Mustafa Min Ilm Al-Usul* limited the use of *Maslaha* to five essential elements (i.e., *Al-Durariyat Al-Khamsa*) for the well-being of Muslims; these are: religion, life, intellect, offspring, and wealth (Al-Ghazali, 1993a). Although, Al-Ghazali, perhaps in a search for greater assurance, was also specific in that he stated that *Maslaha* is limited to areas that are known with certainty (*Qati'i*) and are universal (*Kulli*) in nature. Consequently, for him, *Maslaha* is a way to extend (not adapt) the *Shari'a* based on the truth of the religious scripture as commonly understood and practiced.

Other prominent Muslim thinkers sought to increase the scope of *Maslaha*, as elucidated by Al-Ghazali, in an effort to expand the sphere of truth-seeking in Islam. Notably, Al-Razi (1988) argued that the *Shari'a* should also seek truth in the domain of high probability (i.e., considerable certainty) rather than be bounded by the requirement of absolute certainty, which may never be achieved. Moreover, Al-Razi felt that application of *Maslaha* to the five essential elements, while important, is unnecessarily restrictive; accordingly, he proposed the inclusion of the concepts of need (*Haja*) and improvement (*Tahsin*) in the sphere of *Maslaha* (Al-Razi, 1988).

Al-Shatibi (2004), for his part, complements the thinking of Al-Razi in that his writings demonstrate that absolute certainty is characteristic of only the source of *Shari'a* (i.e., the mind of the Divine). In particular, he states that while the Quran and

²¹ Quran, 2:185

Ahadith were certain in their validity, some areas of understanding can be considered probable and required a modification of *practice* depending on the place, time, and person (Al-Shatibi, 2004). However, Al-Shatibi was clear in that *Maslaha* does not pertain to the issues of *Ibadah* (worship), acts that happened or could have happened during the time of the Prophet (PBUH), and the continuous practice of the early Islamic community (Al-Shatibi, 2004; Opwis, 2007).

Apart from the aforementioned restrictions, Al-Shatibi (2004) also introduces the concept of relativity in that he felt that the actual intended (and potential) outcome of a particular *Shari'a* ruling should be taken into consideration. Specifically, he advances the proposition that while any outcome will undoubtedly have positive and negative consequences that the judgment of a *Shari'a* ruling should also weight the positive in respect to the negative consequences of its intended application (Al-Shatibi, 2004).

Notably, the aforementioned writings of Al-Razi and Al-Shatibi are particularly interesting in that they anticipate the work, from a conceptual perspective, of some of the aforementioned contemporary western philosophers (e.g., Popper, Ricoeur, Gadamer, etc.) in the religious realm. Specifically, the challenges posed by linguistics as well as the temporal and contextual distance, along with the associated uncertainty, are implicitly acknowledged by these Muslim thinkers in their work, which, in turn, undoubtedly shaped the next generations of Muslim jurists' conception of truth in Islam.

Thus, the truth in the context of *Maslaha* assumes a mixture between the idealism of the correspondence theory of truth with the usefulness of the pragmatic theory of truth. In essence, truth, in the belief and practice of Muslims, corresponds to the true directives of God that exist independently of the mind; while in a pragmatic fashion, the Muslim jurists included whatever protects the five essentials, and arguably also achieves *Haja* and *Tahsin*, as true and legitimate.

With that, within the framework of *Qiyas*, the *Maslaha* operates through the conduit of intellect in perceiving the origin (*Asl*) of the *Shari'a* in the scripture, while reason works to identify the effective causes of things (*'Illah*) and attempt link them to a particular issue (*Far'*) to pronounce a ruling (*Hukm*) that can be deemed as the truth (Al-Ghazali, 1993b). Throughout the process, the objectives of the religion (*Maqasid Al Shari'a*) are normatively elaborated and communicated in a manner that is in harmony with the scripture and agreed to in a process of *Igma'a*.

However, *Maslaha* should not be perceived to be exclusively limited to the domain of *Qiyas*, as is often done, for example, in the Islamic finance industry, since the situations that existed during the time of the Prophet (PBUH) were not all-inclusive and infinite in that they can be expected to provide guidance for analogical reasoning through time and space. Put differently, *Maslaha* can depend on *Qiyas* where appropriate but should not be shackled by the forcing of analogical reasoning in every matter that concerns the Muslim world.

Moreover, in an attempt to address the concerns of the advent of falsity in the rulings of the Islamic jurists, the scholarly community, since the days of Al-Ghazali, have developed a set of highly formalized and intricate set of rules that are vigorously applied to the *Qiyas* process (Kamali, 2003) within the framework of *Igma'a* based on the scripture and *Maqasid Al Shari'a*. This attempt of identifying the truth can only be described as an effort to add substantive rationality to a process that is inherently speculative and probable in relation to the will of the Divine.

That is to say, the rules of *Qiyas*, while important from a procedural sense much like seemingly objective scientific processes, cannot be perceived as an independent grantor of truth as such simply because they are human instruments rather than Godly instructions of reason. Specifically, in agreement with critical rationalism, the truth, as formulated by intellect and reasoning, may in fact be useful in alleviating hardship to mankind but it is not absolute, universal, and infinite as the one that

corresponds to God himself. This is confirmed in the Quran whereby God states that “an assumption avails not against the truth at all.”²²

The theory of *Igma'a*, for its part, serves an important role in the development of Islamic jurisprudence in that it confirms the conjectures developed through *Ijtihad* by jurists, whether by interpretation or *Qiyas*, as truth and consequently require adherence to in belief and practice. The basis of this theory, and the perception surrounding its existence, is perhaps the fact that it is the most referred to theory among those aforementioned in the Quran²³ and *Ahadith*.²⁴ Further, it is arguably among the most commonly referred to theories in the Islamic religion in matters that relate to the truth of divine revelations.

Specifically, even though *Igma'a* does not partake in divine revelations, as such, it is given a special status within Islam due to the confidence of God in the faith of the Muslim community (*Ummah*) and their ardour in upholding the integrity of the *Shari'a* through unity in thought and practice. In fact, Al-Ghazali believed so strongly in *Igma'a* that he maintained that a united Muslim community is as close as one could get to being infallible and immune from error (Al-Ghazali, 1993a; Kamali, 2003).

The way to achieve the *Igma'a*, and truth by virtue of its theory, is, of course, a different matter as it transcends the world of idealism to the realm of practical application. First, the actual participants of consensus have to be defined. For this, it became accepted that the process of truth seeking within Islam should be reserved for those with enough intellect and reason (*Ula Al-Albab*) to appreciate the scripture and objectives of the Islamic law.²⁵

While the rationale for such interpretation of *Ula Al-Albab* is theoretically sound, it should also be acknowledged that the lack of universal participation in the forming of

²² Quran, 53:28. Sahih International Translation

²³ Quran, 3:103; 4:115; 18:29

²⁴ Tirmidhi, Bukhari and Muslim

²⁵ Quran: 2 :269 ; 3 :7 ; 12 :111 ; 13 :19 ; 38 :29 ; 38 :43 ; 39 :18 ; 4:48; 6:97

consensus does limit the scope of the truth of the Islamic jurisprudence. In essence, the learned jurists that partake in the *Igma'a* are limited in their knowledge to what they actually perceive by their senses as well as their state of intellect as opposed to the universal discernment by the populace; even they harbour a lower level of sophistication.

Second, the term "*Igma'a*" itself needs to be defined for the theory of consensus to operate properly as a conduit to the truth contained in divine revelations. For while the term in the Arabic language may be translated to consensus in a unanimous fashion, its adoption by some jurists in this manner does, in effect, condemn this vital theory in Islam as inconsequential. This is because not only is the notion of unanimity in an absolute sense not supported in the scripture²⁶, but also even as an aspiration, although ideal, may never be attained. This is because the interpretation and understanding of the divine revelations through human perceptions are not static in all temporal and spatial conditions and will always be subject, by virtue of human intellect and reason (as demonstrated with the theoretical perspectives above), to error and falsity.

Thus, for all intents and purposes, consensus, within the theory of *Igma'a*, can very well be considered in the broad (e.g., 2/3, 3/4, 4/5, etc.) rather than in a unanimity (100 per cent) sense at any given time simply because *Maslaha* itself, and our interpretation and understanding of the scripture, changes over time. The strength of the truth in this framework is a product of the degree of consensus through discourse that is undertaken in regards to particular topics mainly by the Islamic jurists, as *Ula Al-Albab*, but also by the members of the various Muslim populaces.

Once more, the last point regarding the inclusivity of the discourse cannot be over emphasized, even if one acknowledges that the consensus generation is, and has been for centuries, being exclusively held within the realm of the religious scholarly community. In essence, it cannot be expected that the Islamic jurists be cognizant of the myriad multivariate complexities, along with the various interactions, that

²⁶ Quran, 11:118-119

surround *all* topics that deal with the Muslim faith whose truth is viewed by Muslims more as a way of life than simply a collective set of religious directives. For that, the inclusion of the various epistemic communities (economists, lawyers, social scientists, natural scientists, politicians, ordinary citizens, etc.) in the discourse as *active* participants in a dynamic process that may include differences in particular scientific conjectures should provide invaluable insight that ensures a greater correspondence to the truth both in an objective sense as well as in relativity to *Maslaha*.

Thus, it can be stated in summary that within Islamic thought, truth is always striving to correspond to the true words of God, as revealed in the scripture and the spirit of his will upon mankind that lead to salvation and bliss. With that overarching realization, it should be notable that the interpretation and understanding of Muslims of their religion is never complete, certain, or even static in time and space as was elucidated through the hermeneutical theoretical perspective. They are always evolving, perhaps through the involvement of critical rationalism, moving to an ever higher degree of discernment of the truth.

The theories of *Maslaha* (as an intermediary objective), *Qiyas* (as a tool), and *Igma'a* (as a validator through discourse) can, and should, extend and adapt the law as instruments of truth. However, it should be also realized that these theories, as with any other theory, are merely instruments that assist in understanding. They are a means to acquire proximity to the truth but are not endowers of complete and certain truth, as such.

Conclusion

The discussion into the formation of truth in Islam has thus far touched upon many theories of truth along with the various relevant theoretical perspectives. Specifically, within the framework of an amalgamated theory of truth that includes correspondence, consensus, and pragmatism, the inclusion of the critical rationalism and hermeneutical theoretical perspectives can be conceived as offering an important framework for the process of reason in the formation of truth in Islam.

In effect, the nature of scientific research, including those in the sphere of religious studies, requires a firm belief in that truth in religion exists independently from our senses. Further, the challenges posed by the nature of religion - namely temporal, linguistic, and contextual detachments – require the use of objective and critical scientific processes to attempt to get closer to the truth and reality of all that is associated with divine guidance.

Needless to say, the constant and ceaseless search for the truth does require a certain sense of freedom from religious dogmatism and a renewed confidence in intellect and reason in a framework governed by faith in that the will of God ultimately seeks salvation and bliss for mankind. This freedom, while an important key to unlocking the truth in religious revelations, is bounded by the wider theological structure that is built on concepts, theories, and convictions. For as stated by Gadamer “what comes into being is free, but the freedom from which it comes is always limited by what has come into being – i.e., by the situation in which it comes” (Gadamer, 1989, p. 203).

That said, it is to be acknowledged that in Islam expressions of opinions that are divergent from the norm have become more and more uncommon throughout its history. In particular, the concept of *Ijtihad* has been continuously on the decline since the 10th century, especially after the criticism by Imam Al-Ghazali in his *Tahafut al-Falasifa* of the Avicennian School of Islamic philosophy (Al-Ghazali & Marmura, 1997). In essence, the widely held belief that no one has the qualifications and foresight to independently reason religious law has been firmly established in Islamic scholarly circles.

With that, it became accepted that the interpretation and understanding of the scripture in Islam was to be mainly achieved through the doctrines that have been laid by the four *Mazahib* (Schools) in Islam that were deemed to have settled all open questions, even if in board terms, about the religion (Schacht, 1964, pp. 70-71), despite the fact that these *Mazahib* are themselves forms of *Ijtihad* by Islamic jurists and theologians (even if renowned) that were not only undoubtedly affected by time,

place, and finite language but also have by no means possessed the true and complete knowledge that exists in the mind of God.

Needless to say, this belief, while arguably offering to increase the potential of unity of Muslims by limiting the diversity in the interpretation of the religious scripture to four main conduits, may have also contributed to constraining not only the intellectual advancement of Islamic thought but also inhibiting the social, economic, and political development of Muslims under the guise of traditionalism. In fact, a counter argument has also been made by some Muslim scholars (e.g., Jamal Al-Din Al-Qasimi and Rashid Rida) that the dogmatic nature of the traditional belief in the *Mazahib* may have actually reduced the potential for unity among Muslims (Opwis, 2007).

Perhaps in the face of the various challenges facing Muslims in the past few centuries and the impracticality of applying myriad situations facing Muslims in a constantly changing world to seemingly fixed doctrines of the four Islamic schools of thought that have existed more than one thousand years ago that the theories of *Maslaha*, *Qiyas*, and *Igma'a* have taken hold to a greater extent in recent decades. Nonetheless, it can be widely observed that the ability of Islamic thought to transgress convention, even with *Igma'a* at its base, has been limited. Arguably, there can be room for *Ikhtilaf* (differences of opinion), even if deemed unconventional by some Islamic jurists, within *a wider process of reaching consensus that contributes to a greater proximity to the truth in Islam*.

With that, it should be stated that the inability by some Islamic jurists to accept that the truth, corresponding to the will of God and based on broad consensus, is partly pragmatic in a utilitarian sense has been, and will continue to be, a self-inflicted limiting factor in the Muslim world with far reaching consequences. This is despite the fact that the Quran and *Ahadith* are replete with examples and indications of the flexibility of God for the removal of hardship as a measure of his mercy upon mankind.

In effect, one can never know, no matter how learned they may be, unequivocally the causes and objectives, as in the mind of the Divine, of a particular religious directive let alone completely transcend the linguistic difficulties and the historically affected consciousness in formulating proper understanding of the scripture, especially as they pertain to new and changed circumstances.

This shortcoming can be even more pronounced with the fact that the majority of religious directives in Islam are based on the *Ahadith*, which can be contextual and subject to varying degrees of strength (e.g., solitary *hadith*, one without consensus as proof, etc.), rather than universal and substantive directives from the Quran itself. Along the same lines, the apparent incapacity of Muslims scholars to overcome falsity in properly interpreting and understanding the word *Dahaha* in the Quran²⁷ (i.e., the earlier conceptualization of a flat earth) over a millennia ago should all but serve as a humbling reminder of our own intellectual and logical short-comings in the even most specific of scriptures – The Quran.

Effectively, it can be argued by some contemporary reformers that the scripture, if followed in elements of practice as are dogmatically interpreted, communicated, and understood in the period *after* the passing of the Prophet (PBUH), effectively limits the ability of Muslims to adapt to numerous contemporary practices that are important to the economic, social, and political development of the *Ummah*.

That being said, and with the objective of preparing for the discussion that will ensue, it may be appropriate at this juncture to note that the philosophical and religious concepts and theories that were elaborated in this chapter are anticipatory of the economic concepts and theories that will be outlined in the coming chapters of the thesis. For it would be impractical to debate over the technicalities of certain beliefs and practices if, in fact, one cannot agree on the basic principle that, while truth and reality in Islam do exist independently of our senses, *intellect and reasoning can, and should, lead to viable propositions and interpretations that lead to greater understanding of the tentative truths that become apparent in the inclusive*

²⁷ Quran, 79:30

discourse among Muslims. With that, one may now turn to the research design of the thesis before commencing with the substantive elements of the research topic.

Chapter Three: Research Design

Introduction

The design of the research project is considered the single most important factor in producing quality research that is, in turn, instrumental in generating meaningful and pertinent information that advances knowledge in the chosen topic of the thesis. For this, it will be made apparent in this chapter that the research, which is considered explanatory with some elements of descriptive and exploratory research, will employ the deductive research strategy due to its appropriateness to the nature and complexity of the subject matter. The building blocks of the aforementioned deductive research strategy are multiple categories that comprise the relevant theories, propositions, concepts, which, in turn, are ultimately used to answer the research questions.

In terms of research methods for data collection and analysis, the thesis focuses on qualitative research methods, rather than quantitative techniques, which is due to the subject matter of the research that can be described as ill-defined or not well-understood, deeply rooted, and complex in that it mixes Islamic jurisprudence and economics along with the myriad opinions, that have evolved over time, of many commentators as will be shown throughout the thesis.

As for the type of information that is generated by the research methods, these are a mix between primary and secondary information. More specifically, the thesis focuses on the collection and analysis of documentary resources (fundamental and derived) and interviews. This was done not only at the central location for the research at the University of Edinburgh, but also at took place at four locations that were considered by the researcher for multiple reasons (see below) to be policy and practitioner hubs in the Islamic finance industry, namely: Jeddah, Saudi Arabia; Manama, Bahrain; Dubai, United Arab Emirates; and Kuala Lumpur, Malaysia.

As will be shown in this chapter, the material itself, irrespective of its source (primary or secondary), were subjected to a certain set of criteria that sought to

ensure its quality, which, in turn, is expected to have significant implications on the value of knowledge generated by the thesis. These criteria include: authenticity, credibility, representativeness, and meaning.

Finally, it will be shown that the research sought to uphold the high ethical standards that are expected of it and the researcher in the utilization of the research methodology that will be described below, especially in relation to data collection and analysis, in addition to striving for complete transparency with research participants (i.e., interviewees).

Section I: Research Strategy

Before detailing the research strategy, one should first declare the research objective; the objective of the research contained in the thesis is to advance knowledge on the topic of market risk management, in general, and derivatives, in particular, in the Islamic finance industry by way of a comprehensive and multi-layered examination of the juridical and economic discourse on the subject matter as well as the exploration of new areas of relevant significance in order to attain proper understanding. The aims of the research undertaking, for their part, are two-fold: Firstly, the research seeks to inject economic-centred theories, along with a wider elaboration of the *modus operandi* of the financial markets, into the Islamic finance discourse on the subject matter. Secondly, it will attempt to examine the rationales for the various stances on the permissibility (both in favour and against) of derivatives hedging instruments in a manner that not only accounts for the numerous instruments currently existing in the financial markets, but also some of the proposed solutions in the Islamic finance space.

Subsequent to the articulation of the research objective, it is perhaps also necessary to state that the thesis will seek to respond to two fundamental and interrelated research questions, namely: 1) What is the basis for the proscriptions of the usage of derivative hedging instruments for market risk management in the Islamic finance industry, and 2) What is the basis for allowing derivative hedging instruments for market risk management in the Islamic finance industry?

With that, the research strategy that is used in the research into market risk management and the usage of derivative hedging instruments in the Islamic finance industry, with the closest association to the research philosophy (i.e. realist ontology and objectivist epistemology) and theoretical perspectives (i.e. critical rationalism and hermeneutics), is the deductive research strategy. The appropriateness of the choice of this strategy is affirmed by Blaikie in that he states that the deductive research strategy is traditionally realist in nature and that its adherents are usually concerned with producing universal truths or trying to at least get as close as possible to them (Blaikie, 2000).

Apart from the deductive nature of the research design, the thesis itself can be considered as being explanatory with some elements of descriptive research and exploratory research. Description, to begin with, is valuable in that it seeks to present an accurate and comprehensive account of a phenomenon, in this case market risk management and derivative instruments in Islamic finance, in detail in order to provide a sufficient basis for understanding for what will be undertaken in the explanatory and exploratory research processes that are the focus of the research (Bailey, 1994; Blaikie, 2000).

Exploration, on the other hand, as defined by Blumer is: “a flexible procedure in which the scholar shifts from one line of inquiry to another, adopts new points of observation as his study progresses, moves in new directions previously unthought of, and changes his recognition of what are relevant data as he acquires more information and better understanding” (Blumer, 1969, p. 40).

For the explanatory research, which is the core of the thesis, an explanation can be defined as making matters plain or intelligible by removing impediments in intellectual understanding (Brown, 1963, p. 41). In addition, explanatory research, in the context of the thesis, can be further classified as being functionalist in nature. Bailey in his detailed review of explanatory research states that: “functionalism explains the existence of a phenomenon by discovering what function it has for the

larger system of which it is a part. The basic tenet of functionalism is that phenomena exist in the system only because, and only so long, as they are needed and perform a useful function. Phenomena that are dysfunctional, or impair the system, will either disappear or be altered until they become functional” (Bailey, 1994, p. 501)

Further, functionalism is best suited for explaining changes in a phenomenon (and the linkages it has with other phenomena) that provides a particular function for a society in an inadequate fashion. Functionalism, in this case, would predict that the phenomenon would be transformed in a way that allows it to fulfil its core function again (Bailey, 1994). These views can be thought of as being related to James’ instrumentalist pragmatic theory of truth as elaborated earlier in the Research Philosophy Chapter (Chapter 2).

With that background it may be stated that this thesis seeks to delve into: 1) The theory and practice of market risk management; 2) The economics and use of derivative hedging instruments; and 3) The *Shari’a* economic doctrine and Islamic finance (e.g., its components, processes, objectives, injunctions, etc.), especially in relation to market risk management (and related topics) within the Islamic finance industry through “Islamic” hedging instruments.

In terms of the theoretical framework, as outlined in the Research Philosophy Chapter (Chapter 2), and its relation to the various concepts, theories, and categories of the thesis, the general theoretical framework is that, while truth and reality in Islam do exist independently of our senses, information and reasoning can, and should, lead to viable propositions and interpretations that may differ from current ones. This general theoretical framework, in turn, produces various definitions, concepts, and categories that will build the foundations of other complementary concepts that are integral to the research (e.g., *Riba*, *Gharar*, *Maysir*, LIBOR, Currency, etc.). In effect, the wide array of concepts and definitions are employed in order to reduce the zone of uncertainty in the thesis and hopefully endeavour to move

the discourse over derivative hedging instruments in Islamic finance from “what is” to “what should be.”

The concepts and definitions also, through deductive reasoning of their integrated relationships, shall form the basis for the theories of the research (Blaikie, 2000; Brodbeck, 1968; Selltiz, 1976; Turner, 1991; Weiss, 1978; Willer, 1967). In particular, the theories, themselves, are organized in a propositional format, which specifies the connection between concepts (Turner, 1991). This propositional format varies primarily in its level of abstraction and the way the propositions themselves are organized through various “propositional schemes.” It is to be noted that some propositional schemes are woven together by explicit rules while others are merely based on the sum of propositions, whatever similarity they may bear (Turner, 1991).

For the thesis, the axiomatic propositional scheme is to be pursued, which is elaborated by Turner as follows:

“First, it contains a set of concepts. Some of the concepts are highly abstract; others, more concrete. Second, there is always a set of existence statements [which] make up what are usually called the *scope conditions* [sic] of the theory. Third – and most nearly unique to the axiomatic format – propositional statements are stated in a hierarchical order. At the top of the hierarchy are *axioms* [sic], or highly abstract statements, from which all *other* [sic] theoretical statements are logically derived. These later statements are usually called *theorems* [sic] and are logically derived in accordance with varying rules from the more abstract axioms. The selection of axioms is, in reality, a somewhat arbitrary matter, but usually they are selected with several criteria in mind. The axioms should be consistent with one another, although they do not have to be logically interrelated” (Turner, 1991, p. 12).

Section II: Research Methods

As mentioned above, the research methods that are employed in the thesis are qualitative in nature. It is perhaps best to start with a definition of qualitative research by stating what it is not. Qualitative research, as defined by Strauss and Corbin, is: “any type of research that produces finding not arrived at by statistical procedures or other means of quantification” (Strauss & Corbin, 1998, p. 11).

The use of qualitative methods are traditionally directed at research that seeks to explain or understand complex phenomena as well as studying processes that occur over time (Ritchie & Lewis, 2003). Specifically, Ritchie and Lewis (2003) detail some of the main functions of qualitative research that relate to the overall genre and character of the thesis. These are: contextual research, explanatory research, and generative research.

In the realm of qualitative methods, contextual research, which relates, to a certain extent, to descriptive and exploratory research, focuses on “unpacking” issues in order to explore how they are understood by those connected to them. Explanatory research concentrates on an in-depth examination of subjects so that a deeper understanding of them emerges. Generative research, for its part, is concerned with producing new thoughts and ideas that are creative and original (Ritchie & Lewis, 2003). Thus, it can be construed that the functions of qualitative research centre on knowledge, rationality, and understanding.

Further, Ritchie and Lewis (2003) provide some features that promote the use of qualitative research methods as an *independent* mode of research inquiry. These features are mainly concerned with research concepts that are ill-defined or not well understood, deeply rooted issues, and complex subjects.

Therefore, the focus of the thesis combined with the research philosophy and research strategy have all led to a decision to use qualitative research methods. In fact, the recommendation of the use of qualitative methods for some types of research (i.e. contextual, exploratory, and generative) is very similar to the types of research that were elaborated earlier as forming the thesis itself (as elucidated by Bailey [1994] and Blaikie [2000]).

Specifically, the flexibility offered by the qualitative research methods is ideal for the complex subject matter of the thesis that mixes finance and economics with religion. For as stated eloquently by Blaikie:

“Qualitative researchers have a very limited idea of where they should start, how they should proceed, and where they expect to end up. They have to

accept opportunities when they open up and they will want to follow leads as they occur. They see research as a learning process and themselves as the measuring (data-absorbing) instrument. They will want to allow concepts, ideas and theories to evolve and they will resist imposing both preconceived ideas on everyday reality and closure on the emerging understanding. Qualitative data gathering is messy and unpredictable and seems to require researchers who can tolerate ambiguity, complexity, uncertainty and lack of control” (Blaikie, 2000, p. 243).

However, there are some critics of this method who believe that knowledge generation can only be achieved through quantitative research means that produce “information” and “evidence” in numbers that may be generalized (Bailey, 1994; Brannen, 2005; Ritchie & Lewis, 2003). Further, it could be argued that qualitative research methods are less objective and may be prone to biases than their quantitative counterparts, especially in the collection, interpretation, and presentation of data.

In response to this criticism, it may be simply stated not all research subjects are ideally situated in the quantitative realm either on a temporary or on a permanent basis. To be sure, some subjects may remain indefinitely in the domain of qualitative research methods, while others may utilize qualitative research methods for the exploratory and explanatory research functions and eventually shift to the quantitative sphere after development of a quantitatively testable theory.

Essentially, a forced utilization of quantitative theory testing in the search of truth and legitimacy without merit would be ill-advised in some types of research, including the present thesis with its specific focus that is dependent on the current state of discourse in the Islamic finance industry that is almost exclusively based on juridical and legal principles. For as pointed out by Mills in his own critique of Abstracted Empiricists for their unitary focus on the Statistical Ritual: “I wonder how much exactitude, or even pseudo-precision, is...confused with ‘truth’; and how much abstracted empiricism is taken as the only ‘empirical’ manner of work” (Mills, 1959, pp. 71-72).

Once more, in the case of the research on market risk management in Islamic finance through derivative hedging instruments, it is important to allow concepts and theories

to emerge on a complex topic that marries religion with finance, especially when seeking the involvement of many unique actors with diverse roles, competencies, and perspectives. Future research on the subject matter of derivative hedging instruments in Islamic finance will hopefully follow this thesis and may explore the utilization of its findings to test quantitative hypotheses once the data is made available by the appropriate organisms. In the meantime, it is important to recognize the significance of the objectivity of data collection and analysis as integral parts of the overall research methodology that espouses qualitative methods.

In terms of the type of information that will be generated by the research methods, these are a mix between primary and secondary information. Primary information is information collected by the researcher directly, which were interviews with respondents; while secondary information consists of information collected or authored by others and archived in some manner (Bailey, 1994; Blaikie, 2000; Stewart & Kamins, 1993). For the secondary information, these included fundamental documents (e.g., Quran and *Ahadith*) and derived documents that include the work of a multitude of writers with commentary that was deemed relevant to the thesis by the researcher.

However, perhaps it is important to also initially examine the types of evidence that are available as source material for data construction from primary and secondary information. These types of evidence, which can be classified as either “Proximate” (i.e., direct) or “Mediate” (i.e., indirect), are based on two contrasting relationships between the observer and observed (Scott, 1990). In the proximate relationship, access by the observer exists whereby the observer and the source material exist contemporaneously, while in the mediate type, access is present where past behaviour must be inferred from material derived from a different time and space (Scott, 1990).

An example of the proximate access is using interviewing in an interactional stance, whereby the observer (i.e. interviewer) questions interviewees (i.e. respondents) in order to elicit responses relevant to the research (contemporary views on the topic of

market risk management in Islamic finance, for example). Mediate access, on the other hand, can be related to documentary analysis in that the evidence has already become fixed in the documentary material form. The observer, in the mediate access case, has no direct access to the situation in the past when the information was produced, which makes documentary analysis, even if it involves conjectures in interpretation, preferable in these circumstances.

The material itself, irrespective of its source (primary or secondary) or its relationship to the observer, was subject to a certain set of criteria that sought to ensure its quality, which, in turn, is expected to positively contribute to the value of knowledge generated by the thesis. To that end, Scott has rightly pointed to the fact that “the foundations of scientific research is the quality of the evidence for analysis” (Scott, 1990, p. 6) and has named four criteria that should be applied to ensure the quality of research materials. These include: authenticity, credibility, representativeness, and meaning (Scott, 1990) and shall be discussed specifically for documentary analysis and interviews below.

As mentioned earlier, documentary analysis, whether for fundamental or derived documents, is one of two methods used in the research process, with the other being interviews. The reason for the interest in documentary analysis is the utilization of documents as resources because the researcher was interested in the information the various documents contain in regards to the particular phenomena, concepts, theories, and issues that were not only present in the mind of the researcher at the onset of the research project, but also emerged as the data collection process evolved.

Prior to delving into the use of documentary analysis as a research method, it may be useful to define what a document is. A document can be defined as an artefact that has its central feature an inscribed text that contains information to a phenomena that is the focus of a particular study (Bailey, 1994; Scott, 1990). Langlois and Seignobos add a historical angle to this definition (particularly for derived documents), which is relevant in the overall context of the thesis, by stating that documents are: “traces which have been left by the thoughts and actions of men of former times” (Langlois,

Seignobos, & Berry, 1898, p. 17), and they contend that it is only through these traces that one can make account of and comprehend history.

Documentary analysis, as a practice, for its part, involves the examination of relevant and available documents in order to understand their substantive content and to illuminate their deeper meanings (Ritchie & Lewis, 2003). This is achieved through the analysis of the documents by means of some set of interpretative categories that are based on a theory that explains and reconstructs material (Cicourel, 1964). Further, it is crucial to undertake the handling of documents in a scientific manner that also considers the peculiarities of this type of research method (see section on data analysis techniques).

In terms of the criteria of quality in the context of documentary analysis, the thesis seeks to ensure that the four quality criteria are adhered to as recommended by Scott (1990) as well as Macdonald and Tipton (1993). First, authenticity is ascertained by verifying the soundness and authorship to determine how genuine a document is. This was done through the use of library and publishing house resources. Second, credibility is achieved by checking for sincerity and accuracy of the information contained in the respective documents, including any references associated with the imparted perspective, which is especially important in historical documentary analysis due to the significance of the temporal distance. Notably, in the realm of credibility, it is declared that the research follows Craig's assumption of: "all men have an equal right to be believed, unless the contrary has been established from elsewhere" (Craig, 1964, p. 5) rather than the "methodological distrust" approach as advocated by Langlois and Seignobos (1898) whereby the researcher is expected to distrust everything found in documents unless there is a good reason to believe them.

Third, representativeness is determined through the use of judgment in the use of documents with consideration to the representation of the available documents (especially in regards to diversity of opinions) in relation the totality of relevant documents. Finally, meaning of the documents is established by way of literal (surface) and interpretative (deeper) understanding that can be related to the

interpretivism in hermeneutics as discussed in the Research Philosophy Chapter (Chapter 2).

The literal meaning, particularly, is relatively challenging due to the need to decipher some of the documents (e.g., scripture) in their current linguistic form (i.e., Arabic) and religious character to a language that is familiar to the research community and eventual audience of the thesis. The interpretative understanding, for its part, as defined by Scott, is:

“[T]he end-product of a hermeneutic process in which the researcher relates the literal meanings to the contexts in which they were produced in order to assess the meaning of the text as a whole...At its simplest, interpretation requires an understanding of the particular definitions and recording practices adopted and of the genre and stylisation employed in the text. The particular way in which a concept was defined and applied in practice changes over time and from place to place, and the researcher must discover as much as possible about these changes” (Scott, 1990, p. 30).

This interpretative understanding, in a related fashion to the research philosophy, is therefore to be considered as a tentative and provisional judgment that may be constantly in need for revision and re-interpretation in light of new information, discoveries, or problems that may force the researcher to (re)appraise evidence (Cicourel, 1964; Scott, 1990). Further, the challenges posed by the literal and interpretative understanding also place limitation on the ability of the researcher to make inferences from the documents about matters which they do not directly describe or discuss in detail (Platt, 1981).

To reduce the effects of these challenges (which is also relevant to the interviewing method), the methodology employed in the research follows Denzin’s propositions of the three triangulations: data triangulation, investigator triangulation, and theory triangulation (Denzin, 1970). First, data triangulation refers to the use of data collected in a variety of locations as well as from different persons and collectivities. Second, investigator triangulation consists of the use of multiple, rather than single observers (i.e., respondent groups), of the same object. Third, theory triangulation is the use of multiple approaches or theories to generate categories for analysis in order to add depth (Denzin, 1970; Macdonald & Tipton, 1993).

Perhaps it may be appropriate prior to discussing the research method of interviewing in the thesis to highlight some of the strengths and weaknesses of documentary analysis as a method, which were elaborated by Bailey (1994). The strengths of documentary analysis, as discussed earlier in the mediate type evidence, are that it allows research into inaccessible subjects. Other strengths include its relatively low cost (if the material is geographically or electronically accessible) and higher quality if it meets the quality criteria. Weaknesses of documentary analysis, in contrast, include: potential biases in the way documents were written, incompleteness, unavailability, lack of standard format, and coding difficulties (more on that below in the data analysis section).

The second research method utilized in the thesis is interviewing, which can be defined as a process of social interaction between two, or more, people (Bailey, 1994; Cicourel, 1964). Interviewing is a useful method for the generation of primary information from respondents in that it elicits their views, thoughts, and beliefs regarding a particular subject matter.

Specifically, Ritchie and Lewis (2003) describe interviewing in a manner that is particularly amenable to the thesis' focus by stating that interviews:

“[P]rovide an opportunity for detailed investigation of people’s personal perspectives, for in-depth understanding of the personal context within which the research phenomena are located, and for very detailed subject coverage. They are also particularly well suited to research that requires an understanding of deeply rooted or delicate phenomena or responses to complex systems, processes or experiences because of the depth of focus and the opportunity they offer for clarification and detailed understanding” (Ritchie & Lewis, 2003, p. 36).

As for the quality criteria for the interviewing method, the interviewer, as opposed to a documentary researcher, has the capacity to increase the quality of the data generated from the interviews. This can be achieved by directly ascertaining the degree of authenticity and credibility of the interviewees and their statements as well as clarifying any literal and interpretative meanings. However, on the reverse side, it is also acknowledged that the results of the interviews may be weakened due to

biases, inconsistencies, inaccuracies, errors, and the social-desirability effect in the interviewer-interviewee relationship (Bailey, 1994; Hyman, 1954).

In addition to the issues discussed in the quality criteria for interviewing, it is also worthy to state some of the strengths and weaknesses of interviewing as a research method. For strengths, the flexibility and increased control provide the interviewer with an ability to achieve a higher response rate and greater completeness in addition to receiving responses to complex subjects (Bailey, 1994). Weaknesses, conversely, include increased costs (especially in geographically dispersed locations) and time as well as less anonymity of interviewees (to the interviewer), which may impact their responses (Bailey, 1994).

In terms of the collection and timing of data, following the recommendations by Gadamer (1989) in the Research Philosophy Chapter (Chapter 2), the thesis seeks to connect the past with the present (i.e., “fusion of horizons”), which are important in the topic of Islamic finance that should arguably combine contemporary economic theories and practices, the economic doctrine of the *Shari’a*, and pre-modern commercial practices that were influenced by religious convictions. This is articulated, in general terms, by Blaikie in that he states that: “when a researcher’s concerns are essentially in the present, it is usually necessary or desirable to locate the experiences of contemporary individuals, and social events and processes, in some kind of historical context. Therefore, research in the present may need to be linked to the past” (Blaikie, 2000, p. 230).

Blaikie’s (2000) views were also echoed by Mills in that he declared that without history, one cannot ask pertinent research questions let alone answer them (Mills, 1959). Specifically, he (Mills) believes that: “if we do not take into account the range [of past and present]...our statements cannot be empirically adequate...historical types, in short, are a very important part of what we are studying, they are also indispensable to our explanation of it”(Mills, 1959, p. 163). The “range” for Mills is quite important to avoid “shallow and misleading results” (Mills, 1959, p. 164). Thus, in essence, in order to comprehend the present, it is

important to avoid its portrayal as an autonomous creation and strive to link it to the past so as to understand how smaller units and larger structures interact (Mills, 1959).

For this, the research relies on “Objectified Communications” as defined by Goldthorpe, which are: “communications in some written form and, especially, ‘documents’ [emphasis added] of all kinds. Whatever their nature, it is these relics, and only these relics, that are the source of our knowledge about the past. Statements about the past - historical ‘facts’ - are inferences from the relics, and can have no other basis” (Goldthorpe, 1991, p. 213). However, in addition to their ability to provide historical facts, documents can also provide a view of contemporary knowledge on the subjects that relate to hedging by derivative instruments, in particular, and market risk management, in general, and are thus used in that regard in the thesis.

Therefore, in order to provide an economic and juridical basis for the research, an in-depth analysis of documentary resources was undertaken not only through the resources existing at the University of Edinburgh, but also in documentary knowledge centres such as the Library at the Islamic Development Bank in Jeddah, Saudi Arabia and the Knowledge Management Centre at INCEIF (The Global University in Islamic Finance) in Kuala Lumpur, Malaysia (see references at the end of the thesis).

Data collection through the interviewing method, for its part, focused on gathering information about the present, as well as views and beliefs about the past, from four sets of groups that were thought by the researcher to largely define and shape the Islamic finance industry through forty-one different interviews lasting approximately one hour with fifty-two individuals with notable roles in the Islamic finance industry and/or distinguished contribution on the topic market risk management and derivatives in Islamic finance (see appendix at the end of thesis with details on the respondents, locations, etc.).²⁸ The respondents in the four groups were short-listed

²⁸ Some interviews contained more than one respondent.

based on their presence in the four locations that were chosen for data collection (see below) and were subsequently approached through a request for interview primarily through e-mail followed by a telephone conversation in case of a long delay in response.

More specifically, the respondents comprised the following groups: 1) Practitioners (e.g., treasurers, risk managers, finance managers, rating agency staff, derivative exchange staff, etc.) who either implement or facilitate/encourage the implementation of market risk management policies; 2) *Shari'a* scholars, academics, and legal experts²⁹ who drive the policy formation in the Islamic finance industry; 3) Regulators (central bankers and standard-setting body staff) who instigate, modify, and oversee policies, in coordination with the second group, that affect the health of Islamic finance industry; and 4) Management consultants (particularly in the Islamic finance practice group) who support knowledge generation and utilization in the Islamic finance industry.

The choice of these groups emanates from the desire, as stated earlier, to complement documentary research with data, investigator, and theory triangulation in order to arrive at a more comprehensive understanding of the subject matter of the research as well as link the documentary resources to real world perspectives (including new and/or rarely discussed topics). More specifically, it was important to get evidence from a diverse set of groups who may hold different perspectives on the opportunities and challenges of the Islamic finance industry as well as unique views on the best manner to undertake market risk management by enterprises.

Interestingly, it should be mentioned that the views of the respondents have also broadened the scope of the research to include topics such as: interest rates and currency benchmarks (Chapter 7), accounting treatment (Chapter 7), and differences between speculation and gambling (Chapter 8), among others, that have hereto been

²⁹ These interviews included the main authors who have written on the subject matter. In addition, the inclusion of these three types of actors in the Islamic finance industry in one group is due to many duality in roles that exist within the three functions. That is, many academics and/or legal experts are also *Shari'a* scholars.

unattended to in the research on the subject matter of market risk management and derivative hedging instruments in Islamic finance.

Notably, this approach follows the argumentation for a wider participation in the generation of *Ijma'a* (consensus) within the Islamic finance industry in order to pursue policies that promote *Maslaha* (public interest) as was outlined in the previous chapter. For this, efforts were exerted in respondent selection to ensure not only diversity in background and roles in the Islamic finance industry (limited by the geographical locations as outlined below), but also opinions regarding market risk management, in general, and derivatives, in particular.

In terms of locations, the interviews were undertaken at major Islamic financial services hubs such as: Jeddah, Saudi Arabia; Manama, Bahrain; Dubai, United Arab Emirates; and Kuala Lumpur, Malaysia. The choice of those locations is a product of the recognition of their distinguished status by the researcher in the sphere of knowledge generation and policy making (e.g., academic and standard-setting institutions focusing on Islamic finance) as well as the depth of the Islamic finance sector within their respective jurisdictions for practical implementation of the relevant policies.

More specifically, for Jeddah, the presence of the Islamic Development Bank, the Islamic Research and Training Institute, Jeddah-based OIC Islamic Fiqh Academy and the Makkah-based Islamic Fiqh Academy, and King Abdul Aziz University (which has a renowned Islamic Economics Research Centre) within its vicinity demonstrated the need to include it as a location not only for interviews with experts on the subject matter of the research, but also as stated earlier as a location with an ample documentary research opportunity.

Bahrain, in turn, hosts the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) and the International Islamic Financial Market (IIFM) which, along with the IFSB below, have played central roles in the contribution to the discourse on market risk management and derivatives in Islamic

finance. Furthermore, the Central Bank of Bahrain is one of two main central banks (the other being Bank Negara Malaysia) which is recognized to drive the shaping of monetary regulation in the Islamic finance industry. Moreover, Ernst and Young as well as Deloitte have set up the headquarters for their Islamic finance practice in Bahrain; this is in addition to the industry's only dedicated rating agency (IIRA). In addition, Bahrain has a sizable Islamic banking practice, especially in the retail sphere and exchange related products (BMB, 2010).

As for Dubai, it, as opposed to Bahrain which tends to host regional and dedicated Islamic financial institutions, is known to host the Islamic banking windows of international banking institutions (Standard Chartered, HSBC, Barclays, Deutsche Bank, etc.) along with the a plethora of firms specializing in Islamic finance support services, especially in the legal and Islamic jurisprudence support spheres. Moreover, KPMG has placed its global Islamic finance practice group in Dubai.

Finally, for the choice of Malaysia, it hosts the Islamic Financial Services Board (IFSB) and the Bank Negara Malaysia (Central Bank of Malaysia), both of which are instrumental to the generation and supervision of policies in the Islamic finance industry. It is also home to key educational institutions, such as INCEIF and the International Islamic University of Malaysia, that contribute a wealth of knowledge to the field of Islamic finance both in terms of documentary research and academic expertise. Furthermore, Malaysia, in addition to having a large and diverse Islamic banking industry, is recognized as the global centre of the Islamic capital markets (BMB, 2010).³⁰ Notably, the undertaking of research activities in these four locations is not intended to provide research that is cross-sectional in nature. Rather, as mentioned earlier, it is done with the objective of eliciting wider and more diverse data (documentary as well as interviews³¹).

In terms of interviews, which were semi-structured in nature that were designed based on topics that were deemed important by the researcher from the documentary analysis, the techniques used comprised the following: 1) open-ended questions; 2)

³⁰ In Malaysia, the researcher was invited as a Visiting Scholar at both INCEIF and IFSB.

³¹ In Arabic as well as English

probing, including neutral probes, in order to get respondents to answer more fully and accurately; and 3) focused questions, which provide flexibility and allow for unanticipated answers (Bailey, 1994, p. 189). Furthermore, a model interview procedure was undertaken that mirrors that advocated by Hyman (1954), which attempt to strike a balance between validity and reliability. Essentially, while standardization promotes reliability of the interviews, they may negatively affect their validity which depends on greater freedom in interviewing.

As for the data analysis techniques for the qualitative research similar to the type contained in the thesis, particularly the derivation of comprehension of the information contained in documents and interviews, it is acknowledged that there are a few methods that are available to researchers such as analytic induction and grounded theory (Blaikie, 2000, pp. 236-241), with various software packages to aid in the process including: NVivo, Xsight, ATLAS.ti, and others.

With that, it was decided to adopt the grounded theory methodology for data analysis since it was deemed to be more appropriate for the following reasons: Firstly, the scope of the subject matter of the research, especially in its interweaving of religious and economic concepts with temporal contextualization required that the data “speak first” and that the conceptualization and theorization follow to put the data into perspective. Secondly, the nature of the data collected whether in terms of interviews with predominately Muslim respondents or documentary resources (particularly the Quran and *Ahadith*) required that the listening to the data occur without, as much as possible, any pre-conceived notions.

The appropriateness of the grounded research methodology for some types of research is corroborated by the writing of many of its advocates (Dey, 1993; Glaser & Strauss, 1967; Turner, 1981). In particular, Glaser and Strauss state:

“Generating a theory from data means that most hypotheses and concepts not only come from the data, but are systematically worked out in relation to the data during the course of the research. *Generating a theory involves a process of research* [sic]. By contrast, the *source* [sic] of certain ideas, or even ‘models,’ can come from sources other than the data...But the generation of theory from such insights much then be brought into relation to the data, or there is great danger that theory and empirical world will mismatch” (Glaser & Strauss, 1967, p. 6).

In terms of implementing the grounded theory methodology, Turner (1981), has systemized grounded theory into a research process containing nine stages that commences with the collection of data and moves on to developing categories that become saturated with specific knowledge. In due course, deep theoretical reflection is attained thereby further refining the categories and leading to the emergence of relationships between the categories. A general theoretical framework is eventually developed along with perhaps an appropriate hypothesis. Finally, the developed theoretical framework is contextualized with the other relevant theoretical frameworks on the subject matter with possibly some tests of validity being undertaken to ascertain the appropriateness of the grounded theory (Blaikie, 2000, pp. 238-239; Bryman, 1988, pp. 83-84; Turner, 1981).

With that, it may be stated at this stage that the data analysis within the structure of grounded theory utilized in the research entailed coding and classification. Coding involved the use of a collection of data points as concepts that were created in the course of the research to build categories; this was done in two stages that followed the approach elaborated by Blaikie (2000) and Dey (1993). The first stage, known as open coding, concentrated on breaking the data down into categories and sub-categories; in the second stage, known as axial coding, relationships (regularities, variations, and singularities) between the concepts were sought in a manner that brings a fuller understanding of the subject matter (Blaikie, 2000, p. 239; Dey, 1993, pp. 44-45).

More specifically, in the course of the research, core themes were established, in the form of chapters broadly being: philosophy of truth (Chapter 2), market risk management (Chapter 4), nature and economics of conventional derivatives (Chapter 5), conceptualization of derivatives in Islamic finance (Chapter 6), issues with monetary underlying variables (Chapter 7), and gambling (Chapter 8). The aforementioned chapter groupings were a product of coding and classification of data along with a descriptive narrative constructed about it that included sub-categories in the form of sections (e.g., theories of truth, risk strategy, economics of derivatives,

resolutions by Standard-setting bodies, interest rate benchmarks, zero-sum prohibitions, etc.). That is, particular groups of codes with similar classification traits were organized and amalgamated with the argumentation by the researcher in order to enlighten the discourse on the subject matter.

In terms of the actual undertaking of the coding and classification, this is usually done, as Bailey stated, through one of two main means: the relatively unstructured approach and the structured content analysis approach that produces quantitative data from documents (Bailey, 1994). In effect, the unstructured approach allows the researcher to delineate their points through examples and rational argumentation that are chosen to illustrate the different types of taxonomies or some theoretical points (Bailey, 1994, p. 301).

Content analysis, for its part, is a highly structured technique that takes verbal, non-quantitative documents and transforms them, with the assistance of some of the aforementioned software packages, into quantitative data that is usually presented in a format that examines relationships (Bailey, 1994, p. 304). Eventually, and with whichever approach utilized, the categories are classified by not only creating new categories, but also assigning categories to data as well as merging and splitting categories (Blaikie, 2000; Dey, 1993).

Notably, in the course of the research undertaking, the nature of the data and evidence to be collected, which are mainly through documentary analysis and interviews, were inclined to impress the usage of the unstructured data analysis approach rather than the structured content-analysis. This was due to the following reasons: Firstly, content analysis in religious matters requires a special level of awareness of the information that the respondent (in the case of interviews) is trying to communicate. For as elaborated by Berelson: “content analysis is ordinarily limited to the manifest content of the communication and is not normally done directly in terms of the latent intentions which the content may express nor the latent responses which it may elicit. Strictly speaking, content analysis proceeds in terms

of what-is-said, and not in terms of why-the-content-is-like-that (e.g., ‘motives’) or how-people-react (e.g., ‘appeals’ or ‘responses’)”(Berelson, 1952, p. 16).

The above statement by Berelson was actually self-evident in how some of the respondents in the interviews communicated their thoughts.³² For on the one hand, some of the respondents were aware of the restrictions placed on the usage of derivative hedging instruments and were cognizant of constantly-communicated associations between those restrictions and the actual prohibitions in the scripture. However, on the other hand, some of the same respondents were aware of the legitimacy of the needs by the hedging community. Consequently, there was a needed contextualization of the various opinions in the interviews (and to a certain extent in the literature) within the situation in which they belong.

Secondly, in the cases of the utilization of documentary analysis and interviews in the thesis as research methods, which contain not an insignificant amount of data in the Arabic language, content analysis did pose many challenges. This was recognized by Bailey when he noted that coding in content analysis can be made difficult due to: “differences in purposes for which the documents were written, differences in content or subject matter, lack of standardization, and differences in length and format” (Bailey, 1994, p. 296).

In particular, within the interviewing data collection methodology, especially in the context of the interviewing tools intended to be used in the research process, content analysis, it has been argued, produces information that lacks reliability and validity because of the traditional rules of interpretation that are practiced by the interviewer (Cicourel, 1964). Further, the researcher was aware of the difficulty of assuming that they will have identical interviews with identical questions and responses, especially when the subject matter involves religious beliefs that are centred on the interpretation of the scripture.

³² This, one may conjecture, also existed in how some of the literature on the subject matter was elaborated.

Section III: Ethics

Ethics are an important part of any research and can take many forms. These range from issues of “ethical neutrality” in the utilization and analysis of research methods to how researchers deal with research participants and finally to the quality of the research itself.

To begin with, it is understood that the researcher is expected to display ethical neutrality throughout the research process in that they display objectivity in data collection and analysis regardless of personal feelings and beliefs, especially in relation to social sciences (Bailey, 1994). For as stated by Bierstedt, it is a “*categorical* [sic], not a *normative* [sic], discipline; that is, it confines itself to statements about what is, not should be or ought to be” (Bierstedt, 1957, p. 11).

With the foregoing, it is affirmed that the research strategy along with the utilization of research methods were undertaken in an ethical manner. In particular, the use of documents and interviews was done in a manner that seeks to limit any potential biases, inaccuracies, and errors (deliberate or otherwise). These may take the form of presenting incomplete facts or stating them in a setting that is out of context, falsifying findings, and offering misleading presentations (Bailey, 1994).

In dealing directly with research participants, such as during interviews as part of the research, the researcher conducted themselves in an honest, sensitive, and responsible manner as they set out to undertake information gathering. Furthermore, transparency with the participants, as a key part of the research process, was considered instrumental and was consequently a central piece of the discussion. For as stated by Dale: “both qualitative and quantitative commentators identify transparency as fundamental to good research practice and, without this, further quality assessment cannot take place” (Dale, 2006, p. 79).

Transparency, which establishes a more equal relationship between the researcher and the research participants, included: 1) A presentation of the researcher and his credentials as well as the procedures to be followed in the interview; 2) A fair

explanation, in a form that is manageable and meaningful to the participants, of the purposes of the research and its potential benefit to the Islamic finance industry; 3) An assurance that any information received from the participant shall be handled in a manner that conserves the anonymity and privacy of the research participant, unless given explicit consent to be identified;³³ 4) An offer that the researcher will be available to answer any questions at any time (even after the interview); and 5) An agreement that the participant may withdraw from the interview at any time at his/her discretion (Bailey, 1994; Crow et al., 2006; Haggerty, 2004).

Finally, in terms of the ethical consideration that relate to the quality of research, Gorard advances the proposition that: “poor research leading to indefinite answers tends to be unethical in nature, while good trustworthy research tends to be more ethical. Poor research wastes time, at the least, of the participants, but perhaps particularly unethical from the point of view of those outside the research situation” (Gorard, 2002, p. 1).

Conclusion

The success of any research endeavour rests upon the proper planning and execution of the research design and methodology. Building on the Research Philosophy Chapter (Chapter 2), this chapter outlined the kind of research (explanatory with elements of descriptiveness and exploration) that was undertaken and the deductive research strategy that was employed.

It also outlined the reasoning behind the choice of the qualitative nature of the chosen research methods (i.e., documentary research and interviews), the actual undertaking of the data collection, and the type of information that was generated. Furthermore, this chapter also detailed the criteria that were adhered to in order to ensure that the information generated is of superior quality and derived with high ethical standards.

³³ The information generated from the interviews was labelled as given by a “respondent,” and where appropriate the particular group (and in some instances function) was indicated.

Chapter Four: Market Risks and Their Management

Introduction

The earlier chapter on the research philosophy (Chapter 2) presented detailed argumentation that delineated a position that one must be humble with their epistemological stances that emerge throughout the interpretation of the religious scripture (in this case Islamic scripture). This, it has been shown, is due to the many difficulties that exist in developing a proper understanding of the objective truth (that does exist), not the least of which are linguistic, circumstantial, and temporal challenges. In fact, with particular reference to Islam, it can be contented that the advocated humility in interpreting the religious scripture is inherent in Islamic thought with its conjecture-related Islamic theories of *Ijma'a* (consensus), *Qiyas* (analogical reasoning), and *Maslaha* (public interest).

The commencement of the examination of the topic of market risk management and derivatives in Islamic finance will begin in this chapter and will continue in the coming ones. Specifically, this chapter will delve into the types of market risks faced by contemporary real sector entities (and the financial institutions that support their operations), the modern risk management framework, and the rationale behind the concept of hedging.

Throughout the chapter, particular emphasis will be given to the conceptualization of risk and risk management practices from the prevalent economic and Islamic juridical viewpoints. These include the many propositions that often circulate in the Islamic finance discourse and those that have been communicated by the respondents during the interviews. Notably, the examination will be undertaken within the purview of some of the aforementioned Islamic theories, not least of which is the theory of *Maslaha*.

The primary purpose of this examination can be thought of as being of three parts: Firstly, it seeks to contribute to the development of a broader understanding in Islamic finance circles on what is inherently an economic subject matter, which

should, in turn, instigate an enlargement of the current dialogue that is almost entirely centred in the legal sphere with a particular focus on contractual forms. Secondly, it strives to address the belief, which was shared by some of the respondents, that participants in the Islamic finance industry should accept that Islam is more tolerant of risks in order to get the benefit of full reward. Finally, it attempts to demonstrate that any gaps that may exist currently in the implementation of sound risk management policies is not due to the nature of how Islamic jurisprudence views risk management.

The following chapters, for their part, will probe the derivative instruments and their markets from both the conventional and Islamic perspectives.

Section I: Risk and Its Management

Risk and its rationalization has been an integral part of human intellectual formation regarding the essence and prospect of existence on earth. In his seminal book on risk, Bernstein proclaimed that risk “touches the most profound aspects of psychology³⁴, mathematics, statistics, and history” (Bernstein, 1996, p. ix). Thus, in order to appreciate risk and its deep effect on human behaviour, one would have to understand precisely the multifarious conceptualization of risk and how it is perceived by those who face it.

One can start with the assertion that the substance of risk is the uncertainty about an exposure that is related to the nature, occurrence, and the extent of events that affect human beings in a future time period. Notably, while it is acknowledged that risk is usually defined as a probability of loss and exposure is thought of as the possibility of loss (Horcher, 2005, pp. 1-2), the discussion in this and the coming chapters will use those two terms interchangeably. With that, the aforementioned uncertainty can, for the faithful, be perceived as belonging to the sphere of divine determinism or

³⁴ In the context of the subject matter it is assumed that psychology includes religious convictions

human active engagement (or an integrated conceptualization of these factors), depending on the principles and beliefs of the potentially affected parties.³⁵

In Islam, the presence of uncertainty is fundamental to human existence as evidenced by the divine words in the Quran stating: “Indeed, Allah [alone] has knowledge of the Hour and sends down the rains and knows what is in the wombs. And no soul perceives what it will earn tomorrow, and no soul perceives in what land it will die. Indeed, Allah is Knowing and Acquainted.” (Quran, 31:34) In fact, for Muslims, the dependence on God for their daily personal and commercial affairs is so profound that it may be ostensible more often than not that any reference to the future is invariably associated with the term *Inshallah* (God willing) to demonstrate *Tawakul* (reliance on God).

The importance of *Tawakul* itself in Islam is quite apparent with the multiple references about the concept in the Quran³⁶ and *Ahadith*.³⁷ However, with that in mind, there is also ample evidence in Islamic thought to support the distinction between lethargic passivity in the face of uncertainty regarding the future and the protection of wealth as part of the five essential elements (i.e., *Al-Durariyat Al-Khamsa*) as advocated by Al-Ghazali (Al-Ghazali, 1993a). Specifically, in Islam, it is pronounced that, in commercial settings, one should undertake the necessary means to protect their wealth from the various risks that may negatively affect it (El-Gari, 1993).

For this, *Shari'a* scholars have widely recognized, and have indeed promoted the proposition, that human welfare, in addition to being dependent on a faith in God in enabling the appropriate outcome³⁸, is a product of a constructive work ethic, which includes proactive risk management, as part of the Islamic doctrine of *Al-Akhdh Bel-Asbab* (i.e., pursuing the legitimate means to reach desired ends). Moreover, Islamic jurisprudence has advocated a risk-return economic rationality with the

³⁵ For those with no particular faith inclinations, it could be conceived that the risk belongs to random chance and/or human active engagement.

³⁶ Quran, 3:173; 8:2; 14:11-12; 25:58; 27:79; 60:4; 64:13; 65:3; 67:29

³⁷ Bukhari and Muslim

³⁸ Quran, 3:159; 4:81; 5:23; 8:61; 11:88 as well as *Ahadith* narrated by Tirmidhi and Muslim

institutionalization of the axiom *Alghonom Bialghorom* (“The gain is with the loss”)³⁹ which, it has been contended, dictates the importance of the inseparability of risk and return for sustainable wealth generation (Al-Suwailem, 2006; Khan & Ahmed, 2001). In particular, it has been established in Islamic jurisprudence that any return without the assumption of risk is an illegitimate return (Al-Shubaili, 2012, p. 40).

Moving beyond Islamic thought, modern economic theory is particularly cognizant of the importance of risk and its management for economic progress. Marshall, in his *Principles of Economics*, stated that “when a trader or a manufacturer buys anything to be used in production, or be sold again, his demand is based on his anticipations of the profits which he can derive from it. These profits depend at any time on speculative risks and other causes” (Marshall, 1910, p. 92). Knight’s groundbreaking work *Risk, Uncertainty, and Profit* is dedicated to the exploration of the subject matter as given in the title (Knight, 1921). Nobel laureate Kenneth Arrow, for his part, affirmed the significance of risk in that he stated that modern-day institutions are shaped by its existence, which within itself is a result of the search of profit (Arrow, 1951, p. 408).

With that overview into the conceptualization of risk and risk management in Islamic jurisprudence and economic thought one could proceed to the specifics that surround its management, which can be discerned to depend largely on three core elements: identification, measurement, and strategy (Hopkin, 2012). Notably, the elaboration of these core elements of risk management is significant because it has been communicated by some of the respondents, especially in the consultants and practitioners group, that the implementation of the risk management best practices in the Islamic finance industry is not optimal. In particular, for some in the practitioners group, there was concern that the risk management objectives lack precision in terms of risk management strategies and the scope of tools to implement these strategies. This has been also confirmed in a recent survey by Deloitte that showed that 64 per cent of Islamic finance leaders surveyed agree that Islamic finance institutions are

³⁹ Literal translation by the author. The concept proposes that the generation of profits is a function of the potential for withstanding losses.

lagging behind in the implementation of risk management systems (Deloitte, 2010, p. 15).

Section II: Risk Identification

Identification, as the first element of risk management, concerns the formulation of the types of risks facing a particular organization, which can be classified as either core or noncore risks (Chance & Brooks, 2010; Culp, 2004; Emery, 1900; Gastineau, Smith, & Todd, 2001; Marshall, 1910). Specifically, Culp clarifies that classification by stating that:

“The core risks facing a firm may be defined as those risks that the firm is in business to bear and manage so that it can earn excess economic profits. Noncore risks, by contrast, are risks to which a firm’s primary business exposes it but that the firm does not necessarily need to retain in order to engage in its primary business line. The firm may well be exposed to noncore risks, but it may not wish to remain exposed to those risks. Core risks, by contrast, are those risks the firm is literally in business not to get rid of – at least not all of them. The distinction between core and noncore risk is entirely subjective and varies firm by firm. What is core risk for one firm may not be for another one, even when the companies are in the same sector and industry. The classification of a risk as core by any given firm, moreover, depends not just on the quality of information the firm actually has, but also on the firm’s perceived comparative advantage in digesting that information” (Culp, 2004, p. 27).⁴⁰

The classification of risks into core risks that are related to the main production/service, or simply the *raison d’être*, of an enterprise and others as non-core is important because it is often contested, explicitly or implicitly, by some *Shari’a* scholars and commentators in the discourse on the topic of risk management in general and derivatives in particular, that the inseparability of risk and return signifies that those who are not willing to accept *all* risks (core and non-core) in the business world are not worthy of the profits generated. This was also observed in the opinions of some of the respondents (particularly in the practitioner group as well as the academics, scholars, and legal experts group).

Thus, in the realm of Islamic finance, Culp’s differentiation between core and non-core risk, and the earlier stated general conceptualization of risk, can be thought of as

⁴⁰ The reference to excess economic profit for core risks denotes an incentive to assume wealth generating activities that undoubtedly entail an assumption of risk.

going perhaps one step beyond Al-Suwailem's assertions that no economic growth can take place without taking risks (Al-Suwailem, 2006). In essence, in accepting that risk is both a precursor to and a product of economic progress, it could be logically argued that one can distinguish between the risks that are endogenous, and to a certain extent controllable, to the enterprise, in that they arise from the uncertainty of future income due to changing consumer tastes and market competition as well as the effectiveness and efficiency of profit/cost centres, and those uncontrollable exogenous risks that are purely within the realm of the randomness of the financial markets. Furthermore, within the context of the distinction in the nature of risk, it is also crucial to take note of Culp's observation regarding the subjectivity in the classification of the risks existing in the global marketplace to the various enterprises exposed to them.

To illustrate, an airline is in business of transporting people from one destination to another. It has to consider its route network, airline fleet, quality of customer service, competition, partnerships/code shares, cost structure, among many other core business variables that fall largely under its control. The volatility in the costs of fuel and exchange rates, which are mostly independent to its decision capability, can exert enormous pressures on profitability and in some cases may result in swift bankruptcies no matter how well it manages its core risks (e.g., Laker Airways and Continental Airlines) (Bernstein, 1996; Chance & Brooks, 2010).

Similarly, a bank's, whether conventional or Islamic, existence is arguably a result of its focus on managing the credit risks associated with the extension of financing in order to ensure the soundness of its capital base to its depositors. In undertaking that function, it is exposed to multiple mismatches between its assets and liabilities due to the different preferences (tenor, fixed/floating, currency, etc.) of depositors and borrowers⁴¹ (Heffernan, 1996). In the management of these mismatches, the exogenous market risks have been shown to have a severe impact on banking

⁴¹ Borrowers seek financing that meets the expected returns of an investment while depositors traditionally seek a shorter timeline for their deposits within banking institutions. For Islamic banks, the theory of Islamic investment accounts is not matched by the current banking practices of Islamic banks which offer banking products economically equivalent to their conventional counterparts.

institutions and if systemic can threaten an entire banking system (e.g., savings and loans crisis in the United States in the early 1980s) even if proper due diligence on the borrowers and their financing need is undertaken.

Therefore, due to the significance of the market risks, as non-core risk exposures, on the financial health of companies in the real sector (and banking institutions that facilitate their existence), the remainder of the research will concentrate chiefly on them. With that focus in mind, it may be appropriate to start with the elaboration of the concept of market risk.

Market risk can be thought of as being the potential loss arising from unexpected changes in market prices (e.g., commodities and equities) and market rates (e.g., interest and foreign exchange rates) (Dowd, 2005, p. 1).⁴² In the realm of Islamic finance, the Islamic Financial Services Board (IFSB) specifically defines market risk as:

“[T]he risk of losses in on- and off-balance sheet positions arising from movements in market prices i.e. fluctuations in values in tradable, marketable or leaseable [*sic*] assets (including sukūk) and in off-balance sheet individual portfolios (for example restricted investment accounts). The risks relate to the current and future volatility of market values of specific assets (for example, the commodity price of a Salam asset, the market value of a sukūk, the market value of Murābahah assets purchased to be delivered over a specific period) and of foreign exchange rates” (IFSB, 2005, p. 16).

With that definition, it is perhaps important to provide some detail regarding the exogenous market risks that businesses, in hedging contexts, are endeavouring to pre-emptively avoid.⁴³ The first market risk to be examined is interest rate risk, which can be defined as: “interest rate mismatches in both the volume and maturity of interest-sensitive assets, liabilities, and off-balance sheet items” (Heffernan, 1996, p. 167). This particular type of market risk has gained prominence in the period after the fall of the stable, yet economically unsustainable⁴⁴, Bretton Woods monetary system in the 1970s due to the increased intensity of the inflation pressures and the

⁴² For the purposes of the research, equity price risk will not be discussed since it is mainly related to capital market investments as opposed to operations in the real economy. It is, however, acknowledged that equity price risk is present in balance sheet exposures as has been communicated by some practitioners.

⁴³ Hedging is characteristic of actions taken to reduce risks (Gastineau, Smith, & Todd, 2001, p. 3).

⁴⁴ Due to varying levels of economic growth and inflation rates around the world.

subsequent alterations in the monetary policies of central banks to contain it (Catania & Alonzi, 1997; Cox, Ingersoll, & Ross, 1980). Apart from inflation and monetary policies, the interest rate movements are also influenced by the general economic conditions, foreign exchange market activity, foreign investor demand for debt securities, levels of sovereign debt outstanding, and financial and political stability (Horcher, 2005, p. 8).

Notably, while interest rate risk affects all institutions, it affects banking institutions the most due to the nature of their assets (loans, investments, etc.) and liabilities (deposits). Specifically, banks are influenced by interest rates (e.g., treasury rates and LIBOR) changes by virtue of: their exposure to variations in the pricing and valuation of their financial asset and liabilities, the consequences of their extension of financing, and their measurement of performance relative to a commonly understood benchmark. Interestingly, the influence of interest rates is equally powerful to the Islamic finance industry, as it was confirmed by some of the practitioners (e.g., accountants and treasurers) that not an insignificant portion of the assets on the balance sheets of Islamic banks are recorded on a mark-to-market basis that is derived from the usage of net present value (NPV) and the interest rate yield curve.

All of these factors, in turn, influence the earnings and economic value of banking institutions (BIS, 2004) as well as the overall health of the real economy insofar as a major source of financing to companies in the real sector comes from banks. That is to say, the importance of interest rate risk on the real economy is partly a factor of the reduction in the lending capacity by banking institutions to deserving borrowers due to the concern in the management of the exposure to this type of market risk which has become more volatile in the recent decades.

Notably, as alluded to above, this type of risk exists in the Islamic banking sector despite the low level of acknowledgement of the dangers posed by interest rate movements by some of the respondents in the academics, *Shari'a* scholars and legal experts as well as the practitioners and regulators groups. The common reasons

stated by them are: 1) The Islamic finance industry is different from the conventional finance industry in terms of interest rate exposure, 2) Islamic banks have sufficient reserves and liquidity to withstand losses, 3) Islamic banks have better matching abilities of assets and liability management, and 4) Stable interest rate environment in the key markets of Islamic finance in recent years (e.g., GCC and Malaysia).⁴⁵

Notwithstanding the aforementioned opinions by some of the respondents, Islamic banks, despite the prohibition on *Riba* (usury) on their financing operations, have not been immune to the influence of interest rates (aka “mark-up rates” or “benchmark rates”). In fact, there are numerous notable writers, and many of the respondents across the four groups, who have demonstrated that the Islamic finance industry is affected by interest rate volatility and will undoubtedly be affected to a greater extent in the future as the industry expands in terms of product range and geographical reach (Dusuki, 2009).

To illustrate, a study by Khan and Ahmed (2001) demonstrated that rate of return risk (i.e., interest rate risk) is the most critical risk facing Islamic financial institutions; this was confirmed in subsequent empirical examinations on the subject matter in the banking industry (Bacha, 2004a; Kasri & Kassim, 2009). In fact, the definition of market risk provided by the IFSB, as cited above, and the AAOIFI⁴⁶ *Shari’a* Standard No. 27 (AAOIFI, 2010), which accepts the usage of LIBOR as a benchmarking index, along with discourse on the topic in the Islamic economic literature (Chapra & Khan, 2000, p. 54; Khan & Ahmed, 2001, p. 145) is but a simple recognition of that reality.

Indeed, characterizing Islamic banks as being more interest rate sensitive than their conventional counterparts may not be an inaccurate statement and has been increasingly supported in the Islamic finance literature (Bacha, 2004a; How, Karim, & Verhoeven, 2005; Rosly, 1999). This is because the majority of the assets of

⁴⁵ It is implicitly assumed by those respondents that the stable interest rate environment will be extended indefinitely into the future. The GCC refers to the Gulf Cooperation Council, which includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and UAE.

⁴⁶ Accounting and Auditing Organization for Islamic Financial Institutions

Islamic banks are fixed-rate in nature (BMB, 2010), such as the *Murabaha* (instalment sale) and *Istisna'a* (commission to manufacture) modes of financing, and extend traditionally to tenors that are on the longer-end of the maturity scale in order to suit borrowers in the real sector who, in turn, are seeking to structure their own liabilities with the commensurate cash flows that are expected to be derived from their operations. Moreover, the inability of Islamic banks to impose prepayment penalties in periods of lower interest rates, despite being a competitive trait of fairer banking practices, further exacerbates their interest rate risk management challenges.

On the other hand, the liabilities of Islamic banking institutions are mostly shorter-term “investment accounts” (e.g., deposits) that must provide competitive, mostly variable, rates that are market sensitive to meet the expectations of their investment account holders or face what is called in the industry Displaced Commercial Risk (DCR). This particular type of risk is essentially the danger that the Islamic bank will have to forgo profit in order to ensure the payment of a competitive rate of return on its liabilities, mainly through a Profit Equalization Reserve (Archer & Karim, 2007; IFSB, 2005; Khan & Ahmed, 2001).

In stressing the challenges posed by this liability structure, Moody's has cautioned that DCR should be properly considered by the Islamic banking industry since in the event that the payments to the investment account holders do not meet their expectations there is always the prospect of the withdrawal of investments which has the rather serious potential of affecting the bank's liquidity position and ultimately its solvency (Moody's, 2010).

Thus, it appears that the arguments by some writers advocating the position that the lack of pre-agreed return on deposits in Islamic finance reduces exposure to interest rate risk may not be completely exact (Greuning & Iqbal, 2008, p. 159). On the contrary, it may be estimated that the ambiguity imposed by the structure of the payoff to the investment accounts along with the presence of the DCR (and a finite profit equalization reserve) can cause a vague perception of the nature of risk-return trade off by the investment account holders. This, in turn, could result in overly

optimistic expectations that if unmet can result in an increase in the DCR and, in extreme circumstances, ultimately lead to bank failures.⁴⁷

Interestingly, Khan and Ahmed (2001) also introduce a fiduciary risk element associated with the expectations of investment account holders in that they may feel that the Islamic bank is mismanaging the funds under its control if the expected returns (however they are defined by the individual depositor/investor) are not attained (Khan & Ahmed, 2001, p. 55).

Notwithstanding the aforementioned viewpoints, it should be stated that the mostly juristic theoretical aspirations of having the Islamic banking assets in illiquid private equity-like, or even liquid mutual funds, *Musharaka* (profit sharing agreement) in addition to agency-type *Wakala* and *Mudharaba* financing arrangements along with units of these “investments” given to investors/depositors on the liability side in a bid to eliminate interest rates (and their exposure) from society are not realistic within the framework of current economic theories and does not propose new theories as such (Khan & Mirakhor, 1994).⁴⁸

This is simply because these ambitions do not appear to factor in the economic foundations behind the market segmentation theory, which is based on the liquidity and risk/return preferences of capital providers (i.e., depositors/investors). The challenges posed by the presence of asymmetry of information, monitoring costs, and the principal-agent problems, especially in cross-border investments,⁴⁹ only serve to further exacerbate the potential for the attainment of these aspirations. Similarly, it is not entirely understood how, from an economic sense, the DCR and the associated profit equalization reserve can be more efficient and value-creating, as advanced by

⁴⁷ An investor in a mutual fund or a private equity investment traditionally has higher return expectations than a regular depositor in a banking institution. Also, the inclusion of equities to the mix of financing by Islamic banks is expected to contribute to the higher expectations due to the increased uncertainty regarding the payoff.

⁴⁸ This also relates to a comment by one of the academics in the interviews that the problems of risk management in the Islamic finance industry are due to Islamic banks not following the Islamic finance theory in their practices.

⁴⁹ Interestingly, the objective of many in the Islamic finance industry is the mobilization of resource for cross border investment in the Muslim world.

some commentators, than the tiered capital in traditional banking institutions, which is affected by the interest rate exposures (Archer & Karim, 2006).

The second type of market risk to be discussed is the foreign exchange risk. For this, it may be appropriate to start with a famous quote by John Stuart Mill, in reference to the subject of foreign exchange, whereby he stated: “so much barbarism, however, still remains in the transactions of most civilized nations, that almost all independent countries choose to assert their nationality by having, to their own inconvenience and that of their neighbours, a peculiar currency of their own” (Mill, 1848, p. 155). The “inconvenience” alluded to by Mill in the mid-nineteenth century, which did not exist under the relatively fixed bi-metallic monetary (gold and silver) system in seventh century Arabia⁵⁰, has developed into a full-fledged hazard with the breakdown of the quasi-fixed exchange rate system under the Bretton Woods agreements in 1971, and later under limited float system of the transient Smithsonian accord (1971-1973), which ushered in the floating exchange rate regime and all associated uncertainties.

In the real economic sectors, this threat is especially apparent in the modern era of globalization in which inputs, including labour for the service sector, are increasingly being sourced from international suppliers in an ever dynamic process of searching for improved quality and economies of scale. Consequently, the inputs are then manufactured and then sold through an international sales network to customers around the world.

To refer back to the core competency of enterprises outlined earlier, a particular company with enough foresight has a relatively high degree of control over its domain (suppliers, employees, production, R&D, innovation, etc.) in the whole input to production to sales process. However, what it does not control is the expected covariance between its home currency and those multiple currencies that it must be exposed to in the discharge of that core competency. Along the same lines, in the investment sphere, the exchange rate risk can prove to be an obstacle to cross-border

⁵⁰ Chapra and Khan (2000) state that the exchange rates during the times of the Prophet (PBUH) between gold and silver were stable at around 10 to 1.

investments in that it can inhibit investments by regions with surplus funds (e.g., the GCC) to fund deficient regions (e.g., emerging markets) that may host superior investment potential (probably medium to long-term).

In spite of the above, there does appear to be some underestimation of the foreign exchange risks by some of respondents in the practitioners and regulators group, mainly in the GCC, which can be conjectured to be due to the pegged value between the currencies in the GCC and the United States Dollar.⁵¹ Conversely, in Malaysia, there appears to be a wider recognition of the risk associated with foreign currency exposures by some of the practitioners and regulators group of respondents which is likely to be due to the experiencing of the high volatility of the Malaysian Ringgit during the East Asian Financial Crisis in 1997-1998 and the recent appreciation in value in the years that followed the depegging of the Malaysian Ringgit from the United States Dollar in July, 2005.⁵²

Interestingly and in response to the incidence of the underestimation of currency risks in the GCC markets, Deloitte in a recent survey has found that nearly half of Islamic Financial Institutions (IFIs) hold investments in the GCC region between 41% and 100% of their overall portfolio (Deloitte, 2010, p. 25). This, it could be argued, is partly a result of the perception of increased riskiness of investing in wider markets, which may not be mitigated in the current risk management policies in the Islamic finance industry.

For the Islamic finance industry, the recognition of the reality imposed by the nature of the foreign exchange risks may have been a factor in the elaboration of the following statement by the IFSB in its *Guiding Principles of Risk Management*: “[Islamic financial institutions] are also exposed to foreign exchange fluctuations arising from general FX spot rate changes in both cross-border transactions and the resultant foreign currency receivables and payables. These exposures may be hedged using *Shari`ah* compliant methods” (IFSB, 2005, p. 16).

⁵¹ Kuwait has its currency pegged to a basket of currencies where it is estimated that the US Dollar is dominant.

⁵² The Malaysian Ringgit was pegged to the United States Dollar from September, 1998 to July, 2005.

Having discussed the effects of foreign exchange rate volatility and prior to moving to commodity price risk, it is perhaps valuable to shed some light on the specifics that determine the foreign exchange rates in the financial markets, which should add further credence to the argument that this type of risk is non-core in nature and ought not, therefore, be forced upon companies operating in the real sector (in some sort of bid to comply with the rules of the *Shari'a*) unless they choose to do so based on detailed analysis as part of their risk management framework.

Foreign exchange rates are determined by the various levels of supply and demand in the financial markets for currencies. The supply and demand of currencies, in turn, are a function of the interest rate differentials between countries net of expected inflation, balance of payments as determined by international capital and trade flows, macro-economic fundamentals (e.g., GDP growth rates), investor sentiment, financial and political stability, monetary policies of the central bank, and debt levels (Horcher, 2005). In effect, the foreign exchange rate at any given time is the equilibrium of the supply and demand forces as established by way of the analysis of the various economic and financial indicators outlined above by participants in the foreign exchange markets (Jacque, 1981).

Commodity price risk, the final market risk to be examined, is of particular significance to an Islamic faith that places the creation of wealth as the result of the production of goods, including many commodities, in high regard. Apart from the religious admiration, the importance of commodities, and their associated risks, in the economic and financial affairs of Muslims is quite enormous. This is because: 1) The member-countries of the Organization of Islamic Cooperation provide a sizable amount of global commodities trade (petroleum, natural gas, wheat, palm oil, cereals, cocoa, etc.); and 2) As will be discussed in the Derivatives in Islamic Finance Chapter (Chapter 6), the current paradigm of Islamic finance is focused on the structuring of financial transactions around tradable commodities, even if unrelated to the original transaction.

Notwithstanding the above, in terms of pricing behaviour, in a manner similar to foreign exchange rate determination, the prices of commodities are also derived from the equilibrium between the forces of global supply and demand. However, commodities markets are unique in that they factor in expectations regarding the effects of seasonal variations, weather and crop failures, labour disputes, expected levels of inflation and interest rates, general economic conditions, political stability, and availability of substitutes in the derivation of the equilibrium price (Horcher, 2005).

Section III: Risk Measurement

Having discussed the identification of market risk factors, the next step in the risk management process is risk measurement, which includes a set of techniques to evaluate the exposure of an entity to market risks by way of sophisticated mathematical and computational tools. Specifically, market risk measurement, as a practice, is usually defined as the determination of the volatility of a particular variable, as quantified by the standard deviation of historic outcomes over a standardized period of time (Brown & Smith, 1995; Dowd, 2005; Jorion & Khoury, 1996, p. 2).

However, volatility, although an informative figure regarding the relative riskiness of a market variable, is quite meaningless to companies and banking institutions unless it is linked to an indicator that appropriately measures the consequence. The indicators that serve that purpose range from specific risk measures that comprise gap and duration analysis (and the combination of both as in the duration-gap analysis) to a wider all-inclusive risk measurement framework such as Value at Risk (VaR).

Gap analysis is a well-known balance sheet management technique for institutions that are interest-rate sensitive. The sensitivity, in turn, depends on the structure of the assets and liabilities. An entity, typically a banking institution, can be liability-sensitive in that their interest-sensitive liabilities are affected to a greater degree due to lesser maturities and repricing in a given period than their assets, or asset-sensitive

in which the opposite is true. The “gap” is the difference, or mismatch, between interest-sensitive assets and liabilities for a given time frame (Heffernan, 1996, p. 189). For this, the assets and liabilities are categorized into buckets according to their maturity (if fixed rate) or time remaining to their next repricing (if floating rate), which are then used to assess the interest rate sensitivity of earnings to changes in interest rates in the financial markets (Khan & Ahmed, 2001).

Duration analysis, on the other hand, measures the impact of the variations in the interest rates on the economic values of balance sheet items (as opposed to only earnings). It is also different from gap analysis in that it allows for the possibility that the average life (i.e., duration) of an asset or a liability, due to repayments and/or prepayments, differs from its stated maturities (Heffernan, 1996).

In time, it was recognized that there is a need to account for both types of measures of interest rate risk that are included in the gap analysis and the duration analysis, which resulted in their amalgamation into a combined measure named the duration-gap analysis. This interest rate risk measure essentially includes the time and value weighted duration of the assets and liabilities by way of factoring-in all the cash inflows and outflows that relate to net worth, which is the ultimate absorber of shocks caused by adverse movements in interest rates (Brown & Smith, 1995).

Thus, an institution can choose not to speculate on the expectations of interest rates levels by using the analysis provided in the duration-gap risk measure to “immunize” their balance sheet to obtain a fixed yield for a certain period of time because the duration of both sides of the balance sheet are matched (i.e., duration-gap of zero). With that, it should be noted that the balance sheet immunization in this context, although useful in partly mitigating interest rate risk, is not a perfect tool for three main reasons.

First, the duration-gap analysis only focuses on interest rate risk and does not consider the other risks that can affect the balance sheet of an institution. Second, the analysis provided by the duration-gap analysis is simplistic in that it does not

consider the convexity of the relationship between the interest rates and economic values (i.e., the duration is not static in that it changes as the yields change). Finally, the duration-gap analysis assumes that changes to the yield curve will be by the same amount across the maturity spectrum (i.e., parallel shifts) (Dowd, 2005; Heffernan, 1996), which is not always the case because short-term rates exhibit more volatility than, and are thus not perfectly correlated with, long-term interest rates. In fact, in some limited circumstances, the short- and long-term rates have been shown to move in opposite directions from one another (Hull, 2009, p. 142).

It is in the recognition of the challenges to proper measurement of market risks that present themselves in the duration-gap analysis, that an arguably superior measure of market risk emerged, namely Value at Risk (VaR). VaR is a “dollar measure of the minimum loss that would be expected over a period of time with a given probability” (Chance & Brooks, 2010, p. 531). For example, a VaR of US\$ one million for one day at five per cent probability (e.g. ninety-five per cent confidence interval) means that the institution can expect to lose US\$ one million in one day about five per cent of the time. Notably, the potential losses examined in the VaR analysis are broader than those studied under the duration-gap analysis in that those losses include not only losses related to interest rate risk, but also those that relate foreign exchange and commodity price risks (among others).

As for the choice of the variables that underlie the VaR analysis (i.e., amount of the minimum loss, confidence interval, and time span), it is dependent on the nature and the level of risk aversion limits desired by the particular business. For instance, a US\$ one million exposure can be considered substantial for a medium-sized enterprise and may therefore require a higher confidence interval of, say, 97.5 or 99 per cent. Similarly, the time span of a banking institution whose assets may be recorded on a mark-to-market basis, due to monetary regulations and accounting rules, will likely have a shorter-time frame for the VaR analysis than a traditional production or service company.

That said, it should also be stated that the accurateness of VaR and its flexible nature does come at a cost, namely the complicated calculations involved in order to produce meaningful results that rest on a large list of assumptions. Specifically, in addition to the traditional statistical assumptions (Duffie & Pan, 1997), the VaR considers the following risk components of market risk: absolute price or rate change (*delta*), convexity (*gamma*), volatility (*vega*), time decay (*theta*), basis or correlation, and the discount rate (*rho*) (G30, 1993) along with multiple approaches to estimation (Boudoukh, Richardson, & Whitelaw, 1997).

Moreover, there has been some evidence that the VaR calculation requires some adjustment to account for the statistical fat tails wherein there may be more chance of extremely high losses than a normal distribution would imply (Dowd, 1998). However, despite the many criticisms directed at the VaR's many assumptions and the complexity of calculation, it has been used extensively in the risk management domain by risk managers, regulators, and traders in financial and non-financial firms due to its comprehensive nature (Basak & Shapiro, 2001, p. 371).

Section IV: Risk Strategy

The third, and final, element of an organization's risk management framework is the risk strategy. It has been previously contended that market risks are inevitable in today's globalized market place; thus, after having properly identified and measured the relevant market risks, an organization should endeavour to devise a detailed strategy to be able to deal with them. The significance of the formulation of the risk strategy and its subsequent implementation has been noted by some respondents, particularly in the practitioners and consultants groups. For the consultants group, the majority expressed concern for the existing capacity for risk strategy formulation and implementation in the Islamic finance industry. It can be conjectured that the ambiguity surrounding the discourse on market risk management in Islamic finance, in general, and derivatives, in particular, is likely not an insignificant reason for such observation.

In terms of the strategies for risk management, they traditionally involve: retention, reduction, consolidation, and risk transfer with specialization as a focus (Culp, 2004). In the retention risk management strategy, an enterprise perceives the potential for adverse outcomes but decides to not undertake any actions to mitigate these risks. This could be because its management and shareholders feel that these risks are a necessary component of the business of the enterprise and should, therefore, be borne in order to attain maximum profits (Culp, 2004).

Accordingly, the pursuit of the retention strategy, and its ultimate success, depends on the judgment by management in running the day-to-day operation of the company and on what Hardy calls the “accumulation of reserves to provide for meeting the risks” (Hardy, 1999, p. 11). The reserves can be accumulated as part of withholding free cash flows into a reserve account, investing additional funds by current shareholders, or by issuing new securities to the market (who may or may not choose to partake in the offering).

In meeting the core risks of a business that are central to its function and relatively under its control (i.e., production, suppliers, sales and marketing, response to consumer tastes, etc.), the risk retention strategy is not only understandable but also forms a necessary pre-condition to the generation of profits. In contrast, market risks are a different matter since, as stated previously, they are exogenous to the operations of any particular enterprise and are therefore not within the control of its management. Effectively, as demonstrated by modern finance theories, any attempt to formulate expectations regarding the future movement of market rates or prices is quite simply within the realm of speculation.

The acknowledgement of that reality has significant implications for businesses operating in the real sector in terms of the viability of the retention method in the management of their market risk exposures. For it could be possible that the market risks identified and measured previously have loss provisions that could extend beyond the designated confidence interval in the statistical analysis used and consequently move into a territory in which neither the accumulated reserves nor

additional financing (if it ever arrives) can be of assistance. The aforementioned fat tails in the VaR analysis have been shown to exacerbate that predicament.

Interestingly, the appearance of the term “speculation” in this circumstance, although appropriate, carries with it a unique sense of irony to the Islamic finance industry which actively seeks to avoid practices that can resemble *Maysir* (gambling). In essence, it could be argued that the acceptance of the non-core market risks as part of the core operations of the institutions that are seeking to comply with the economic doctrine of the *Shari’a* should not also prelude a decision to mitigate them as a way to avoid speculating on the movements of market prices.

The second risk management strategy available to institutions is risk reduction whereby an organization, after having identified and measured the relevant risk exposures, decides that it would rather not be subjected to these risks, in whole or in part, and as a result proceeds to alter its operational and financial policies accordingly. One of the main schemes used in this particular type of strategy is the “natural hedging,” or internal hedging, concept, which is advocated by some in the Islamic finance industry, as well as some respondents particularly in the academics, *Shari’a* scholars, legal experts group, as a form of *Shari’a*-acceptable risk management methodology (Al-Rubaia, 1992; Al-Suwailem, 2006, pp. 114-115; 2012, p. 9; Bacha, 2004b).

Essentially, this form of hedging, as described by Gastineau et al, entails:

“[A]sset liability selection – for instance, managing credit risk by setting exposure limits with specific customers and managing foreign exchange (FX) risk by raising funds in currencies for which the enterprise has net operating revenues. Another example of internal hedging is interest rate immunization, whereby the risk characteristics (i.e., the duration statistic) of assets and liabilities are intentionally matched. The underlying risk could be operational, rather than strictly financial. For instance, a firm could choose to diversify across production technologies or energy sources. The key feature is that internal hedging happens naturally in the course of making routine investment and financing decisions and often appears without comment in the financial statements” (Gastineau, Smith, & Todd, 2001, p. 4).

It needs to be emphasized here, however, that the risk reduction strategy, within the realm of market risk management, is easier to implement for banking institutions

than in real sector companies. This is because these financial institutions have a greater ability to alter their balance sheet structure by currency, tenor, and financing terms (fixed vs. floating), which is a form of flexibility not enjoyed to the same extent by operating enterprises.

To be certain, the aforementioned flexibility enjoyed by banking institutions is limited by the competitive pressures in the banking industry and the liquidity of the assets in their portfolios. In effect, more intense competitive pressures and lower asset liquidity levels demonstrate a reduced ability to engage in natural hedging. With that characterization, Islamic banking institutions, due to their portfolios consisting mainly of illiquid assets (particularly *Murabaha* financing) and strong competition emanating from both conventional and other Islamic banks, should not be expected to garner much success in marketing financial products to its depositors, investors, or borrowers if their preferences do not match those in the bank's risk reduction strategy.

For companies in the real sector, on the other hand, the situation is much different. Essentially, as advocated by some, it is acknowledged that a particular company, in order to reduce risks, could technically decide to change its cost (e.g., choice of suppliers and materials), production (e.g., locations, vertical integration, etc.), and sales strategy (e.g., target regions) in addition to altering its financing structure (e.g., fixed vs. floating, multicurrency share capital, etc.) in order to meet the desired market risk exposure.

In time, however, it will become apparent that although these measures can, and do, mitigate some of the exposures to market risks being faced by the company, they do have their costs. For example, the cost of the operational and financial alterations may become evident in that they could provide for inputs that are not be ideal in terms of quality, actual net expense, and/or convenience. As for the focus on market risk friendly regions, as envisioned by some of the partisans of the risk reduction strategy, this policy may negatively affect sales, which in turn can impair the ability of businesses to achieve economies of scale. Indeed, companies look for exports in

today's globalized world as a necessity for survival rather than a bonus of increased profits. Finally, it is apparent in the financial markets that a firm's financing structure is not entirely decided by its management; the preferences by its shareholders and creditors play an integral part in shaping the ultimate financial policy.

Thus, for all intents and purposes, the risk reduction strategy, although useful to some extent, cannot serve as the sole risk management strategy for an organization seeking to be competitive in the global marketplace. This observation is made even more apparent by the dynamic, complex, and uncertain character of the business and financial worlds where it is quite difficult to anticipate the exogenous factors that affect an organization's cash flows (Jacque, 1981).

With that realization, the next two risk management strategies - consolidation and transfer - become fundamental complements to effective and efficient market risk management, especially when viewed from a portfolio perspective (i.e., not transactional-oriented risk management as is often advocated in Islamic finance), within an enterprise-wide risk management framework. It should be stated here that the importance of the portfolio approach to risk management was demonstrated by the opinions of some respondents in the practitioners and consultants groups in that it was regarded as conforming to best practices for managing enterprise-wide risks.

The rationale behind the consolidation risk management strategy is two-fold: combination and diversification. For combination, Knight and Hardy were among the first economic thinkers who articulated the proposition that risk and uncertainty can be better managed by the improvement of predictions arising from the combinations of events (Hardy, 1999; Knight, 1921). Essentially, firms have more confidence about their ability to manage a group of risks than in the management of individual risk components (Culp, 2004). Specifically, Hardy asserts that:

“A single event defies prediction, but the mass remains always practically the same or varies in ways in which we can predict. It is obvious that any device by which we can base our business decisions on the average which we can predict, instead of on the single event, which is uncertain, means the elimination of the risk. The larger the

number of cases observed the less is the deviation of the results from those which a priori were most probable (Hardy, 1999, pp. 21-22).”

Although many contemporary economists would rightly argue against Hardy’s statement regarding the prospect of the “elimination of the risk” as a result of combination, the concept, nevertheless, is useful in the context of market risk management in light of the statistical scientific advancements in the modern era. Specifically, in statistics, the Central Limit Theorem states that the distribution of the average risk of a large group of independent and identically distributed random variables is approximately normally distributed, regardless of the shapes and properties of the individual risk distributions.⁵³ Thus, the combination of market risks, while not reducing the maximum loss that an organization faces, should, nevertheless, increase its capacity to manage the consolidated exposure by improving the ability to measure and predict losses (Culp, 2004, pp. 54-55).

The second rationale behind the consolidation risk management strategy is diversification. The benefits of diversification were first quantified in Markowitz’s pioneering work on portfolio theory, where he demonstrated that if the volatility of the various financial positions in a portfolio is not perfectly correlated, the total risk will be less than the average volatility of its individual holdings (Markowitz, 1952, 1959). Accordingly, after identifying and measuring its market risk exposures in an enterprise-wide portfolio context (i.e., not at the transactional-level), an institution will be pleased to discover that because of less than perfect correlation in their market risk exposures that statistics and modern finance theory have eliminated some of their risks for free. Notably, as opposed to the pure risk reduction strategy, diversification within the consolidation framework does not require active alterations in the way an institution does business (financially and/or operationally).

Risk transfer, as the last risk management strategy examined, can be defined as “the explicit process by which the adverse impacts of a risk are shifted from the shareholders of one firm to either one or more individuals or to the shareholders of

⁵³ Although in the financial markets, instruments can, and do on occasions (e.g., LTCM), exhibit a fat-tailed distribution which increases the risk associated with a severe loss scenario.

one or more firms” (Culp, 2004, p. 59). The economic rationale behind risk transfer centres on the increase in the efficiency of the allocation of resources across agents in an economy (Arrow, 1964; Debreu, 1959). However, while these agents may exchange the risk exposures with one another as hedgers, the probability of finding a counterpart for a specific market risk exposure (and the cost of the associated search) make it an unlikely scenario. Further, it has been reported that hedgers can exhibit similarity in behaviour in that there are situations where the hedging community wants to buy or sell an underlying asset at around the same time (Teweles, Jones, & Warwick, 1999).

This structural difficulty in the hedging sphere has led to the introduction of financial intermediation as a facilitator for hedging transactions among economic agents. In essence, the financial intermediary, for a contractual spread, becomes the counterpart to every tailored market risk exposure of hedgers. In undertaking its role, the financial intermediary, in turn, utilizes the aforementioned benefits of combination (i.e., better statistical inferences in addition to the reduction in information costs due to economies of scale in gathering market intelligence and its analysis) and diversification (mismatches in the currency, tenor, fixed/floating, commodity, etc. as well as the spread of the counterparty risks), and then makes a decision as to whether it wants to remain exposed to the residual market risks or offload them to other financial intermediaries.⁵⁴

At the heart of the risk transfer process are techniques that involve derivative hedging instruments, which entail the acquisition of a financial instrument that reduces variability of a firm’s cash flows by generating a positive payoff in the same states of nature that a market risk exposure imposes a negative payoff on the firm’s normal business operations (Culp, 2004; Horcher, 2005; Smith & Stulz, 1985). Specifically, subsequent to entering into a derivative hedging transaction, markets forces should ensure that the economic factors that contribute to the worsening of the balance sheet position of a hedger are largely offset by the rise in the value of the derivative instrument (Catania & Alonzi, 1997).

⁵⁴ Financial intermediation (with a focus on derivatives) will be discussed in more detail in the Hedging, *Maysir*, and Derivatives Chapter (Chapter 8).

The cost of this practice (if forward-based instruments are used [see next chapter]), in addition to the fees paid for the financial instrument, is sacrificing any potential gain that could have occurred in an unhedged scenario. However, many institutions are willing to accept that cost in return for avoiding the uncertainty (timing, magnitude, etc.) of the exposure to losses that can appear, with profound consequences, in the uncontrollable movements of rates and prices in the financial markets.

With that understanding, it can be argued that the axiom of *Alghonom Bialghorom* mentioned earlier is especially relevant in this context. In essence, *in a true hedging transaction*⁵⁵, the cost of the protection from a market risk exposure is the lost benefits that could have accrued if the exposure was unhedged. Conversely, if the institution had chosen to speculate and keep the market risk exposures unhedged, then the losses (gains) garnered are a function of the gains (losses) that *could have* accrued had the market rates and/or prices moved in a favourable (unfavourable) manner. In other words, the risk and return are indeed inseparable as advocated in the Islamic finance literature; its level, however, is a matter of degree of risk-averse nature of the enterprise.

The proposition that the *Alghonom Bialghorom* axiom is a relative concept rather than being absolute is of paramount importance to the progressive evolution of market risk management in Islamic finance. For it may be apparent subsequent to the foregoing illustration that the axiom indicates that the degree of gain (*Alghonom*) is a function of the degree of potential losses (*Alghorom*).

Effectively, it is difficult to support the economic argument, as articulated by Hassan (and other commentators), that the “required” application of the *Alghonom*

⁵⁵ The *Alghonom Bialghorom* axiom has also been used as a religious basis for the prohibition of *Riba*, whereby it is assumed that the lender enjoys the benefit of the guaranteed return without incurring the business risks of the borrower. This basis obviously fails to recognize the treatment of defaults in contemporary bankruptcy laws in the majority of countries around the world as exemplified by the losses incurred by lenders with assets related to a range of markets from asset-backed housing to sovereign debt. Notwithstanding the above remark, the axiom usage in the subject matter is focused on the risk and return arising from market risk hedging transactions.

Bialghorom axiom entails that an entrepreneur needs to accept *all* the risks associated with the undertaking of their operations (core and non-core) in order to legitimize returns (Hassan, 2012, p. 25), especially when viewed in the context of modern-day financial markets. In fact, the likely outcome of that proposition is lower investment and overall economic underdevelopment, which is the case in many Muslim countries. Interestingly, all the discussion about market risks thus far (identification, measurement, and strategy) were clear in that market risk management is a means to *minimize* and not eliminate the complexity and dynamism of market risk exposures.

With that, it is to be noted that the acceptance of the relativity in the conceptualization of risk and return in Islamic finance should not only serve to reduce the dichotomy between contemporary economic thought and the seemingly rigid juridical stances by some *Shari'a* scholars, but should also be a source of pride for Muslim economists in that the economic substance of the *Alghonom Bialghorom* axiom was elaborated in the seventh century much earlier than its appearance in western economic-related literature.

Besides the issue of the relativity of risk and return, one of the main challenges facing the risk transfer strategy in the Islamic finance industry is the unease in the acceptability of the concept of risk transfer itself by some *Shari'a* scholars.⁵⁶ This unease, in turn, can be ascribed to two issues, which are inter-related. The first issue is the concern regarding the introduction of *Maysir* (gambling) into the industry under the guise of hedging whereby instead of risk transfer there are the very real ingredients of adding risks to the financial system.⁵⁷ The second is related to the role of the financial intermediary for its risk transfer services, which are deemed as improperly taking advantage of people's needs.⁵⁸

⁵⁶ Some commentators go so far as to somehow make a distinction between hedging and protection, where the former can entail gambling and the second focuses on risk management (Al-Shubaili, 2012).

⁵⁷ See OIC Fiqh Academy Resolution No. 63/1/7. (IRTI, 2000)

⁵⁸ See OIC Fiqh Academy Resolution No. 9/9/2 (IRTI, 2000)

Realizing the importance of risk transfer, there have been propositions circulating in the Islamic finance literature to alleviate these concerns; notably, some of these propositions were also communicated by some of the respondents across the four groups. These centre on: a.) Altering the hedging contracts in a manner that promotes more risk sharing among the participants in the real sector (suppliers, producers, financiers, etc.) (Askari et al., 2012); and/or b.) Introducing “Islamic” derivative hedging instruments, which assume either a fee-less arrangement (at least explicitly) by financial intermediaries or some sort of a cooperative system for risk sharing among external parties.

While the issue of *Maysir* and the role of the financial intermediary (and their fees) will be discussed at length in the coming chapters (especially the Hedging, *Maysir*, and Derivatives Chapter [Chapter 8]), it is perhaps necessary to address the propositions of risk sharing in the Islamic finance industry. To begin with, and at a basic theoretical level, it should be noted that risk sharing *is a form of risk transfer*. One does not partake in a risk sharing scheme without participating in risk transfer process that ensues. In fact, in the realm of Islamic financial practices, the Takaful (i.e. cooperative) insurance model’s much touted risk sharing structure is built on each policy holder transferring their risk of loss to the communal pool of financial resources to which they participate through the contribution of monthly premiums.

Interestingly, in the hedging sphere, even the staunchest critics of “conventional” risk transfer, in general, and derivatives, in particular, seem to have espoused a more pragmatic, even if convoluted, position vis-à-vis “Islamic” risk transfer in recent years. This can become evident in that they argue that risk transfer is to be accepted if undertaken in some sort of cooperative insurance/hedging fund since it is not-for-profit and consequently the rules on *Gharar* are “forgivable” (Al-Shubaili, 2012, p. 48; Al-Suwailem, 2012, p. 10).

Thus, for all intents and purposes, it should not be the concept of risk transfer that is problematic for *Shari’a* scholars and academics but rather its modalities and use

(hedging vs. gambling).⁵⁹ However, economics and statistics should, for their part, also remind commentators and participants in the Islamic finance industry that modalities, even if some elements of which are deemed forgivable by Islamic jurisprudence, do matter.

Essentially, at the onset, the effectiveness of the proposed insurance/hedging fund depends primarily on its size vis-à-vis the prospective exposure, and to a certain extent on the effectiveness of its management. Further, while the prospect of hurricanes, fires, and car accidents affecting all policy holders in a traditional cooperative insurance scheme at once is an extremely improbable scenario, systemic economic events are not endowed with similar remoteness, especially in modern settings. Consequently, these often recurring suggestions for an “Islamic” cooperative insurance/hedging fund should exhibit a greater cognizance that they are, at best, long term recommendations that host myriad systemic stress eventualities, which one way or another would require backing by public funds.

Notwithstanding the theory of risk sharing and its relation to risk transfer, there are serious practicality issues with some of the Islamic risk sharing propositions to be undertaken at the contractual-level (i.e., contractual hedging) (Al-Baz, 1999; Al-Rubaia, 1992; Al-Suwailem, 2006, pp. 120-138; Herak, 1988, p. 87) whereby, for instance, the supplier and producers share the bounties of the profits of the producer and his/her losses in some form of a mixed-sum game framework (rather than the perception of prohibition of zero-sum games).

This is because, apart from losing the benefits of risk consolidation (i.e., combination and diversification), these real sector operators ought to be more focused on their core operations rather than the issues and costs associated with contractual hedging. These include credit exposure to the producer/supplier, monitoring costs, and moral hazard as well as issues related to asymmetry of information. In fact, the contractual

⁵⁹ Even within the Takaful cooperative insurance model, there was a realization by the *Shari'a* scholars of the need to engage in risk transfer for reinsurance. This was evidenced in the AAOIFI *Shari'a* standard No. 41 (“Islamic Reinsurance”) (AAOIFI, 2010). Effectively, the nature of the reinsurance, Islamic or conventional, is the transfer of risk that is deemed excessive for its reserve base.

hedging proposition becomes even more unrealistic in the era of globalization wherein an organization's list of partners is increasingly international in nature, many of whom harbour no Islamic finance inclinations.

Other risk sharing suggestions offered in Islamic finance circles, such as the asset swap schemes, are also arguably offering expensive and legally-uncertain artificial religious forms to address a legitimate economic issue (see Derivatives in Islamic Finance Chapter [Chapter 6]). Moreover, it appears that these propositions do not account for the low probability of the “double coincidence of wants” between real sector counterparts in that it is unlikely that there is an exact same hedging need and a comparable asset for the swap in order for the transaction to come to fruition.

Perhaps in an effort to address this difficulty of matching the wants of hedgers, Hassan proposes the involvement of banking institutions at the contractual-level (mainly through *Murabaha* contracts) as facilitators for the hedging of market risks (Hassan, 2012, pp. 26-28). Although, once more, his suggestions involve multiple transactions to produce, as he admitted, essentially the same outcome as generated by conventional hedging (with added uncertainty and fees).

Thus, one can argue against the claims made by Askari et al that “since risk sharing is the foundation and a basic activity in Islamic finance, it is governed by rules that, if and when observed, lead to lower transaction costs than in conventional finance” (Askari, et al., 2012, p. 71). Essentially, it is not entirely certain what these rules are, how can they be objectively observed to promote the professed desire for fair sharing, and how do they relate to the issues and costs outlined earlier. This should be contextualized in a financial environment where the costs of risk transfer (e.g., spreads), due to competition and better market intelligence, have gone down significantly and thus provide an effective and efficient means to hedge market risk exposures.

Section V: Rationale for Hedging

Prior to continuing on to the next chapter with its focus on derivatives, it is perhaps necessary, for the sake of completeness, to delve into the rationale behind the desire for the relative safety of hedging rather than speculating on the movements of the financial markets with unhedged market risk exposures.⁶⁰ For this, one starts with the assumptions behind the rationale for pursuing hedging practices; these are: 1) External sources of finance (debt and equity⁶¹) are more expensive to a business than internally generated funds; 2) In addition to being more expensive, the external sources of finance are not perfectly elastic in that higher levels of funding are met with an increase in the overall marginal cost;⁶² and 3) Taxes are a convex function of earnings (i.e., higher earnings are taxed at a higher tax bracket than lower income) (Froot, Scharfstein, & Stein, 1993).

The first reasoning for pursuing hedging practices, which was alluded to previously, is that they reduce the probability of financial distress and its associated costs. These comprise legal costs, the reduction in the value of the firm, diversion of management time and focus, and the cessation of strategic and operational control (Culp, 2004; Froot, Scharfstein, & Stein, 1993; Mello & Parsons, 2000; Smith & Stulz, 1985). Of particular importance, especially when viewed from a normative Islamic perspective, are also the costs that affect a firm's commitment to its stakeholders (including employees, management, suppliers⁶³, customers, and tax beneficiaries) in a financial distress scenario (Bessembinder, 1991; Shapiro & Titman, 1986). The case of managers and employees are particularly severe due to their undiversified financial exposure to the firm (Bessembinder, 1991; Brown, 2001).

⁶⁰ This assumes working with an ex-post risk exposure after risk consolidation and cost-effective risk reduction.

⁶¹ The (additional) equity infusion into the firm is costly to current shareholders in terms of dilution of their control and benefits.

⁶² In debt financing, this marginal increase is in the form of higher required returns (e.g., interest or mark-up) for higher amounts of debt requested. Equity financing, on the other hand, imposes higher levels of discount of the firm value for higher levels of equity infusions.

⁶³ Suppliers, who provide the life line of the production process, may choose to mitigate their risk exposure to the firm by requiring increasingly demanding payment terms (e.g., spot payment).

The second reasoning is related to the growth potential and the prospect for above average profitability by the companies that hedge their market risk exposures, some of which may have tighter financial constraints (i.e., lack of desire or ability to access the costly debt and equity markets). Specifically, it has been argued extensively in the risk management literature that the use of hedging instruments to ensure the sufficiency of internal funds, by reducing the variability of free cash flows, to take advantage of attractive investment opportunities is a common strategic decision by managers. This is also especially valid in the context of the observed decreasing marginal returns to investments (i.e., output is a concave function of investment) (Bernstein, 1996; Froot, Scharfstein, & Stein, 1993; Geczy, Minton, & Schrand, 1997; Lessard, 1991; Shapiro & Titman, 1986; Smith & Stulz, 1985; Visvanathan & Schrand, 1998).

Thus to return to the potential risk retention strategy as outlined earlier and proposed by some in the Islamic finance industry to legitimize returns, companies that seek to employ that particular strategy are effectively being pressed to choose between a finite reserve system to face an unknown exposure to market risk (timing, magnitude, etc.), expensive external debt and equity financing, or loss of profitable investment opportunities (and consequently a lower firm value). The evolution of this dilemma, at the macro-level, is likely to entail a reduction in private sector investment and an overall sluggishness in the economic progress of Islamic countries (i.e., not entirely a correspondence to the theory of *Maslaha*).

The third rationale for hedging is linked to the competitiveness of companies operating in the real sector. In essence, in today's globalized landscape, managers, particularly in multinational companies, need to be able to rely on stable financial inputs, such as market interest and foreign exchange rates and commodity prices, for their operational planning and pricing decisions (Allayannis & Weston, 2001; Brown, 2001). Additionally, competitiveness can be enhanced further through the

utilization of hedging instruments to lower financial expenses by way of accessing “cheaper” capital markets around the world.⁶⁴

Eventually, the ability to hedge market risk exposures can result in competitive and stable pricing that can contribute to not only the protection, but also the maximization of market share. Additionally, insofar that competition results in lower prices to consumers, the reduction of market risk exposure by companies can result in a higher societal welfare (i.e., *Maslaha*). This reasoning is also relevant to Islamic banking institutions that face competitive pressures in their home markets as well as in their efforts to seek cross-border market share enhancements.

The fourth, and final, justification for hedging discussed in this section focuses on the taxation of enterprises. As mentioned earlier in the discussion on the assumptions, many countries adopt a progressive tax system to add an element of fairness to their tax receipts whereby higher earnings are taxed at a higher tax bracket than lower earnings. In this setting, an increase in the volatility of earnings due to the exposure of market risks poses a real possibility that the risk retention strategy entails a net enlargement of the tax liability. That is to say, the taxation of the abnormally high income at an elevated tax rate and abnormally low income at the lower tax rate will most likely result in higher average taxes than the ones paid at the average moderate tax rate that reflects the earnings from core operations (Bessembinder, 1991; Graham & Smith, 1999; Visvanathan & Schrand, 1998).

Conclusion

The contemporary risk challenges faced by real sector companies, and the banks that finance their operations, are much different from those that were encountered by the early Muslim community in the seventh century, a period which provides the juristic basis for the current perspectives on the subject matter by the *Shari'a* scholars. The

⁶⁴ For example, a real sector borrower can utilize a swap to borrow in financial markets where they have a comparative advantage (tenor, fixed/floating, currency, etc.) and swapping this exposure to their desired position (tenor, fixed/floating, currency, etc.) for an overall cost saving. There are potential diversification benefits to this strategy as well. Finally, these hedging instruments can help a company become flexible to changes to its operations and market conditions over the life of the market risk exposure (e.g., changes in projected sales, the currency basket, raw materials, etc.).

introduction of the volatile-natured interest rates as benchmarks for asset pricing, floating exchange rates for cross-border dealings, and unstable prices for commodities that serve as indispensable inputs for the real economic sectors have been shown to exert tremendous pressure on the profitability and survival of ordinary businesses.

In this chapter, the topic of market risk as well as the various frameworks and tools that are available for institutions to deal with it was examined in detail. For this, while it was stated that risk is an indispensable component in the search for profit, it has been also contended, with reasoned economic argumentation that builds on Islamic jurisprudence that the relationship between risk and return is not an “all or nothing” arrangement as viewed by some in the Islamic finance industry. It is, in fact, a relative relationship with the degree of return being a factor of the extent of riskiness involved. Essentially, the arguments on risk management in Islamic finance should transcend the discourse concentrating on the importance of associating risk with return, which is a given in economic thought⁶⁵, and move into the sphere of maximization of *genuine* return and the minimization of risk through *legitimate* means.

Subsequently, one can proceed to differentiate, through proper identification and measurement, between the controllable core risks whose presence is an integral part of the existence of a particular firm (e.g., operations, primary market, etc.) and the non-core exogenous risks (e.g., market risks) whose random nature makes their retention a rather speculative endeavour. In terms of the risk strategy, it has been shown that the risk reduction and consolidation (i.e., combination and diversification) strategies, although useful for an enterprise, can only be compliments, not substitutes, to the efficiency and effectiveness of the market risk transfer strategy.

⁶⁵ The concept of the risk-free rate is a fallacy as evidenced by the downgrading of the U.S. credit rating by Standard and Poor’s and Euro zone debt crisis in 2011-2012. In fact, the complete, or at least a major, disassociation between risk and return results in market disequilibrium, which ultimately causes speculative bubbles and economic crises.

With that, it is acknowledged that at the heart of the risk transfer process are derivative instruments that, by virtue of their pre-designed negative correlations with the specific market risk exposure, can provide hedging opportunities to real sector entities, which can, in turn, reduce the probability of financial distress, underinvestment, loss of potential financing savings and market competitiveness, and lower overall firm value.

To be certain, transacting in derivative contracts whose pricing behaviour is related to another underlying variable is currently not wholly limited to the hedging sphere. Effectively, it can be contended that speculation in the financial markets with financial instruments in the commodity, interest rate, and foreign exchange rate markets, that have grown tremendously over the same period, is also a culprit in the increase of market risks. However, the realization of this contention, which is partly true, provides little relief from the serious consequences of unmanaged market risks to businesses operating in the real sector. In fact, a more logical argument could be put forth that the speculation with open market risk exposures in the financial markets, and the resultant increases in volatilities, are more of a reason to ensure the implementation of an appropriate risk management framework, which in turn requires the usage of hedging techniques and instruments within a broader risk transfer strategy.

To that end, the next chapter will examine the economics and the rationale for the utilization of these derivative instruments with a particular focus on market risk management in order to address the often made association between these instruments and the prohibitions of *Riba* (usury), *Gharar* (excessive uncertainty), and *Maysir* (gambling).

Chapter Five: Conventional Derivatives: Theory and Practice

Introduction

The discourse on the usage of derivatives in the Islamic finance industry commenced not too long after the tremendous growth of these instruments in the western markets in the 1970s as evidenced by the formal discussions surrounding these instruments that commenced in the Makkah-based Islamic Fiqh Academy in January, 1984. That is not to say that derivative markets did not exist in Islamic countries prior to that date. In fact, the cotton futures market in Alexandria, Egypt is considered one of the oldest futures markets in the world having commenced operations in 1861 (Kamali, 2000a). Moreover, many commodity markets exist in numerous Muslim countries and offer the ability to transact over a wide variety of products.

However, it seems that despite the existence of these markets in Muslim countries for a rather extended period of time that a sense of confusion still reigns over the technicalities and usage of the derivative instruments in the Islamic finance industry. This was apparent in some of the interviews with respondents across the four groups as well as becomes particularly self-evident when one examines the discourse that has taken place on the subject matter by the *Shari'a* standard-setting bodies (see next chapter) with an almost exclusive focus on the contractual forms of these instruments and their analogy to pre-modern “Islamic” commercial contracts that have very little similarity in terms of scope or usage.

With that, this chapter continues with the discourse on the topic of market risk management in Islamic finance that commenced in the last chapter but with a focus on the economics of the derivative instruments themselves as tools that facilitate market risk transfer. Specifically, the formulation of the pricing of the derivative instruments along with their relationship to prices in the cash markets for the underlying variables will be examined in a manner that anticipates the views of some of the contemporary *Shari'a* scholars and academics that will be the focus of the next chapter. Moreover, the technicalities of the utilization of derivatives as hedging tools will also be explored through an individual assessment of these instruments.

Section I: Economics of Derivatives

The basis for the creation and evolution of any financial instrument is inherently an economic one. Thus, to fully understand the technicalities of the derivative instruments, one should look at the economic theories that underlie their existence. To that end, economics is defined by Marshall as the “study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of wellbeing” (Marshall, 1910, p. 1). Robbins adds further granularity by stating that economics, as a science, “studies human behaviour as a relationship between ends and scarce means which have alternative uses” (Robbins, 2007, p. 16).

An economic system, for its part, manages that relationship by focusing on the efficient allocation and distribution, across time and space, of resources between economic agents in a manner that strives for the attainment of the most valuable uses of those resources. It is within this conceptualization that derivatives, much like equity and fixed income securities, perform their main function of the temporal and spatial shifting of risk and return to different market participants (Culp, 2004, p. 16).

A derivative is usually defined as a financial instrument created as a result of a bilateral contract or payment exchange agreement whose value is based on (or derived from) the value of another underlying variable such as a physical asset, reference rate, or a benchmark (G30, 1993, p. 2; Hull, 2009, p. 1). The underlying variables in the case of the market risks that will be examined comprise benchmarks for interest rates (LIBOR or Treasury rates), foreign exchange rates, and/or actual commodity prices.

However, despite sharing with equities and fixed income securities an analogous economic function, derivatives are unique financial instruments for four main reasons. First, a derivative instrument can, through time, oscillate between being an asset having an ownership claim over a positive monetary value and becoming a

liability with a negative charge (Chance & Brooks, 2010). In terms of valuation, it should be emphasized that the notional amounts in the derivative contracts do not provide an accurate measure of the level of asset or liability (and any associated risk exposures) as does the face value of the other securities. This is because the actual amount of the asset or liability implicit in a particular derivative contract is connected to its “replacement cost” in the financial markets, which is, in turn, dependent on the prevailing interest rates, exchange rates, and/or commodity prices. In other words, the valuation of a particular derivative instrument is related to the cost it would take a counterparty to purchase a similar contract in the financial markets with the same economic value as the one provided by the derivative instrument.

Second, as demonstrated by Nobel Laureate Hicks, derivative contracts contain an explicit time element in that there is traditionally a delay in the delivery of *both* the underlying asset and the transfer of cash to settle a liability claim (Culp, 2004; Hicks, 1931). Specifically, a spot transaction in the cash markets, which is the basis for most of the contracts in Islamic finance, entails an immediate payment by the buyer (or a credit agreement) in return for prompt delivery by the seller. However, a derivative instrument normally involves the payment for and receipt of an asset at a time that is different from the time the contract is concluded. Thus, in broad terms, derivative contracts can be considered as facilitators of asset transfers over time and space between economic agents who have diverse sets of opportunities and constraints (Culp, 2004, p. xxi).

Third, a derivative instrument can be used exclusively as a hedging mechanism in the risk transfer process outlined in the previous chapter. This is in contrast to other financial instruments that serve mainly as investment and resource mobilization vehicles. In essence, while a derivative instrument cannot be used to reduce the market risks that are associated with the ownership or production of assets, they can assist in the transfer of these risks, as part of a wider market risk management

framework, to either another hedger with an offsetting exposure or a financial intermediary who is more willing and able to bear them.⁶⁶

For this, a hedger can enter into a *short hedge* where the already owned, but perhaps incomplete, asset is expected to be sold at some time in the future (e.g., crops, oil, etc.) or for an asset that is currently not owned but will be owned after a period of time (e.g., a foreign currency receivable by an exporter). Alternatively, a *long hedge* is utilized for taking a position in a derivatives contract to lock in the price of an asset or exposure that will have to be settled in the future (e.g., interest rates, fuel for aircraft, etc.).

To be certain, derivatives can be, and have been, used as investment products by market participants, excessively in some circumstances, who seek to benefit from the flexibility offered by these instruments and their lower transaction costs to synthetically create exposures with tailored risk and return preferences. However, it is the usage of derivatives as hedging instruments for market risks that is the focus of this chapter and indeed the purpose of the whole research. That said, the investment potential for derivatives, and the consequences for its usage for that purpose, shall be explored in the Hedging, *Maysir*, and Derivatives Chapter (Chapter 8).

Fourth, while equities and fixed income securities primarily provide an indication of the value of a particular company and its credit quality, respectively (and presumably also a signal of wider market sentiment), derivatives, because they derive their values from market variables, provide an exceptional opportunity for price discovery of many financial and commodity products in a centralized and more inclusive market place. Effectively, the open market bidding system and real-time price dissemination reduce the asymmetry of information between buyers and sellers participating not only in the same market but also in similar markets around the globe. For example, a farmer has an opportunity to learn of the prices paid for his crop in his home market and those in the other regions of the world.

⁶⁶ This does not factor in the potential benefits of risk consolidation (combination and diversification).

The attainment of the aforementioned price discovery is a product of market intelligence and analysis (mainly by financial intermediaries) as well as the economic Law of One Price and the theory of arbitrage. For market intelligence and analysis, the advances in communication and information technology in addition to the use of sophisticated mathematical and statistical techniques by ever skilled market participants have resulted in a pricing system that is a much closer approximation of market equilibrium (which is never static).

The law of one price, for its part, is significant in that it not only prices the derivative instruments but is also the driving force in the pricing of the underlying variables (i.e., interest and exchange rates in addition to commodity prices). Basically, in efficient financial markets⁶⁷, the law of one price states that all identical goods with the same payoff structure for one, or multiple, point(s) of time in the future should have the same price at the present (Cox, Ingersoll, & Ross, 1981, pp. 323-324).

The facilitator for the attainment of the outcomes of the law of one price is the theory and practice of arbitrage which serves an important role by ensuring pricing convergence, based on economic fundamentals, of identical goods in different markets. In essence, arbitrageurs, in striving to make profits by utilizing the base-rate market rates (e.g., LIBOR) for borrowing (lending) and simultaneously buying (selling) similar financial products in different markets to take advantage of any price discrepancies, are crucial to preserving the harmony between the cash and derivatives markets.

The significance of the law of one price and the theory of arbitrage in the hedging sphere is in the fact that they both allow hedgers to rely on derivative instruments and their stable correlation with the cash markets to appropriately transfer their market risk exposures. Furthermore, the law of one price and the theory of arbitrage exert convergence pressures between the various derivative instruments (e.g., forwards, futures, swaps, options, etc.) whose payoff structures are equivalent and bear the same relationships to goods in the cash markets.

⁶⁷ Efficient markets in this context entail no transaction costs, homogenous opinions, rationality of economic agents, equal borrowing and lending rates, and no restrictions on trading.

With that background and in light of the on-coming examination of financial instruments, including the so-called “Islamic derivatives,” it is important for the participants of the Islamic finance industry, especially the *Shari’a* scholars, to understand that the law of one price and the theory of arbitrage apply to any financial instrument being traded and/or uses similar underlying variables for pricing in the financial markets.

In effect, given that: 1) Hedgers utilize derivative instruments, and their stable correlations with the cash market, to hedge market risk exposures, 2) Any Islamic derivative instrument has to perform the same hedging function as the one performed by its conventional counterpart since the market risk exposures are all-encompassing (i.e., the exposure of market risks are not completely unique for Islamic institutions), and 3) The underlying variable in both the conventional and Islamic derivative instruments are identical (e.g., foreign exchange, oil, etc.), then the pricing of the conventional and Islamic derivative instruments *will be the same at any given time*. The added complexity of contemporary Islamic derivative contracts along with the inclusion of non-precious commodities, multiple contracts, and numerous agents to the structure the transaction will not change that economic reality. In fact, if anything, they are likely to exacerbate the market risk management challenges for companies operating in the real sector (see next chapter).

Apart from the conceptual framework (i.e., law of one price and theory of arbitrage) that regulates the pricing of derivatives, the economics behind the actual attainment of the pricing of the derivative instruments should also be considered in order to enlighten the current legal-centric discourse in the Islamic finance industry on the subject matter, particularly in the focus areas of the prohibitions of *Riba* (usury) and *Gharar* (excessive uncertainty). Essentially, the pricing of any derivative instrument is centred on Black’s cost-of-carry formula whereby market interest rates, the cost of storing an asset, and its convenience yield are analysed by market participants to develop expectations regarding the future prices of the underlying assets (Black, 1976, pp. 174-175; Hilliard & Reis, 1998).

For market interest rates, as discussed earlier in the Market Risks and Their Management Chapter (Chapter 4), the prohibition of *Riba* in Islamic finance, while addressing the issue of indebtedness within a society, is less relevant when it comes to the pricing of assets and liabilities in contemporary financial markets. This is because interest rates are used in this context to account for the preferences and perceptions of economic agents as well as a benchmark for the uncertainty associated with the holding period of a particular financial instrument. Specifically, the pricing of any financial instrument (including Islamic contracts) is dependent, in part, on the discounted cash flows over its life. The tool used to discount the cash flows of tradable financial instruments is traditionally the base rate, which is customarily either the market-determined LIBOR or the Treasury rates.

Notably, the base rate is also used for the pricing structure within the framework of the law of one price. This is done in two ways: First, the base rate is used to account for the borrowing and lending taking place by arbitrageurs to exploit any mispricing in the financial markets.⁶⁸ Second, given that the base rate is used to discount the cash flows of financial instruments, the theory of arbitrage ensures that the relationship between the spot prices and the prices for the instruments in the future is stable in that it depends on the timing and amount of the cash flows.

In addition to the market interest rate considerations and insofar as the prices of the derivative instruments are based on the pricing behaviour of the assets themselves, the storage costs and the convenience yields are also considered important factors in the derivative pricing formula. Storage costs are mainly applied in the pricing of the derivatives associated with commodities (cereal, cocoa, oil, gold, etc.) by considering it as a negative income. Essentially, storage costs can be considered as either a discounted cash outflow occurring at particular time intervals or simply a constant cost proportion of the market prices (Hull, 2009).

⁶⁸ The borrowing and lending at the base rates is a theoretical construct that serves primarily as a means to include the opportunity cost of capital in determining the potential value of exploiting an arbitrage opportunity. The arbitrageur may or may not be willing and able to operate at the base rate (e.g., a non-rated or lower rated *arbitrageur*). This may alleviate some of the *Riba* concerns regarding the usage of derivatives or any financial instrument for that matter.

Convenience yields, on the other hand, serve a vital function in the pricing of derivative instruments in the commodities markets in that they distinguish between the value generated from owning the derivative instrument vis-à-vis actually possessing the underlying variable (Black, 1976; Brennan, 1991; Hilliard & Reis, 1998; Hull, 2009). Moreover, the convenience yields also serve as a barometer of market sentiment regarding the supply and demand forces that shape the pricing structure of a particular asset.

In effect, there are particular benefits (i.e., utility) in holding an asset as opposed to holding a financial instrument whose value is derived from that asset. An oil refinery, for instance, is likely to view having an inventory of crude oil to ensure continuous production in addition to profit from any temporary shortages as having a greater usefulness than simply a derivative contract with crude oil as an underlying (i.e., synthetic inventory). Moreover, to account for the diverse benefits accruing to the various institutions storing the asset, the level of the utility of the convenience yield is a product of the equilibrium obtained from the competition between the various users of the asset.

It should be stated here that it is not self-evident that Al-Suwailem, in his criticism of forward-based derivatives vis-à-vis its “Islamic” alternatives, particularly *Salam* (forward sale) and *Bay Ajel* (deferred payment sale) contracts, was cognizant of this component in the pricing of derivative instruments (Al-Suwailem, 1999, pp. 84-85). More specifically, his argumentation that the Islamic temporal contracts of commerce have different payoffs than conventional derivatives lacks empirical evidence. On the contrary, the inclusion of the convenience yield in the cost-of-carry pricing formula, as indicated above, is precisely accounting for the issue of “real exchange effects” that Al-Suwailem (1999) seeks to address; although, he does so in a manner that paradoxically criticizes conventional derivatives. In other words, Al-Suwailem’s remarks reinforce the convenience yield component in the cost-of-carry formula for derivative pricing.

An additional aspect of the convenience yield is its use as a mechanism to express the market expectations regarding, what Stevens calls, “the adaptation of the probable supplies to anticipated requirements” (Stevens, 1887, p. 62). In essence, the market perception regarding the economic fundamentals of a particular asset is internalized within the convenience yield as a measure of not only the utility derived from owning and storing the asset, but also the expectations regarding this utility in the future.

Notably, the importance of the storage costs and convenience yields is relevant only in the commodity sphere as it formulates the relationship between spot prices and futures prices. The markets of monetary financial derivatives, however, such as those relating to interest and foreign exchange rates, do not contain storage cost or convenience yield elements; otherwise arbitrage opportunities will present themselves resulting in the ultimate disappearance of these non-applicable variables.

That said, the pricing for these monetary financial derivatives does share with their commodity counterparts the interest rate component in the cost-of-carry model. Although, the foreign exchange markets are distinctive in that the interest rate component is adjusted to account for the differentials in the interest rates in each country. This is to conform to the arbitrage-free interest rate parity relationship of international finance.

The previous discussion into the economics of derivatives is significant in two respects: First, it indicates the value of utilizing derivative instruments to achieve an optimal allocation and distribution of resources (including their associated risk and return) among economic agents across time. Second, the discussion provides important insights that can serve to alleviate some of the *Shari'a* concerns that often circulate in the discourse, which were also ostensible in the opinions by respondents in all four groups, on derivative contracts; in particular the perceived association between them and the prohibitions of *Gharar* and *Riba*.

For *Gharar*, it should be realized that the existence of derivatives actually reduces *Gharar* by allowing market participants to decrease not only the uncertainty with how the prices of assets are derived in the cash markets, but also the doubt associated with the pricing of assets at different times in the future. This is achieved, as outlined previously, by way of an all-inclusive (base rate plus storage costs minus the convenience yield) and transparent price discovery process that is made available to all relevant stakeholders (farmers, producers, customers, government bodies, among others). Indeed, in regards to the charges of dealing in *Gharar* due to uncertainty of the price in the future, Kamali (2000) has argued (through the articulation of the opinions of Ibn Taymiyyah, Ibn Al-Qayyim, Musa, Sulayman, and Hasan) that it has been accepted in Islamic jurisprudence to set a future market price for a contract on the condition that it is agreeable to both parties and clear enough to eliminate dispute (Kamali, 2000b, p. 95).

In regards to *Riba*, it may be apparent at this stage that interest rates are employed in the context of the base-level cost of capital that is used to discount the cash flows of any asset or liability (including all assets/liabilities in Islamic financial markets), all while adhering to the arbitrage-free pricing structure that ensures that market prices are in equilibrium. Notwithstanding the above, it is remarkable that the criticisms hailed at the derivative instruments due to its supposed handling of *Riba* (in the form of the base rate for pricing) are done at a time where there seems to be a wide agreement among *Shari'a* scholars on the acceptability of the usage of LIBOR as a benchmark that integrates the economic choices associated with the consumption and saving through time.⁶⁹

With that added understanding of the economics of derivatives, it may be now appropriate to proceed to the examination of the various derivative instruments existing in the global financial markets and how their individual traits have led to particular preferences by hedgers in utilizing them to off-set their specific market risk exposures. The implication of this discussion will become ostensible in the next chapter in which the attempts to associate these derivative instruments to pre-modern

⁶⁹ A more elaborate discussion on this issue will be undertaken in the Permissibility of the Underlying Variables and the Recognition of Contract Chapter (Chapter 7).

“Islamic” contracts through the theory of *Qiyas* (analogical reasoning) will be delineated along with the legal-centric endeavours at financial engineering to replicate their payoff structure.

Section II: Conventional Derivative Instruments

All derivative contracts are built from two basic and fundamental building blocks – forwards and options (G30, 1993). Forward-based instruments include forwards, swaps, and futures, while the option-based contracts not only contain options on tradable assets as a stand-alone instrument but also can be made “exotic” through innovative structures that seek to construct an almost unlimited array of transactions and strategies.

Broadly speaking, a forward contract is a relatively simple contract that is negotiated between two counterparties whereby a binding commitment is made for specific terms of agreement for the purchase/sale of an asset in the future, which, in turn, is based on the particular needs of the counterparties. The terms of agreement are fixed for the duration of the contract and include the price at maturity (forward price), contract size, quality, and delivery location and time (Culp, 2004; G30, 1993; Hull, 2009; Richard & Sundaresan, 1981).

Notably, the initiation of the contract is completed by agreement without any payment exchanging hands between the counterparties. At maturity, the long hedge receives the underlying variable in the contract from the short hedge in return for the forward price. If the parties agree, however, the contract can be cash-settled in which case the cash equivalent value, based on the prices in the financial markets, of the underlying variable is given by the short hedge to the long hedge in lieu of the asset itself.

The basis for the allowance of cash settlement for hedging transactions is that the transaction itself is meant to manage the market risks associated with a particular exposure rather than to ensure delivery of a specific asset at a precise time.

Essentially, a hedger, for a commodity risk exposure for instance, is likely to want to continue with the existing relationship with its current suppliers based on an already established supply chain (with preferences for delivery location, grade, size, transport, etc.), even if those suppliers are not in a position to provide a viable hedging counterparty to the business in question.

Put differently, a hedging transaction should not force real sector companies to alter their operational decisions to respond to market risks. In fact, the whole purpose of market risks management is for businesses to effectively manage their market risk exposures without the need to undertake costly changes to their *modus operandi*. In the realm of derivatives with a financial variable as an underlying, the delivery is either impractical (e.g., LIBOR) or just simply adds to the transaction costs in an era of electronic banking (e.g., currency).

That said, the cash settlement feature in modern derivative instruments also allows pure speculators to enter the derivative markets, which is evidently a major concern of *Shari'a* scholars (see next chapters). However, while it is acknowledged that the excesses of speculation have been a prominent factor that contribute to global financial instability, it should be recognized that the forcing of delivery, besides constraining the risk management potential for derivative instruments by imposing operational inconveniences and transaction costs on true hedgers, will likely serve to only limit, but not eliminate, speculation in the derivative markets. This is because the costs of delivery by pure speculators, much like being done by pure speculative traders in the spot market, will simply be included in the transaction costs within a wider cost-benefit analysis of pure speculative endeavours.

In terms of valuation, at initiation, the forward contract has no value because in an arbitrage-free setting the maturity price is an approximation of the future spot price otherwise *arbitrageurs* would exploit the market differentials, which would return the forward contract to a zero valuation setting. Throughout the life of the contract the valuation of the forward contract will likely fluctuate to respond to spot market pricing changes of the underlying variable. The actual direction and size of

fluctuation, for its part, is dependent on the degree of change in the economic fundamentals affecting that particular variable and the belief about potential changes in the future. Interestingly, with that overview of the pricing of forward-based derivative contracts, it is remarkable that the charges of association with the prohibition of *Gharar* are still being levied in the Islamic finance literature.

At maturity, if the forward price (i.e., contractually-agreed to price) is higher than the prevailing price of the asset in the spot market then the long hedge (short hedge) makes a profit (loss) and vice versa. This zero-sum payoff structure between the counterparties should largely offset the market risk exposure in a true hedging transaction. Put differently, as discussed in the previous chapter, the purchase of the forward contract that is negatively correlated to the market risk exposure will counterbalance any gains or losses experienced due to the changes in prices in the spot markets in the future.

Moreover, for the purpose of Islamic jurisprudence that is quite averse to the accumulation of debt and the unjust exploitation that may result in the process, it needs to be emphasized that a forward contract is not considered debt in a true sense. This due to a three main reasons: First, at the most fundamental level, as discussed earlier, a forward contract does not have a value at initiation. Second, after initiation, a forward contract does not have a face value or a pre-defined one-sided cash flow stream; it simply contains a commitment by the counterparties to transact on a variable with specific terms of agreement in the future.

Third, despite the presence of counterparty risks, a forward contract does not have a pre-defined creditor/debtor structure at initiation; in fact, the exact party that benefits financially from the contract will be only be made apparent at maturity. Thus, with that distinction, it may become apparent that the classification of forward transactions as debt by some contemporary *Shari'a* scholars as well as the formulation of analogies between the derivative instruments and the financial exploitation that are a fundamental part of usurious transactions is an inaccurate characterization.

In terms of the variables underlying the contracts, these can range from agricultural and physical commodities to currencies (i.e., foreign exchange forwards) and interest rates (i.e., foreign rate agreements or FRAs). The commodity forward contracts are quite straight forward in that they outline the purchase of a particular commodity in the future at a particular price. The foreign exchange forwards entail the exchange of specific amounts of notional currencies between the counterparties at a designated date in the future.

A forward rate agreement, for its part, is a contract defining interest rates that will apply to borrowing and lending of a particular notional principle in the future. The base rate often used is LIBOR but can be any pre-defined interest rate that is correlated with the desired interest rate exposure for one, or both, of the counterparties. The reverse position in the forward contract is a fixed rate of interest that ensures an arbitrage-free interest rate parity position for the duration of the contract at its initiation. The overall purpose of this form of transaction in a true hedging scenario is the implementation of an effective asset-liability management (ALM) policy in institutions exposed to interest rate risk.

Besides contributing to the effective management of interest rate risks in the financial markets, the FRAs also serve an important role in the price discovery process for financial assets by aiding in the determination of the interest rate curve. Essentially, through interpolation from existing FRAs trading with specific maturities, the financial markets can derive market interest rates even for those maturities with no tradable derivative instruments. This benefit allows companies and financial institutions to properly strategize their financial structure in future periods based on the costs and opportunities existing in the financial markets. That is, the presence of the interest rate curve, as derived from the FRAs, helps the market participants reduce the uncertainty (e.g., *Gharar*) associated with financial planning.

Futures, as the second form of derivative instruments examined in the risk transfer strategy, are similar to forward contracts in that there is a binding commitment

between two parties to buy or sell a specified underlying variable for a certain price on the contract maturity date. However, there are a number of differences between forward and futures contracts that should be clarified for an added understanding of these instruments (Catania & Alonzi, 1997; Cornell & Reinganum, 1981; G30, 1993; Kamali, 2007; Richard & Sundaresan, 1981).

First, the futures contracts are traded in a centralized exchange as opposed to the over-the-counter (OTC) market where most forwards (and swaps; see below) are traded. The exchange, which is a voluntary association of its members, provides buyers and sellers of the futures contracts the infrastructure (location and IT systems), legal framework (rules and arbitration procedures), and clearing mechanisms to ensure a smooth and unambiguous transaction process.

Second, apart from the determination of the pricing of futures by the laws of supply and demand (as with all derivatives), the parties to a futures contract do not negotiate the terms of the agreement as these are standardized by the exchange where they are traded. These terms of agreement are: the quantity and quality of the underlying variable, time and place of delivery,⁷⁰ and the method of payment. In the hedging sphere, the standardization of the futures contracts with specific quantities, quality, and delivery dates around the year compels the hedging party to seek a contract that most resembles, but not exactly matching, the factors that define its market risk exposure (Ederington, 1979). This hedging behaviour in the futures markets can explain the early settlement tendencies by even the pure hedging parties in the futures markets.

To illustrate, an oil refinery with a no longer needed long hedge on oil futures will close out that position by assuming a short hedge position of the exact same contract in the futures market. Similarly, a financial institution with a terminated interest rate exposure will seek to close the open futures contract (Eurodollar deposits or Treasury bills/notes/bonds) with another that offsets it. In effect, once the original market risk

⁷⁰ For commodities, the date and places of delivery are related to the nature of the underlying commodities. Further, adjustments are made to the pricing to account for transportation costs to locations far from the source of the underlying.

exposure is terminated for a hedging party, it can proceed to offset its open position with a contract that is equal (quantity, quality, date, etc.) but the reverse (buy/sell) of its open futures contracts in order to assume a zero net exposure in the derivatives market.

With that, it is acknowledged that the standardization of the futures contracts has also contributed to the emergence of a new class of traders in the futures markets that have no concurrent exposure to the cash markets and no intention to deliver or receive the underlying variables. Essentially, they are simply motivated by the profit potential from trading in the commodities/financial variable markets in the future and accordingly proceed to open and close futures contract positions in response to market opportunities that present themselves.

However, as stated previously within the discussion on forward contracts, the imposition of delivery is not the proper means to eliminate gambling behaviour in the financial markets. For besides the negative effects to the hedging community, especially since the contracts are not tailored to the specific exposures of the various hedging parties, the forced delivery will be simply considered as a transaction cost by the pure speculators much like the costs of the margin system are (see below). The eventual outcome will be a framework that comprises higher transaction costs with no discernible benefits.

Interestingly, the often quoted figures of very low delivery ratios for futures contracts is likely a result of *both* the lack of tailored contracts for hedgers and the presence of pure speculators; not only a function of the latter. Along the same lines, for the cash-futures link, it is not the actual delivery that is important in the context of the pricing of the futures contracts; it is actually the prospect of delivery. This is because the presence of the prospect of delivery, and indeed the requirement for delivery for those who have not offset their contracts prior to maturity, serves the same role by forging the cash-futures link whereby the futures price is approximately equal to the cash price at the expiration of the contract. In other words, contrary to some beliefs about the futures markets by some *Shari'a* scholars (see next chapter), the derivatives

markets do not exist in a vacuum of pure gambling that is completely detached from the activities and prices in the real economy.

The third difference between forward and futures contracts is that the counterparties do not actually trade with each other but rather enter directly into a futures contract with the exchange itself which becomes the buyer to every seller and the seller to every buyer. This system was designed with the intention of reducing the risks of default by the counterparties as well as facilitating the clearance activities of the futures market participants. Thus, within the framework of futures, the counterparties are, in effect, liable to the exchange for performance; and if a particular counterparty defaults on a futures contract, the exchange honours the contract to the other counterparty by the absorption of the loss from its own reserves. To that end, the financial integrity of the exchange is sustained by a process called marking-to-market (see below) along with the establishment of margin accounts by the members of the exchange.⁷¹

The margin accounts are accounts by the party with an open position in the exchange that benefits from and absorbs the losses from market fluctuations.⁷² At the initiation of the contract, the margin account usually requires funds totalling around two to five per cent of the value of the underlying assets of the futures contract and can be paid in cash or by pledging securities at a discounted value in order to avoid cash payments⁷³ (Catania & Alonzi, 1997; Hull, 2009). Further, the initial margin is also a function of the volatility of the price of the underlying variable and the nature of the client entering into a particular futures contract (i.e., hedger vs. pure speculator).

Specifically, a higher volatility in the market prices of the underlying variable and/or the adoption of speculative motives by the transacting party will necessitate higher initial margin requirements while lower pricing volatility and a bona fide hedging

⁷¹ The members of exchange can, in turn, require margin accounts by the various traders and clients who seek access to the exchange through their patronage.

⁷² The trader or client can withdraw excesses from the margin account in case of favourable market movement and are required to put up more funds in the account to address losses from unfavourable market movements.

⁷³ For example, Treasury bills and common stock are usually accepted at ninety per cent and fifty per cent of their value, respectively.

profile allow for a lower initial margin due to the lesser risks of default. That said, the margin system should be thought of as a performance bond or a good faith deposit and not a premium (as in options) or leverage (as in debt) for the transaction. Interestingly, the OTC markets for forwards and swaps have begun to adopt a similar structure to the futures margining system by introducing collateralization to their contractual structures for counterparties with less than perfect credit ratings (Hull, 2009).

Fourth, the futures contracts are effectively rewritten every trading day at the new futures price due to exchange rules stipulating daily mark-to-market of open positions. Hence, as with the forward contracts zero-valuation at initiation due to the theory of arbitrage, the futures contracts have a valuation of zero at the beginning of every trading day until maturity. This feature, in effect, makes futures contracts similar to a forward contract paid for on a unique instalment plan that is a factor of the movement of the market prices throughout the duration of the contract (Cox, Ingersoll, & Ross, 1981; Richard & Sundaresan, 1981).

Essentially, the buyers (sellers) of the futures contracts are expected to make (receive) daily instalment payments towards the eventual purchase (sale) of the underlying asset for the price stipulated in the futures contract. When the contract matures, the buyer and seller of the underlying asset will have already paid/received the difference between the initial price in the futures contract and the futures price at maturity, which, as mentioned earlier, will equal the spot price prevailing in the financial markets in an arbitrage-free setting due to the prospect of delivery (Richard & Sundaresan, 1981).

After outlining some of the structural differences between forward and futures contracts, it should be noted that there are also divergences in the pricing configuration of the two derivative instruments due to the different payoffs structures. For while the cash flows of the forward contracts only occur at maturity resulting in the accumulation of any changes within the contract until its termination, the mark-to-market process in the futures contracts results in daily cash flows (i.e.,

instalments) between the counterparties as a result of market fluctuations (Black, 1976; Cox, Ingersoll, & Ross, 1981; Jarrow & Oldfield, 1981; Richard & Sundaresan, 1981). This fundamental difference has implications not only in the equality of forward and futures prices, but also in the effectiveness of the market risk hedges, even in arbitrage-free settings.

More specifically, the receipt and payment of the daily cash flows throughout the life of the contract introduce an element of uncertainty due to inclusion of the opportunity cost of capital (i.e., base rate) in the pricing of the derivative instruments. At the heart of the uncertainty is the fact that a forward contract is priced with a base rate that is assumed to be a deterministic and thus constant until maturity. Conversely, in the futures contract, the continual reinvestment and/or borrowing cannot be assumed to be done at a constant rate because interest rates themselves have stochastic (random) tendencies in their fluctuations. Having said that, the sufficiently low correlation between interest rates and most futures prices can result in a fair approximation between the two contracts (Minton, 1997).

The third derivative instrument that will be examined is the swap contract. In a swap, the counterparties agree to exchange periodic payments based on a pre-determined amount of principle at specified intervals that usually extend into the medium- to long-term timeframe. The payments, in turn, can either be fixed or may float with an agreed-upon benchmark that varies over time. Essentially, one set of the cash flows is the one associated with a party's market risk exposure and the second cash flow is related to their desired exposure based on the status of their balance sheet and future operational expectations. These cash flows can be related to interest and currency rates as well as commodity prices. However, given that commodity swaps are not a large part of the swaps market and when they are utilized they are traditionally viewed as tailored investment products rather than hedging instruments, the assessment of the swap market will focus on interest rate swaps and currency swaps.⁷⁴

⁷⁴ This is also in line with the examination of the Islamic swaps that will commence in the next chapter.

The “plain vanilla” interest rate swap is the most common type of swap (Brown & Smith, 1995) and involves the exchange of a fixed set of interest rate payments for a floating one on a common principle amount by counterparties known as the fixed-rate payer (long hedge) and the floating-rate payer (short hedge). The floating side of the periodic payments is usually linked to LIBOR or some other variable interest rate; while the fixed rate, for its part, is broken down into two components: a Treasury note yield and a swap spread (Brown & Smith, 1995). Basically, the fixed rate is determined by using the yield on the most recently issued (and usually the most liquid) Treasury note with the same maturity as the swap along with the spread added on by the financial intermediary that accounts for its fees (hedging and operating costs plus profit) as well as the premium for the default and liquidity risks (Brown & Smith, 1995).⁷⁵

Notably, the principle is only “notional” in that it is not exchanged neither at the beginning nor at the end of the contract because there is no economic value to exchanging exactly the same amount of money at exactly the same time. Moreover, it is market convention that settlements are made on a net basis in that, based on the movements of the market interest rates, the party owing the larger amount will simply pay the other party the difference.

Currency swaps are different from the interest rate swaps in that the counterparties engage in the spot exchange of the principle at inception, the payment of the cash flow streams at specific dates for the duration of the contract, and then the reversal of the swap with the re-exchange of the principle at the agreed-upon maturity, all of which are denominated in two different currencies (Cooper & Mello, 1991; Hull, 2009). The contracts can be more flexible by defining the intermediary cash flows as being fixed-fixed, fixed-floating, or floating-floating in the benchmark rates of the different currencies. Needless to say, the flexibility of the currency swaps, while

⁷⁵ The ability of market participants to unambiguously monitor the current treasury yield results in the market convention of quoting only the swap spreads. For its part, the swap rate is the average of the fixed rate that the financial intermediary is prepared to pay in exchange for receiving floating (bid rate) and the fixed rate it is prepared to receive in return for paying floating (offer rate).

offering tailored hedging products, do make the pricing of these instruments more complex and preclude it from payment netting.

Thus, as demonstrated by the aforementioned description of the interest rate and currency swaps, the essential variables in each swap contract is the level of the fixed rate, the manner in which the variable rate is determined, the scale of the transaction (i.e., notional principle), the currency of the cash flows, the dates of periodic payments along with the maturity, and the events of default (Brown & Smith, 1995, p. 3; Cox, Ingersoll, & Ross, 1980; Ramaswamy & Sundaresan, 1986). These negotiated variables, which are a function of the preferences by the counterparties, serve as the fundamental elements for their pricing and valuation.

With that, there are two basic approaches to the pricing and valuation of swaps. The first, and simpler, approach is to view the swap as the exchange of two hypothetical securities (Bicksler & Chen, 1986).⁷⁶ For example, in an interest rate swap, the fixed-rate payer can be viewed as the seller of the fixed-rate bond in return for the floating-rate bond given by the floating-rate payer. Alternatively, in the second approach, the swap can be considered as a series of forward transactions extending until the maturity date. An exporter, for instance, who utilizes currency swaps to manage currency risks is effectively entering into successive foreign currency forwards for specific durations (e.g., six months) with known but different fixed rates for each period that continue until the currency exposure is terminated (Litzenberger, 1992).

Thus, with the assumptions that: 1) The floating- and the fixed-rate securities sell at par at initiation (i.e., the cash flows are discounted at the relevant interest rate),⁷⁷ 2) The forward interest rates are realized, 3) The term structure of interest rates is upward sloping⁷⁸, and 4) The presence of arbitrage-free market conditions (i.e., any mispricing in the securities given their defining features will be eliminated by market

⁷⁶ In markets where the swap instruments are not active (e.g., emerging markets), the bond swap approach to valuation may be of greater use (Brown & Smith, 1995).

⁷⁷ The floating rate is set at initiation and usually paid in arrears. Further, the floating rate security is considered "fair deal" at each settlement date in that it is valued at par.

⁷⁸ To account for the general tendency for short-term liquidity preferences and the increasing probability of default for longer-term maturities.

forces), the interest rate swaps fixed rate will be a present value of the average of forward rates for the duration of the swap. Effectively, this means that the fixed-rate payer expects to make net payments at the earlier part of the swap duration and receive net payments in the latter part (Smith, Smithson, & Wakeman, 1988; Sun, Sundaresan, & Wang, 1993).

For the currency swaps, the same set of assumptions apply with the addition that it is also presumed that the forward exchange rates, in addition to the interest rates in each currency's home market, are realized. As for cash flows, if the interest rates in the two currencies are different, it can be construed that the payer of the higher interest rates throughout the duration of the swap will have a positive final exchange and vice versa (Brown & Smith, 1995).

In terms of valuation, the value of any swap instrument (a.k.a. its "replacement cost") is: 1) The difference in the values of the two hypothetical securities, and/or 2) The present value of the difference between the application of the average forward rates (i.e., the fixed rate) and the floating rate to the notional principle. As a practical matter, the calculation of the value of a swap instrument can be undertaken by direct observation of prices and rates in the financial markets (e.g., OTC-traded FRAs or exchange-traded futures) or through the interpolation process which, as described earlier, is based on inferences from available market variables (Litzenberger, 1992). Notably, in an arbitrage-free setting, the hypothetical security or FRA-based pricing, whether done by direct observation or calculation, will always be the same.

Having discussed the technicalities of the interest rate and foreign currency swap instruments, it may be necessary to state the economic rationale for their particular usage and high growth since that first transaction was organized by Solomon Brothers between the World Bank and IBM in 1981 (Chancellor, 1999).⁷⁹ For this, the most cited economic rationale is based on the comparative advantage argument that is built on the existence of what Bicksler and Chen (1986) call "quality spread differentials."

⁷⁹ The transaction was a currency swap contract to exchange Deutsche marks for Swiss francs.

The quality spread differentials are the differences in the spread between what the lower-quality borrower must pay over the higher-quality borrower for funds in the same denomination for an identical maturity (Bicksler & Chen, 1986; Litzenberger, 1992; Visvanathan & Schrand, 1998). These spreads are observed to be increasing with the prolongation of the maturity associated with credit financing (Wall & Pringle, 1989); and are thought to exist also in foreign exchange markets (Hull, 2009).

In contrast, the swap markets are said to offer lower quality spread differentials than credit markets for lower-rated parties (Sun, Sundaresan, & Wang, 1993). Thus, the swap markets offer different comparative advantages to the various counterparties in that the higher-rated counterparties often have an advantage in borrowing in the fixed-rate markets and the lower-rated counterparties have an advantage in borrowing in the floating-rate markets.⁸⁰ Similarly, a particular swap counterparty is likely have an advantage in borrowing in its home currency due to lower asymmetry of information.

Therefore, it can be beneficial for the counterparties to transact in the markets where they have the comparative advantage and swap the unwanted exposure for their original desired exposure in terms of interest rates (fixed/floating) and/or currency (Brown & Smith, 1995; Hull, 2009; Litzenberger, 1992; Whittaker, 1987). For example, the higher-rated counterparty is recommended to borrow in the fixed-rate market, even though it is interested in a floating-rate financing in a wider context of asset-liability management, and swap that exposure with a lower-rated counterparty who has transacted in the floating-rate market even though it is actually interested in the fixed-rate financing. Likewise, a company from Turkey, for instance, is advised to borrow in Turkish Lira, even though it is interested in meeting an exposure in Malaysian Ringgit, and swap that exposure with a counterparty that is seeking an

⁸⁰ However, the cost, and the risk, of the advantage granted to the lower-rated counterparty in the floating rate market is that if the credit rating deteriorates it faces higher financing costs in the future and even the possibility of the refusal for the continued roll-over.

exposure to the Turkish Lira. Ultimately, the cost savings can be shared between the counterparties through negotiation.

To be certain, the prospect of credit arbitrage, as outlined earlier, has been unconvincing to some writers since the presence of arbitrage, by its nature, has the seed to its own demise. Specifically, the presence of credit arbitrage opportunities should technically result in the elimination of the quality spread differentials and eventually the severe reduction, not growth, of the swap markets (Kuprianov, 1994; Smith, Smithson, & Wakeman, 1988; Turnbull, 1987). In light of that assertion, it is also important to recognize that the credit markets can and do exhibit structural particularities due to the insertion of qualitative analysis in the overall credit extension process. That is to say, the lack of exclusive focus on the base rate, as in the analysis of derivatives and the overall pricing of assets/liabilities, does introduce opportunities for different interpretations of credit risks by various market participants.

However, despite the arguable existence of quality spread differentials, the tremendous growth of the swaps market in the last thirty years probably includes the concomitant presence of other equally valid causes. For this, Smith et al (1988) note that the general increase in the risk management awareness by institutions and the ability to create tailored hedging and investment instruments is likely to have contributed to the popularity of the swap contracts. It has also been contended that these instruments have tended to exhibit lower default and liquidity risk characteristics than those existing in the credit markets (and even the forward derivative markets) due to the resetting mechanisms throughout the duration of the swap contract (Litzenberger, 1992; Smith, Smithson, & Wakeman, 1988).

Finally, the transaction costs of the swap market have not only been low since its inception, but have been tightening as a result of the competition in and sophistication of the swap markets. This is in contrast to the higher transaction costs associated with the prospect of issuance of bonds (*Sukuk*) in financial markets which can be used for the same purposes (i.e., parties issuing securities in their comparative

advantage markets only to exchange them) or the cost associated with the entrance into a series of forward transactions. In other words, the pricing of the swaps by way of analysing the hypothetical exchange of securities and/or a series of forward contracts does not necessitate that one take on the costs related to these transactions for the effective realization of the hedging benefits of swaps.

Having examined the technicalities of the utilization and valuation of the forward-based derivative instruments, it is perhaps necessary to outline some of the distinctive risks that are assumed by the parties in those types of derivative contracts. These include: market risk, default risk, basis risk, and accounting risk.

Market risk and default in the realm of derivatives are mirror images of each other in that they are inversely related. More specifically, market risk is the risk that the mark-to-market value of the derivative instrument is negative to the hedger resulting in it becoming a liability. However, in a true hedging scenario, this risk is largely offset by the original market risk exposure in the cash markets. That is, the gain (loss) on the derivative instrument will be offset by a loss (gain) on the balance sheet of the hedger as a result of the market risk exposure.

Default risk, in contrast, is the risk that the counterpart will default on its obligation when the derivative instrument is an asset to the hedger (i.e., a liability to the counterparty). With that, it should also be noted that the default risk on a derivative instrument is not similar to the default risk in credit markets. This is because the default of a derivative contract does not involve the “notional” principle that forms the basis of the instrument but rather the costs of default are only the replacement cost of the contract which is essentially based on the differentials between the discounted cash flows of the initially agreed upon price and the expected market price at maturity. In fact, the fallacy of having the notional principle being the measure of exposure can be ostensible in that swaps with longer maturities have a higher exposure than swaps with shorter maturities even though the notional principles may be the same.

Further, this *gross* amount is reduced even further as one considers netting arrangements that is common in those contracts along with the assignment of collateral for the transaction. Additionally, the dynamic nature of the derivative contracts in that they can fluctuate from being an asset to being a liability to the counterparties makes it more fluid rather than a static format of default exposure.

Along the same lines, at the macro-level, the total systemic risk⁸¹ posed by derivatives should be contextualized before one could properly analyse its effect on the financial markets. In effect, apart from the inappropriateness of using the commonly quoted outstanding notional principles as a means to enumerate risk exposures, the off-setting risk exposures of the totality of open derivative contracts along with the overall volatility of the particular market segment as well as the differing sensitivities and time to maturity in addition to risk profiles of the various instruments in relation to the underlying assets should also be considered in order to arrive at a more informative statistic (G30, 1993).

In terms of managing the risk of default, as stated earlier, these are largely absent in the futures contracts due to the interfacing by the relevant exchange. For forwards and swaps, however, the parties to these instruments often actively analyse their prospective counterparties prior to entering into a derivative contract with them (i.e., minimum credit rating, concentration of any existing exposure, etc.) as well as are contractually obligated in some cases (e.g., swaps) to adhere to bilateral netting provisions which stipulate the offsetting of losses from gains from any outstanding contracts with the defaulting party. The posting of collateral, even if costly, has been also effective in that regard.

As for the basis risk, it was originally recognized by Holbrook Working in 1953 that “a major source of mistaken notions of hedging is the conventional practice of illustrating hedging with a hypothetical example in which the price of the future bought or sold as a hedge is supposed to rise or fall by the same amount that the spot

⁸¹ Systemic risk can be defined as: “the risk that a disruption (at a firm, in a market segment, to a settlement system, etc.) causes widespread difficulties at other firms, in other market segments or in the financial system as a whole” (Promisel, 1992, p. 61).

prices rises or falls” (Working, 1953, pp. 320-321). In essence, basis risk is the correlation between the price of the underlying variable tied to the original market risk exposure and the price of the variable underlying the derivative instrument (Haushalter, 2000, p. 108). The lower the correlation between the two, the less perfect is the hedge and the greater the basis risk (Ederington, 1979; G30, 1993).

The presence of basis risk is greater in the commodity markets than in the interest rate and currency markets. Basically, each hedging party has its unique inputs into its production (quality and grade) with a rather specific timing for these needs. The negotiation with the counterparty may yield an agreed-upon contract that differs, albeit to a small extent, from the exact requirements of each party. In the case of futures, the standardization of contract sizes, quality, and delivery dates poses its own format for the basis risk.

However, the laws of arbitrage-free pricing do keep the basis risk to a minimal level in the commodity markets (due to the prospect of making delivery) and render it almost non-existent in the interest rate and currency markets. Thus, overall, it can be construed that the hedging party by utilizing the derivative instrument trades the uncertainty associated with a market risk exposure to the much lesser prospect of basis risk.

The accounting risk, for its part, is the “uncertainty over the proper accounting treatment of the derivative transaction” (Chance & Brooks, 2010, p. 557). This risk is present in the international financial markets as the debate over regulation and disclosure of the derivative instruments continues to unfold in the aftermath of the global financial crisis; however, there is currently a set of basic minimum of standards that is elaborated by the International Accounting Standards Board (IASB).

For institutions operating in the Islamic finance industry, the accounting risk is compounded by the unavailability of any accounting standard by the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI). This is despite the fact that many Muslim businesses and Islamic financial institutions, including

some of the respondents in the practitioner group, use swaps (in particular Islamic swaps) as part of their operations at an increasing pace especially after the growing acceptability by the various *Shari'a* committees in the industry and the development of the *Tahawwut* (hedging) Master Agreement (TMA) for swap transactions by the International Islamic Financial Market (IIFM).

In fact, the acuteness of this particular risk in the Islamic finance industry has been made apparent in that only one of the many respondents asked directly about the recognition of derivatives in the financial statements by the entities that use them was able (by way of conjecture) to state the proper accounting treatment for these instruments (the issue of recognition will be discussed at length in the coming chapters).

As for the motivations for entering into one forward-based derivative contract over another, the motivations for the utilization of a particular derivative instrument for the management of market risk exposures are essentially a factor of the nature of the actual market risk exposure and the transaction costs as well as the risks associated with the derivative instrument itself. Thus, it can be observed that market risk exposures with frequent cash flows (e.g., borrowing/lending-based interest rate and currency exposures) are more likely to be hedged with swap contracts due to its customization benefits along with the lower transaction costs taken in totality. Futures and forwards can be used more in commodity and currency transactions that deal with less frequent, but possibly larger, exposures.

The unique risks of the derivative contracts do also play a part in the decision process. Specifically, the lower default risks inherent in the futures transactions followed by swaps and then forwards are balanced against the increase of the basis risk offered by the futures transactions vis-à-vis the more tailored swaps and forwards in forming the optimal risk transfer strategy.

The discussion in this section thus far has focused on the forward-based contracts, which included an in-depth review of the economics of the forwards, futures, and

swaps. The remainder of this section will concentrate on the examination of the option-based contracts, as the second form of derivative instruments, with the aspiration that this should provide a more complete picture of the derivative markets.

The option contract is the foundation of all the option-based instruments, which can include very sophisticated derivative strategies⁸² that are more innovative than those offered by forward-based contracts. The sophistication of the option strategies, and the concomitant growth in options trading, were an outcome of the Black-Scholes-Merton mathematical modelling that was developed in 1973 in papers by Black and Scholes as well as Merton (Black & Myron, 1973; Merton, 1973) in addition to the establishment of the Chicago Board of Options Exchange in the same year.⁸³

There are essentially two types of options: the call option and the put option. A call option gives the holder the right to buy a specific underlying variable by or at a certain date (depending on the nature of the option⁸⁴) at a pre-determined price. The put option, on the other hand, gives the holder the right to sell a specific underlying variable by or at a certain date at a pre-determined price. Notably, the right by the holder of the option is not an obligation from his/her part to “exercise” the option. This is in contrast to the obligation by the writer of the option to honour the right of the holder to exercise the option in the framework that is stipulated in the contract (maturity, exercise price, underlying asset, etc.). In return for the rights contained in the option contract, the holder of the option pays a premium to the option writer as a form of compensation for the risk exposure.

Thus, as can be apparent, the option contract is, for many reasons, fundamentally different from the forward-based contracts outlined earlier. First, while the obligations in the forward-based contracts are mutual, the responsibility for performance in the option contract rests solely with the option writer. This supplants the nature of the mutual risk transfer, and shared asset/liability classification, that is present between the counterparties in forward-based contracts. Second, entrance into

⁸² These include caps, floors, collars, corridors, straddles, butterflies, among many others.

⁸³ Options are also traded in the over-the-counter market.

⁸⁴ There are also other types of options such as the Asian options, Bermudan options, etc.

a forward-based contract is cost-less for the counterparties (except maybe the cost of the margin account for the futures market and the collateral in swaps and forward markets), the commencement of an option contract, however, entails an explicit fee payment from the option holder to the option writer.

Third, whereas the hedging strategies of the forward-based instruments are linear in nature in that these instruments, for the most part, exactly offset market risk exposures, the option instruments are non-linear in that they eliminate exposure to adverse market movements all the while allowing the option holder to benefit from favourable ones. In essence, option contracts are more akin to insurance than true hedging because their value to the holder, after the payment of the premium, is either positive or zero. However, it should also be noted that the asymmetry in the payoff for options can be quite dramatic in that the buyer (seller) of the option chooses the certainty of the loss (gain) of the premium over the potentially unlimited gain (loss) in the value of the contract.

Aside from the contractual differences, the option contract offers a much different pricing and valuation structure than the one presented earlier under the various forward-based contracts. Essentially, the valuation of an option as per the Merton-Scholes model is dependent on: 1) The market price of the underlying variable, 2) The exercise price of the option, 3) Time to expiration of the option, 4) The volatility of the market price of the underlying variable, and 5) The base rate over the life of the option (G30, 1993).

From these factors, two sets of values materialize in the valuation of option instruments: the intrinsic value and the time value. The intrinsic value of an option to its holder is the greater of either zero (if a negative value) or the difference between the market price and the exercise price (if a positive value). The time value is any premium that the market adds to the value of the option that is greater than the intrinsic value. This premium is greatly affected by the time to maturity and the volatility in the market price of the underlying asset. In effect, the longer the time to maturity and the higher the volatility, the greater the market premium for the option

(and vice versa). Thus, as time passes, and if the price of the underlying variable remains relatively constant, the only way that the value of the option remains constant or increase is by way of an increase in volatility in the price of the underlying.

Thus, one may discern that, apart from the non-linearity and the asymmetry of the payoff of the hedging functionality, the actual pricing of the options poses challenges to its effective use in the risk management sphere. These challenges revolve around the valuation of the option that is to be used and its effectiveness in offsetting the adverse market risk movements affecting the actual exposure to the underlying asset. For while the relationship between the valuation of the forward-based derivatives and the price of the underlying asset is relatively constant throughout the duration of the contract, such a case is not apparent with options which are considerably affected by the factors stated earlier, not the least of which is volatility.

Eventually, the utilization of options in a hedging strategy requires a much more dynamic risk transfer approach that is continuously adjusted in a process named “delta hedging.” This process, which seeks to ensure a fairly perfect hedge, entails the continual adjustment of the hedging position to account for the effects that time and volatility (along with stochastic interest rates) exert on the value of the option.⁸⁵ This, of course, imposes the need for constant monitoring and analysis by the hedger along with the necessary transaction costs to implement the required changes.

The previous discussion on the utilization of options demonstrated serious issues (maybe even shortcomings) with their usage in pure hedging scenarios, especially when compared with the linearity and relative certainty of the payoffs of forward-based contracts along with the simplicity of their utilization for market risk management. In effect, the unique nature of the forward-based contracts endows it

⁸⁵ The time decay, volatility, and interest rates are called theta risk, vega risk, and rho risk, respectively. Theta risk is the exposure to a change in the value of the portfolio to the passage of time. Vega risk is the change in the value of the portfolio to the change in expected volatility of the price of the underlying asset. Rho risk is the exposure to the change in the value of the portfolio to a change in the rate used for discounting future cash flows (G30, 1993, pp. 41-42).

with a form of risk sharing between the counterparties rather than a one-way system that is based on a right to one party and one obligation by another.

Moreover, the importance of volatility in the pricing of options have arguably imposed negative systemic implications in that it provides an incentive to the financial markets to generate profits from option-based strategies through manipulating volatility. This was elucidated in a 2003 speech by Gertrude Tumpel-Gugerell, the ex-member of the Executive Board of the European Central Bank, with her statement that volatility is:

“[A] tradable market instrument in itself. On one hand, we can measure and estimate volatility and in doing so affect the value of that volatility. On the other hand, we can buy, or sell, volatility, and by doing so clearly affect its value. This volatility trading is carried out by means of dynamic trading strategies involving options, mainly plain vanilla calls and puts, but increasingly also more complex option structures. Such trading strategies are nowadays mastered by market professionals.”⁸⁶

From the foregoing analysis, it can be construed that one would have an easier task defending the market risk hedging argumentation by way of the utilization of forward-based derivative instruments (i.e., linear risk and return payoffs) than their option-based counterparts because of the undeniable speculative characteristics of the option-based strategies, even if they are used for hedging. This is, despite claims to the contrary in some of the Islamic finance literature (Kamali, 2000b, pp. 181-182; Obaidullah, 1998, p. 100).⁸⁷

To be sure, it has been contended that there are situations (e.g., contingent liabilities) in which options are most effective in hedging such as in, for example, the usage of options by contractors to hedge currency and commodity exposures as part of a bidding process (Bacha, 1999, p. 8) or by farmers who are eager to hedge *both* the price and quantity of their production (Al-Amine, 2008, p. 201).

⁸⁶ Available at <http://www.ecb.int/press/key/date/2003/html/sp030702.en.html>. Accessed on 9/10/2012.

⁸⁷ Obaidullah makes the sweeping, and erroneous, generalization of options in that he concludes: “We also show that this tool of risk management cannot be used for speculating on price differences,” while Kamali’s assertion is more tempered, but still inaccurate, whereby he states: “options trading cannot be equated with gambling or over-indulgence in financial speculation since it is basically designed to minimize speculative risk-taking, and for the most part operates as an antidote to gambling.”

However, while these contentions are true to some extent, it is also apparent that there is a form of speculation in their usage. In effect, for the bidding argument, the pure hedging assertions begin to weaken with the potential combination of a refused bid and a favourable value of the option position (i.e., in-the-money). As for hedging both the price and quantity, apart from the importance of assuming core risks (in this case the quantity of crops by the farmer), as discussed in the previous chapter, it is not evident how would a favourable price movement and a high yielding crop season would factor into a pure hedging strategy using options.

In effect, if one concedes that the usage of derivatives in hedging contexts is undertaken in matters relating to an insurable interest by the hedging party wherein the derivative instrument provides indemnity to any sustained losses, then as stated by Culp: “The requirement of that the hedger has an insurable interest means by definition, that the *net* [sic] of the indemnity contract and the natural position of the hedger cannot ever be positive” (Culp, 2004, p. 73).

Conclusion

This chapter delved into the economics of the derivative contracts and the technicalities of their usage in the financial markets with a particular focus on hedging transactions. The significance of this discussion, and the greater understanding that it is trying to elicit, will become apparent in the coming chapters not the least of which the next one that concentrates on the conceptualization of derivatives in the Islamic finance industry by the *Shari'a* scholars and academics, which, in turn, played a major role in instigating a movement of superficial replication by market participants.

Suffice it to note at this stage that this chapter demonstrated that derivative instruments, by virtue of the law of one price and the theory of arbitrage, are an effective means to lessen *Gharar* (excessive uncertainty) in the financial markets in that they, when used as tools for risk transfer, reduce the uncertainties of future transactions between parties in a transparent manner.

Further, and with a particular reference to the prohibition of *Riba*, it has been shown that derivative transactions are not debt transactions with a unique debtor-creditor relationship. In fact, derivative contracts cannot serve the financing needs of any party since they do not provide funding at contract initiation. Essentially, they are a complement to financing (including operational arrangements) to make it more effective and efficient for the parties involved.

As for the interest component in the pricing of these instruments, it has been also shown that the interest rates are not used in a usury context in the credit markets; rather, much like the utilization of LIBOR for *Ijara* (leasing) financing in Islamic finance, they are used for pricing to account for the preferences (e.g., liquidity, among others) of economic agents as well as a benchmark for the uncertainty (including inflation uncertainty) associated with the holding period of these financial instruments.

In terms of the potential usage of derivative contracts in the Islamic finance industry as investment instruments by parties seeking to speculate on market movements, it is contended that this is a complex subject due to the state of the Islamic finance industry itself as well as the multifarious nature of the effects of these instruments on economic growth, in general, and the stability of financial markets, in particular.⁸⁸ With that, it should be stated that the interviews with the respondents show that the majority of respondents, across all groups, expressing an opinion on the utilization of derivatives for investment purposes were sceptical, if not outright apprehensive, of the idea of using derivatives as investment vehicles due to its perceived proximity to *Maysir*.

That said, a more complete analysis on the permissibility of derivative instruments as investment vehicles may be warranted, but is nonetheless outside the scope of the

⁸⁸ The state of the Islamic finance industry is being mentioned since it was articulated by one of the respondents in the consultants group that the Islamic finance industry has a shortage of investment vehicles and consequently derivatives (presumably with a responsible usage) can be of value in that regard.

current discussion that is focused on their usage in the context of proactive, prudential measures in a wider market risk management framework. In fact, if anything, it is important to realize that the usage of derivatives in the context of hedging (e.g., immunization) is actually the reverse of *Maysir* in that the institutions facing exogenous non-core market risks are choosing to not “play the market” and are instead following a more disciplined approach that centres on core competencies and risks.

Notwithstanding the above, there are some facets of this issue that will be partly covered in the Hedging, *Maysir*, and Derivatives Chapter (Chapter 8), which can be of value in forming the basis for a future exploration of derivatives as investment products. The discussion in the nature of the underlying assets of the derivative contracts, particularly interest rates and currency, as part of The Permissibility of the Underlying Variables and the Recognition of the Contract Chapter (Chapter 7), can also be of value in the wider debate.

It is perhaps appropriate at this juncture to also state that the focus (although not exclusive) in the remaining chapters will be on the forward-based derivative instruments due to their more amenable utilization as contracts in a hedging context without the controversial charges of speculation that has often circulated with their usage. Essentially, while it is acknowledged that options contracts can be used for risk management, the nature of their payoff structure (i.e., non-linear) does make the argumentation for the acceptability of their usage in Islamic finance exclusively as hedging instruments more challenging.

Apart from the issue of permissibility, it is recognized, from the foregoing discussion, that there are some aspects in the derivative markets that merit reform and innovation. These range from contractual changes to further reduce uncertainty and reduce costs to institutional transformations that should seek to increase regulation as a way to reduce the harmful effects of the derivative markets. These will be alluded to in the coming chapters and will hopefully make their way to the literature on the subject matter in the future. The ultimate objective, as is always in

the case in the *Maqasid Al Shari'a* (Objectives of Islamic Jurisprudence), is to increase human welfare through the stable and sustainable growth in wealth.

However, it needs to be emphasized here that the pursuit for the realization of the *Maqasid Al Shari'a* in commercial matters is invariably linked to economic theory as an active part, alongside the juridical and legal theories, in the process of contextual conceptualization of the discourse that surrounds derivative instruments. In effect, it should to be acknowledged, to a greater extent than is currently observed, that the significance of the economics can only be evident by the wealth of *Ahadith* that have economic content.

Interestingly, these *Ahadith* have shown repeatedly the flexibility of the Prophet (PBUH) in the face of the real commercial challenges that confronted the Muslim population (e.g., allowing *Salam* financing). This realization is important as one proceeds to the coming chapters that will examine the wide array of issues, collectively and individually, that surround market risk management in Islamic finance, in general, and usage of derivatives in the industry, in particular.

Chapter Six: Derivatives in Islamic Finance

Introduction

The previous two chapters discussed the topics of market risk management and the utilization of derivatives as hedging instruments in conventional finance in order to assist in the efficient transfer of these risks (and returns) between economic agents. It has been argued that hedging, in general, not only reduces the possibility of financial distress and its associated costs, but also serves to assist in the creation of an enabling environment for capitalizing on growth opportunities in competitive markets as well as potentially reducing the tax costs of businesses.

In this chapter, the research moves more prominently to Islamic finance with the detailed examination of the prohibitive resolutions elaborated by the three leading standard-setting bodies in Islamic jurisprudence (i.e., Makkah-based Islamic Fiqh Academy, Jeddah-based OIC Islamic Fiqh Academy, and AAOIFI) in addition to the contributions of the various *Shari'a* scholars on the topic of derivatives. Moreover, it is perhaps important to highlight the widening acknowledgment of the significance of these instruments by industry participants and commentators in the past few years, especially with the prospective growth of the Islamic finance industry (Al-Amine, 2008; Bacha, 1999; Dusuki, 2009; El-Gari, 1993; Jobst, 2007, p. 2; Kamali, 2000a; Khan & Ahmed, 2001, p. 137; Moody's, 2010 p. 1). This was also confirmed by the views of many respondents from all the four groups.

Consequently, the contemporary market risk management practices by Islamic institutions will be explored in a manner that mixes the resolutions of the standard-setting bodies and opinions circulating in the Islamic finance literature as well as those of the respondents. Furthermore, the relevant elements of the discussion on market risk management and the economics of derivatives as outlined in the previous chapters will also be examined in light of the forgoing exploration. Finally, a consideration will be given to the topic of financial innovations in Islamic finance

within the context of the Islamic theories that allow for flexibility in the setting of *Shari'a* directives.

Section I: Resolutions by Standard-Setting Bodies in Islamic Jurisprudence

The discourse into the utilization of derivatives in Islamic finance effectively commenced with the debate on the view of the *Shari'a* regarding contemporary security and commodity markets (i.e., financial markets) by the Islamic Fiqh Academy of Makkah in its Seventh Session in January, 1984. In its resolution on the subject matter⁸⁹, the Academy noted the benefits of the financial markets in promoting *Maslaha* (public interest) by providing a permanent forum for buyers and sellers of securities and commodities to transact within the framework of supply and demand. Interestingly, the benefits highlighted were exclusively focused on the cash markets in the realm of investments without any reference to the original purpose of the derivative markets, which is risk management.

However, the derivative contracts were explicitly mentioned as part of the negatives, which according to the Academy,⁹⁰ were: 1) The contracts in the derivative markets are not “real” transactions in that the parties involved do not transfer the actual underlying assets (i.e., delivery and receipt); 2) The seller is mostly selling what they do not own to another party in the future with the payment exchanged at that date, which is in contrast to *Salam* contracts that require upfront payment (see below); 3) The derivative contracts, which entail an artificial exchange, are sold and resold many times until maturity to many parties with the sole objective being the gambling on price differentials; and 4) The derivative markets serve the purpose of the large traders at the expense of small traders, mainly by spreading rumours and market manipulations, resulting in wealth destruction and economic crises.

⁸⁹ See: <http://www.themwl.org/Fatwa/default.aspx?d=1&cidi=94&l=AR&cid=10>

⁹⁰ The substance of the ruling by the Makkah-based academy was translated by the author.

In the latter part of the resolution, the Academy did acknowledge that the benefits and negatives of the financial markets co-exist in a manner that makes it difficult to provide a general ruling, but rather each type of transaction should be given a specific ruling. Surprisingly and notwithstanding this acknowledgement, the Academy proceeded with the following *general resolution* that pertains to derivative transactions: 1) Cash market contracts whereby the goods are owned by the seller and is transacted on a spot basis are allowed, with the exception being the *Salam* contracts for forward sales in which the payment is completed on the spot and delivery is stipulated at a forward date with no third party selling in the interim period; 2) Any spot or forward transactions involving bonds with interest are disallowed due to the prohibition on *Riba*; and 3) *All* forward contracts that have an underlying asset that is not owned by the seller is not permitted.

The Jeddah-based OIC Islamic Fiqh Academy,⁹¹ an equally powerful standard-setting body in the Islamic finance industry, for its part, examined the derivative instruments as part of its discussion regarding the Financial Markets in its Seventh Session in May, 1992. Prior to outlining its Resolution No. 63/1/7 on the subject matter, it may be necessary to survey the research papers by some of the renowned Islamic jurists that shaped the final decision by the Academy.

Of the seven research papers, six of them were mainly focused on options and appear to be in response to eight specific questions by the Academy to the Islamic jurists. These questions were: 1) Is the option contract a known Islamic contract or is it a new type of contract? Moreover, if it is a new contract, what is the *Shari'a* opinion on its permissibility? 2) What is the relationship between the option contract and other contracts such as *Urbun* (earnest money), pre-specified asset sale, *Salam*, and gifting? 3) What is the *Shari'a* opinion regarding charging a premium by the seller for granting a purchase right to the buyer? 4) Can a simple right to the underlying be the object of the contract? 5) If these contracts are exchanged within the framework of an exchange that guarantees performance, what is the *Shari'a* opinion on its role and the actual guarantee? 6) Can a put option be sold or is it a sale of an asset that is

⁹¹ The OIC is the Organization of Islamic Cooperation, which is an international organization consisting of 57 member-countries.

not owned by the seller despite its presence in the market? 7) Can the option contract be considered as a type of purchase stipulation (*Khiyar Al-Shart*), which would render it a permissible contract? and 8) If the contract is not permissible, in whole or in part, how can it be altered in order to make it permissible? (OIC, 1992, pp. 280-281).

The communication of these questions by the Academy, which appear to be partly based on the aforementioned resolution by the Makkah-based Academy, to the Islamic jurists is significant in that it not only pre-emptively influenced the direction of the submitted research papers, but also shaped the discourse that was to follow in the Academy and beyond. The last question, particularly, was quite important in providing the juridical foundation, by way of *Qiyas* (analogical reasoning), for the partaking of financial engineering by market participants in the years that following the resolution with the objective of finding a *Shari'a*-compliant hedging instrument.

The six research papers on options (*Al-Ikhtiyarat*) concluded that these contracts, which were acknowledged as being new forms of contracts unlike any other pre-modern Islamic era ones (e.g., *Salam*, *Urbun*, *Khiyar Al-Shart*, etc.), were impermissible in Islamic jurisprudence. Specifically, the rather consistent findings echoed those of the Makkah-based Islamic Fiqh Academy in that it was stated that options should be prohibited because of: 1) The lack of ownership of the underlying asset by the transacting parties; 2) The sale of a non-existent underlying asset at the time of the contract; 3) The transacting in a contract that is independent of the underlying asset; 4) The partaking in gambling behaviour by market participants by way of those contracts; 5) The prohibition of the transfer of these contracts to third parties; and 6) The lack of delivery and receipt by the transacting parties (OIC, 1992, pp. 73-339).

The sole research paper on the forward-based contracts was one on futures by Justice Usmani⁹², also the Chairman of the AAOIFI *Shari'a* Board (OIC, 1992, pp. 341-

⁹² Justice Usmani's analysis is specifically on futures contracts; however, it can be assumed from his analysis that his opinions extends to the wider forward-based contract market.

355), who has famously stated in a paper at the World Economic Forum Annual Meeting in 2010:

“When we speak of Islamic Finance or Islamic economic principles, it is generally assumed that these principles are emphasized by Muslim scholars only to satisfy the religious requirement of Muslims, or that they are meant only for Muslims to the exclusion of all others. This is an incorrect assumption. Although Islam is basically represented by a set of beliefs, the benefits of its social, political and economic principles are not restricted to Muslims; they are meant for the common good of humanity at large” (Usmani, 2010, p. 3).

In his analysis of the futures markets, Justice Usmani advanced the position that the parties transacting in the forward-based derivatives are either speculators seeking to gamble on price differentials in the underlying assets or hedgers seeking to monopolize an asset to increase their profit margins (OIC, 1992, p. 354). Further, he asserted that the trading in the forward-based contracts is unlike the *Salam* contracts and is more akin to “the sale of one debt for another” (*Bay’ Al-Kali’ Bil-Kali’*), which was reported to have been prohibited by the Prophet (PBUH). Finally, Justice Usmani raised the issue of ownership of the underlying asset that was posed earlier by the Islamic jurists examining the option contracts. Consequently, the final opinion, for him, was that these contracts should not be allowed to take part in the Islamic finance industry.

This prohibitive opinion was elaborated further by Justice Usmani in later discussions on the subject matter in which he maintained that these transactions are invalid because: 1) Sales and purchases cannot be affected for a future date; 2) Delivery is not intended and consequently settlement occurs by price differentials only; 3) Even if delivery is intended, the seller does not have full control over the underlying asset which can be a form of deceit to the buyer; and 4) The transactions are tied together, which is prohibited in Islamic jurisprudence (Usmani, 1999, 2010). Eventually, and once more, he declared these transactions as being “totally impermissible regardless of their subject matter. Similarly, *it makes no difference whether these contracts are entered into for the purpose of speculation or for the purpose of hedging.*” (Usmani, 1999, p. 2; emphasis added).

To return to the ruling by the Jeddah-based OIC Islamic Fiqh Academy, Resolution No. 63/1/7 stated the following: For options, “[o]ption contracts as currently applied in the world financial markets are new types of contracts which do not come under any one of the *Shari’a* nominate contracts. Since the object of the contract is neither a sum of money nor a utility or a financial right which may be waived, then the contract is not permissible in *Shari’a*. As these contracts are primarily prohibited, their handling is also prohibited” (IRTI, 2000, p. 131).

As for forward-based contracts, “[t]his contract is not permissible because of the deferment of the two elements of the exchange. It may be amended to meet the well-known conditions of ‘salam’ (advance payment). If does so [sic], it shall be permissible. Moreover, it is not permissible to sell a merchandise purchased under ‘salam’ terms with advance payment, unless the merchandise has been received” (IRTI, 2000, p. 132). Further, in regards to the futures contract settlement by entering into an opposing transaction, the Academy decided that “it is not permissible at all” (IRTI, 2000, p. 133).

The Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), as the third main standard-setting body in Islamic finance, appears to have not deliberated the usage of derivatives by Islamic institutions at any sufficient extent as evidenced by the lack of any *Shari’a Standards* on this issue. This could have been due to the belief that this issue was examined at length by the Makkah and Jeddah-based Islamic Fiqh Academies and that the aforementioned analysis was deemed thorough and correct in its assumptions and conclusions.

Alternatively, the decision of avoiding to refer to derivative instruments may have possibly had its roots in the elaboration of prohibitive opinions regarding the utilization of interest rate benchmarks and currencies for speculation *or* risk management purposes (see next chapter). The eventual outcome was that this institution has chosen excluded itself from the discourse on the subject matter despite being in a superior, and indispensable, position to closely interact with both the Islamic jurists and the market participants in order to bridge the gaps in the

understanding of the challenges being faced by contemporary business and financial environments with a focus on financial reporting.

Prior to delving into the *Shari'a* issues that were outlined earlier by the standard-setting bodies, it is important to take note of the explicit prohibition of any form of hedging through forward-based derivative instruments by Justice Usmani which eventually contributed to their broad rejection by the Jeddah-based OIC Islamic Fiqh Academy, and also presumably led to the decision by AAOIFI to ignore derivatives all together. In effect, if the argument was simply regarding the fear of engaging in pure gambling and its effects on global financial stability, the issue would have been understandable, and to a certain extent manageable, even if one disagrees with the generalization.

Apart from the gambling behaviour, it is rather surprising that such a strong conviction was demonstrated by these standard-setting institutions regarding an instrument that has been acknowledged by all their Islamic jurists and their Resolutions as being “new type of contracts” without specific proscriptions in the scripture, which takes it out of the purview of *Qiyas* with pre-modern contractual forms as a source for the analogy. In other words, it does not appear that the discourse on these instruments in the juridical sphere gave adequate consideration as to: 1) Whether or not derivatives are beneficial to society? and 2) if they are found beneficial in some respects and detrimental in others (increased competitiveness and reduction in probability of bankruptcy due to hedging vis-à-vis global financial instability due to excessive pure gambling), how should they be handled and regulated?

Essentially, the work of Al-Ghazali (1993) on the five essential elements (*Al-Durariyat Al-Khamsa*) in his *Al-Mustafa Min Ilm Al-Usul*, especially in regards to the protection of wealth (*Mal*), and those of Al-Razi and Al-Qarafi on the same subject matter (Opwis, 2007) in addition to the wider jurisprudence on *Maslaha*

(Hassan, 1994) and *Daroura* (Abu Sulayman, 2003)⁹³, along with an open dialogue with the industry's stakeholders in a more inclusive discourse process, would have undoubtedly been of value to arrive at more thorough findings. This is especially true in the widely recognized disparity between the religious perceptions of Islamic finance by the *Shari'a* scholarly community and the real challenges facing institutions in the contemporary business and financial environments (Al-Amine, 2008; Bacha, 1999, 2004b; El-Gari, 1993; Jobst, 2007; Kamali, 2000a; Moody's, 2010 ; Obaidullah, 1998). The disparity, in turn, was evident in the ambiguity that was manifested by the divergent opinions within and across the four groups of respondents in regards to these instruments.

Notwithstanding the perplexing and arguably religiously unsupported opinions (see below) regarding the prohibition of derivative hedging transactions, it is appropriate at this stage to explore the issues that were outlined earlier as the basis for the prohibition of derivative instruments by the three standard-setting bodies. These issues can be divided into four groups: The first group contains theoretical *Shari'a* issues; the second group comprises contractual *Shari'a* issues; the third group, which will be discussed in detail in the next chapter, is related to the nature of the underlying asset with particular reference to derivatives tied to currencies and interest rates; and the fourth, and final group, which will be explored in the following chapter, entails the examination of the charges of *Maysir* (gambling) that were deemed to be integral to the derivative markets, in a wider context that includes financial intermediaries.

Section II: Theoretical *Shari'a* Issues

The theoretical *Shari'a* issues that have led to a prohibitive stance regarding the derivative hedging instruments revolve around two main points which, in addition to the literature, were corroborated by some of the respondents in the interviews (particularly in the academics, *Shari'a* scholars, and legal experts group). The first point is related to the supposed exchange of debts by the counterparties in a

⁹³ Interestingly, Abu Sulayman was one of the authors that felt that options should be prohibited and did not see any *Daroura* in their existence.

derivative transaction that is akin to the prohibition on *Bay' Al-Kali' Bil-Kali'* (sale of one debt for another) which was deemed prohibited in Islamic jurisprudence. The second point, for its part, focuses on the possession and ownership of assets that are inexistent at the time of the transaction as well as the small prospects of effective delivery at maturity, the sum of which is thought to render these contracts as not being true and genuine.

For the first point, its basis, which led to the proscription of derivative instruments, is connected to a *Hadith* by the Prophet (PBUH) that was reported by Ibn Umar in which the Prophet (PBUH) forbade *Bay' Al-Kali' Bil-Kali'* (Al-Suwailem, 2001, pp. 16-17). The authenticity of this *Hadith* has been a point of contention between *Shari'a* scholars (Al-Amine, 2008; Al-Masri, 1991; Al-Suwailem, 2001; Hammad, 1986; Kamali, 2007) over the years with the arguable outcome that its penetration into Islamic jurisprudence has less to do with the actual *Hadith* and more with the *Igma'a* (consensus) among the various *Shari'a* scholars of the impermissibility of the sale of one debt for another. Effectively, it can be discerned that the consensus view among the *Shari'a* scholars was formulated mainly due to the explicit prohibition of *Riba* as well as the fear of the emergence of societal discord if the debt contracts were not fulfilled, especially if the circle of participation was extended to multiple third parties by exchanging debt contracts.

To be certain, these viewpoints can be characterized as being quite valid in usurious situations where a debtor, unable to pay a particular debt on its due date, asks (or is forced by) the creditor to buy his old debt for another one that is much higher (in absolute and percentage terms) to be settled at a later date.⁹⁴ Another contentious situation can arise whereby a creditor sells his rights over a particular debt to a third party that may be in a separate disagreement with the debtor causing conflict between all the parties. Needless to say, this last example can have, in addition to *Riba*, forms of *Gharar* if the debt itself is in dispute.

⁹⁴ It should also be acknowledged that in some cases the creditor may accept an extension of a lesser amount of the debt for a longer period, which would make the argument of a static juridical view of this prohibition a form of injustice to both parties.

Apart from these scenarios, it is difficult to economically rationalize some of the arguments that seek to extend the prohibition of *Bay' Al-Kali' Bil-Kali'* to any future-centred transaction, such as in the derivative markets, on the grounds that they amount to the sale of one debt for another. This is especially true in an industry that has accepted the existence of *Salam* (forward sale), *Istisna'a* (commission to manufacture), and *Hawala* (debt transfer), which can all be characterized as being types of future-centred commercial transactions.⁹⁵ In fact, within the context of the clear preference for spot transactions in the currency markets in contemporary Islamic jurisprudence, a contention can be made that in modern settings that the spot trading of currencies, if one wants to take the interpretations of the scripture to their literal ends, is partaking in *Bay' Al-Kali' Bil-Kali'* (sale of one debt for another) since any currency, after the fall of the Bretton Woods monetary system, is simply a form of debt backed by the “faith and credit” of the issuing authority. In sum, contextualization does matter.

Moreover, it is evident that the examination of these instruments in the previous chapter should not have led to any comparisons between derivatives and debt, as is often done in Islamic finance circles and in comments by some of the respondents, especially when one examines the forward-based contracts. As outlined earlier, these are a compliment, not a substitute, to the credit markets in that they are not funding transactions, as such, since there is no exchange of principle.⁹⁶ Further, the forward-based derivatives examined offer no static and party-unique asset/liability exposure; in fact, in some transactions there is an asymmetry in the default risk exposure in that this type of risk is theoretically different for the counterparties at different points of time until maturity (i.e., early vs. late exposure in interest rate swaps).

The prohibition of derivative instruments because they facilitate the trading of debt could be discerned to also likely be a result of the unawareness of the technicalities of the forward-based derivative markets rather than a true resemblance between debt

⁹⁵ The argument of one vs. two deferred payments indulges into technical matters that likely have little to do with the objective of the *Shari'a* directives.

⁹⁶ Except for currency swaps. However, they are usually not used as a funding transaction because of the initial cash out flows for each counterparty.

and derivatives in the context of the proscription of *Riba*. For besides the fact that these derivatives are not debt instruments as stated earlier, forward-based derivatives themselves are *not* tradable financial instruments because they traditionally don't have "rights of assignment" that facilitate their exchange in the secondary market (Marshall & Kapner, 1993). A counterparty that is seeking to exit from a forward or a swap agreement can only negotiate for the cancellation of the agreement directly with the counterparty whereby the replacement value is used as the basis for the negotiation. For futures, the cancellation is undertaken with the exchange based on the daily mark-to-market nature of exchange-based derivative contracts.

Interestingly, when one observes the essence of the rules on *Maqassah* (clearance) in Islamic jurisprudence, which is defined as "mutual cancellation or compensation" (Al-Zuhayli & El-Gamal, 2003, p. 285), it may become apparent that the substantive rationale for the regulations placed in regards to the clearance of exposures by the counterparties are also related to the perception that clearance will lead to debt and *Riba* (Al-Zuhayli & El-Gamal, 2003, pp. 285-289). In fact, if anything, in the AAOIFI *Shari'a* Standard No. 4 ("Settlement of Debts by Set-off"), once the usurious debt aspect is removed, it generally follows the market norms for settlement of forward-based derivatives (AAOIFI, 2010, pp. 47-49).

This, of course, is notwithstanding the ambiguous statement: "The currency swaps that are concluded on the basis of *Riba* are not permissible. This is because in this process it is the interest-based securities that are set-off against interest-based securities" (AAOIFI, 2010, p. 49). Notably, the above statement is considered ambiguous because all financial assets are associated with interest in one way or another (e.g., pricing), including Islamic financial assets. Furthermore, some in the practitioner group of respondents have confirmed that the yield curve based NPV pricing is the basis for the mark-to-market recognition in the Islamic finance industry.

Options, for their part, which also do not have any semblance to debt financing transactions, are different in regards to trading characteristics in that they can be

traded by their purchasers to third parties. That said, if the issue was in the tradability of these instruments to third parties, the options could have simply been declared untradeable by the Islamic jurists. As for the static asset - liability structure (even in the prospective “out of the money” situations) for the buyer and sellers of these instruments, it is not evident that this framework amounts to a creditor – debtor in a classical sense, and even if it were viewed as such by the Islamic jurists, the generalization to *all* derivatives (i.e., including forward-based derivatives) is clearly an over-reach.

In addition, there is little economic substance to the claims that all derivatives increase *Gharar*. In fact, everything that was presented in the previous chapter should have demonstrated that derivatives, in a hedging context, are tools that actually reduce *Gharar*. The details of the contracts are unambiguously predetermined and are either negotiated between the parties or set by the derivatives exchange. Further, it is not exactly apparent how the forward-type contracts increases *Gharar* through the augmentation in the risk of default, either in economic theory or through empirical evidence, as argued by Al-Suwailem (Al-Suwailem, 2001, p. 61), as opposed to, say, the *Salam* or *Istisna'a* contracts. Thus, it can be validly argued that the only uncertainty in the derivative markets is regarding the future movements of the prices of the underlying asset, which for true hedgers are reduced with the proper utilization of derivative instruments (i.e., exposure offset).

Actually, as mentioned earlier, the ability of the counterparties to negotiate the dissolution of the contract based on the replacement cost, besides the flexibility offered, is quite transparent and relatively *Gharar*-free and is in stark contrast to the usurious relationships in some credit markets. Thus, for all intents and purposes, it can be proclaimed that derivatives are a powerful tool for the reduction of market risks and *Gharar* in a debt-free environment.

Having said that, if, on the other hand, the issue is the belief that *Gharar* (excessive uncertainty) is a part of *Maysir* (gambling) and should therefore be prohibited on these grounds, it can only be stated that this does not belong within the debate on

Bay' Al-Kali' Bil-Kali' (or the debate on the other theoretical issues as will be outlined below for that matter) and should be taken up in the discourse on gambling using financial instruments with the prospect for some type of regulations to ensure that these instruments are not used in gambling contexts.

The second main point that have led to the proscription of derivative instruments by the Islamic jurists starts with that state of existence of the underlying assets at the time of the contract and continues to the nature of the possession as well as constructive ownership and finally to delivery from the seller to the buyer as a means to conclude the transaction. For this, it is acknowledged by all parties to the discourse in the literature and the four groups in the interviews (both for and against derivative instruments) that the nature of derivatives is: a.) Transacting for the purchase/sale of assets that will come into existence at a specific time in the future, and b.) Transacting in an asset that is not actually owned or possessed by the parties at the time of the contract initiation.⁹⁷

As for delivery, and as mentioned in the previous chapter, the delivery of the underlying asset may not actually take place since the hedging parties seek primarily to reduce their market risk exposure within their current operational framework (i.e., suppliers, supply chain, etc.). This practice of *hedging* was acknowledged, in fact, by Al-Suwailem (a notable critic of derivatives) in that he states: “This clearly shows that the primary objective of a forward is hedging not physical exchange” (Al-Suwailem, 1999, p. 84).

In regards to the juridical basis for the requirement of the underlying asset's existence at the time of sale, it is reported that the Prophet (PBUH) has prohibited the sale of some inexistent subject matter such as the unborn calf of an animal, milk in the udders of a cow, fruit on a tree before its appearance, among others (Al-Islambouly, 2003; Kamali, 2000a).

⁹⁷ Except for some currency derivative transactions (e.g., currency swaps).

In terms of the issue of the actual asset ownership and possession, three *Ahadith* that have been quoted on this matter; in the first *Hadith* it was reported by Hakim Ibn Hizam that he asked the Prophet (PBUH): “A man comes to me and asks me to sell him something that I do not have. Should I sell it to him and then go and acquire it for him from the marketplace?” The Prophet (PBUH) replied: “Do not sell what is not with you?” (Sunan Al-Tirmidhi). A second *Hadith* stated that the Prophet (PBUH) said: “He who buys foodstuff should not resell it until he is satisfied with its measurement” (Sahih Al-Bukhari). The third *Hadith* that has been deemed to be related to ownership is: “Profits are justified for the one bearing the liability for losses” (*Al-Kharaj Bi Al-Dhaman*) (El-Gamal, 2006, p. 145; Obaidullah, 2005, p. 28), which was viewed by Al-Suwailem as directly referencing ownership (Al-Suwailem, 2007, p. 63).

The aforementioned *Ahadith* resulted in quite a large, and diverse, body of literature over the past centuries from all schools of thought as to how to apply them in the commercial affairs of Muslims. One contentious matter was whether the interpretation of the *Ahadith* stresses ownership or just simply possession? Other questions included: How would an exposure in a contemporary setting to, say, market risks where there is no ownership or possession of a future underlying asset, fit into Islamic jurisprudence? Does the object of sale under the purview of these *Ahadith* include all assets underlying any transaction or just foodstuff (with specific reference to particular foodstuff)? Also, would the nature of the asset itself (i.e., fungible goods vs. specific goods) alter the religious legal opinion? In addition, it appears that the deliverability of the underlying asset to the buyer was given importance in the course of an elaboration of a particular ruling (Al-Amine, 2008; Al-Qaradawi, 1987; Ibn Taymiyyah & Al-Qasim, 1978; Jundi, 1988; Kamali, 2000a, 2007; Khan, 1988).

Notwithstanding what can be described as an enormously juridical and technical debate, there seems to be a general consensus in the literature that the effective cause (*Illah*) of the *Ahadith* is the avoidance of *Gharar* in commercial transactions (in particular the potential for deception by the seller of the object of the sale), and to a

certain extent *Maysir*. Further, in examining the pertinent literature as well as in the views by some of the respondents (particularly in the academics, *Shari'a* scholars, and legal experts group), it can become clear that the focus that has manifested itself from the discourse is on prepayment and delivery as being the ultimate tests of the validity of the transaction from the viewpoint of Islamic jurisprudence.

That is to say, there appears to be a wide belief among some commentators on the subject matter that in order to deliver an object of sale, it has to be existent as well as constructively owned and possessed. Alternatively, it has to abide by the rules of the anomalous *Salam* and *Istisna'a* contracts with prepayment as a centrepiece that legitimizes their existence as exceptions to the general cash market-natured rules of Islamic jurisprudence in commercial transactions.⁹⁸

Interestingly, in light of the above observation, it may be contended that this tendency for the preference for spot delivery or prepayment is given paramount importance vis-à-vis what is arguably the true reason for the directive in Islamic jurisprudence in the first place which is the fulfilment of contracts as was explicitly mentioned the Quran where God stated: “O you who have believed, fulfil [all] contracts” (Quran: 5:1).

In other words, while it is recognized that delivery is a form of fulfilling a particular set of commercial contracts, it is not the only way for *all* business or financial transaction to be fulfilled. For if the seller was unable to complete the sale as agreed with the buyer and returned the purchase price to them along with any costs incurred by the buyer in a manner that eliminated the prospect of “*Akl Al-Mal bi Al-Batel*” (misappropriating the property of others) and dispute, then there would be very little issues of *Gharar* or deceit that formed the basis for the prohibition in the *Ahadith*. This would be especially true if the market modalities and contractual terms were

⁹⁸ It has been repeated in the discourse on the topic of derivatives at the Jeddah-based OIC Islamic Fiqh Academy that these types of contracts are exceptions to the general rules of Islamic jurisprudence and cannot be used as a basis for continued analogical reasoning to legitimize derivative contracts.

detailed and agreed to prior to the effectiveness of the contract, as is currently practiced in the derivatives markets.

In fact, one can argue that there is a greater chance of *Gharar*, deceit, and dispute by way of the prepayment characteristics of *Salam* (forward sale) and *Istisna'a* (commission to manufacture) contractual forms, in spite of their delivery stipulations, than in the derivative markets transactions that are based on pre-defined and widely-traded commodities.⁹⁹ That is to say, in these “Islamic” forward contracts, the unique objects (i.e., an agricultural product from a particular person’s garden) are not only non-existent, but also neither owned nor possessed in tangible form and, as a result, have greater risks that are associated with deliverability in a manner that avoids dispute than the rather standardized and liquid underlying assets in the derivative markets.

If, however, the asset underlying the *Salam* contract is easily procurable and standardized in the market, then one can argue, following the traditional conservative stance, that the ugly head of *Maysir* becomes an all-too-evident prospect since the prepayment can simply be considered a wager placed on the market price movements of the asset. In this scenario, the liquidity, transportation, and carrying costs would effectively amount to transaction costs to be analysed vis-à-vis the potential profit.¹⁰⁰ True, speculation in the sphere of *Salam* would be limited in a manner that corresponds to availability of the underlying asset (i.e., not added levels of pure speculative bets); nevertheless, such a limitation can still be ensured in the realm of derivatives by constraining their usage to hedging real and legitimate market risk exposures (see next chapter).

In terms of the matter raised earlier by Al-Suwailem, and other *Shari'a* scholars and academics (in the literature and interviews), regarding the interpretation of the liability of loss in the *Hadith* by the Prophet (PBUH) as being derived from

⁹⁹ One has to remember that the *Salam* and *Istisna'a* contracts were mainly used in close communities where members were well-cognizant of the character and abilities of the other parties. Such is not the case in today’s global financial markets with the advent of moral hazard, adverse selection, and asymmetry of information.

¹⁰⁰ As mentioned earlier, these costs can reduce the pure speculative activities, but not eliminate them.

ownership, it can only be stated that it is not self-evident that the word “*Al-Dhaman*” unequivocally means ownership. In fact, if anything, *Al-Dhaman*, linguistically and economically, can be broadly related to *legitimate* exposure (which includes ownership, but not on an exclusive basis) than possession of the actual legal title. This was established in the detailed writings of Al-Zuhaily on the subject matter of *Dhaman* wherein he made it quite clear, in inspecting the Quran, *Ahadith*, and work of the Imams of the four *Mazahib* and their followers (including the venerable Al-Ghazali), that the word and usage of *Al-Dhaman* is related to a commitment of responsibility (Al-Zuhayli, 1998).

Al-Zarqa, for his part, demonstrated in his distinguished work on Islamic jurisprudence that the usage of *Al-Kharaj Bi Al-Dhaman* is associated with an (economic) exposure that one must be able to confront in order to legitimately derive profits (Al-Zarqa, 1998a, pp. 1035-1036). Once more, this can be related to actual ownership, but is not necessarily defined by it. To illustrate, in Arabic, when one states that they are the “*Al-Dhamen*” of someone else in paying their debt in case of default, it is understood that what is meant is that they are placing themselves in a position of exposure (i.e., the aforementioned possibility of loss) rather than ownership.

Notwithstanding the above, even as one goes back to the history of the focus on ownership in the interpretation of the *Hadith*, it can become clear that this focus has originated from the desire by the *Shari’a* scholars, especially Abu Hanifa, to limit the debate on compensatory benefits to those who have legitimately acquired the rights associated with an object. This was, in turn, conjectured to be invariably related to ownership (Al-Zuhayli, 1998, p. 214).

Notably, this traditional position of *Al-Dhaman* is not a literal translation of the *Hadith*, but rather an extension in the interpretation. Moreover, the interpretive extension does add its own uncertainty when combined with the *Shari’a* views on the liabilities associated with the concept of *Wa’ad* (promise) wherein no ownership transfer takes place with the communication of a promise (see below).

Thus, one can safely estimate that the root of this *Hadith* can be linked to the importance of the reduction of asymmetry of information in business transactions (which lead to *Gharar*, deceit, and dispute) as well as perhaps also the prohibition of *Riba* in Islam in that a usurious transaction entails a lender that is relying on the sanctity of the repayment of debt obligations in Islam (i.e., no *Al-Dhaman* or exposure of loss) to generate profits from the debtors.

In a similar vein, within the realm of exposure, it should be recognized by the proponents of the full advance payment in derivative contracts (to make them similar to the Islamic forward-based contracts such as *Salam*, *Istisna'a*, etc.) that the forced application of this view, gambling issues aside, entails a higher degree of systemic risks than a system that is geared towards settlement of price differentials. Put differently, the credit risk of the full amount of exposure plus the counterparty risk of the market price differences will invariably be larger than the unique exposure to counterparty risks.

Eventually, one may be able to discern that in the context of derivatives that the whole convoluted discourse on the details of existence of the object of sale as well as its ownership and possession and eventually delivery (in addition to the rules of the exceptional *Salam* and *Istisna'a* contracts) has less to do with legal contractual formalities that are based on the *Gharar* and deceit argumentation and more with the fear of engaging in gambling behaviour by way of fabricated and disingenuous transactions.

This estimation presents itself clearly in that it has been stated repeatedly in the majority of the negative opinions on the permissibility of derivatives that since the parties concentrate on the cash settlement of differences in market prices at contract maturity then it *must* be a form of gambling. Correspondently, in Al-Suwailem's view, the ownership of the underlying is the only legitimate means of having profit (and wealth in general) be related to the real economy, whereby anything less than

proprietorship, including exposure in future settings in a stand-alone fashion, can be ascribed to the realm of gambling (Al-Suwailem, 2006).

With that, it becomes apparent that the tests of prepayment and delivery were formulated without the adequate recognition that these requirements simply add to the transaction costs (financial and operational) and legal uncertainty of true hedgers with only the prospect of reducing, and not eliminating, the gambling behaviour of the counterparties who are intent on speculating in the markets. Ironically, pure gamblers are likely to ignore these contemporary *Shari'a* injunctions anyway and participate in the conventional derivative markets, thereby placing the burdens of these resolutions on the shoulders of true hedgers who strive to operate within the confines of *Shari'a* principles in real economic sectors.

Section III: Contractual *Shari'a* Issues

The resolution by the Jeddah-based OIC Islamic Fiqh Academy, especially its last question addressed to the Islamic jurists wherein it was asked: “If the contract is not permissible, in whole or in part, how can it be altered in order to make it permissible?,” (OIC, 1992, pp. 280-281) captivated the imagination and argumentative spirit of *Shari'a* scholars, lawyers, and finance practitioners alike. Specifically, the repeated reference in that resolution to *Urbun* (earnest money) and *Khiyar Al-Shart* (contractual stipulations) in the discussions about options were deemed as an indication of the suggested boundaries in the discourse on these types of derivative contracts.

In a similar vein, the continuous judgment of the forward-based derivative instruments in relation to *Salam* contracts instigated an exercise that attempted to not only redefine the *Salam* contract in a contemporary setting, but also to extend the reference of *Salam* to also include other pre-modern Islamic contracts such as *Istisna'a*, *Bay' Al-Mu'ajjal* (ex-post payments for already delivered products), *Bay' Al-Istijrar* (prepayment of delivery instalments), and even *Murabaha* (instalment sale) and *Jo'ala* (service contracts) (Al-Amine, 2008; Al-Suwailem, 2006; Iqbal,

1999; Iqbal & Mirakhor, 2007; Kamali, 2007; Khan, 1988; Khan, 1997; Moody's, 2010 ; Obaidullah, 1998, 2005).¹⁰¹

Notably, this exercise was undertaken despite the fact that there were some commentators who attempted to stress that derivative contracts are quite novel to Islamic jurisprudence and should be evaluated based on their contemporary utilization in the financial markets (Abd Al-Qadir, 1982; Azzam, 1985; Kamali, 2007). In fact, one of the respondents from the practitioner group (international investment bank) stated that their speciality is offering their Islamic clients (corporates and IFIs) some of their conventional products but structured Islamically by replicating the same cash flows with the same risk and return profiles. Eventually, it can be perceived from the literature and in the views by some of the respondents across the groups, that the ultimate objective of the focus on the pre-modern Islamic contracts is to seek the appeasement of the *Shari'a* scholars as well as satisfy market demands by attempting to “generate a similar economic profile to comparable conventional derivative instruments, albeit through a Shari'a compliant structure” (BMB, 2010, p. 132).

It is perhaps important at this juncture to point out that the approach adopted by the Islamic jurists regarding derivative instruments is considerably different from the one followed in the examination of stock market activity. Specifically, the Jeddah-based OIC Islamic Fiqh Academy itself, in regards to the topic of “Participation in Stock Companies” in the *same* resolution that contained the prohibitive ruling on derivatives (i.e., Resolution Number 63/1/7), has decided that: “Since the essential thing about transactions is their licit nature, the establishment of a joint stock company with unprohibited purpose and activities is permissible” (IRTI, 2000, p. 127).

Accordingly, for equity participations, a series of rules were given to govern that financial activity. In essence, for the participation in stock companies, the

¹⁰¹ Interestingly, these forms of contracts exist, in their current format, only in modern forms. The acceptance of these contracts by Islamic jurists was based on public need (Obaidullah, 2005, p. 177).

conventional financial practice, even though not exactly analogous to the classical modes of partnerships in Islamic jurisprudence, was viewed in the resolution as a “licit” activity on the whole; however, some rules were elaborated to ensure that its advantages were harnessed and its disadvantages were limited. In contrast, the work derivatives, for some puzzling reason, commenced with an outright prohibition and continued on this rejectionist trajectory by the Islamic jurists.

Notwithstanding the above, on the options derivative instruments front, the discourse evolved mostly into a debate on whether *Khiyar Al-Shart* (contractual stipulations) or *Urbun* (earnest money), which were forms of extensions of pre-modern sales contracts, can serve as a basis to permit options trading in Islamic jurisprudence. On one end of the debate, commentators who have written extensively on derivative instruments such as Kamali, Obaidullah, Al-Qadir, and Al-Jundi seem to prefer the *Khiyar Al-Shart* modality (Abd Al-Qadir, 1982; Jundi, 1988; Kamali, 1997; Obaidullah, 1998), while others, including: Vogel and Hayes, Al-Amine, and El-Gari, tend to believe that the *Urbun* model is more appropriate (Al-Amine, 2008; El-Gari, 1993; Vogel & Hayes, 1998).

Interestingly, the conflicting opinions exist in spite of the professed position by some of those same writers that these pre-modern contractual extensions have little to do with contemporary option derivative instruments (El-Gari, 1993, p. 16; Kamali, 1997, pp. 26-27; Obaidullah, 1998, p. 80; Vogel & Hayes, 1998, p. 156). With that, it is perhaps necessary to highlight these two forms of contractual extensions in more detail in order to address some of the arguments that were used as a basis to prohibit the options derivative instruments.

The *Khiyar Al-Shart* contract extension, whereby one or both parties to a contract enjoy the availability of an option to confirm or rescind a sale agreement, has evolved as an accepted addition to the Islamic theory of contracting. Originally, the acceptability of *Khiyar Al-Shart* was based on a *Hadith* where it was reported that Hibban Ibn Munqidh complained to the Prophet (PBUH) that he was often cheated in sale transactions, the Prophet (PBUH) responded by saying: “When you conclude a

sale, you may say there must be no fraud and you reserve for yourself an option lasting for three days” (Sahih Al-Bukhari).

Subsequently, a rather technical debate started on the following points (some of which were raised in the Jeddah-based OIC Islamic Fiqh Academy) that were specific to *Khiyar Al-Shart*: 1) Whether the three days were fixed or given for illustrative purposes and can, therefore be extended depending on the nature of the transaction and the prevailing market custom; 2) Whether it is appropriate for the seller to demand a fee (i.e., option premium) from the potential buyer for the right to rescind a contract; 3) Whether the option itself, as a right, can be traded as a form of *Mal* (wealth or money) to third parties; and 4) Whether the liability of loss during the *Khiyar Al-Shart* period falls upon the seller or the buyer (Kamali, 1997, 2000a; Obaidullah, 1998; Usmani, 1999; Vogel & Hayes, 1998).

As for the *Urbun* contract extension, its basis, rather than an actual *Hadith*, is mainly a report by Nafis Ibn Harith, an Officer of the Calif Umar in Makkah, to the effect that he contracted with Safwan Ibn Umayyah for the purchase of a prison house for four thousand Dirhams on the condition that the Calif agree to the transaction, otherwise Safwan would be given four hundred Dirhams as a form of compensation for the inconvenience of a potential lost sale (Ibn Al-Qayyim, 1991, p. 389). Thus, *Urbun* can be conceptualized as a form of good faith deposit on the part of the buyer in return for some time and flexibility to finalize a sale transaction.

Notably, this was the essence of the ruling of the Jeddah-based OIC Islamic Fiqh Academy when it developed a consensus on the matter of *Urbun* in its Resolution No. 72/3/8 in June, 1993 whereby it was agreed that: “Down-payment (earnest) sales are permissible if the time frame of the contract is set, and the down payment is considered as part of the selling price if the purchase is carried through, and as the property of the seller if the buyer desists” (IRTI, 2000, p. 156).

In a manner similar to the points raised in the *Khiyar Al-Shart* debate, the issues raised specifically for the *Urbun* contract extension included the following details: 1)

Whether the premium, which is independent of the strike price in conventional derivative transactions, should be a part of the sale price of the underlying asset; 2) Whether the option itself, as a right, can be traded as a form of *Mal* (wealth) to third parties; 3) Whether the time period for the option's maturity is to be open or fixed; and 4) Whether the seller also has a right to reject the sale (for general fairness and also as a basis for put options) (Al-Amine, 2008; IRTI, 2000; Obaidullah, 1998; Vogel & Hayes, 1998).

It can only be stated at this point that the imposition of the *Urbun* contractual extension in the debate on option-based derivatives is a unique case of financial creativity on the part of its partisans. For it is clear to market participants that a premium does not hold any semblance of a deposit in an option transaction. Specifically, a \$2 premium on a an option with a strike price of \$50 is never really characterized as a deposit on the purchase of that stock at \$50 since, in reality, the outcome of the option contract is simply the calculation of the differential of the actual price of the stock in the market at contract maturity and the strike price. Further, even if the *Urbun* was part of the deposit, in some kind of effort to curb gambling activity, the suggestion has little economic substance behind it since the *Urbun*-based option pricing would likely be calibrated to account for the increased transaction costs that will depend on the price expectations of the underlying, the base-rate, and the time frame of the contract.

The difficulty of conceptualizing a put option as a “reverse *Urbun*” is but another manifestation of how difficult the proposition of utilizing earnest money has become. To illustrate, to profit and/or hedge against declines in market prices, El-Gari offers a rather elaborate financial scheme that combines elements of *Wakala* (agency agreements), *Mudharaba* (investment agency), and *Jo'ala* (service contract) (El-Gari, 1993). Vogel and Hays, for their part, formulate some form of system that is dependent on a third party (e.g., a bank) guarantee to compensate the “seller” of the underlying when the buyer walks away, in a premeditated manner, because of a decline in pricing (Vogel & Hayes, 1998, pp. 228-230).

In due course, it does become self-evident that the discourse on options, which is essentially an economic subject matter, has been quite legal-centric in a way that evolved with the broader objective of simply finding any means to re-create conventional option contracts with an “Islamic” wrapping. In effect, what can be observed is that the materialization of the debate on option-based derivatives, by way of invoking the many different elements of the Islamic theory of contracting, have been elaborated without a commensurate reference to economic theories (effectiveness, efficiency, law of one price, theory of arbitrage, etc.). This, in turn, resulted in essentially partaking in a discussion that is focused on the legal details at the expense of the bigger economic picture, which is the facilitation of the commercial practices of Muslim entrepreneurs away from the prohibited concepts of *Riba*, *Gharar*, and *Maysir*.

Effectively, one ought to be careful in their attribution of a particular pre-modern practice to a contemporary financial instrument. For it should be ostensible that the effective cause (*‘Illah*) of the *Ahadith* by the Prophet (PBUH) is to benefit the Muslim community by ensuring commercial trust and reducing the asymmetry of information (or allowing for flexibility in the case of the Calif Umar) rather than allowing for market risk management tools (or even investments), as such. Interestingly, the attempted rationalization of the arguments in favour of using some of these pre-modern contractual forms have opened numerous other types of issues (time frame, right transfer, premium, etc.) that needlessly warranted further superficial rationalization within the framework of *Qiyas* (analogical reasoning) causing even more ambiguity and discord on this important subject matter.

In light of the aforementioned controversy on the permissibility of options, it may be argued that a better approach would have been the one taken by Kamali, despite falling into the *Qiyas* trap himself with the debate on *Urbun* and *Khiyar Al-Shart* (with a preference for the latter), in which he concludes that “there is nothing inherently objectionable in granting an option, exercising it over a period of time, or charging a fee for it, and that options trading, like other types of trade, is permissible (*Mubah*) and, as such, it is simply an extension of the basic liberty that the Qur’an

has granted to the individual in respect of trading civil transactions and contracts” (Kamali, 2000a). Notably, the foundation for Kamali’s conclusion is the theory of general permissibility (*Ibaha*; see below) in the *Shari’a* in allowing individuals the freedom to tailor the contracts to their legitimate needs and benefits if in fact there is no partaking in what is explicitly prohibited in the scripture (e.g., *Riba*, *Gharar*, and *Maysir*).

The discourse on the permissibility of forward-based transactions, for its part, followed a similar path to the one taken in discussing the option-based contracts. As mentioned earlier, the literature on the topic of forward-based derivatives contained many suggestive forms of pre-modern Islamic contracts that were thought, individually or in combination, to assist in the replication of conventional forward-based instruments. However, it appears that the arguments regarding the *Salam*-type contracts were the most prevalent and will, therefore, be the focus of the examination of the contractual *Shari’a* issues of the forward-based instruments.

In its Ninth Session in April, 1995, the Jeddah-based OIC Islamic Fiqh Academy (Resolution Number 85/2/9) defined a *Salam* contract as a forward sale transaction that stipulates immediate payment by one of the counterparties (buyer) and a delivery of a marketable good with definable features on a relatively specific date by the other counterparty (seller) (IRTI, 2000, p. 185). The basis for that resolution is a report by Ibn ‘Abbas wherein he stated that when the Prophet (PBUH) migrated to Madinah from Makkah he found that the inhabitants were engaging in a one to three-year forward sales of agricultural products with price being prepaid at inception. To address this unique form of financing, the Prophet (PBUH) is narrated to have said: “Whosoever engages in a *Salam* contract, let him specify a volume or weight for the object of sale, and a definitive term of deferment” (El-Gamal, 2006, p. 81).

The permissibility of the *Salam* contracts in Islam provides two notable distinctions from other contractual forms: Firstly, the *Salam* contract is an exception to the norm since it is not a classic spot market transaction that is highly regarded in Islamic jurisprudence. Secondly, on the face of it, there can be elements of *Riba* in this

transaction were it not for the inclusion of an underlying asset (or real activity) as the basis of financing. Put differently, the *Salam* contract is, in actual fact, two contracts in one. On the one hand, it is a financing transaction on the part of the buyer of the underlying asset to the seller. This implicit realization is apparent in that the Jeddah-based OIC Islamic Fiqh Academy (and some writers on this topic) uses the term finance, pawn/security, and banking institutions, in its resolution on *Salam* (Bacha, 1999, pp. 20-22; El-Gamal, 2006, p. 241; IRTI, 2000; Khan, 1997; Vogel & Hayes, 1998).

On the other hand, the *Salam* contract is a form of risk management strategy for the parties who are looking to transact in the underlying asset at some future time. For this, one may also assume that the party financing the *Salam* (e.g., a bank/financier or a trader in per-modern settings) is not necessarily interested in hedging its risk exposure as much as it is interested in benefiting from the profits generated from the forward sale.

Based on the above, it should be recognized that the consistent attempts by the promoters of the forward-based derivatives to alleviate the “controversial issue” of the prepayment of contract value as a basis for resolving the juridical issues surrounding these instruments is futile (Al-Amine, 2008; Iqbal, 1999; Khan, 1997). In essence, the prepayment of the contract value is an integral part of the asset finance component of the *Salam* contract in order to allow the seller to undertake the necessary investments to ensure the generation of the underlying assets (including providing for sustenance) in the future.

With that realization, one can disagree with Al-Suwailem in his assertion the essence of the prepayment is to move the transaction from a prohibited zero-sum gambling nature to some other mixed-sum framework (Al-Suwailem, 2006, p. 76),¹⁰² since any movement in the market prices in the *Salam* framework is, in effect, a zero-sum

¹⁰² Al-Suwailem maintains that the funding available to the seller provides them with a manner in which they are compensated for moderate price increases in the underlying asset. Also, the buyer is benefiting from a lower price than is currently in existence in the spot market. Both these assertions are not evident in the technicalities derivative markets as outlined in the previous chapter (cost of carry, etc.).

outcome to the parties of the transaction. The prepayment of the contract value does not negate that ex-post effect.

To continue with the *Salam* transactions, on the risk management and investment/speculation fronts, the appearance of the proposed Parallel-*Salam* structure to facilitate the trading of non-existent assets (Al-Amine, 2008, p. 50; Al-Suwailem, 2006, p. 135; Bacha, 1999, pp. 20-22; Vogel & Hayes, 1998, p. 252), whether to the original seller (to offset the transaction) or to third parties, is needlessly stretching the *Salam* contract to fit the forward-based derivative model and causing more of a basis for rejection than consensus of acceptance based on the fundamentals of the transaction (KFH, 2012). This becomes obvious with the recognition that in the Parallel-*Salam* framework, it is “required” that both *Salam* contracts with the same assets exist independently of each other.

Along the same lines, the suggestions by Al-Suwailem of devising contractual agreements along the lines of “Value-based *Salam*” (quantity times unit price) and “Hybrid *Salam*” (for rate of return risk), which do not seem to have generated sufficient interests from academia or the Islamic finance practitioners (or any of the respondents across the four groups), can be viewed as being symptomatic of the difficulty of finding some form of Islamic contracts to hedge market risks (Al-Suwailem, 2006, pp. 131-134).

A much more rational and direct argument could have simply entailed highlighting the fact that, in light of asymmetry of information and transaction costs, contemporary financial markets can produce a much more efficient outcome for all the parties, along with higher utilities, by dividing this contract into its two components. That is, the seller of the commodity need not convince the financier to assume the market risks of the underlying asset in order to conclude a financing agreement, the failure of which entails limiting the productive capacity of businesses.

Essentially, the financier may be more interested in the capacity (technical know-how, equipment, cost structure, etc.) of the seller of the commodity to actually

produce the commodity at a particular date for a particular price, which in turn is factored into their profitability expectations. This could be because the costs of gathering and analysing market intelligence for the pricing behaviour of the commodity itself may be too great for the financier. Thus, the forced carry-on of the market risk by the financier in this scenario is likely to increase the risk premium to the transaction due to the elevated perception of uncertainty than would be the case through the efficient division of the contract into two components.

Likewise, the seller of the commodity does not have to strive to persuade the buyer to always finance ex-ante the seller's operations by prepaying the contract value. The buyer of the commodity, if a true hedger, is likely to be only interested in the commodity itself (or its cash equivalent) at a particular date. If it is a trader/speculator, then they enter into the transaction with the seller of the commodity after formulating their profit expectations based on the gathering and analysis of market intelligence of the pricing behaviour of the underlying asset over the life of the contract. The capacity of the seller of the commodity to produce it adds an unnecessary risk element that they may not be in the best capacity to evaluate, which, much like the case described earlier, is also likely to increase the risk premium to the transaction due to the elevated perception of uncertainty than would be the case through the efficient division of the contract into two components.

Effectively, the commodity seller can, and should be able to, obtain a lower financing from the financier market to properly invest in the generation of the underlying asset (in a manner that is not too dissimilar to the concept of bank-financed *Istisna'a* contracts or even *Musharaka*). At the same time, they are more likely to obtain better pricing for their hedging endeavours within the derivative markets that centre on the evaluation of market prices of the underlying assets rather than the profile of its producers.

In essence, it may very well be conjectured that the Prophet (PBUH) in his *Hadith* that formed the substance for making an exception for *Salam* was likely to be less concerned with the nature of the underlying or even its delivery, and more interested

in sustaining a real economic activity in a manner that reduced the potential for *Gharar* and *Riba*, including any disputes and/or injustice that may arise in the process. Put differently, the *Salam* contract is simply a means to a higher end, not an end in itself. Thus, as it turns out, Majd El-Din Azzam was right when he stated that “there is no compelling need to subsume [futures] under *Salam* in any capacity whatsoever; rather one should see it as it is and then determine its validity not by reference to the works of [Islamic jurists], but to the basic evidence of Shariah” (Kamali, 2000a, p. 172).

Section IV: Contemporary Derivatives in Islamic Finance

Despite the literature that favoured the permissibility of options, forwards, and futures in Islamic finance, there does not seem to be a wide uptake regarding these three products in the Islamic markets. The confusion created by the acceptability of these products along with the lack of consensus by their proponents on which contractual forms to use (*Khiyar Al-Shart*, *Urbun*, *Salam*, *Istisna'a*, etc.) may have been a contributing factor for this lacklustre response.

However, the exception in the lack of enthusiasm in Islamic finance circles for the derivative instruments was the swap contracts, which were deemed quite useful for the management of foreign currency and profit rates (i.e., interest rates) risk exposures faced by commercial and financial institutions that are increasingly being connected to the global financial markets. Moreover, as can be expected, the discourse on the permissibility of the swap derivative contracts followed the same *Qiyas*-by-product path that was taken to argue the permissibility of the other derivative contracts that were outlined earlier.

Specifically, in order to elicit a favourable response from the *Shari'a* scholars, the participants in the Islamic finance industry developed two main avenues for structuring Islamic swap instruments in order to generate similar cash flows to the ones offered by conventional derivative products with a wider aspiration of assisting Islamic institutions in hedging market risk. The two avenues are quite similar in that

they use a “Master Agreement” that utilizes the *Murabaha* (instalment sale)¹⁰³ financing scheme and the concept of *Wa’ad* (promise) in Islamic jurisprudence whereby a series of *Murabaha* and Reverse *Murabaha* transactions for the purchase/sale of non-precious commodities are entered into by the swap counterparties for the duration of the swap.¹⁰⁴

However, where they differ is in that the first method envisions “two unilateral promises” (which makes it a bilateral exchange of promises) to actually undertake a series of *Murabaha* transactions at designated points for the duration of the swap within the framework of *Maqassah* (netting). The second method, on the other hand, entails an execution of a “unilateral promise” by only the out-of-the-money party to undertake the purchase/sale of the underlying asset from the in-the-money party at the agreed price in the contract. That is to say, both the parties give and hold the promises that are to be utilized, either paying or receiving, on the various settlement dates (BMB, 2010; Dusuki, 2009; Hussain & Mehboob, 2008; Moody's, 2010 ; Tredgett & Uberoi, 2008; Tredgett, Uberoi, & Evans, 2008; Uberoi & Evans, 2008).

Throughout the process, a non-precious commodity and a series of commodity brokers, as agents of the counterparties, serve the vital roles of ensuring, *à la fois*, that: 1) An underlying asset exists in the sale contract; 2) The transaction combines a series of sale contracts that contain “profit” (i.e., not interest or *Riba*); 3) The exchange of one debt for another (i.e., *Bay’ Al-Kali’ Bil-Kali’*) does not take place; and 4) The underlying assets (i.e., non-precious commodities) are owned, possessed, and “constructively” delivered at the designated dates. The usage of fixed interest rates and floating interest rates (e.g., LIBOR) along with foreign currencies, if applicable, formalize this Islamic swap structure.

In terms of preference, even though the first method seems to have been preferred by the Islamic finance industry accounting for nearly 70 per cent of Islamic derivative

¹⁰³ For Foreign exchange transactions, due to the constraints of *Bay’ Al-Sarf* (sale of currency) in Islamic jurisprudence, a series of deposits are formulated to be undertaken by the parties instead of sale transaction but the mechanics are essentially the same.

¹⁰⁴ Within the *Murabaha* and Reverse *Murabaha* Master Agreement framework the terms “seller” and “buyer” are not static and become rather superfluous.

products in 2009 (BMB, 2010, p. 134), the risks (market risk, indemnities, etc.) of non-precious commodity ownership (even for a fleeting timespan as confirmed by one of the respondents) in addition to the execution risk (i.e., unacceptability of two unilateral promises executed at the same time in the *Shari'a*) were deemed too great for industry participants, which resulted in the increasing preference for the second swap method in recent years (BMB, 2010, pp. 149-150; Hussain & Mehboob, 2008; Parker, 2010).

Eventually, the growth in the usage of these instruments along with the lack of standardization of the various swap contractual agreements that were used by industry participants led to the efforts by the International Islamic Financial Market (IIFM) in Bahrain to partner with the International Swaps and Derivatives Association (ISDA) in New York to develop the ISDA/IIFM *Tahawwut* (Hedging) Master Agreement (TMA) in 2010.¹⁰⁵

The touted key benefits of this agreement are: 1) The reduction of costs that are expended in the evaluation and negotiation of the swap documentation; 2) Providing balance and fairness to the counterparties; 3) Increasing efficiency, liquidity, and certainty; 4) Establishing a benchmark that provides a reference point (e.g., LIBOR, currency, etc.); and 5) Reducing the price divergence between Islamic hedging instruments and their conventional counterparts (IIFM, 2010).

Effectively, the TMA, which is derived almost entirely from the ISDA Master Agreement, uses the aforementioned *Murabaha* contractual form along with the *Wa'ad* concept to develop a framework that comprises: a single agreement, governing law, representations, flawed asset and conditionality, and close out mechanism and netting.¹⁰⁶ However, where it does differ from the ISDA Master Agreement, apart from the requirement that there is an underlying asset that is

¹⁰⁵ See <http://www.isda.org/media/press/2010/press030110.html> Accessed on 15/6/2012.

¹⁰⁶ It was stated by one respondent in the regulators group with direct involvement in the set-up of the TMA that the *Wa'ad* concept took two years to formalize in order to get the *Shari'a* scholars on board with its inclusion in the TMA modalities. Interestingly, since the *Qiyas* methodology was invoked in the formation of the TMA, the close-out mechanisms are facing many obstacles of acceptance as confirmed by a respondent in the academics, *Shari'a* scholars, and legal experts group.

religiously permissible (mainly Zinc and Aluminium), is in that it stipulates that the contract should be entered into for hedging purposes and that interest cannot be chargeable in the transaction; and in the event that interest is granted as part of court proceedings, it must be promptly be given to charity.

One should be able at this stage, based on the discussion in the previous chapter, to question the validity of two key components of the TMA: First is the requirement that interest not be part of the transaction. For on the face of it, it may be lauded in Islamic finance circles that the TMA structure does not partake in any usurious activity. However, it is also notable, from an economic and financial sense, that aside from the facts: a.) The swap instrument is not a lending transaction from one party to the other, and b.) The underlying (profit rates and currency) are based one way or another on the base rate (e.g., Treasury or LIBOR), that the “replacement cost”¹⁰⁷ of any swap (which is explicitly included in the TMA contract) is in itself determined, in part, by the base rate no matter which valuation method is used.

Moreover, the obligation to take the interest, which is an integral part of the cost-of-carry valuation model, out of the replacement cost in court proceedings (or give it to charity), in the event of default, will likely cause an increasing level of uncertainty due to a potential variability in the judicial interpretation and consequently dispute in regards to actual exposure for all involved, which is far from the objectives of Islamic jurisprudence.¹⁰⁸

Apart from the issue of *Riba*, the second questionable component is the deployment of the concept of *Wa'ad* (promise) in these instruments as well as the forced usage of non-precious commodities. Originally, the concept of *Wa'ad* was used by early Muslim jurists in charitable situations whereby, in the interest of sustaining the philanthropic contribution by the wealthy members of the society, it was deemed that

¹⁰⁷ The replacement cost is the price it would take a counterparty to purchase a similar security with the same economic value as the one provided by swap. The earlier confirmation of the usage of the yield curve in the NPV analysis by some in the practitioners group of respondents should be notable here.

¹⁰⁸ One of the respondents (a legal expert) stated: “It would be a mess” if it went to court.

the promise of a donation was to be binding on the donor unless a justifiable reason for its withdrawal is given (Al-Masri, 2003; Al-Zarqa, 1998b, pp. 1032-1035).

After the establishment of the *Murabaha* contractual form within the structure of financial intermediation in the 1970s as the primary financing means for banking institutions to service their clients' asset purchases, it was realized that there are promissory elements by many parties which required regulation. For as opposed to the basic, and historically prevalent, situations where the seller agrees to sell a product to the buyer on the spot based on instalments with the condition that the buyer become contractually obligated to make the payments on their due dates, the modern-day *Murabaha* financing schemes technically involve the buyer requesting a particular good to be financed by the bank and makes a promise to purchase it from the bank once the bank acquires it. If the promise by the buyer was not binding, in the event that they decide not to conclude the contract, the bank (and/or the original seller) can be exposed to a loss.

This exposure, along with the prospect of the associated injustice and disputes, was the basis that was used by jurists such as Al-Zarqa, Al-Qaradawi, Al-Shazli and many others in expanding the binding nature of *Wa'ad* to *Murabaha* contracts (Al-Masri, 2003; Al-Qaradawi, 1987; Al-Zarqa, 1998b, pp. 1032-1035). However, the issue of how to distinguish between a contractual obligation (*'Aqd*) from a *Wa'ad* presented itself soon after the elaboration of those opinions since these two formats, which are quite identical in the view of a court of law, were deemed to be unworkable in a parallel fashion in Islamic jurisprudence.

To address this challenge, it was ruled by the Jeddah-based OIC Islamic Fiqh Academy that a "unilateral" promise is binding while a bilateral binding promise is not allowed because it amounts to an *'Aqd* (IRTI, 2000, pp. 86-87). Notably, there have been many commentators, such as Al-Masri, who perhaps in following Ibn Taymiyyah's doctrine of the supremacy of the focus on truths and real objectives (*Maqasid*) rather than superficial wording (Al-Suwailem, 2012, p. 19), have derided such arbitrary treatment of *Wa'ad* in the law of contracts as being "illogical,

unacceptable, and denotes a misinterpretation of some jurisprudential texts” (Al-Masri, 2003, p. 32). This is despite its well-meaning intentions, by the Academy and *Shari’a* scholars with similar opinions, of balancing the difficulty in assisting Islamic banks and their clients on one end and the prohibition on *Riba* on the other.

To return to the subject of the ISDA/IIFM *Tahawwut* (Hedging) Master Agreement, the same difficulty facing Islamic jurists in the *Murabaha* financial structures, and the subsequent solutions, resulted in the use of *Qiyas* (analogical reasoning) to apply both the *Murabaha* contractual form and the concept of *Wa’ad* to underlie the TMA structure. The final outcome is that, possibly even more so than is present in the traditional *Murabaha* sale transactions, it is quite difficult to intellectualize a “Master Swap Agreement” that includes a wide array of unilateral promises between hedgers, commodity brokers, and banks on multiple payment dates that are expected to be enforceable in a court of law according to Islamic jurisprudence principles that prohibits bilateral binding commitments. This is especially evident in that the *Shari’a* explicitly bans the superficial multiplication of contracts to circumvent Islamic jurisprudence where it was reported that the Prophet (PBUH) prohibited the joining of two sales in one (Sunan Al-Tirmidhi).¹⁰⁹

To this point, the confusion regarding the TMA becomes quite ostensible in that in the management of counterparty default risks the following convoluted statement is made as a form of guidance to its users:

“As the purchase undertaking given by each of the Bank and the Counterparty must remain independent of each other for Shari’a compliance reasons, the default or termination by a party under one purchase undertaking cannot trigger a cross default or termination of the other, so as to effect early termination of the whole swap transaction. However, the use of a master swap agreement, which documents, amongst other things, agreed mechanisms which lead to the termination of both purchase undertakings have been accepted by Islamic scholars. On the basis of this, financial institutions are increasingly using swap documentation based on the conventional ISDA architecture (comprising a master agreement and transaction-specific purchase undertakings) which, over time, are developing into a familiar-looking umbrella agreement containing provisions on matters such as representations and covenants, events of default, termination events, and Shari’a-compliant termination payment calculations” (BMB, 2010, p. 150).

¹⁰⁹ It was later agreed upon by scholars that the joining of two sales in one was used as a means to bypass the prohibition on *Riba*.

In regards to the innovative structuring of the swap through multiple sales contracts of non-precious commodities, there does not seem to be any recognition by the *Shari'a* scholars, legal experts, or the Islamic finance practitioners of the economic reality of this transaction. In essence, it should be obvious that if the commodity was genuinely placed in the structure of the swap to demonstrate a true purchase and sale transaction in the future along with the assumption of all the association risks of ownership by the parties, which is perceived to be a chief way to legitimately transact in the future by the majority of current *Shari'a* scholars,¹¹⁰ then the overall pricing behaviour of the swap will differ, sometimes significantly, from the one offered by the conventional swap contract with the same underlying reference rate or price (i.e., foreign exchange or interest rate).

This is because whatever non-precious commodity is used has a pricing behaviour of its own that is determined by way of the equilibrium between the forces of supply and demand in the financial markets where they are traded (e.g., London Metal Exchange, Bursa Malaysia, etc.). Moreover, in times of market stress, the liquidity of the Islamic swap transactions can be severely affected if there is insufficient liquidity in the market of whatever non-precious commodity is used.

It should also be appreciated that the real partaking in the purchase and sale of these commodities in the future for the purpose of generating some form of a tangible underlying is likely to result in distortions in the pricing of these commodities due to artificial elements of supply and demand, which, in turn, has negative implications to their users in the real sector who have no relation whatsoever to the swap contract. Thus, for all intents and purposes, the inclusion of the non-precious commodities, if undertaken in a true and genuine manner in some sort of bid to directly relate the transaction to the “real sector,” not only makes the swap defective for hedging purposes due to uncertain pricing patterns, but also is likely to negatively affect the real sector that Islamic jurisprudence is so much in favour of promoting.

¹¹⁰ Otherwise, the imposition of the commodity would be circumventing the spirit of the directive that put it in the transaction in the first place.

The reality of incompatibility between economic theory and the current interpretation of the *Shari'a* proscriptions in economic matters is equally harsh on the financial engineering suggestions made by the various authors in the Islamic finance literature that were alluded to earlier. These include the writings by Iqbal and Mirakhor who espouse the position favouring the use of financial engineering to replicate conventional derivatives in an Islamic manner as a means to facilitate market risk management (Iqbal & Mirakhor, 2007, pp. 209-220).

The modalities proposed by those distinguished authors range from *Jo'ala* (service contracts), *Murabaha*, and equity structures to *Sukuk* (Islamic bonds) issuances. In judging the appropriateness of these suggestions, at a basic level, it is not entirely understood how the invocation of all these contractual forms, vis-à-vis conventional derivatives, resolves the substance of the self-imposed prohibitions that were placed by the standard setting bodies, especially those relating to *Riba* (usury) and *Maysir* (gambling).

As for the genuine utilization of the *Murabaha* (i.e., not in a swap format), it becomes apparent that the utilization of this contractual form through the use of commodities, serving as the collateral component of financing, in market risk management transactions effectively transforms the currency or interest rate exposure into either commodity price risk or credit risk (depending on how the transaction is structured). If the commodity price risk is assumed then the hedge largely becomes defective in managing the market risk exposure. Further, the risk would be compounded if the commodity itself in the structure is not marketable.

For credit risk, it has been argued that the default of the counterparty does factor into producing disparities in the pricing of the derivative instrument as in the case forward vs. futures contracts (Kane, 1980). This would be even more evident in a scenario where the potential losses from derivatives (i.e., difference between contract price and market price) are much less than the potential losses of the full principle of the *Murabaha* contract. Needless to say, the aforementioned issues associated with

transaction costs and the negative effects to the real sector due to the artificial creation of trade transactions on usable commodities still apply.

Similarly, the challenges faced in implementing the suggestions of utilizing equity participation certificates in some form of asset swap between institutions go beyond the author-admitted difficulty of finding matching securities to offset the market risk exposures. This is because there are fundamental problems associated with asymmetry of information and adverse selection in this arrangement, which were made all-too-evident in the securitization framework that contributed to the structural deformities that instigated the recent global financial crisis (Ayoub, 2012a).

Finally, it appears that the proposition of actually utilizing the concept of *Sukuk* for hedging transactions has its foundations in the use of the methodology that was discussed in the previous chapter for pricing swaps which assumes a hypothetical exchange of bonds by the counterparties. Nevertheless, within the current paradigm for interpreting the *Shari'a* in the scholarly community, which will be disputed in the next chapter, this hypothetical exchange is impermissible because there are no *real assets* underlying the exchange. This alone would negate any reasoning to proceed with the hypothetical *Sukuk* exchange framework in lieu of the much more market-recognized swap structures.

Furthermore, any attempt to overcome the challenges of the restrictions placed on the usage of hypothetical securities by: 1) Actually transacting in the secondary *Sukuk* market in order to exchange real *Sukuk* as a means of offering a tangible asset to underlie the hedging transaction, or 2) Having the counterparties actually issue securities in the primary market for the same purpose, would be a much more costly and inefficient method to manage market risk exposures.

Specifically, in regards to the engagement of the secondary market, it will be quite difficult in the current illiquid *Sukuk* secondary market to find securities that offer the flexibility provided by derivatives to match the exact market risk exposures by the counterparties. Moreover, even if the *Sukuk* secondary market was liquid, the

utilization of *Sukuk* for hedging purposes is likely to result in an increase in the prices of the *Sukuk* trading in the financial markets (i.e., lower yields) as a result of the increase in demand for these instruments. In time, the higher prices for *Sukuk* would very likely trickle down to lower quality *Sukuk* issuance and trading in the financial markets. This would, effectively, be a form of wealth transfer from the hedging community to the issuers of *Sukuk* in the primary market.

Interestingly, the eventual outcome, which is probably not the one desired by the *Shari'a* scholarly community, of this low yield environment is that organizations will find it more beneficial to include increasing levels of *Sukuk* in their financial structure rather than the equity forms that are so well regarded in the Islamic finance industry (i.e., more debt and systemic risk).

As for the use of the primary market by the counterparties to issue *Sukuk* to match the market risk exposures, the issuance of any security in the primary market entails prohibitive costs that can only be accepted in the context of resource mobilization for an enterprise. Thus, the use of that route for market risk management is rather unrealistic, especially with the recognition that finding another hedger with an exact offsetting exposure is quite improbable and that a financial intermediary, taking the opposite exposure, will undoubtedly include their cost of primary market issuance as a part of their fees.

Eventually, it becomes hard to imagine how any of these suggestions of financial engineering to address market risk management is related to, or can be used to hedge, the actual balance sheet exposures faced by organizations as part of a wider framework that is built on the effectiveness and efficiency of the portfolio approach to asset-liability management. The increasingly complex nature of the global business and financial environments and its manifestation on the risk exposures of organizations, which require elements of flexibility and dynamism in the market risk management strategy, make the aforementioned suggestions even more impractical.

Based on the above, it could be validly contended that these expensive, untenable, and legally uncertain exercises (i.e., Islamic swaps and financial engineering) could have been averted by simply invoking the theory of *Maslaha* (public interest) and/or *Daroura* (necessity) to allow the conventional derivative instruments exclusively within a hedging framework for companies choosing to operate under the auspices of Islamic jurisprudence. This is particularly relevant since it has been argued repeatedly that the derivative instruments, although having speculative elements do not entail: a.) *Riba* because they are not lending transactions, as such, with static debtor-creditor relationships, or b.) *Gharar* since their valuation is based on obtainable economic theories and their pricing is undertaken in the financial markets in a transparent manner.

Essentially, in a similar manner to that utilized in the evaluation of the permissibility of the contemporary form of *Musharaka* (i.e., common stock ownership) whose market prices are determined, in part, by the base rate in developing the fair value of the company by looking at its book value along with the present value of all its future cash flows, derivatives should be explored based on the contemporary forms of risk management challenges facing religiously legitimate businesses operating in the real economy. Put differently, it is asserted that, if properly regulated with clear (and auditable [see next chapter]) usage terms to minimize negative externalities, surely Islamic jurisprudence cannot prohibit something that is of benefit to mankind (i.e., more effective risk management, lower probability of default, improved effectiveness and efficiency, enhanced competitive capacity, increased investment, etc.).

That said, the decision by some of the largest and most respected banking organization, including their *Shari'a* Boards, to accept to operate by some of the aforementioned contractual structures, that are by no means cost effective or legally certain, to confront the real and legitimate market risk challenges by the Islamic finance industry is quite perplexing. At the institutional level, it demonstrates the inability of academic institutions and Islamic banking organizations, and to a certain extent the IIFM and the IFSB, to penetrate (or be allowed to penetrate) the decision making process in the juristic standard-setting bodies by providing a realistic

representation of the opportunities and challenges facing the Islamic finance industry.

For this, it should be recognized to a greater extent that the generation of knowledge in a dynamic and inclusive process of discourse between jurists, researchers, regulators, and practitioners is a much needed necessity in order to arrive at conclusions that depend on the interpretation of the wisdom of God in the scripture regarding the economic matters between individuals. Specifically, the use of faith as a foundation along with the divine gifts of intellect and reason to understand the basis for God's explicit prohibitions in contemporary contexts would undoubtedly be of assistance in a framework that seeks to ensure *Maslaha* (public interest) for mankind.

Section V: Flexibility, Regulation, and Innovation in Islamic Finance: The Case of Derivatives

The discussion in this chapter, particularly in the last two sections, has demonstrated the highly juridical nature of the policies that dictate the *modus operandi* of the Islamic finance industry. These policies, one could contend, entail the imposition of a framework that effectively sustains the market risk exposures for legitimate businesses operating in the real economy as well as increase their transaction costs and legal uncertainty. In addition, this framework could arguably be viewed as being less than ideal in that it focuses on the means (i.e., contractual forms) as conjectured from the practices of the early Muslim community rather than the ends (social well-being, productive work ethic, reducing injustice and disputation, etc.) that form an ostensible part of the scripture (Ayoub, 2012b).

For aside from the questionable basis that was formed to prohibit the derivative hedging contracts, the incremental adjustments to the pre-modern contracts to conform to the contemporary issues have arguably increased the contention rather than reduced it. In fact, when one closely examines some of these incremental adjustments, it could be debatable whether some parts of existing Islamic finance risk

management practices are exactly in line with the spirit of the *Shari'a* (e.g., multiplication of Wa'ad , multiplication of Murabahas, superficial insertion of a commodity).

In a bid to understand this controversial phenomenon, it is may be important to examine the incremental adjustments in light of the general theory of *Ibaha* (permissiveness) as well as other Islamic theories that have been outlined thus far in the research, namely *Maslaha*, *Daroura*, and *Qiyas*. Moreover, the topic of innovation in Islamic finance was a topic of discussion among many of the respondents of interviews on the subject matter of derivatives and will therefore be assessed in light of industry practices.

To commence with, the basis in the *Shari'a* regarding commercial matters is the theory of *Ibaha* (permissiveness), which stipulates that the worldly dealings between individuals are permitted unless *expressly* prohibited in the scripture (Al-Qaradawi, 1987; Ibn Al-Qayyim, 1991; Kamali, 2000a). As a background, the theory of *Ibaha* itself is developed from the divine words in the Quran that establish the religious statement that God has created the earth and the heavens for the benefit of mankind.¹¹¹

In fact, the Quran shows that God favours the benefiting from his worldly creations without the unnecessary self-imposed complications by specifically stating: “And why should you not eat of that upon which the name of Allah has been mentioned while He has explained in detail to you what he has forbidden you” (Quran: 6:119) as well as “Say, ‘Have you seen what Allah has sent down to you of provision of which you have made [some] lawful and [some] unlawful?’ Say, ‘Has Allah permitted you [to do so], or do you invent [something] about Allah?’” (Quran: 10:59). The importance of this theory should be apparent in the discourse on derivative instruments in that what is often adopted is the reverse of the directives of God in the Quran whereby there is the widely held perception that products and services are not *Shari'a*-compliant except if certified as such.

¹¹¹ (Quran: 2:29, 31:20, 45:13).

With this *Ibaha* foundation, one can agree, without too much difficulty, with Kamali's (2000) assertions that it effectively transcends into the following in the realm of derivatives: 1) There is no need to declare a transaction as valid by way of searching for affirmative evidence in the scripture. All that is needed is to investigate if there are any clear prohibitions that exist and if there are none found, then the transaction may be presumed as being valid; 2) The forms of commerce in Islam that were undertaken during the time of the Prophet (PBUH) are not exhaustive and should not be viewed as precluding new varieties (e.g., derivatives) on which the *Shari'a* is silent (mostly because market risks did not exist then as vigorously as they exist in modern settings); and 3) Consequently, there is no need to search for evidence to support new forms of commerce (Kamali, 2000a, pp. 69-70).

In addition to *Ibaha*, the theories of *Maslaha* and *Daroura* provide a fresh new light under which one can add depth to the examination of the derivative hedging instruments. Essentially, the theory of *Maslaha* (public interest), which was discussed previously in the Research Philosophy Chapter (Chapter 2), promotes increasing human utility through greater benefit derivation from the bounty of God to mankind and/or the reduction of any hardship that may arise in worldly endeavours (Hassan, 1994). This is especially relevant to the current discussion on market risk management and derivatives due to the changing circumstances facing Muslims throughout time and space.

Notably, the reverse of *Maslaha* is *Mafsada* (public detriment), which is the outcome of the improper usage of the Godly-granted resources (including intellect and reason). In a complementary fashion to *Maslaha*, the theory of *Daroura* (necessity), for its part, is built on the Quranic verses that demonstrate the generosity of God in ensuring that the scripture does not impose hardship on His subjects (Abu Sulayman, 2003).¹¹²

¹¹² The Quranic verses are: 2:185, 289; 5:6; 22:78)

Thus, in summary, the importance of the theories of *Ibaha*, *Maslaha*, and *Daroura* in human inter-dealings, from the Islamic perspective, stems from the fact that God has granted mankind an abundance of resources for its perusal in order to increase *Maslaha* along with specific prohibitions that seek to reduce the *Mafsada*. For it is implausible, in Islam, that God imposes certain proscriptions that can reduce the benefits of his generosity, cause harm, and/or limit the productiveness of mankind (Ibn Taymiyyah, 1899, pp. 226-227).

However, in spite of the above, it is often observed in the application of these theories that they are overshadowed by the seemingly supreme emphasis on the theory of *Qiyas* (analogical reasoning), which, although very important in Islamic jurisprudence, does not hold the key unlocking the religious mysteries in every situation. Effectively, the circular-natured debate on derivatives has followed the two approaches that were ostensibly delineated by Shalabi (1982). In the first approach, proponents of the position of prohibiting derivatives have quoted a wide array of opinions from early Islamic jurists and extended them by way of analogy in the discourse on derivatives with strong, and seemingly certain, opinions towards the proscription. On the other hand, the partisans of derivative instruments have utilized the second approach to *Qiyas*, which entailed looking for juristic views that supported their opinion for permissibility. Both of these approaches, Shalabi teaches us, are erroneous and hold the potential for inaccuracy in the face of new transactions addressing contemporary opportunities and constraints (Kamali, 2000a; Shalabi, 1982, p. 244).

Thus, with this substantive basis of the doctrine of the *Shari'a* as it pertains to commercial matters, it may appropriate at this stage to stop and give serious consideration to the discourse into the contractual issues as well as contemporary derivatives in Islamic finance as outlined earlier. For it will be a difficult path to argue that the incremental adjustments to pre-modern contracts entail any elements of added efficiency and effectiveness from an economic sense. This is also true for the contention that the prohibition of derivative hedging instruments, with the economic realities facing businesses, in some way contributes to the elimination of

Riba, Gharar, and Maysir. In fact, it could be asserted that the financial innovations in the Islamic finance industry, as they pertain to the hedging sphere, should have some basic economic rationales that improve the welfare of society (or reduce injustice) in order to be appropriately endowed with the coveted “Islamic” title.

Eventually, it may be discerned that the use of the untenable religious basis to create a religious prohibition without any clear economic rationales that benefit society eventually resulted in religiously questionable outcomes. This became evident in that the Islamic finance industry proceeded along the path predicted by Miller (Miller, 1986, p. 460) in regards to innovating to circumvent regulation. In this case, the focus was on devising new ways to elude questionable religious directives to make their Islamic financial products synthetically equivalent to their conventional counterparts no matter the costs (including reputational risk).

Ironically, as opposed to Miller’s prediction of innovating to circumvent exogenous regulatory impositions (laws, regulations, tax, accounting rules, etc.), the financial constraints of the Islamic finance industry were self-imposed. In other words, the Islamic finance industry in its contemporary form designed a framework with extra constraints on those seeking to operate within the purview of the economic doctrine of the *Shari’a* that have arguably gone beyond the scope of the directives of the *Shari’a* and then proceeded to devise new ways to circumvent those constraints.

The discussion in this chapter is not meant to deride the burgeoning Islamic finance industry. Rather, it is meant to show the pitfalls when, as confirmed by the literature and many respondents in the interviews, the frame of reference in the industry becomes solely the contract, not the framework and the context *in addition to the contract*.¹¹³ Put differently, the adherence to the religion rests in following the substance of the *Shari’a* directives rather than contemporary Arabic-named contractual forms with little resemblance to their pre-modern ancestors.

¹¹³ It was noted by many of the respondents across the groups that the *Shari’a* scholars are more comfortable making comments on the contracts rather than on the framework or the context.

Specifically, in order for the Islamic finance industry to grow and prosper (and aid the people on depend on it in the process), it should be allowed to follow conventional financial practices where no real conflicts exist (i.e., hedging instruments, secured lending, deposits¹¹⁴, etc.) and properly deviate through appropriate financial innovations in other incompatible circumstances (i.e., usurious lending, pure gambling in derivative markets, superficial securitization, etc.). Once more, the acceptance of the conventional forms of stock ownership, even though they don't exactly follow the rules of partnerships in the commercial practices of the early Muslim community, should serve as a model in the utilization of the theory of *Maslaha* in that regard. For derivative instruments, one may argue that there is also an added element of *Daroura* that should justify their utilization as a hedging mechanism.

Therefore, it is firmly believed that the Islamic finance industry should be more confident that the substance of the economic directives of the *Shari'a* (not simply its form), with its three pillars of the prohibition of usurious debt creation (*Riba*), excessive uncertainty (*Gharar*), and gambling (*Maysir*), hold the potential to positively transform the international financial architecture in areas where market discipline in conventional finance may be less than optimal.

This confidence should lead to real value-added innovations that contribute to a more sustainable and equitable economic growth and wealth creation that transcends its current regulatory circumventing nature and contribute to aligning the interests of the economic agents in society. For this, the profound faith by the individuals along with their God-given intellect and reason can make all the difference necessary to focus on the substance of *Maqasid Al-Shari'a* (Objectives of Islamic Jurisprudence), which is sincerely believed to have strong economic components in the realm of *Mua'amalat* (commercial transactions).

¹¹⁴ Interestingly, the investment depository schemes (which are comparable to conventional deposits) were permitted in a fatwa by The General Secretariat of Al-Azhar University in 2002 (El-Gamal, 2006). However, there is yet to be a wide consensus on the issue.

Conclusion

The examination of derivatives in Islamic finance in this chapter is built on the economic foundations that evolved from the discussion in the two previous chapters on market risk management and conventional derivative instruments. Specifically, it has been argued that derivative instruments are powerful tools for hedging the non-core market risk exposures in a manner that does not involve excessive uncertainty (*Gharar*) or usurious debt creation (*Riba*). This contention is, of course, contextualized as being part of a larger risk transfer strategy that also allows for the benefiting from the prospects of risk consolidation (combination and diversification) through a portfolio approach to risk management rather than the utilization of contractual forms that are costly and contain a larger amount of risk to the counterparties.

In essence, even though this chapter is a key chapter in the thesis, the rationale for the earlier two chapters revolves around the estimation that the study of market risks and derivatives would have not been complete without attempting to shed some economic light, which will continue in the next two chapters, on some of the controversial issues that surround the opinions of some *Shari'a* scholars on the subject matter. This, obviously, is a much more challenging road to travel than the one offered by the superficial formulation of contractual structures that comply with the form of *Shari'a* proscriptions rather than their substance. However, the meeting of this challenge becomes necessary as one recognizes that the prohibitions in Islam are focused mainly on the substance or the essence of the impermissible act. That is evident when one examines a comparable in that it is not the colour of wine or its ingredients that is the basis for the prohibition; rather it is its intoxicating effect.

Thus, one may argue that the same analogy applies to the Islamic derivatives sphere in that even if the ingredients of Islamic swaps are individually permissible, their presence leads largely to the same effects of conventional swaps and should therefore result, if one takes the anti-derivative arguments to their literal ends, in being impermissible under the auspices of the *Shari'a*. Notably, the facilitative arguments for superficial financial engineering whereby it is deemed that Islamic financial

engineering is necessary to produce “Islamic” contracts since by equivalence the Islamic slaughter of animals is the only means to produce “Halal” beef is seriously ignoring the reasoning behind the God-given directives.

For example, it was stated by one of the respondents (*Shari’a* scholar) in the interviews that some in the Islamic finance industry feel that Islamic swaps are necessary “Because this is the Islamic way to do it. It is like being offered a halal burger and a regular burger. They are the same thing but one was slaughtered in a certain way to make it more compliant with *Shari’a*.” The analogy with meat continues, but with a contrary argument, by another respondent (also a *Shari’a* Scholar) where he states that if the problem entails “lamb” and not “pork” then it can be worked out. Effectively, he was denoting that if derivatives are used for legitimate purposes then the *Shari’a* can be flexible. Having elaborated the foregoing views by some of the respondents, it should be highlighted that the respondents in the academics, *Shari’a* scholars, and legal experts group were split in the need to structure everything in the Islamic finance industry by way of pre-modern contracts.

Thus, it can become rather apparent that the use of financial engineering, commodities, and questionable legal contracts do not and will not affect the substance of the prohibition, as they are being perceived by the *Shari’a* scholars, because the end result is mostly the same. In fact, it has been demonstrated that these reformulations of the conventional derivative contracts offer adverse consequences for their users and society as a whole in that they hold the prospect of being defective hedges with negative externalities to real sector operators due to the imposition of artificial supply and demand forces for whatever underlying commodity is used. If, however, the commodities are placed in the transaction only for cosmetic reasons (i.e., fleeting or ineffective ownership), as is currently the case with some Islamic hedging contracts, then one must really strive to examine the direction the Islamic finance industry is headed to.

With that, the in-depth consideration of the religious basis for some of the negative perceptions of these contractual forms in the *Shari’a* scholarly circles (as well as

some of the respondents across the various groups) have arguably delineated the position that the main obstacle to the acceptance of the derivative instruments is perhaps the implicit unease of the *Shari'a* scholars in accepting the nature of the underlying reference rate (e.g., LIBOR) or price (e.g., currency) in the derivatives contract, which has a corresponding ambiguity in the recognition of the derivative contract on the financial statements of the hedging entities.

A second obstacle observed to effective acceptance is a product of the institutionalization of derivatives trading along with the widening of the level and nature of the market participants, especially when these instruments are viewed within the background of the prohibition on *Maysir* (gambling) wherein there is a clear involvement of added levels of pure gamblers in the derivative markets. The focus of the research will now turn to these two topics.

Chapter Seven: The Permissibility of the Underlying Variables and the Recognition of the Contract

Introduction

The previous three chapters provided evidence supporting the argument that market risk management, particularly with derivative instruments, should be encouraged in Islamic finance. More specifically, the discussion on market risk management should have demonstrated that the other risk management strategies are complements not substitutes to the risk transfer strategy. Along the same lines, it was explained that the proposed risk sharing arrangements by commentators in the Islamic finance literature are built on risk transfer modalities, and thus cannot simply be touted as a superior form of risk management. Further, it was argued that derivatives, especially the forward-based contracts, provide the most effective and efficient technique for a portfolio approach to market risk management.

In the two chapters that followed, the economic and operational particularities of conventional derivative instruments were illustrated in a manner that sought to respond to the repeated attempts by some *Shari'a* scholars and academics to link the usage of derivative contracts in hedging contexts to the prohibitions of *Riba* (usury), *Gharar* (excessive uncertainty), and *Maysir* (gambling).

In particular, in the examination of the contemporary Islamic derivative instruments, it has been argued that the continuous attempts to advance the *Qiyas*-based reformulations of pre-modern contracts to fit the modern-day market risk management environment are futile due to operational and financial constraints that are imposed on their users. This was evident in the analysis of the Islamic swaps that showed that these contracts oscillate between being unsound hedging instruments with negative externalities (i.e., defective economic contracts) and being religiously flawed in that they were shown to follow the form not the substance of the *Shari'a* prohibitions that instigated the efforts for their formulations in the first place (i.e., defective *Shari'a* contracts).

Eventually, it was proposed that derivatives contracts are neutral instruments whose ultimate positive or negative implications depend on their usage by market participants. This stance, in essence, requires that Islamic jurisprudence, and the *Shari'a* scholars who shape it, strive to pursue a deeper and more complete analysis of all the issues and technicalities of the complex topics that surround contemporary market risk management.

This chapter continues the discussion that was elaborated in the previous ones with a particular focus on the permissibility of the underlying variables of the derivative contracts, which was one of the main factors that have led to their outright prohibition by the standard-setting bodies and the resultant superficial replication of conventional derivatives in seemingly *Shari'a*-compliant forms by operators in the Islamic finance industry. For this, the remaining sections shall focus on the interest rate and foreign exchange rate risk management endeavours due to three main reasons: Firstly, as noted in the Market Risks and Their Management Chapter (Chapter 4), there is growing recognition in Islamic finance circles of the importance of the management of interest rate risk and foreign exchange risk to the future health of the industry.

Secondly, this particular area in the discourse on the permissibility of derivative instruments has not elicited a significant amount of thought, even by some of the earlier mentioned commentators who have a favourable view on the acceptance of derivatives in the Islamic finance industry. Thirdly, the majority of respondents across the four groups have demonstrated, in the course of the interviews, a sense of misperception of these two underlying variables and their relationship with money, in general, and how they interact with the recognition of the contract, in particular. These shall all be taken up in turn.

Section I: Permissibility of the Underlying Variables: Interest Rate Benchmarks

The examination of the permissibility of the underlying variables in derivative contracts commences with a discussion on the use of benchmarks. Benchmarks that affect the financial statements of the entities exposed to their movements by virtue of being connected to the global economy and consequently can be used as underlying variables in the derivative contracts to offset that exposure. In particular, the benchmarks that appear to be most contentious in Islamic jurisprudence, as shown in the literature and the interviews, are the interest rate benchmarks (e.g., treasury rate curve, LIBOR, KLIBOR, SAIBOR, etc.) and the currency benchmarks (the movement in the value of the currency itself).¹¹⁵

Incidentally, these two benchmarks are unique in that they not only form the bulk of market risk exposures for most entities, especially financial institutions, but also directly confront the greatest of prohibitions in the economic doctrine in the *Shari'a*: the prohibition of *Riba*. With that, one, essentially, has two choices in attempting to deal with the challenges posed by the volatilities in the movements of interest rates and currencies.

One choice is to side-step the perception of the existence of *Riba* in derivative transactions that are designed to hedge interest rate and currency exposures. This essentially means avoiding the exploration of the causes and effects of the interest rate and currency volatilities and the possible mitigants to the challenges posed by their existence. Accordingly, the supporters of this choice either decide to preclude derivative instruments all together or alternatively camouflage it somehow (insertion of a commodity, *Wa'ad*, etc.) to give it the appearance of a legitimate *Shari'a*-compliant transaction.

¹¹⁵ The currency value is considered a benchmark in the context of the research since its value, much like interest rates, is a factor in the “faith and credit” of the entity standing behind it.

The second choice is to attempt to examine the supposed relationship between the hedging endeavours of entities and the engagement in usurious transactions that are a type of injustice and consequently form the focus of the prohibition in Islamic jurisprudence. This section and the next elaborate the intent of proceeding along the path of the second choice since it has become apparent after the examination in the preceding chapters that the first choice has resulted in self-contradictory and economically-deficient outcomes (e.g., risk sharing vs. risk transfer, superficial financial engineering, negative externalities, etc.).

One can begin with the vagueness surrounding the permissibility of the utilization of the interest rate benchmarks to manage this particular type of market risk exposure. Once more, the Jeddah-based OIC Islamic Fiqh Academy Resolution No. 63/1/7 in 1992 shall serve as a starting point, where it has stated that the: “sale and purchase of the index are not permissible for they are pure gambling and constitute the sale of something fictitious (something that does not exist)” (IRTI, 2000, p. 133).

Sixteen years later, the AAOIFI, presumably upon realizing that the Jeddah-based OIC Academy Ruling has been deemed ambiguous in an industry that has been increasingly using LIBOR as a benchmark for some Islamic transactions (e.g., leasing, *Sukuk*, etc.), decided to issue its Shari’a Standard 27 in 2006 which attempted to both allow for and regulate the use of LIBOR in the Islamic finance industry.

In effect, the AAOIFI *Shari’a* Standard 27 permitted the following forms of usage of indices: “[5/1] It is permissible in the Shari’a to use indices to discern the magnitude of change in a certain market...[5/3] It is permissible to use an index like LIBOR, or a certain share/commodity price index, as a basis for determining the profit of a Murabaha pledge...[5/4] It is permissible to use the index to determine the portion of the variable Ujra (rent) that represents the return” (AAOIFI, 2010, p. 489). As for the prohibitions, the AAOIFI *Shari’a* Standard 27 stated that: “[6/1] Shari’a prohibits trading in indices or taking advantage of their changes in the financial markets, through payment or receipt of money on the mere occurrence of certain readings of

an index, and without selling or buying the real assets which the index represents or any other asset. Such dealing is prohibited even if it is practiced for the sake of hedging against potential risk...[6/5] It is prohibited in Shari'a to connect the amount of a cash debt, at the time of lending, to the price index" (AAOIFI, 2010, pp. 489-490).

Moreover, in a bid to not appear out of harmony with the Jeddah-based OIC Islamic Fiqh Academy Resolution, the AAOIFI *Shari'a* Standard 27 has specifically mentioned the OIC Islamic Fiqh Academy ruling in the Appendix to its own Standard after having explained the rationale for its approval. The rationale being that:

"Developing indices is permissible in Shari'a because they constitute a method of forecasting and a means of observing the state of circumstances (inferences). Resorting to inferences is a well-recognized practice in judicature and financial transactions. *Ibnul Qay'yam* [sic] in his book on Judicial Methods presented a number of proofs on permissibility of using inferences. Permissibility of using indices to forecast the market situation is derived from acceptability of using inferences for judgment. As indicated above, Shari'a does not object to using inferences to make current or future judgment based on past events, or to initiate practical actions in the light of probable developments. Selling or buying indices is prohibited because it is nothing more than payment or receipt of money for the mere existence of a certain reading or figure. Such an act constitutes a form of gambling and an illegal act of gaining money. Hence, prohibition of selling or buying indices has been well emphasized by the Resolution of the [Jeddah-based] International Islamic Fiqh Academy which states that is not permissible to sell or buy an index because this constitutes pure gambling. It is an act of selling an imaginary object that never exists" (AAOIFI, 2010, p. 493).

The roots of the aforementioned rationale by AAOIFI, which does demonstrate a shift in how the Islamic scholarly community conceptualize interest rate benchmarks, may have very well been influenced by the writings of Justice Usmani, the Chairman of the AAOIFI *Shari'a* Board, who wrote an opinion, possibly in recognition of the contemporary difficulties facing Islamic financial institutions, in 2002 within his *An Introduction to Islamic Finance* that argued:

"Many institutions financing by way of *murabahah* [sic] determine their profit or market-up on the basis of the current interest rate, mostly using LIBOR. (Inter-bank offered rate in London) as the criterion. For example, if LIBOR is 6 per cent, they determine their mark-up on *murabahah* equal to LIBOR or some percentage above LIBOR. This practice is often criticized on the ground that profit based on a rate of interest should be as prohibited as interest itself. No doubt, the use of the rate of interest for determining a *halal* [sic] profit cannot be considered desirable. It

certainly makes the transaction resemble an interest-based financing, at least in appearance, and keeping in view the severity of prohibition of interest, even this apparent resemblance should be avoided as far as possible” (Usmani, 2002, p. 48).

One has to admit that, based on these arguments, that it is hard to rationalize the persistent refusal by the *Shari'a* scholars in allowing derivative instruments in hedging contexts for interest rate exposures. For they are clearly not related to the expressed reasons for the rational, namely pure gambling, illegal act of gaining money, or the sale of an imaginary object that never exists. Moreover, it is not entirely understood how could the statement of discerning the magnitude of the change in a certain market, which was preceded by pointing to the need to measure market situations to forecast future developments before they take place in order to facilitate investment decisions (in section 2/2 of the AAOIFI ruling), could be related to anything other than developing expectations for investment purposes and managing the risks associated with those expectations. These include the interest rate (and currency risk) exposures, which have been shown to be mostly non-core in nature, that are due to the entrance into contracts that are a part of an entity's normal operations (i.e., core functions) and consequently form an integral component of its financial statement as well as its asset-liability management framework.

Furthermore, such an inconsistent position does pose its own set of questions, the answers to which are important in order to begin to produce a cohesive juridical position that can be a formidable basis to the current policy of prohibiting interest rate derivative contracts for hedging purposes: Firstly, how could LIBOR be prohibited because it is an imaginary object that never exists (or a “theoretical construct” as per some respondents), and at the same time be allowed for usage in determining the profit rate in *Shari'a*-compliant transactions? In effect, according to this *Shari'a* stance one cannot receive cash flows, revenues, or even be subject to its associated liability due to the passing of an imaginary event.

Secondly, how is hedging classified as pure gambling? This is, once more, a significant query since this hedging-gambling association is a recurring theme in rulings by the standard-setting bodies, which has been observed to have trickled

down into the comments by some of the respondents, particularly in the academics, *Shari'a* scholars, and legal experts group. This is despite the fact, as has been argued at length in previous chapters, that hedging is actually the opposite of gambling in that the hedging parties choose not to “play” the financial markets and, as a result, be at the mercy of its rises and falls.

Thirdly, in a manner similar to the second question above but with a focus on *Riba*, how is it that the usage of interest rate benchmarks is determined by the standard-setting bodies as a key means that transforms commercial transactions from being legitimate to being *Ribawi* (usurious) financial ones because it is an “illegal act of gaining money,” and at the same time be permitted in the Islamic finance industry by one of the chief proponents for the prohibition of interest-rate derivatives, *even for hedging purposes?*

Effectively, the position of the standard-setting bodies goes against the arguments advanced by Justice Usmani himself in his book in 2002 wherein he stated: “But one should not ignore the fact that the most important requirement for the validity of *murabahah* [sic] is that it is a genuine sale with all its ingredients and necessary consequences...merely using the interest rate as a benchmark for determining the profit of *murabahah* does not render the transaction as invalid, *haram* [sic] or prohibited, because the deal itself does not contain interest” (Usmani, 2002, p. 48).

Eventually, it becomes clear, yet again, upon closer analysis of the discourse on interest rate derivatives that the fear of gambling behaviour, not the prospect of indulging in *Riba*, by the users of these derivative instruments is ever present in setting the context for the rulings by the standard-setting bodies. With that, one may estimate that the actual fear exists primarily due to the involvement of an ambiguous fusion of the concepts that define the risk transfer strategy by way of derivative hedging instruments and the explicit proscriptions in Islam. Nevertheless, this fear is still perplexing because the answers to alleviating it are implicit in the prohibitive opinions of the *Shari'a* scholars themselves.

More specifically, it appears that the invocation of *Maslaha* (public interest) in contentious contexts, such as the usage of LIBOR in rent contracts with very little relation to interest rate movements in the capital markets, is permissible if there is a legitimate commercial transaction in the real economy. Other analogies used include the allowance for using the profit margins of alcoholic beverage producers in determining the profit margins of halal beverage producers.¹¹⁶ Needless to say, this divergent stance begs the important question of: How are pure hedgers precluded from using LIBOR to hedge their interest rate risk exposure that is derived from legitimate and genuine transactions in the real economy?

Notwithstanding the above, even the restricted acceptance of the use of interest rate-based benchmarks in an Islamic economy could not mask the unease in its presence in the Islamic finance industry as evidenced by the continuing calls by *Shari'a* scholars and Islamic economists for the development of an Islamic benchmark that is disassociated from any appearance of usury. Justice Usmani himself, having elaborated his rationale for the acceptance of LIBOR in certain contexts, was one of the main advocates calling for an Islamic benchmark for *Shari'a*-compliant pricing and discounting in the Islamic finance industry (Usmani, 2002, p. 49). To be sure, he was not the first and will certainly not be the last to delve into an issue that is still far from settled.

The discourse into the development of an Islamic benchmark appears to have started in the early 1980s with the debates surrounding the pricing of assets in an Islamic economy. It could be conjectured that the impetus for that exercise is the belief among some academics that Islamic assets should somehow be priced differently from conventional assets, arguably because the current interest rate-based benchmarks are not only Islamically incompressible, but also economically deficient.

¹¹⁶ HSBC Amanah uses a similar analogy but with meats/pork butchers (see: http://www.hsbcamanah.com/amanah/about-amanah/faq.html#faq_31) Accessed on 17/7/2012. The HSBC Amanah analogy was repeated by one of the respondents in the academics, *Shari'a* scholars, and legal experts group.

The notable suggestions that ensued comprised the use of the rates of return on comparable projects (Zarqa, 1983), the rate of profit in the economy (Azhar, 1992), the market average rate of return (El-Ashkar, 1995), the rate of returns on deposits of different maturities (Khan, 1991), the “true” opportunity cost of venture capital (Ahmad, 1994, p. 15; Zarqa, 1983, p. 190)¹¹⁷, and rate of return on government paper collateralized against development and infrastructure projects which are deemed to be analogous to the return on the real sector of the economy (Haque & Mirakhor, 1999; Iqbal & Mirakhor, 2007, pp. 221-222).¹¹⁸

The aforementioned propositions that call for Islamic benchmarks are important insofar as it seems that the invocation of *Maslaha* in allowing the usage of interest rate benchmarks, such as LIBOR, for hedging legitimate interest rate exposures is impeded due to the views by some *Shari'a* scholars and some respondents (in the academics, *Shari'a* scholars, and legal experts group) that there is a very real prospect of instigating an Islamic benchmark that would re-orient all the opportunities and challenges to permissible channels. Consequently, taking a look at the substance of some of those Islamic benchmark propositions may be warranted in order to ascertain the soundness of that belief.

With that, one can start with the assertion that there may be economic arguments that preclude the viability of some of these suggestions as well as ones that offer the potential to improve the feasibility of others. This, obviously, is normal in economic thought where even in the conventional finance sphere, such a work-in-progress mentality for benchmark formulation is common. In effect, it is similar economic

¹¹⁷ The basis for that suggestion seems to have originated from Lamberton in his book titled: *Theory of Profit* (Lamberton, 1965, pp. 113-114). However, Lamberton simply espoused the position that the discount rate for a particular asset/asset classes should be the rate of return on *similar* assets/asset classes with commensurate risk characteristics. His position should probably not be used in the context of developing one comprehensive benchmark in the pricing of assets.

¹¹⁸ In the context of the benchmark suggestions by the authors, it is not understood how the pricing of collateralized government paper is different from the pricing of regular treasury securities in light of the statement by the authors that “The return on such an index needs to be adjusted for a risk premium which would be negative for the government paper because the governments are assumed to be insulated from credit and default risks” (Iqbal & Mirakhor, 2007, p. 221). Moreover, the rationale for inclusion of benchmarks such as the IFC emerging market index, which may contain non-*Shari'a*-compliant stocks is also not fully comprehended, especially when the objective is to generate an Islamic benchmark.

argumentation that, in a bid to improve the efficiency and effectiveness of the financial markets, instigated a market movement to the usage of LIBOR for pricing which was deemed to be superior in its ability to reflect the base rate for investment decisions than the Treasury rates (due to lack of favourable tax treatment and regulatory capital restrictions) (Hull, 2009, p. 75).

Thus, if the Islamic finance industry is keen on developing a benchmark that can be used as a base rate that is more reflective of its substance and operations, then it is wholeheartedly believed that they should be encouraged to do so with the caveat that it should be built on empirically-tested economic argumentation. A starting point can be to formally acknowledge that the constant appeals for a zero rate of time preference (i.e., no time value of money) are not supported in the *Shari'a* and are simply not a practical means, grounded in theory, to explain the behaviour of economic agents with resources through time.¹¹⁹ For it is apparent that Islamic jurisprudence allows parties to factor in the uncertainties associated with the time element in some transactions such as *Murabaha* and *Salam* whereby the pricing for the settlement of a spot transaction is different from the pricing in transactions that involve payment, in money or product, through time.

To that point, it should be recognized in the Islamic finance discourse on market risk management that, in terms of the practicality of the usage of a base rate in the capital markets, the rationale for the existence of a base rate is that the variability in the movement in the pricing of a particular asset or liability should be studied in reference to some benchmark or some minimum rate of return that the investor has to exceed (Bernstein, 1996, p. 261). Notably, this goes beyond the advocated usage by one of the respondents in the practitioner group of the zero-beta portfolio rate of return in Islamic finance, which he later admitted is very similar to the base rate.

To be certain, one may be able to tailor that minimum rate of return to be derived from the movement of the returns of comparable projects or asset classes for better measurement and evaluation of outcomes; however, these are unlikely to be lower

¹¹⁹ It is acknowledged that an increasing number of Islamic economists are actively attempting to argue for the formalization of the time value of money in the Islamic finance industry.

than the lowest rate of return in international markets (e.g., LIBOR, Treasuries, zero-beta portfolio, etc.) due to many factors, not the least of which is diversification. Effectively, almost any asset in an economy is priced on a base rate-plus framework whereby even tailored minimum rates of return are placed in a particular category, or risk premium group, in the base rate-plus framework.

Moreover, in situations where interest rate risk is a factor in a particular exposure, even if solely derived from the real economy (i.e., credit markets, deposits, receivables, etc.), time is a source of a quantifiable dimension of risk because it is the summation of the length of the exposure facing an entity to the risk of default and thus the possibility of greater volatility to its profitability (LiPuma & Lee, 2005, p. 421). Thus, an entity that is faced with choices that relate to the receipt and the payment of resources over time needs to be able to decipher how their interest rate risk exposure relates to the base rate (and the yield curve) in the financial markets for the precise timeframe of the exposure (i.e., one week, one month, three month, etc.).

Notwithstanding the above discussion into the development of an Islamic benchmark, in the realm of market risk management, it is of paramount importance to highlight the fact that *one traditionally hedges their exposures with the exact same variables that impose volatility on the financial statements of the hedging entities in the first place*. Thus, if market risk exposures to a particular entity originated within the context of an economically-sound Islamic benchmark, then it would be important for that entity to use *that* benchmark for hedging purposes. However, if the movements in the interest rates, as manifested by LIBOR, for example, explain the bulk, if not all, of the interest rate exposure then LIBOR (and not LIBOR mixed with some commodity price volatility) should be used as the benchmark to underlie the derivatives hedging contracts in order to offset the original exposure. Put differently, the use of LIBOR in the derivative instruments for hedging purposes is putting the cart behind the horse; it is not a decision taken due to some sort of affinity by the hedging community to LIBOR itself.

Notably, the recent charges (2011-2012) of the manipulations of LIBOR by large banking institutions, which is a shameful act, does not change the necessity of the utilization of LIBOR, if it is in fact the benchmark that correlates the most to the movements of assets and liabilities on the financial statements of the hedging entities.¹²⁰ Once more, the choice of the benchmark to underlie derivative contracts for hedging purposes is a matter of exposure and not a matter of a debate on which benchmark should normatively be used by the hedging community to counterbalance market risk exposures.

With that foregoing exploration of the use of interest-rate benchmarks as an underlying variable in derivative hedging transactions, one can turn to the issues surrounding the usage of foreign exchange rate movements for market risk management purposes.

Section II: Permissibility of the Underlying Variables: Currency Benchmarks

As was done in the previous section, the examination of the permissibility of transacting in currencies as variables to underlie derivative instruments for hedging purposes shall start with the resolutions articulated by the various standard-setting bodies. For this, the Jeddah-based OIC Islamic Fiqh Academy, in deliberating the issue of the inclusion of currencies in forward transactions, during its Seventh Session in May, 1992 (i.e., Resolution No. 63/1/7) decided that the “purchase and sale of currencies are not permissible [in the forward markets]” (IRTI, 2000, p. 133). This view was reaffirmed later in their Resolution 102/5/11 in November 1998 wherein it was stated: “It is not permissible in *Shari’a* to sell currencies by deferred sale, and it is not permissible, still, to fix a date for exchanging them” (IRTI, 2000, p. 236).

¹²⁰ Interestingly, it is not the manipulation that is the issue since it can be argued that central banks manipulate the base rates in their respective countries in order to restore equilibrium in the markets, combat inflation, and/or encourage sustainable economic growth. The issue in the LIBOR manipulation scandal is essentially that private financial institutions manipulated LIBOR for their own benefit.

Interestingly, the Academy, in its Twelfth Session in September, 2000 (i.e., Resolution No. 115/9/12), also ruled in a related issue, namely Inflation and Currency Value, in a manner that confirmed its view that was given earlier in December, 1988 (i.e., Resolution No. 42/4/5 on Currency Rate Fluctuations) whereby it was stated: “In principle, *debts* that have already been created in terms of a certain currency should be repaid in terms of that same currency and not in terms of an equivalent value, because a *debt* has always to be settled with its exact similar” (IRTI, 2000, p. 263; emphasis added).

Although, it appears that the resolution, which focused on the debt markets, tended to view exposures to any particular currency in an absolute sense, rather than a relative one. That is to say, it is not evident that it was recognized by the Academy that the risks of foreign currency exposures are not confined to the inflation in the country of the home currency, as such, but rather to inflation (among other factors) in the home country in relation to inflation (among other factors) that affect the home currency of the counterparty (IRTI, 2000, pp. 264-266).¹²¹

Thus, with these resolutions of the Academy, one can discern that the overall directive is perhaps that entities with operations that entail cross-border trade and investment are required to assume the open currency risks that are associated with the transaction. Consequently, if two firms, one in Malaysia and the other in Saudi Arabia, decide to conclude a transaction, then they would have to negotiate as to who will assume this market risk exposure (or how it could be shared between them).¹²² The possibility of utilizing the risk transfer strategy by way of derivative contracts, with currencies as underlying variables, in order to assist entities with inclinations toward the implementation of *Shari'a* directives, is apparently precluded.¹²³

¹²¹ As discussed in the chapter on market risk management (Chapter 4), there are other factors that influence foreign currency movements over and above inflation.

¹²² Of course, this assumes that all the parties, including non-Islamic institutions, will agree to this proposition

¹²³ The suggestions by the Academy to transact in a more stable underlying variable miss the point of currency volatility vis-à-vis the stable underlying.

Moreover, in the context of derivatives, it is not certain how, as mentioned in the resolution that deals with Inflation and Currency Value, the assurance of the payment and receipt of cash flows in the home currency due to the utilization of a derivative contract (e.g., indexation) is related to *Gharar* (excessive uncertainty) and *Jahala* (ignorance). In particular, it was stated by the Academy that in dealing with different values at different points of time that there is the very real potential that “both parties will not be in a position to know what will be the commitment at the end” (IRTI, 2000, p. 264).

The uncertainty in the proper comprehension of that position emanates from three main aspects: Firstly, at the transactional-level, it is the market norm in international trade and investment that the payment and receipt of currency in whatever transaction is already pre-agreed upon in the contract that regulates the transaction. Secondly, even if there is a form of indexation to another benchmark, through perhaps the inclusion of a financial institution as an intermediary, the expected value is determined, and can be locked, in advance in the derivatives markets and its actual value throughout the period of engagement is transparently communicated to both parties by the financial press. Thirdly, as stated in an earlier chapter, Kamali (2000) has shown that many distinguished *Shari'a* scholars (e.g., Ibn Taymiyyah, Ibn Al-Qayyim, etc.) have allowed setting a transacting price in the future based on the market price prevailing at the time of the exchange if it is agreeable to both parties and clear enough to eliminate dispute.

The AAOIFI, for its part, despite the absence of any Standard focused specifically on derivative instruments, did formulate the *Shari'a* Standard Number 1 – Trading in Currencies, adopted by the AAOIFI *Shari'a* Board in May, 2000, which states:

“It is prohibited to enter into forward currency contracts. This rule applies whether such contracts are effected through the exchange of deferred transfers of debt or through the execution of a deferred contract in which the concurrent possession of both the counter values by both parties does not take place. It is also prohibited to deal in the forward currency market *even if the purpose is hedging to avoid a loss of profit on a particular transaction effected in a currency whose value is expected to decline*. It is permissible for the institution to hedge against the future devaluation of the currency by recourse to the following: a.) To execute back to back interest free loans using different currencies without receiving any extra benefit, provided these two loans are not contractually connected to each other, b.) Where the exposure is in

respect to an account payment to sell goods on credit or by Murabaha (asset sale) in the currency of the exposure” (AAOIFI, 2010, pp. 14-15; emphasis added).¹²⁴

Having delineated the most pertinent resolutions by the standard-setting bodies in regards to the forward dealings in currencies, it may be appropriate at this juncture to discuss the justification for the formulation of the opinions contained therein in order to develop a greater degree of understanding of the basis and reasoning behind the prohibitive judgements that were articulated. For this, it has been explicitly declared by the standard-setting bodies that the basis for the general prohibition in the dealing of currencies in the forward market is the literal translation by *Shari'a* scholars of some of the *Ahadith* by the Prophet (PBUH).

One of the *Ahadith* was reported by ‘Ubadah Ibn Al-Samit stating: “Gold for gold, silver for silver – until he said – equal for equal, like for like, hand to hand, and if the kinds of assets differ, you may sell them as you wish provided that it is hand to hand” (AAOIFI, 2010, p. 21). In a second *Hadith*, it was reported by Abu Sa’id Al-Khudri that the Prophet (PBUH) said “Do not sell gold for gold except equal to equal and do not sell what is deferred for a spot exchange” (AAOIFI, 2010, p. 21).

Upon a closer examination of the literature surrounding these *Ahadith*, it may become obvious that, despite some early divergence in their interpretation by some leading *Shari'a* scholars (Al-Amine, 2008, pp. 84-86; Islahi, 2005, p. 52), most *Shari'a* scholars agree that the ‘*Illah* (efficient cause) for their elaboration concentrate on the prohibition of *Riba*, with its two forms being: a.) *Riba Al-Fadl* where items are exchanged on the spot, in different quantities (e.g., 1 oz. of gold for 1.1 oz. of gold on the spot) and b.) *Riba Al-Nasi'ah* which entails the exchange of items for a deferred period (e.g., 1 oz. of gold for 1.5 oz. of gold in the forward market) (Obaidullah, 2005, pp. 24-25). Moreover, it has been decided by the Makkah-based Islamic Fiqh Academy in its Fifth Session in February, 1982 that in

¹²⁴ Interestingly, sections 2/4 and 2/5 in the AAOIFI Standard No. 16: “Foreign Currency Transactions and Foreign Operations” puts the burden of foreign currency exposure in *Murabaha* transactions, the main lending form in the Islamic finance industry, on the Islamic banks. This policy is formulated in a bid to reduce the uncertainty of the borrowers of bank, which is commendable. But the coupling of that policy with the prohibition on hedging instruments is incomprehensible because it needlessly places the open exposure on the banking institution shareholders as well as depositors/investment account holders.

conforming to the rules of *Qiyas* that the items in the *Ahadith* are mentioned in the context of their utilization as *Thamaniyya* (money) and thus money, whatever its form, becomes purview to the restrictions outlined in the *Ahadith*.¹²⁵

The use of *Qiyas* in the above context, in time, has evolved into the usage of the *Ahadith* to develop a juridical opinion in regards to '*Aqd Al-Sarf*' (currency exchange contract), with *Sarf* being defined by Al-Zuhayli as "the exchange of one monetary form for another in the same genera, i.e. gold for gold coins, gold for silver, silver for gold, etc., whether it is in the form of jewellery or minted coins. Such trading is allowed since the Prophet (PBUH) permitted the exchange of properties for which *Riba* applied hand-to-hand in equal quantities in the same genus, or with difference in quantities in different genera" (Al-Zuhayli & El-Gamal, 2003, p. 281). In short, the conceptualization of *Riba Al-Fadl* and *Riba Al-Nasi'ah* applies to trading in money as characterized by currencies.

Thus, with an emphasis on the prohibition of *Riba Al-Fadl*, it is not permitted to enter into a contract to trade currencies of the same *Jins* (genre) for different amounts in the spot market (i.e., USD 10 for USD 11). Similarly, while it is permitted to agree to exchange in currencies of different *Jins* in different quantities on the spot (i.e., 6.7 Egyptian Pounds for 1 USD), it is not acceptable to transact in currencies of different *Jins* for different quantities in the future (i.e., 6.7 Egyptian Pounds for 1 USD in the future) due to the *Riba Al-Nasi'ah* proscription.

There are, of course, a few points of contention here that should be elucidated in regards to the all-encompassing interpretations given in a seemingly wholesale fashion to any form of transacting in currencies in the forward market, even if it is done in order to manage market risk exposures. The first, which has been argued repeatedly in the previous chapters, is that derivative transactions are not debt instruments with unique debtor-creditor relationship between the parties, which is the context in which the aforementioned *Ahadith* are to be understood.

¹²⁵ See <http://www.themwl.org/Fatwa/default.aspx?d=1&cidi=89&l=AR&cid=10>. Accessed 19/7/2012.

Essentially, the proscription was targeting the banning of the use of the items that can be regarded as money as subject matter in *Ribawi* (usurious) contracts despite having the appearance of innocuous purchase and sale transactions. In fact, these *Ahadith* are likely related to the often quoted verse in the Quran on *Riba* where it was stated:

“Those who consume interest cannot stand [on the Day of Resurrection] except as one stands who is being beaten by Satan into insanity. That is because they say, "Trade is [just] like Riba." But Allah has permitted trade and has forbidden Riba. So whoever has received an admonition from his Lord and desists may have what is past, and his affair rests with Allah. But whoever returns to [dealing in usury] - those are the companions of the Fire; they will abide eternally therein (Quran: 2:275; emphasis added)”

In this context, the proscription in the *Shari'a* of the two sales in one becomes an effective enforcer of the *Riba* prohibition to confront seemingly clever structuring of usurious transactions by scrupulous money lenders under the guise of trade. Specifically, it was argued by Al-Qaradawi, in agreement with the interpretation of Ibn Qayyim, that the proscription of the two sales in one preclude the ability of one party to say to another “I will sell you this item on a deferred basis for one hundred dirhams, for instance, on the condition that I buy it from you immediately after selling it to you now for eighty” (Al-Amine, 2008, p. 265; Al-Qaradawi, 1987, p. 53). Effectively, with the requirement of having items in spot transactions being of the same genre to have the same quantity and the proscription of joining two sales in one, the prospect of *Riba Al-Fadl* is eliminated because it becomes a value-less transaction to the parties of the contract.

Notably, a dissimilar situation arises in the endeavours to implement the religious commands in regards to *Riba Al-Nasi'ah* in the forward markets whereby, in a pure debt setting, a party pre-pays another party a particular form of money (Gold, Silver, USD, MYR, SAR, etc.) and agrees to be paid back at a particular point (or points) in time in the future either the same or a different form of money with an added premium. Here, it should be appreciated that the items included in the *Ahadith* were not only standardized, but also had prices that were generally stable during the time of the Prophet (PBUH) and the period of the first four Califs where it was observed, for example, that the ratio of gold to silver at that time was a constant 1:10 (Chapra, 1996, p. 1).

To return to the topic of the utilization of derivative instruments for market risk management purposes, it is perhaps difficult to comprehend the argument that purports that currencies should be viewed as gold and silver, as existing in 7th century Arabia, and should, therefore, not be traded in the forward markets. At a basic level, the inclusion of the time factor ought to be properly contextualized in the above *Ahadith* in that the prohibitions contained therein are likely to have a deeper meaning than the one contained in the propositions calling for the institutionalization of a zero time value of money (i.e., spot price should always equal forward price in an Islamic economy). For as discussed in the previous section, it is evident that the classification of *Riba*, in contemporary settings that include the consideration of *Maslaha* (public interest), is moving in the direction of granting more credence to the nature, or substance, of the transaction.

Thus, it can be argued that the unease in Islamic jurisprudence should be focusing on the trading of currencies in the forward markets in a “naked” manner whereby there is no clear linkage to the real sector that can serve as a foundation to justify the transaction. Essentially, this view can be considered to espouse a sound position that promotes the proper consideration of the origin of the exposure in the first place which in true hedging transactions is generated from activities tied to the real sector.

That is, it is neither a lending transaction within the framework of *Riba* nor a contract of *Maysir* (gambling) trading in variables that are built on a superficial exchange of money. To that end, if one closely examines the acceptance of *Salam* contracts, which is by its very nature a forward contract (with a financing element), in Islamic jurisprudence by the Prophet (PBUH) when he arrived to Madinah, they may not find a large degree in divergence in how a transaction on the face of it may be viewed as prohibited, but is ruled as acceptable due to the legitimacy of the practical need.

Accordingly, it may be contended that proper contextualization on the juridical issues surrounding the utilization of currencies was not undertaken in a comprehensive manner that accounts for how the worlds of commerce and finance

have evolved; for surely it is not the intention of God to limit the currency transactions, even if it is done on a forward basis, that underlie legitimate trade amongst mankind. With that, it could be inferred from the literature and the interviews that the apprehension of the *Shari'a* scholars and some of the respondents across the interviewed groups is actually in the dealings of money between individuals in a manner that is formalized by a contract where there is no reference in the contract to any specific genuine and real sector transaction (hence the advent of the commodity *Murabaha* structures). To illustrate, it was acknowledged by many of the respondents that the sale transaction with a tangible underlying asset, even if superficial, is the justification for the transaction in order to avoid the money-for-money characterization.

For that, the research turns to the nature of money in Islam to shed light on its usage, particularly in the form of interest rate and currency benchmarks, in the derivative markets.

Section III: The Nature of Money in Islam

The conceptualization of money in Islamic jurisprudence is a controversial matter whose discourse is almost completely centred on the prohibition of *Riba*.¹²⁶ This, it can be argued, is partly due to the seemingly rigid interpretations of the scripture by some the *Shari'a* scholars in mostly descriptive terms with little engagement with economic theory in what is essentially an economic subject matter. With that, it should be stated that monetary economics with its focus on exploring the behaviour of economic agents with money (Brunner & Meltzer, 1971; Keynes, 1937; Lavington, 1968; Marshall, 1923; Tobin, 1956, 1965) is outside the scope of the research. There are some of its elements, however, that will be used to contextualize some of the opinions that have been transmitted in regards to money in Islamic thought.

¹²⁶ However, it was not just Islamic jurisprudence that conveyed the potential evils of money and the institution of usury that surrounded its existence. These beliefs go back as early at the time of Aristotle who was sceptical of the unnatural usage of “barren” money to generate profit. This viewpoint also is contained in Judaism and Christianity.

At this stage, it is best to begin with a deeper understanding of the concept of money and what is meant by the slippery term along with the reasoning for its existence. The unit of account characterization presents itself first where from the dawn of time humans have sought to account for what is theirs. In time, the simple calculation of the wealth of an individual and his/her income, as an economic agent that seeks to undertake rational decision-making, necessitated the existence of a common denominator, or a single *numeraire*, in order to gauge the values of objects (not only their number) with greater precision (Carruthers & Espeland, 1991; Simmel & Frisby, 2004).

To this, Simmel offers a particularly rich conceptualization in the usage of and rationale for the unit of account functionality of money, as the *numeraire* in society, by teaching his readers that:

“[T]he superstructure of money relations erected above qualitative reality determine much more radically the inner image of reality according to its forms. The mathematical character of money imbues the relationship of the elements of life with a precision, a reliability in the determination of parity and disparity, an unambiguousness in agreements and arrangements in the same way as the general use of pocket watches has brought about a similar effect in daily life. Like the determination of abstract value by money, the determination of abstract time by clocks provides a system for the most detailed and definite arrangements and measurements that imparts an otherwise unattainable transparency and calculability to the contents of life, at least as regards their practical management. The calculating intellectuality embodied in these forms may in its turn derive from them some of the energy through which intellectuality controls modern life” (Simmel & Frisby, 2004, p. 445).

To be certain, the relevancy of the eloquent viewpoint imparted by Simmel is dependent on the dynamic relationship that exists between the unit of account characteristics of money with the second defining trait of money: medium of exchange. Specifically, the rationale for the utilization of money as a unit of account can be considered to be largely a factor of the realization by economic agents in society that its standardization leads to systemic efficiency, due to less pricing uncertainty, if it is used as a medium of exchange in trade and investment.

This is especially true in increasingly specialized economies that depend on trade along with institutionalized payment practices that effect the exchange process that

takes place (Thornton, 2000, p. 53). In effect, the reduction in the pricing uncertainty is a product of having the market forces achieving a balance in what Weber calls “conflict of interests and compromises” between economic agents in a society in regards to the price of money vis-à-vis other objects (Weber, Roth, & Wittich, 1978, p. 108).

Interestingly, due to the focus on the prohibition of *Riba* in Islamic jurisprudence, the literature on the use of money as a medium of exchange is particularly rich in Islamic thought. Among the notable Islamic writers who understood, and wrote on, the important role money plays in promoting commerce are Ibn Rushd (Averroes) and Al-Ghazali. For Ibn Rushd, “Justice in transactions lies in approximating equivalence. So, when realizing equivalence between different things was found to be almost impossible, dinar and dirham were made to evaluate them, that is, measure them. As between different kind of commodities, I mean those which can neither be weighed nor measured, justice lies in their being proportionate. The ratio of the value of one thing to its kind should be equal to the ratio of the other things to that thing’s kind” (Ibn Rushd, 1998, p. 135; Islahi, 2005).

Al-Ghazali, for his part, viewed the existence of money being derived from the need for:

“[A] measure on the basis of which price can be determined, because the exchanged commodities are neither of the same type, nor of the same measure which can determine how much quantity of one commodity is a just price for another. Therefore, all these commodities need a mediator to judge their exact value... Allah Almighty has, therefore, created dirhams and dinars (money) as judges and mediators between all commodities so that all objects of wealth are measured through them...that is why Allah has created them, so that they may be circulated between hands and act as a fair judge between different commodities and work as a medium to acquire other things...Therefore, there was needed a thing which in its appearance is nothing, but in its essence is everything. The thing which has no particular form may have different forms in relation to other things like a mirror which has no colour, but it reflects every colour. The same is the case of money. It is not an objective in itself, but it is an instrument to lead to all objectives” (Al-Ghazali, n.d., p. 348; Usmani, 2010).

These writings, especially in their explicit reference to “justice” can be discerned to follow, and elaborate on, the specific instructions of the Prophet (PBUH) for the prohibition of the earlier described *Riba Al-Fadl*, whereby it was narrated by Muslim on the authority of Abu Said Al Khudriy that Bilal visited the Messenger of Allah

(PBUH) with some high quality dates, and the Prophet (PBUH) inquired about their source. Bilal explained that he traded two volumes of his lower quality dates for one volume of the higher quality dates in the market. The Messenger of Allah (PBUH) said: "this is precisely the forbidden Riba! Do not do this. Instead, sell the first type of dates, and use the proceeds to buy the other" (Muslim).

Thus, the unit of account and medium of exchange functionality of money in Islamic thought are thought to transcend the exclusive focus on the realm of the preference for systemic efficiency and also include the requirement for clarity and justice in the economic dealings between individuals. In essence, the prohibitions of *Riba Al-Fadl* and *Gharar*, as elucidated by the Prophet (PBUH), hold an intimate relationship in providing guidance for greater human well-being through transparent cooperation.

This was well articulated, but in more neutral terms in regards to well-being, by Simmel, in that he stated: 'Exactness, precision, and rigour in the economic relationships in life, which naturally affect other aspects of life as well, run parallel to the extension of monetary matters (Simmel & Frisby, 2004, pp. 444-445). With that, as with the axiom of *Alghonom Bialghorom*, the fact that these economic-centred directives were elaborated in the seventh century, much earlier than their conceptualization in economic theory in the past few centuries, especially the 20th century, should be a source of pride to Muslim economists.

Up to this point, and after discussing the unit of account and medium of exchange roles of money, there does not appear to be much disputation in the conceptualization of money between western and Islamic thought. However, as the discourse evolves into the third and final role for money, namely storage of value, the divergence in conceptualization of money begins to emerge. Once more, there are indications in the literature of the presence of a fear in the engagement of *Riba* in the conscience of *Shari'a* scholars (see below) since it was consistently viewed by them that the dealings of money between individuals, if unregulated, amount to indulgence in *Riba* since the extension of credit is traditionally undertaken through monetary forms.

Along the same lines, some of the respondents demonstrated the importance of the time value of money debate within the discourse.

It is not self-evident how the fear of the exchanging and the saving of money as a store of value for transactions and investment (not necessarily in the credit realm) turned in contemporary settings to a focus on commodities as a means to ensure the avoidance of *Riba*. Commodities, of course, being defined in modern-day settings as something with ample supply and demand that is standardized, homogenous, and reasonably durable.

One may conjecture that the earlier mentioned verse in the Quran stating: “But Allah has permitted trade and has forbidden *Riba*” (Quran: 2:275) was interpreted by some, including one of the respondents who is a well-known academic with numerous publications (articles and books) focusing on the Islamic finance industry, *not as an indication by God that trade and usury should not be thought of as one in the same for those who seek to pursue usurious money lending under the banner of trade, but rather that God was specifying economic dealings to be exclusively divided between individuals as either trade or Riba* (i.e., mutually exclusive and collectively exhaustive). The appreciation of this difference in interpretation is fundamental in order to understand the constant push for commodities to underlie any Islamic finance product where no clear asset is discernible even if the transaction is actually linked to the real economy (e.g., market risk management).

With that, one may both agree and disagree with the statements by some *Shari'a* scholars and academics regarding the use of commodities in Islamic finance as an objective test of legitimacy (Al-Amine, 2008; BMB, 2010, p. 132; Iqbal & Mirakhor, 2007, p. 209; Usmani, 2010).¹²⁷ True, money should not be treated as a commodity to be used with no real commercial rationale that is clearly linked to the real economy, the end result of which is probably associated with either *Riba* or *Maysir*.

¹²⁷ Obviously, one of the problems in the focus on commodities as a legitimate form of exchange is that it starts a contentious debate of what items are *Ribawi* (usurious) commodities and cannot be a centre of exchange and what items can be permissibly traded (Al-Amine, 2008, pp. 77-87).

At the same time, the view that is expressed by several writers in the literature as well as shared by some respondents that money cannot be a store of value because: 1) it is not an asset, 2) that can be an object of trade, 3) since it has no utility is perhaps more dependent on philosophical reasoning and less on economic substance. For if this is the case then what is essentially being proposed entails the complete reformulation of economic theories and an overhaul of the accounting practice (as will be discussed in the next section). That is not to say that this extreme measure is not impossible; however, its serious undertaking requires more than a passing philosophical argument by its adherents.

It may be necessary at this stage to discuss the characterization of the storage of value functionality of money in Islamic thought, which requires delving into some of the perspectives that deal with the property rights of individuals (and entities) in Islam. For this, it should be affirmed that there is no text in the scripture that defined the concept of *Mal* (property); however, the major schools of Islamic jurisprudence (Maliki, Shafi'i, Hanbali, and Shafi'i) do define *Mal*, broadly, as any '*Ayn* (corporeal) and *Manfa'a* (usufruct) that can bestow on its owner current or potential benefit (Kamali, 1997, p. 27). Consequently, in carrying this definition to a medium of exchange framework, economic agents can be thought of as exchanging assets for their benefit. This includes the purchase of money from other economic agents in return for imparting with a particular '*Ayn* or *Manfa'a* that it is owned.¹²⁸

Notably, the bought and sold money does not have to be commodities or precious metals (or even any object at all for that matter). This becomes evident when one observes the often quoted description of the embodiment of money in society by Paul Samuelson, whereby he states that money is "an artificial social convention," since any substance, for whatever reason, that begins to be used as money, people will begin to value it (Samuelson, 1998, p. 55). In fact, one may observe that this returns the discussion back to James' pragmatic theory of truth that was elaborated in the Research Philosophy Chapter (Chapter 2) wherein he argued that pragmatism propels people to have belief in the truth of an object even in the absence of clear

¹²⁸ In the context of usufruct, one is selling the use of a something, including their labour, to the other party in exchange for the purchase of money.

correspondence of thoughts and things. Interestingly, the metaphor that he uses as an object in the flow of some of his argumentation is none other than money where he contends: “Truth lives, in fact, for the most part on a credit system. Our thoughts and beliefs ‘pass,’ so long as nothing challenges them, just as bank-notes pass so long as nobody refuses them. But this all points to direct face-to-face verifications somewhere, without which the fabric of truth collapses like a financial system with no cash-basis whatever. You accept my verification of one thing, I yours of another. We trade on each other’s truth. But beliefs verified concretely by *somebody* [sic] are the posts of the whole superstructure” (James, 1907, pp. 207-208).

To be certain, it was not the western economic thought of the twentieth century that bestowed on money this abstract qualification. For even within the realm of early Islamic thought, it was reported that Umar, the second Calif (d. 644 A.D.), considered, but later decided against, the issuance of camel skin coins as money (Al-Baladhuri, 1983, p. 456).¹²⁹ That potential act was followed later by opinions by some of the leading *Shari’a* scholars, including Ibn Hanbal, Ibn Hazm, and Ibn Taymiyyah, who advanced the belief that custom and usage are actually the chief factors that determine the endowment of a particular item with the coveted title of “money” (Chapra, 1996, p. 5). One can estimate that this is probably due to the fact that, again, there is no specific text in the scripture that require the Islamic community to use gold and silver, or any particular object for that matter, as money.¹³⁰

Thus, with the agreement that the medium of exchange functionality is, in effect, defined by whatever custom and usage in society determine as being worthy of the highly respectful money status,¹³¹ one should also accept that in the post-Bretton Woods system, the money that society has agreed upon is pure paper currency that entails people holding government issued pieces of paper because they are certain

¹²⁹ Umar’s advisers were apparently fearful of excessive camel slaughter.

¹³⁰ Nonetheless, there were writings by some *Shari’a* scholars, such as Abu Hanifah, Al-Ghazali, and Ibn Khaldun, that favoured the position that gold and silver are money by nature and consequently other metals used as money were relegated to the *Fulus* category (coins of other substances) (Islahi, 2005).

¹³¹ Alternatively, society may choose to use the costly bartering system which has been effectively prohibited by the Prophet (PBUH) in the example of Bilal’s dates above.

that others will accept the same. This certainty is derived from the collective agreement, even if implicit, that they (or more precisely their issuing authority as a representative) will limit its issuance and will share any seigniorage that accumulates in the process (Thornton, 2000, p. 51).¹³²

Interestingly, this modern-day convention was acknowledged by the Jeddah-based OIC Islamic Fiqh Academy, in its Third Session in October, 1986, in that it stated in its *Shari'a* Rules Governing Paper Money and Currency Rates Fluctuations Resolution (No. 21/9/3): “Paper money is real money, possessing all characteristics of value, and subject to Shari'a rules governing gold and silver vis-à-vis usury, *Zakat* [sic], Salam and all other transactions” (IRTI, 2000, p. 34).

With that background into money, whatever its form, it may be difficult to conceptualize the argument that money as an imaginative construct that is built on social convention has no utility.¹³³ This is because this assertion does not elaborate a concrete and defensible position as to why money is held by individuals in the first place. To address that conundrum, and without indulging too much in the diverse economic theories surrounding that query, it may be simply stated that money, being a unique asset unlike any other, provides utility that emanates from the particular circumstance of its users and their specific needs for its presence in their lives.

To that point, Hicks, remarking on the nature of money, once wrote: “one of the advantages that are got from the use of money is that people do not have to pass it on immediately; they can choose the time of their purchase to suit their convenience. *If they use this facility moderately, it is useful to them; and it does no harm to other people*” (Hicks, 1971, p. 21; emphasis added). The moderate use of money and its potential harm will be explored below; however, at this stage, it should be noted that

¹³² Seigniorage is the revenue accruing to the issuing authority when the exchange value of money issued exceeds the money's production cost.

¹³³ Justice Usmani, quoting Imam Al-Basri, makes an argument that the utility of money is derived when it leaves the individual in an exchange for another object (or service) (Usmani, 2010). But he did not elaborate on why we choose to hold on to money in the first place; perhaps he should have contextualized his argument with a view on current and future utility.

there is inherent utility in the holding and use of money, otherwise one may discard it with little regard to their well-fare.

In effect, money is one of the centrepieces that affect the behaviour of individuals in regards to choices of consumption over time (including the transfer of consumption capacity to inheritors).¹³⁴ Specifically, it was stated by Marshall: “A prudent person will endeavour to distribute his means between all their several uses, present and future, in such a way that they will have in each the same marginal utility” (Marshall, 1910, p. 119).

Thus, while one may concur with some of the *Shari'a* scholars that money should not be desired for its own sake (Al-Ghazali, n.d., pp. 114-115; Ibn Al-Qayyim, 1955, p. 137; Ibn Taymiyyah, 1963, p. 472; Islahi, 2005, p. 47), it not, however, sensible to assume a position that money should not viewed as an objective and a means to increase human well-fare, if done in a legitimate manner. Effectively, money, being a store of value, is an integral component of wealth.

To be certain, money is not the only component of wealth; for there are many asset groups that can assist in allowing for the attainment of the most efficient temporal distribution of consumption choices (i.e., wealth management). In fact, it is recognized that other assets groups dominate money in their ability to manage wealth over time, including wealth transfer. Yet, individuals still hold money, as a store of value, even if it is costly for them to do so due to inflation, and in Islamic contexts, the payment of *Zakah* (alms) on liquid funds.¹³⁵ This is because money is unique in that it offers functions that other assets cannot provide, namely a cost-efficient medium of exchange.

With that, it may be contented that the *Shari'a* scholars and other writers who continue to hold unfavourable views on the use of money as a store of value should perhaps re-examine the aforementioned *Hadith* regarding Bilal and the sale of his

¹³⁴ The temporal choices of consumption include aspects of savings/investment, production, cost of labour, technology, among other factors that create and preserve wealth through time.

¹³⁵ It is required in the *Shari'a* to pay a 2.5 per cent *Zakah* on one's liquid funds.

dates. For it can be quite apparent, in monetary terms, that the Prophet (PBUH) instructed Bilal to cede ownership of his lower quality dates for the ownership of money as a commercial act that precedes the one entailing the forgoing of money in return for the ownership of the high quality dates. Notably, these two exchanges did not have to be simultaneous since Bilal could have sold his low quality dates on Monday, for example, and purchased the high quality dates a week later (possibly due to disagreement on the purchase price on Monday). During that week, Bilal had ownership of the money from the sale of the low quality dates, essentially as a store of value, until he effected the high quality dates transaction.

Interestingly, in this transaction, the use of money was not associated with capital, investment, or lending as is often done in the literature in Islamic finance when one speaks of money (Kahf, 2006; Khan & Mirakhor, 1994; Usmani, 2010). In effect, the elaboration of the aforementioned example of Bilal is significant because it really demonstrates that the use of money is primarily related to choices of consumption over time rather than simply adopting a simple and narrow view of money being a means for *Riba*. Specifically, in the case of Bilal, it was a choice of a spot transaction or one that is completed one week later.

In trade these choices are almost limitless between the numerous operators in the real economy; and the amount of money held for those transactions is a factor of many associated and inter-related variables. These include: the wealth of the individual, planned volume of transactions, and the timing of receipts and payments as well as the size, extent, and activity of the financial markets (credit and equity). Thus, the discussion into the store of value characterization of money may be concluded by stating that money is considered a store of value because trade, by its very nature, is a process that takes time; and thus, anything that serves as a medium of exchange must be held as a store of value (Brunner & Meltzer, 1971; Thornton, 2000).

There are, of course, the concerns of hoarding money with its adverse effects on the economy and the well-fare of economic agents within it. This, if one would recall, relates to the statement quoted earlier by Hicks in which he stated that money

contains many advantages to people: “*If they use this facility moderately, it is useful to them; and it does no harm to other people*” (Hicks, 1971, p. 21; emphasis added). The fear here, which is not peculiar to Islamic jurisprudence in that it has been an active issue of concern in monetary economic theory, is that the hoarding of money is likely to suppress economic activity and consequently create a loss of well-fare in society.

As a background, many writers on monetary economic theory have shown that the hoarding of money in modern contexts is, essentially, a reaction by individuals to some exogenous economic factors such as economic shocks, poorly developed financial markets, dearth of investment opportunities, among others (Thornton, 2000). This should be contextualized by stating that economic agents, despite the views to the contrary in some of the Islamic finance literature, have an incentive to economize their holdings of money, as part of their portfolio, in a non-zero interest rate (as well as profit rate) environment since money has traditionally a negative rate of return due to inflation and other pressures (e.g., *Zakah*).

However, in Islamic jurisprudence, it can be clearly observed that there is a constant view by some of the *Shari'a* scholars and commentators that the holding of money amounts to hoarding as a deliberate malicious act of economic injustice by some individuals who seek to circumvent the real economy in order to generate returns on money lending and/or activities unlinked to the real economy (Abu Saud, 2002; Al-Ghazali, n.d.; Al-Suwailem, 2012; Siddiqi, 1982; Usmani, 2010). This indiscriminate view of hoarding exists despite the fact, as was stated earlier, that money is inferior to other asset classes for wealth management over time. If anything, it is more rational for profit-maximizing individuals to hoard other asset classes especially those corporeal assets that are highly favoured by contemporary *Shari'a* scholars that offer more cost-efficient returns.

To be certain, this distrustful position in the holding of money is not without a justification; for it is closely associated with the literal interpretation of the verse in the Quran that states: “O you who have believed, indeed many of the scholars and

the monks devour the wealth of people unjustly and avert [them] from the way of Allah . *And those who hoard gold and silver and spend it not in the way of Allah - give them tidings of a painful punishment.*” (Quran: 9:34; emphasis added).

However, it should be recognized, as outlined in the second chapter on the philosophy of truth in Islam, that a more certain path to developing an interpretative conjecture (and consequently an economic policy) in Islamic jurisprudence depends on *both* the details as well as the contextual understanding of what is being communicated by God. In essence, it is not the nature of what is being amassed that should be the focus of the discourse on money in Islamic finance, but rather it is in the act of illegitimate amassing (i.e., malicious hoarding) itself that is forbidden in Islam. That is, hoarding, no matter what asset, if undertaken illegitimately, because it entails greed, selfishness, and deception, is an act of injustice and should therefore be forbidden.¹³⁶ In fact, if one wants to be devious, they can simply rely on the literal translation by the *Shari'a* scholars in order to give themselves the juristic approval to circumvent the prohibition on ill-intended hoarding by focusing on the rational, profit-maximizing amassing of all asset classes, except gold and silver (or even money, for that matter).¹³⁷

Notably, in the circumstance of economic uncertainty and a dearth of investment opportunities within poorly developed markets (i.e., economic explanations for hoarding behaviour), one can hardly imagine that Islam, as a religion, supports the imposition on people to invest and expose themselves to losses or be condemned to “painful punishment.” Indeed, this would be very much against logic and reason as well as the juristic consensus in support of *Al-Durariyat Al-Khamsa* (five necessities) as elucidated by Al-Ghazali.¹³⁸

The above discussion on the nature of money in Islam is intended to address the steady association in the literature and in some of the interviews between the explicit

¹³⁶ Similarly, it is not what is being stolen that is prohibited, it is the act of stealing itself.

¹³⁷ Of course, they can use the lack of specificity in the divine instruction in the verse to show that they did not contravene the prohibition on not spending the money “in the way of Allah.”

¹³⁸ The Zakah in this framework can be considered a cost (or tax) to motivate investment, not a means to enforce the investment of liquid funds.

prohibition of *Riba* in the scripture and money, which, in turn, manifests itself in the beliefs about benchmark variables (interest rate and currency) that underlie derivative instruments, which were discussed in the previous two sections. In particular, one should realize that in the context of *Riba*, the usurious credit contracts are a type of an asset class to the creditors, albeit an impressible one, that evolves from the transacting of money.

In other words, it is the prohibition of usurious lending that should be the focus in terms of proscription not money, or financial instruments whose value is related to money (e.g., derivatives). For in the realm of commerce, the purchase and sale of a prohibited item (e.g., wine, pork, etc.) are effected with money, yet one does not usually charge money with the commitment of the prohibited act since it is the act itself that is prohibited.

The aforementioned distinction is significant insofar as it allows for the existence of financial instruments, such as derivatives, which serve as market risk management tools with benchmarks that are built on money as an underlying, whether in terms of interest rates or currencies. The relevancy of this becomes apparent in hedging contexts with little, if any, relationship with the credit markets or any gambling activities.

With that, and given that derivative instruments are monetary contracts that serve to hedge balance sheet exposures by employing a contrarian market risk transfer methodology, it is important to also shed light on some of the side-effects of the prohibition of these instruments, especially in relation to the formal recognition of the derivative contracts. This becomes especially pertinent since in the course of the interviews, the opinions revolving around the form and modality of the recognition of the derivative instrument by the majority of the respondents, across the groups, who commented on the matter were found to be vague (and even contradictory) by the researcher.

To illustrate, one of the ambiguous rationales that was communicated was in regards to the accounting classification of derivative instruments (particularly Islamic swaps) throughout their duration wherein the confusion surrounding the tangible vis-à-vis the intangible characteristics were manifested in the inconsistent designations of assets and liabilities. Another remarkable comment by one of the chief architects of the TMA is that these contracts do not have (monetary) value.

Section IV: The Recognition of the Derivative Contract

The importance of delving into the formal recognition of the derivative contracts in the financial statements of the entities that use them stems from the quintessential reason for their existence. Effectively, in a hedging context, any particular derivative instrument is designed to ensure that the economic factors that contribute to the worsening of the balance sheet position of a hedging entity are largely offset by the rise in the value of the derivative instrument. That is, the gain (loss) on the balance sheet of the entity as a result of the market risk exposure will be offset by a loss (gain) on the derivative instrument. This defining element of the usage of derivative instruments for market risk management necessitates the presence of accounting rules that acknowledge this practice and ensure that it is communicated to the readers, including regulators, of the financial statements in the most transparent manner possible. In fact, one of the respondents in the practitioners group who focuses on rating has confirmed that the assurance of transparency is of importance in the rating of enterprises.

For this, the International Accounting Standards Board (IASB) issued the IAS 39 - Financial Instruments: Recognition and Measurement Standard - which outlines the requirements for the recognition, de-recognition, and measurement of financial assets and liabilities, including derivative contracts. In effect, the initial recognition is undertaken once an entity becomes a party to the contractual provisions of the derivative instrument and this recognition of the derivative instrument shall continue on its financial statements until the rights, obligations, and control ceases to exist. In terms of measurement, the derivative instruments are to be recorded at fair value

which is the amount for which the asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction (e.g., market quotation for replacement cost).¹³⁹

Remarkably, if the derivative instrument is used for hedging purposes, the IAS 39 allows the usage of hedge accounting. The importance of the IAS hedge accounting provision is in its extension to the hedging community the "privilege" of overriding the normal accounting treatment for derivatives (fair value through profit or loss in the period incurred) and/or providing the ability to adjust the carrying value of assets and liabilities. The reasoning behind the offering of this privilege is that the derivative hedging instruments should not have an accounting life of their own, rather they should be considered as a part of a unified package of an operational and/or financial commitment *plus* an instrument to serve as a hedge to that commitment (DeMarzo & Duffie, 1995, p. 747).

The above treatment is significant insofar as the hedging instruments generate cash losses and gains over their life while the transactions they are designed to hedge produce only paper gains and losses until they are recognized in a later period, which in turn results in greater volatility, and thus uncertainty, in the income statement of the hedging entity. In essence, as noted by in a report by PricewaterhouseCoopers:

"The basic principle in IAS 39 is that all derivatives are carried at fair value with gains and losses in the income statement. However, derivatives are commonly used to hedge recognised assets and liabilities that are measured at cost, amortised cost or at fair value with gains and losses recognised in equity or items such as forecast transactions or firm commitments that are not recognised in the balance sheet. This creates a mismatch in the timing of gain and loss recognition. Hedge accounting seeks to correct this mismatch by changing the timing of recognition of gains and losses on either the hedged item or the hedging instrument. This avoids much of the volatility that would arise if the derivative gains and losses were recognised in the income statement, as required by normal accounting principles" (PricewaterhouseCoopers, 2005, p. 7).

In order to qualify for hedge accounting, an entity has to comply with onerous requirements that oblige the existence of formal documentation at the commencement of the recognition of the derivative contract. This is in addition to the

¹³⁹ See IAS 39 at <http://www.iasb.org/NR/rdonlyres/1D9CBD62-F0A8-4401-A90D-483C63800CAA/0/IAS39.pdf>. Accessed on 7/7/2012.

achievement of stringent effectiveness tests for the life of the hedge in a manner that confirms the strength of the relationship between the underlying risk exposure and the derivative instrument. If either of these requirements is not present, hedge accounting may not be used.

Specifically, the formal documentation that is demanded require that the hedging entity identify and certify their risk management objective, the hedged item, the hedging instrument, the nature of the risk being hedged, and the methodology that will be followed for the effectiveness tests. In particular, the hedge should be highly effective at the inception of the contractual relationship and expected to be within the range of 80 per cent and 125 per cent until it is de-recognized (prospectively and retrospectively).

This approach that centres on providing an effectiveness band does leave some room for ineffectiveness in case the correlation between the derivative instrument and the relevant risk exposure experiences some changes due to mismatches in the underlying variables (e.g., different maturities), changes in counterparty risks, and/or if the underlying variable in the derivative contract is a proxy for the actual item affecting the balance sheet exposure (e.g., oil futures for jet fuel cost variation). Notably, it should be clear from the aforementioned requirements that the push for the utilization of commodities to underlie the Islamic derivative instruments may very well disturb their effectiveness within the IAS 39 framework, and thus diminish the prospect of the usage of that privilege, due to the exogenous volatilities imposed.

The effectiveness tests, for their part, comprise three methods, whose choice of utilization should be included in the documentation at the inception of the hedge. The first method is the critical terms comparison which consists of comparing the critical terms, such as: notional principle, amounts, term, pricing dates, timing, and quantum and currency of the cash flows, as well as the confirmation that there are no features that would invalidate an assumption of effectiveness. The second method is the dollar offset method that entails the quantitative assurance that the change in the fair value or cash flows of the derivative instrument corresponds to the change in the fair value or cash flows of the market risk exposure. The third method, for its part, is the

undertaking of a regression analysis of the relationship between the derivative instrument and the underlying exposure in order to statistically test effectiveness (PricewaterhouseCoopers, 2005, pp. 13-15).

The privileges to hedgers also extend to the taxation sphere in that the taxing authorities in some jurisdictions offer preferential tax treatment in the recognition of gains and losses that result from the utilization of derivatives for risk management purposes. For example, the Internal Revenue Service (IRS) in the United States has elaborated tax regulations that do not force the application of the mark-to-market rules to hedging transactions and allow instead a closer matching between the gains and losses of the derivative instrument and the underlying risk exposure (Bloom & Cenker, 2008).

Lastly, for banking institutions, the recognition of the derivative contract as a hedging transaction could translate to the prospect of lower capital adequacy requirements, if approved by the supervisory authorities. More specifically, under the Internal Models Approach (IMA) of the Basel Committee on Banking Supervision (BCBS) that is used to calculate the capital adequacy requirements for banking institutions, derivative instruments can be considered as risk mitigants and as such reduce the Value at Risk (VaR) figures that are used to calculate the capital charge. In addition, if the model of risk management captures appropriately the spread risk, default risk, and event risk, the multiplier used is given a favourable treatment by according it a lower value thereby reducing the capital charge even further.

The forgoing discussion into hedge accounting, taxation, and capital adequacy (for banking institutions) is significant in that it provides a view into the practicalities that surround the recognition of the derivative contracts in a manner that appreciates the rationale of their existence (i.e., offsetting risk exposures). Notwithstanding the above, it is remarkable that the AAOIFI had not sought to establish some form of an accounting standard for derivative usage.¹⁴⁰ This, as mentioned in the previous chapter, could be due to its opinion that the matter was settled in the *Shari'a*

¹⁴⁰ Or IFSB for capital adequacy standards, for that matter.

scholarly community and accordingly did not warrant deliberations of accounting and auditing technicalities.

Alternatively, it may have thought that it had made its position clear with the injunctions against the usage of currencies (Shari'a Standard No. 1) and benchmarks (Shari'a Standard No. 27) for hedging purposes (AAOIFI, 2010). Nonetheless, this position is not completely comprehensible since the growth in the utilization of the Islamic swaps in the Islamic finance industry should have clearly propelled it to at least consider the implications of its usage by industry participants.

Then again, it could be the case that AAOIFI deemed the Islamic swap contracts (i.e., TMA and other variants) a matter of transacting in commodities which renders them within the purview of the accounting treatment that is normally accorded to the ordinary purchase and sale of assets. If this is indeed the case, AAOIFI's position is problematic for two main reasons: Firstly, as per accounting convention, it forces the participants of dynamic hedging in the Islamic finance industry to hold the underlying commodity contracts as held-for-trading which necessitates measurement at fair value with the changes in the valuation reported in the income statement until the maturity of the contract.

This becomes a rather prohibitive stance because, as alluded to earlier, the volatility of the commodity market price is effectively added to the movement of the Islamic swap due to the changes of the underlying risk exposure (e.g., interest rates and currencies). Both will, accordingly, manifest themselves through increased uncertainty over the stability of earnings of the hedging entity (i.e., higher risk premium). Notably, this treatment may also have negative implications on the capital adequacy prospects for Islamic banking institutions.

Secondly, AAOIFI's position precludes the possibility of utilizing the stringent requirements (documentation, effectiveness tests, etc.) articulated by the IASB in order to benefit from the privileges of hedge accounting. Specifically, the requirements for hedge accounting may very well offer an important perspective

regarding the efforts to avoid *Maysir* (gambling) which appears to be a major concern for the standard-setting bodies and some of the sceptical *Shari'a* scholars and academics. For this, the IAS 39 requirements could provide insights on the necessary, and testable, evidence that the management of entities would need to show in order to prove that their derivative usage is not within the realm of gambling in the financial markets.

In effect, hedge accounting can be easily tested and monitored by the board of directors, *Shari'a* supervisory boards, regulators, shareholders, and other stakeholders of the entities that are seeking to utilize derivatives in their market risk management endeavours in order to confirm that the entity is not engaging in gambling activities that increase its risks of financial distress as well as have other negative externalities in regards to the stability of the global financial markets.

With that prospect in mind, it should be stated that the current implicit AAOIFI acceptance of the usage of Islamic swaps by the participants in the Islamic finance industry offers virtually no accounting oversight over seemingly clever treasurers and CFOs who decide to use these commodity-based instruments to generate excess returns within pure gambling contexts. To be certain, the usage of Islamic swaps is usually preceded by an approval by the *Shari'a* supervisory board of the entity that hopes to use them, which is invariably given within a hedging mandate.

However, as opposed to the stringent rules of the hedge accounting requirements, the hedging mandate can be easily circumvented by those in the Islamic finance industry intent on using them as investment tools to potentially increase their profitability performance, and consequently salary bonuses, since the gains and losses for these instruments are treated as ordinary gains and losses in the financial statements. That is to say, they are not necessarily separate line items or activities that require special disclosures which, in turn, does affect the transparency of the information provided to the readers of the financial statements.¹⁴¹

¹⁴¹ Arguably, there should be greater accounting transparency in the recognition of derivatives on the financial statements of the entities that use them. This goes beyond the “encouragement” for better disclosure of derivative usage into the territory of requiring the entities that use them to reveal the

The above is not a hypothetical situation or an unlikely scenario; there is ample literature on agency theory and moral hazard that support the presence of those risks and implore the need to appropriately prepare for and manage them. In fact, the treasurer and accounting professionals of a major Islamic banking institution, as respondents in the practitioners group, have stated that most of their Islamic swap usage is outside of the IAS 39 band of 80 to 125 per cent and that there is no clear hedging rationale for their usage. Notably, these particular accounting professionals felt that the stringent reporting requirements by IAS 39 were burdensome.

Interestingly, the decision by AAOIFI to completely disregard any policy directive or accounting standard related to derivatives does offer a glimpse, which was shared by one of the respondents in the academics, *Shari'a* scholars, and legal experts group, into the advancement of religious-based normative accounting principles in the Islamic finance industry at the expense of the neutral accounting requirements that focus on providing greater transparency for effective decision making. This arguably exists despite the fact that a study undertaken by Deloitte recently has shown that 79 per cent of the Islamic finance industry leaders surveyed support a convergence initiative of the AAOIFI standards to the International Financial Reporting Standards (IFRS) (Deloitte, 2010, p. 25).

To be certain, it is acknowledged that accounting theory does have elements of normative principles in that the recognition, measurement, and disclosure requirements may provide incentives for “proper” financial behaviour by firms (i.e., making it harder to engage in tax evasion, money laundering, income smoothing, etc.). However, this facet of accounting theory is not deemed to be in a position to overpower the chief role of accounting in providing neutral and technical information that centre on promoting rational decision making by the readers of the financial statements. This defining attribute of accounting, which had been famously stressed by Weber, Sombart, and Schumpeter are a point of agreement among contemporary

rationale and practice of the derivative instrument utilization. This, understandably, involves a balance between the costs (sharing proprietary information to competitors) and benefits (better financing terms and greater liquidity) of disclosure (Botosan, 2000; Emm, Gay, & Chen-Miao, 2007).

accountants and accounting historians (Carruthers & Espeland, 1991, pp. 35-36; Chambers, 1966; Littleton & Zimmerman, 1962; Schumpeter, 1950; Sombart & Epstein, 1967; Weber, 1981).

Aside from the principles that encompass the theory of accounting, there are practical issues that surround the recognition of derivative hedging instruments within the Islamic finance industry in a manner that promotes effective decision making. In essence, in order to develop understanding, whose objectivity is determined by the neutrality of the information presented, one would have to be able to interpret the information before them; in this case numbers indicating the consequences of past actions of a particular entity. Needless to say, the understanding of the meaning of these numbers does not exist for its own sake; rather it is a precursor to a particular set of decisions that are to be taken at the present and will continue indefinitely into the future (e.g., to invest in/sell, to deal with/not deal with, to partner with/not partner with, etc.).

The link between the numbers in the financial statements of an entity and the decisions to be taken by its stakeholders is the theory of rational choice, which according to the utility maximization model, involves the measurement of the subjective usefulness of a particular set of decision alternatives in such a way that, if one follows the Bayesian approach to utility maximization, the chosen alternative always has the highest utility (Gärdenfors & Sahlin, 1988, pp. 1-13; Harsanyi, 1977).

The choice of the economic agent may also be contextualized by the theory of marginal utility (five slices of pizza do not hold five times the utility of one slice), the level of risk aversion that he or she may have as outlined by the Arrow-Pratt theory of risk, and the consideration of the reference level as shown by Kahneman and Tversky in their work on prospect theory that comprise the effects of the changes in wealth on decision making (Arrow, 1964; Kahneman & Tversky, 1979; Pratt, 1964).

With that background regarding the linkages between accounting and decision making, it is important to appreciate that, within the realm of the financial markets, it is the numbers as presented in the financial statements, with double-entry accounting as a foundation (Laylor, 1956; Yamey, 1956), that form the substance of rational economic decision making. This is both in terms of the values presented as well as the historical experience of those values (i.e., past statistics) which, in turn, translate into probabilities that have shaped the evolution of contemporary risk management.

Notably, the concept of utility is not a foreign notion in Islamic thought where it is directly related to the conceptualization of *Manfa'a* (benefit and usufruct)¹⁴² that is evident in many parts of the scripture¹⁴³. This is notwithstanding the fact that some members of the scholarly community in Islamic jurisprudence have decided to detach these two concepts mainly on linguistic grounds with the rationale being that utility, in a western context, is always associated with the perception of value to the individual, even if it was, in fact, detrimental to their well-being (e.g., intoxication).¹⁴⁴ That is, to derive value from something may not necessarily mean that it is for one's benefit.

Consequently, a proposition evolved that differentiated the nature of the value generated from any particular object between *Manfa'a* and *Darar*, with the later professing harm to the individual (Al-Amarani, 2003, p. 62).¹⁴⁵ This conceptualization of *Manfa'a* and *Darar*, in turn, appears to have trickled into accounting theory in that it was deemed improper to record an impressible asset or liability, such as some transactions (e.g., derivatives) that record the dealings of money between economic agents.

¹⁴² It is acknowledged that the words benefit and usufruct may not correspond in a complete fashion, but it appears that the word *Manfa'a* is an all-encompassing word in Islamic thought that includes both.

¹⁴³ Quran: 2:219; 7:188; 11:34; 23:21; 25:3; 34:23; 60:3. Ahadith: Bukhari and Muslim.

¹⁴⁴ This was also shared by one of the respondents in the academics, *Shari'a* scholars, and legal experts group.

¹⁴⁵ The Quran has multiple references that make the distinction between benefit and harm such as in the verses: 2:102; 5:76; 7:188; 10:49, 106; 13:16; 20:89; 21:66; 22:12-13; 25:3; 25:55; 26:73; 34:42; 48:11.

Needless to say, this position becomes rather perilous in its implementation in a global setting wherein it has become established in the legal corpus that the courts (and even some regulatory bodies such as capital market authorities) focus on the legality of the contracts not its permissibility (El-Gamal, 2008). In other words, an impressible liability is viewed and will be ruled as a liability if it is entered into by knowledgeable, willing parties in an arm's length transaction. With that, it is remarkable that there are still some commentators who still promote a strict compliance with the religious-based normative accounting theory even if it entails clear transparency and disclosure issues.¹⁴⁶

The articulation of the foregoing discussion on accounting, transparency, rational choice, and utility is worthy of consideration for two reasons: Firstly, the understanding that it is trying to elicit seeks to commence a process whereby the air of uncertainty, which was clearly present in the opinions of many respondents in the course of the interviews, is removed in regards to the recognition of the “monetary” derivative instrument in the financial statements of the entities that use them. In effect, this may very well plant the seeds for the practical implementation of the arguments whose evidence was outlined in the present and previous chapters on the acceptability of the risk transfer strategy in Islamic finance, especially for interest rate and currency risk exposures, with derivative hedging instruments as its main tools of application.

Secondly, it moves the discourse away from the insinuation of the existence of a real debate on the merits of *Manfa'a* as a concept that is distinguishable from utility, which would put into doubt the use of the economic theories that are based on utility, including the utility that surrounds the store of value functionality of money.¹⁴⁷ For this, the literature of Islamic jurisprudence would certainly benefit from an open discourse that focuses on the proper understanding of the concept of *Manfa'a* that is

¹⁴⁶ An entity should not be put in a position to surprise its shareholders with loss due to legal proceedings that was not recorded on the financial statements.

¹⁴⁷ It is acknowledged that the evolution of economic thought does depend on incremental changes and/or wholesale rejection of previously subscribed to ideas. Thus, the point raised here is that the conceptualization of *Manfa'a/Darar* does not replace economic theories based on utility as currently formulated.

mentioned numerous times in the scripture, which may even in the future provide another avenue for the proper contextualization of the concept of utility with the religious and moral convictions of economic agents.

Conclusion

The significance of examining the viewpoint of the *Shari'a* on the permissibility of the underlying variables in the derivative contracts stems from the charged, and sometimes divergent opinions of some *Shari'a* scholars and academics regarding monetary benchmarks that are related to interest rates and currencies. The common theme, as has been communicated repeatedly in the Islamic finance literature, is that the dealings in interest rate benchmarks and currencies in the forward markets amounts to the indulgence in an ambiguous blend of *Shari'a* prohibitions that include *Riba*, *Gharar*, and *Maysir*.

The aforementioned viewpoint, in turn, can be estimated to have manifested itself in the lack of any technical directives by any of the standard-setting bodies for the recognition of the derivative contracts by the companies that use them, even if they are used exclusively for market risk management. Notably, this stance exists despite the growing usage of Islamic derivative instruments (primarily swaps) as hedging contracts in the Islamic finance industry.

To address the unease of the *Shari'a* scholars in accepting financial instruments with monetary benchmarks as underlying variables, and the resultant policy vacuum in their recognition, the pertinent parts of the scripture were examined in this chapter along with the myriad juridical opinions that relate to the various commercial and financial transactions that centred on money. In the examination process, multiple arguments were articulated that, as was done in the previous chapters, contextualized the discourse with the relevant economic theories in order to bring out a more comprehensive and thorough understanding of this complex subject matter.

For this, it has been contented that the religious sensitivity in the dealings of money, whether in the form of interest rate or currency benchmarks, between individuals

emanates chiefly from the fear in the engagement of *Riba*, with the injustices associated with hoarding as an associated concern. Interestingly, this sensitivity endured notwithstanding the almost complete transformation of the commercial and financial practices of economic agents, including the Muslim populace, due to the advent of new theories and practices that offer a host of novel opportunities and challenges.

In other words, it is not evident that, as is often stated by some commentators, God limited the economic practices of Muslim to either trade (with an underlying corporeal asset) or *Riba* with nothing permitted in between. It is likely, instead, that our divine gifts of logic and reason were meant to help Muslims distinguish between the permissible and the proscribed transactions in a framework that adheres with the *Maqasid Al-Shari'a*.

Remarkably, in the middle of all the anti-derivative rhetoric by some of the distinguished *Shari'a* scholars and academics, there is a clear appearance of these divine gifts at work with the ostensible pragmatism in their opinions on matters that were until recently deemed closed and settled (e.g., usage of LIBOR in commercial transactions). Yet, for some odd reason, there is this obstinate belief amongst some of those same individuals that the usage of derivatives for hedging purposes should not enjoy the fruits of contemporary enlightenment in some form of bid to protect the Islamic finance industry from the contaminated effects of the usage of the derivative contracts.

Given that the presence of wide-ranging evidence throughout the research that supports the permissibility of the utilization of derivative contracts for hedging purpose, it may be necessary to devote the last chapter to exploring a recurring concern in the discourse on derivative instruments in the Islamic finance literature and respondent opinions – the prohibition of *Maysir* (gambling).

Chapter Eight: *Maysir*, Hedging, and Derivatives

Introduction

The preceding chapters concentrated on market risk management, as a framework, and derivative instruments, as tools within that framework. Throughout the discussion, it has been shown that risk management is encouraged in Islamic thought; this especially includes the market risks that do not come under the direct control of the enterprises that have chosen to follow the economic doctrine of the *Shari'a*. It has also been delineated, while challenging the contemporary restrictive stances, that derivative instruments have very little, if anything, to do with the prohibitions of *Riba* and *Gharar*; and if used in a hedging context are actually far from the prohibition of *Maysir* (gambling) in that enterprises that utilize them choose not to hinge their fortunes on the movements of interest rates, currencies, and commodities in the global financial markets.

Nonetheless, the necessity in the elaboration of this chapter emanates from the widely held viewpoint, among many writers in the Islamic finance literature (as noted in the previous chapters) as well as some of the respondents spanning all four groups, that the usage of derivative instruments is analogous to partaking in gambling behaviour. This is above and beyond the generalized belief that is often expressed which designates derivative instruments (no matter what contract, which underlying variable, which market, etc.) as the chief culprits of the financial crises that have been experienced in modern history.

To be certain, Islamic finance is not unique in its hostility to derivative instruments; for, as will be outlined below, they have had a history of opposition in the last two centuries in western society. This came to the fore, after some period of tacit acquiescence, subsequent to the latest global financial crisis which was instigated, in part, by the Credit Default Swaps (which interestingly does not have a strong relation to market risks). That being said, what is perhaps distinctive in the discourse on derivatives in Islamic finance circles in recent decades is the invocation of obstinate juridical perspectives that profess seemingly indisputable epistemological stances

regarding what is in actual fact an indefinite and complex subject matter. The end result that can be observed is the all-encompassing simplistic stance that derivatives are tools of *Maysir*. This is no matter what context and without response to how derivatives exactly relate to the actual prohibition in the religion: The act of gambling.

Section I: A Conceptualization of *Maysir* in Islamic and Western Thought

The prohibition of *Maysir* (gambling) is considered one of the pillars of the economic doctrine in the *Shari'a*. Indeed, as should have been self-evident in the previous chapters, within the realm of the subject matter of the research, one can clearly observe based on the literature and interviews that *Maysir* is an overarching concern for most of the participants in the discourse on market risk management and derivatives in the Islamic finance industry.

To be certain, this concern is understandable given the direct reference to the prohibition in multiple verses in the Quran wherein it was stated in one verse: “They ask you about intoxicants and *Maysir*. Say, ‘In them is great sin and [yet, some] benefit for people. But their sin is greater than their benefit.’” (Quran 2:219) Two other pertinent verses in the Quran, for their part, declare: “O you who have believed, indeed, intoxicants, *Maysir*, [sacrificing on] stone alters [to other than Allah], and divining arrows are but defilement from the work of Satan, so avoid it that you may be successful. Satan only wants to cause between you animosity and hatred through intoxicants and gambling and to avert you from the remembrance of Allah and from prayer. So will you not desist?” (Quran 5:90-91).

The concept of *Maysir* in Islamic thought, as one that represents gambling behaviour, does seem to require some clarification. This is because, from a definition standpoint, it is related to the concepts of *Qimar* and *Rahan* which also express similar meaning. For this, Al-Masri (1993) and Al-Saati (2007) illuminate the distinction by stating that *Maysir* is a general concept of gaming, including those with non-monetary

rewards (i.e., amusement), whereby two or more individuals engage in a competition that engages their intellectual and bodily strength, their belief in chance (or luck), or a combination of the two.

The difference between the three concepts to these authors, however, lies in that *Maysir* can include social, non-monetary-based gaming while *Qimar* and *Rahan* are specifically played for the sake of monetary gain. In addition, *Rahan*, as opposed to *Qimar*, is being distinguished further on the basis of the outcome of an event that is exogenous to the control of the players of the game (Al-Masri, 1993, pp. 31-32; Al-Saati, 2007, pp. 21-22).

That said, for the purposes of the research, the definitions of *Maysir*, *Qimar*, and *Rahan* will be equated since it is conjectured from the literature on the topic that the rationale for the prohibition of *Maysir* is mostly related to: 1) Unearned gains and 2) Anti-social behaviour (Al-Masri, 1993; Haroun, 1953). Indeed, the root of the word *Maysir* in the Arabic language (i.e., *Yusr*) can be embodied by the word “facile” in the English language that Merriam-Webster (2012) defines as something that is “easily accomplished or attained.”

The relationship to anti-social behaviour, for its part, in Islamic thought becomes quite apparent after the reference to “animosity and hatred” in one of the aforementioned verses in the Quran. Essentially, *Maysir* is one facet that can be considered as being related to, but still somewhat distinct from, theft, cheating, bribery, etcetera, which is directly addressed in the Quranic verse: “O you who have believed, do not devour one another's wealth unjustly but only [in lawful] business by mutual consent” (Quran: 4:29).

Moreover, it is believed that the extension of the label of *Maysir* to prohibiting games that are being played exclusively for amusement with no monetary reward is unwarranted since it was shown that games that contributed to the generation and refinement of skills were accepted during the time of the Prophet (PBUH) (Al-Suwailem, 2007, p. 91; Haroun, 1953). In fact, such a strict position would,

effectively, preclude any type of participation of Muslims in games, either nationally or internationally (sports, Olympics, strategy, etc.).

As for the particularity between *Qimar* and *Rahan* and the wider relationship that is symbolized by *Maysir*, it may be contended that the distinction is perhaps a manifestation of the perception of the role of skill and chance in unearned gains. However, as will be elaborated below, the role of skill and chance in gambling is so intertwined and complex that the focus should really be on the concept of *Maysir* itself with its chief traits of unearned gains and anti-social behaviour.

To be certain, Islamic jurisprudence is not unique in its objective of seeking to eradicate gambling behaviour in society; for one can clearly observe that the same rejectionist stance is endemic in the history of western thought with an accompanying diverse and deep discourse in the realms of religious studies, law, politics, sociology, psychology, mathematics, and economics on this intricate subject matter. Notably, with a focus on the economic realm, the discourse on gambling in western thought, especially in the last two hundred years, much like its contemporary Islamic counterpart, have transcended the traditional argumentation that centre on games of chance and have broached other contentious (or uncontroversial, depending on the perspective) topics such as insurance in addition to commodity and stock trading (Brenner & Brenner, 1990; IRTI, 2000; Kreitner, 2007).

However, where the two discourses differ is in the level of depth of western thought on the subject of gambling due to the more involved presence of a multitude of interested parties shaped by multifarious perspectives. These have been traditionally formed around institutional arrangements that covered the spectrum of opinions and beliefs; from the speculative-favouring organizations (e.g., commodity exchanges, investment banks, hedge funds, among others) passing through the risk management-centred consortiums (hedging community, monetary authorities, etc.) and on to the policy-oriented establishments (government, religious groups, etc.). Throughout, diverse academic interest has spurred with myriad perspectives built on many theories and “statistically significant” empirical evidence.

This, of course, provides an excellent opportunity for researchers seeking to enrich the debate on gambling in Islamic thought, in general, and Islamic finance, in particular, beyond the commendable work by many writers on the subject matter of gambling within the purview of the *Shari'a* in recent decades (Al-Masri, 1993; Al-Saati, 2007; Haroun, 1953; Rosenthal, 1975). However, since the topic of gambling is rather complex and the discourse surrounding it is nowhere a point of resolution or consensus, the discussion in this chapter will be limited to areas that were deemed important in the context of the debate on the permissibility of derivatives in Islamic jurisprudence for market risk management.

One can begin with the definition of a wager or a bet within the larger context of gambling; for this, the definition of a wagering contract elaborated by Henry Hawkins in his ruling on the *Carlill v Carbolic Smoke Ball Company* in July, 1892 seems to have taken hold in Common Law¹⁴⁸ wherein he stated:

“It is not easy to define with precision what amounts to a wagering contract, nor the narrow line of demarcation which separates a wagering from an ordinary contract; but, according to my view, a wagering contract is one by which two persons, professing to hold opposite views touching the issue of a future uncertain event, mutually agree that, dependent on the determination of that event, one shall win from the other, and that other shall pay or hand over to him, a sum of money or other stake; neither of the contracting parties having any other interest in that contract than the sum or stake he will so win or lose, there being no other real consideration for the making of such contract by either of the parties. It is essential to a wagering contract that each party may under it either win or lose, whether he will win or lose being dependent on the issue of the event, and, therefore, remaining uncertain until that issue is known” (Finch, 1896, p. 30).

The statement articulated by Hawkins defining wagering contracts is interesting on many levels and does have a high degree of relevancy to the present discussion on derivatives. To commence with, it acknowledges the often overlooked matter in the literature in Islamic finance (as evidenced by the discourse presented in the previous chapters) that there is difficulty in the differentiation between a wagering contract and an ordinary contract since any contract as MacNeil has put it is a “projection of exchange into the future”(MacNeil, 1974, pp. 712-713).

¹⁴⁸ See: HM Revenues and Customs at: <http://www.hmrc.gov.uk/manuals/bimmanual/bim22016.htm>. Accessed 05/11/2012.

That is to say, the future is always uncertain and this uncertainty propels economic agents to create contracts (and actually contribute to the evolution of contract law) for their dealings with one another whether they are for religiously-legitimate transactions such as *Ijara*, *Musharaka*, and *Murabaha* in the Islamic finance industry or a wagering contract that encapsulate the rules of the game that surround the spin of the roulette wheel. In fact, the central role of uncertainty continued to be apparent in contract law almost a century later on the other side of the Atlantic Ocean where in the *Spartech Corp. v Opper* case heard before the US Court of Appeals in 1989 it was stated by the court that: “a principal purpose of contracts and contract law is to allocate the risk of the unexpected in accordance with the parties' respective preference for or aversion to risk and their ability or inability to prevent the risk from materializing” (Kreitner, 2007, p. 97).

With that, one should be able to recognize that the first significant trait in Hawkins' definition of a wager underlines the fact that the parties to the contract hold opposing views regarding a future uncertain event and that the payment of monetary consideration from one person to the other becomes an obligation once the event that surrounds the opposing views is determined. On the face of it, this does endow the wagering contracts with a monetary zero-sum feature whereby, in the absence of any other mutual exchange, the interests of the parties to the contract are diametrically opposed and consequently the contract itself can only be considered as one regulating a pure win-lose transaction.

To be certain, the nature of gambling contracts as zero-sum games that dictate winnings and losses between contesting parties have been recognized much earlier in Islamic thought with the notable contributions of writers such as Ibn Taymiyyah and Ibn Al-Qayyim, and others, who have built their restrictive stances on gambling contracts, in part, based on this mathematical characteristic (Al-Suwailem, 2006; Kamali, 2000b).

The second defining attribute of wagering contracts is in the fact that parties enter into a wagering contract for its own sake. In effect, as explicated by Hawkins, there

is no other “interest” or “real consideration” for one gambling party that impels them to seek a counterparty for their wager other than the prospect of monetary gain (and/or perhaps the thrill of a game with monetary stakes). Thus, in a manner that complements and contextualizes the aforementioned zero-sum feature, the pure win-lose scenario of the game becomes the full story, as it were, of the transaction with the hopes of the players being solely linked to the gains taken from the counterparty and, conversely, their fears being exclusively connected to the losses given to the counterparty.

The shared apprehension for the two previous features of wagering, which has been communicated repeatedly in the literature on the subject matter in both Islamic and western thought (as highlighted earlier in this and previous chapters), revolves around the unearned gains from social unproductive endeavours as well as the anti-social behaviour that can result due to wagering. This is understandable since any particular party can only gain monetarily, and thereby avoid monetary losses, if, and only if, the other party loses. Once more, this assumes that there is no other consideration for entering into these contracts.

More specifically, for the unearned gains, the professed concern, which was also revealed by some of the respondents, is that wagering encourages a wasteful vocation that artificially creates risks in society which can wrongly be viewed as a facile alternative to participating in the human welfare-oriented and wealth generating (to the individual and to society) productive commerce that is built on disciplined ethic and hard work (Borna & Lowry, 1987; Crump, 1875; Freeman, 1907; Halliday & Fuller, 1975; Kamali, 2000b, p. 147; Kreitner, 2000; Patterson, 1931; Samuelson, 1976). In fact, the perception of gamblers is often so negative that the parties to wagering contracts were often labelled as “social parasites” (Patterson, 1918, p. 386).

As in regards to the anti-social behaviour, it was perceived that wagering contributes to the advent of harmful aspects in society that include: vice, crime (including corruption of public officials, fraud, and market manipulation), impoverishment of losers and their dependents, dissipation, psychological problems (including suicide),

among many others (Al-Saati, 2007; Brenner & Brenner, 1990; Patterson, 1931). Indeed, the anti-social effects of gambling were well encapsulated by Freeman when he stated: “[G]ambling has been found to destroy the solidarity of social life and to make of men anti-social individuals, because, first, it is founded on anti-social feelings and aims, namely, the desire for gain at the expense of another; second, it involves exchange of property on a false basis, rendering the condition of cooperative life less secure; and third, it entails great disorganization of mind and character with its consequent social evils” (Freeman, 1907, p. 83).¹⁴⁹

The final attribute of a wagering contract, as per the definition of Hawkins, is that it is determined by a particular event. For this, wagering contracts are traditionally known for being quite precise in the definition of the event and the monetary consideration being transferred as a result. Thus, in effect, the only uncertainty, which is the chief trait in the wagering contract, resides in the passing of the event itself, including the manner of its passing. Moreover, it should also be highlighted at this juncture that the dominance of the Hawkins’ definition of wagering is arguably in its implicit recognition that, as opposed to the opinions of many writers on the subject matter of gambling (Al-Suwailem, 2000, p. 11; Borna & Lowry, 1987; Brenner & Brenner, 1990; Freeman, 1907; Hobson, 1905), it is not the element of chance, whether “pure” or “mixed,” in the passing of the event within these contracts that detains them within the realm of gambling.

Notably, chance, which has been a central feature in the discourse on gambling (and consequently important to the present discussion), has been defined by Newman in his seminal book on *The World of Mathematics* as:

“Phenomena (events or variations) that are not exactly determined, or do not follow patterns described by known exact laws, or are not the effects of known causes. That is to say, the domain of chance varies with our state of knowledge – or rather of ignorance. Such ignorance may be fundamental because the relevant exact laws of causes are unknowable; it may be non-essential or temporary, and exist because the exact laws do not happen to have been discovered or the ignorance may be deliberately assumed because the known exact laws and causes are not of such as

¹⁴⁹ It was also shared by one of the respondents in the academics, *Shari’a* scholars, and legal experts group that gambling is addictive since a winner cannot stop gambling because greed takes over their rationality; a loser, on the other hand, also cannot stop because he/she is hoping to recoup their losses.

character that they can profitably be used in the particular inquiry at hand” (Newman, 1956, p. 1469)”

In essence, the implications of the lack of exclusivity of chance in wagering contracts are that it broadens the scope of contracts that could be given the wagering label. Thus, a contract between players to a game of chess, for example, where the winner would be paid a certain sum of money from the loser, would still be labelled as a wagering contract within the context of the definition by Hawkins despite the arguable reduction in the role of chance in the outcome of the game vis-à-vis the skill of the players. Put differently, wagering contracts are not simply confined to the traditional games of lottery or those existing at Casinos; they can include a whole range of contracts between individuals.

Effectively, as has been realized (and even internalized) in the late 19th and early 20th century in the public policy and legal circles in the United States and Europe (Kreitner, 2007), which in a sense is being replayed today with the contemporary *Shari'a* prohibition on derivatives,¹⁵⁰ it is acknowledged that wagering contracts could very well include seemingly ordinary contracts with legitimate underlying variables, such as derivatives, in the financial markets with the uncertainty of the event being the rise and fall in prices. This, of course, also applies to the “Islamic” derivatives that entail multiple contracts with commodities as an underlying between the parties in the Islamic finance industry if, in fact, they collectively meet the definition of a wager as articulated by Hawkins.

That said, and with the agreement that the usage of derivatives can be done in gambling contexts (see below), it should also be recognized, as has been repeatedly argued in the previous chapters, that one should not be hasty in the simplistic adoption of a prohibitive stance on derivative contracts without a greater appreciation of all the facts that surround their existence and the social utility that is provided by that existence. In effect, the whole purpose of seeking to define some contracts as

¹⁵⁰ The discourse in the late 19th and early 20th century and the discourse examined in the earlier chapters in contemporary Islamic finance is quite interesting in terms of similarity of arguments (underlying, delivery, set-off, etc.) (Kreitner, 2007; Levy, 2006; Patterson, 1931; Raines & Leathers, 1994).

wagering contracts in public policy was not some sort of attempt to delve into technicalities in the legal sphere, but rather it is to serve as a normative attempt to ensure societal well-being through the rejection of the *act of wagering*.

Thus, the focus on the contract served as a means to a higher end, not an end to itself. This characterization can become self-evident upon the examination of the discourse on the subject matter in the legal sphere with judges in western societies considering the underlying causes and traits of the contract (including “intent” and “insurable interest”) in addition to the background of the parties to the contract (i.e., not simply contractual structure and language) in order to formulate an opinion that, in turn, established a public policy stance by the state for a particular period of time (Kreitner, 2007).¹⁵¹

In other words, it is not the contract that defines the act of gambling; rather, it is the act of gambling (with due consideration to the multi-layered definition by Hawkins) that manifests itself in the wagering contract. This, of course, does have implications to the subject matter of the research in that it effectively calls for the discourse (as was made apparent in the literature and interviews) on this topic in the Islamic finance industry to transcend the comforts of the simplicity of contractual analysis and venture into the complexity of a more thorough examination of the context of usage of derivative contracts (market risk management vis-à-vis playing the market for gambling purposes) in order to appropriately devise a juridical and policy position on their usage.

This should ideally be done in a comprehensive manner that accounts for *both* the positive and negative externalities to society. The greater ambition here, of course, is the possibility of adopting, following the large corpus of evidence in the Quran, the opinions by the Prophet (PBUH), and the tradition of *Maslaha* (public interest), a pragmatic utilitarian approach to *Shari'a* rulings in a manner clearly within the realm of *Mua'amalat* (i.e., not *Ibadah*, or worship) that promotes social welfare through the maximization of societal benefits and the reduction of harm.

¹⁵¹ The weapons of the courts in this process where the nullification of the contract (i.e., rendering it not payable), and even the prohibition of the existence of certain institutions (e.g., bucket shops).

Section II: *Maysir*, *Gharar*, and the Indeterminacy of the Zero-sum Prohibition

Having expounded on the concept of *Maysir* and its manifestation into a wagering contract, it may be important to address the recent trend in the Islamic finance literature to define the “act” of *Maysir* by linking it to any zero-sum arrangement in an absolute monetary sense. The aim of this anti-zero-sum movement is conjectured to be an attempt by some writers to add objective certainty (almost in a check-list fashion) to the basis for contemporary *Shari’a* opinions regarding modern-day financial contracts as opposed to what can only be discerned to be the intolerable subjective contextualization in the elaboration of permissibility.

This position can be exemplified by the multiple writings by Al-Suwailem, on the subject matter of *Maysir* (and indeed *Gharar* which he views as being largely the same)¹⁵² wherein he stated: “The economic significance of the zero-sum measure provides insights into the Islamic view of economic behaviour. Elimination of zero-sum arrangements can be viewed as a paradigm governing Islamic principles of exchange” (Al-Suwailem, 1999, p. 98).¹⁵³

Needless to say, the danger of this attempt at objectivism in matters of religion is that it has been shown to be emulated by other commentators in their subsequent writings on derivatives (Hassan & Mahlke, 2011, p. 376; Jobst & Sole, 2012; Jobst, 2007; Kunhibava, 2011; Obaidullah, 2002) and were present in the opinions by one of the respondents in the course of the interviews wherein the evaluation of the *Shari’a*-compliance characteristics of the ISDA-IIFM TMA, as an Islamic swap, by one of the respondents included references to the proscriptions of zero-sum transactions.

¹⁵² The works of Al-Suwailem seem to suggest that *Gharar* (excessive uncertainty) and *Maysir* are more or less the same where both are “a zero-sum exchange with uncertain payoffs” (Al-Suwailem, 2000, p. 8; Al-Suwailem, 2006, p. 69). This definition is disputable by the researcher, but the argumentation is outside the scope of the research; nonetheless, Al-Suwailem’s linking between the two prohibitions will be used to articulate his argument.

¹⁵³ As outlined previously, the zero-sum traits of gambling were recognized much earlier in Islamic thought; but it is not self-evident that this was the exclusive defining character of these proscribed activities. And if they were, they would be challenged in the present research.

The eventual risk, of course, is that this new contract classification paradigm may seep into the decision making process of *Shari'a* scholars as a foundation for a juridical stance in the standard-setting bodies on *any* zero-sum contract without the necessary appreciation of the assumptions (and contradictions) that were apparent in the formulation of such a perspective in the first place.

With that, it may become apparent that the contemporary Islamic finance literature on *Maysir*, often with a reference to derivatives, has elected to impart with the path of humility that was followed by Hawkins (as noted earlier) in acknowledging the difficulty in the designation of a particular contract with the wagering label and the need to consider a wider set of factors in order to arrive at a proper conclusion. The chosen course, instead, seems to have been built on the belief that one can distinguish, based on the absolute monetary zero-sum traits of the contract (i.e., not the act) in question, whether it is considered prohibited or not. In the face of such a sure-footed conceptualisation of *Maysir* as any zero-sum game, it is perhaps imperative to investigate some of the assumptions in the multiple writings of Al-Suwailem (who has been one of the chief critics of derivatives in recent years based on zero-sum argumentation) that were used to construct that particular epistemological stance.

To commence with, one of the dominant assumptions made by Al-Suwailem, and perhaps unsurprisingly to a writer who often interjects game theory in the Islamic finance discourse, is that the zero-sum characterization of *Maysir* contracts are self-limited to “strictly competitive games” with a paramount focus on *monetary payoffs* due to an add-on assumption imposed which states that from a strategic sense strictly competitive games and pure zero sum games are equivalent (Al-Suwailem, 1999, pp. 62, 65, 67; 2006). Accordingly, besides the fact that these assumptions confounds the conceptualization of the way the game is played strategically and the nature of the payoffs (monetary vs. utility gain/loss), one can establish without too much difficulty that the acknowledgements by Hawkins in the previous section of the potential role of “interest” of the parties (such as in insurable interest, for example) or any other

“real consideration” in contextualizing an opinion on a particular contract (i.e., wagering vs. ordinary) is explicitly dismissed by Al-Suwailem.

The power of such a simplifying assumption cannot be overstated and really does demonstrate the importance of examining the basis for conjectures in the economic realm with real effects on the welfare of individuals especially those used as a pretext to prohibit certain practices, such as derivative and insurance contracts, under the banner of religious adherence. The strength of the prohibition in this case was communicated by Al-Suwailem with a reference to the potent and often quoted Quranic verse proscribing the “devour[ing] one another's wealth unjustly” (Quran: 4:29) (Al-Suwailem, 1999, p. 65).

To continue with the Al-Suwailem conjectures, having shown that all zero-sum games are prohibited in Islamic jurisprudence, what appears to be allowed according to him are nonzero-sum games espousing cooperative arrangements. Specifically, he maintains that: “A necessary requirement for a transaction to be permitted [in Islamic jurisprudence] is the possibility of cooperation, as in nonzero-sum games. It is left to players to achieve cooperation in such games through rational decision making. Strictly competitive games, however, exclude this possibility by design, and thus, no matter how rational players are, one can win only at the expense of the other” (Al-Suwailem, 1999, p. 63). Thus, a monetary contribution into the equity of a company, by say buying common stock, or the execution of a mutually beneficial trade is considered a nonzero-sum game in this setting.

However, the above statement does become quite abstruse with the dual additional proclamations in the work of Al-Suwailem wherein he states: 1) “This is not to say that only cooperative games are permissible,” (Al-Suwailem, 1999, p. 63) which, in effect, signals to the prospect of accepting zero-sum games in some contexts; and 2) “From Shariah [sic] point of view, generally speaking, the acceptability of such mixed games depends on the likelihood of the cooperative, positive-sum, outcome,” (Al-Suwailem, 2006, p. 73) which apparently interposes some elements of probability theory into the mix of assumptions that underlie the zero-sum stance.

Notably, the aforementioned proclamations (especially the latter), show, with a unique sense of irony, that the search of definitional objectivity by Al-Suwailem for the concept of *Maysir* (vis-à-vis perhaps the wider and more humble definition by Hawkins) exclusively through the zero-sum paradigm is not as certain as it may have been hoped to be. This can be ostensible in that it does disintegrate once one considers his passing (but still significant) announcement on the very next page that probabilities should be considered as being subjective (Al-Suwailem, 1999, p. 64). In consequence, the whole assignment of the zero-sum and mixed-sum labels based on probability theory is, by default, an equally subjective endeavour.¹⁵⁴

Interestingly, the use of subjective probability theory does offer a glimpse into more eclectic choice of positions adopted by Al-Suwailem in regards to what can arguably be other zero-sum transactions. This includes the acceptance of *Urbun* (earnest money) modalities, but not options; and the rejection of conventional insurance, but not Takaful (cooperative) insurance (Al-Suwailem, 1999, pp. 77, 80; 2007). In the case of the former, it appears that that “intent” factors into the analysis despite its subjectivity (Al-Suwailem, 2007, p. 90). The case of the latter, for its part, in a zero-sum framework, is rather intriguing since it is not entirely understandable how the cooperative insurance arrangement changes the zero-sum nature of contracts between it and its policy holders, as perceived by Al-Suwailem (e.g., premiums paid and indemnities received in the insurance industry), since it appears that any context outside the contract itself is irrelevant in the Al-Suwailem’s conceptualization of *Maysir* and *Gharar* (see below).

Notwithstanding the above, it can also be observed from the writings of Al-Suwailem on the conceptualization of zero-sum games that utility theory does take a rather ambiguous role in his analysis. For on the face of it, he does clearly acknowledge utility theory as he outlines the religious refutations to zero-sum games; this can also be evident in Al-Suwailem’s (1999) acknowledgement of the utility theory-laden concepts of normal exchange, regret theory, loss aversion, and marginal utility.

¹⁵⁴ The assumption of subjective probabilities by Al-Suwailem was made in the context of seeking to reduce the Knightian differentiation between risk and uncertainty (Knight, 1921).

Indeed, his own definition of zero-sum games being: “strictly competitive games, without implying that utilities of the two parties are identical” (Al-Suwailem, 1999, p. 62) is explicit in its recognition of the role of utility in zero-sum frameworks. Nonetheless, for some paradoxical reason he chooses to limit utility theory only to the descriptive acknowledgement corner with very little usage of it in his analysis to build his argumentation for the rather serious affair of religiously proscribing contracts that formalize zero-sum arrangements (i.e., derivatives).

More specifically, the work of Al-Suwailem can be observed to concentrate almost exclusively on monetary payoffs in an absolute sense (e.g., ex-post monetary payoff of a coin toss) or relative to expected values based on probabilities (e.g., a 20 per cent chance of finding a lost camel valued at 1000 Dinars grants it an expected value of 200 Dinars) to draw the conclusion that zero-sum games are normatively inferior to nonzero-sum games (Al-Suwailem, 1999, 2006). Needless to say, while such a simplifying assumption can assist in an academic exercise of extending game theory, *on the strategy front*, to multiple settings (Gintis, 2009; Harrington, 2009); its usage in the realm of economics, however, requires special care because it provides an incomplete framework for the analysis of human decision making in regards to resources.

In fact, the need to expand the horizon of decision making was realized as early as 1738 through the pioneering work of Daniel Bernoulli in the resolution of the St. Petersburg Paradox that exposed a game with an infinite expected value denoting the possibility of a wager with an infinite price (Bernoulli, 1954).¹⁵⁵ The source of the paradox being the credulous supposition that the expected value is all that mattered in rational human decision making. Accordingly, the solution to the paradox, and arguably the advent of modern economic theory, came from Bernoulli’s simple statement of: “[T]he determination of the *value* [sic] of an item must not be based on its *price* [sic], but rather on the *utility* [sic] it yields” (Bernoulli, 1954, p. 24).

¹⁵⁵ To be certain, the paradox was realized much earlier through the work of Pacioli as well as the joint efforts by Pascal and Fermat (Bernstein, 1996; Devlin, 2008).

As a background, the concept of utility, which was discussed in the previous chapters, can be related to usefulness, desirability, or satisfaction (Bernstein, 1996, p. 103). This intuitive conceptualization of utility imparted by Bernoulli was transformed by the influential work by von Neumann and Morgenstern (Von Neumann & Morgenstern, 1953) as well as Savage and Friedman (Friedman & Savage, 1948; Savage, 1954) into a mathematical construct of preferences by economic agents, who are assumed to operate in a framework where they will instinctually rank and choose their preferences based on the highest utility for each.¹⁵⁶

Thus, within the realm of risk management, when one speaks of risk aversion or loss aversion, they are, for the most part, actually speaking the language of utility. In fact, the section outlining the rationale for hedging, and all the associated literature, in the Market Risks and Their Management Chapter (Chapter 4) is largely constructed on the foundations of utility theory in that particular events are being favoured (higher utility) while others are being disliked (lower utility). With that, it may be necessary to briefly discuss the concepts of risk aversion and loss aversion in order to further appreciate the power of the assumptions made by Al-Suwailem.

To commence with, the theory of risk aversion, as developed by Arrow and Pratt in their extension of utility theory to the domain of decisions under uncertainty (Arrow, 1951, 1971; Pratt, 1964), was unique in that it formulized a notion that was recognized in circles of economic academia much earlier. In effect, the theory of risk aversion postulates that an uncertain income tends to valued less by economic agents than its mathematical expectation. This, consequently, will lead these economic agents to seek solutions for reducing the uncertainty burden (insurance, fixed-income securities, derivatives, etc.).

Put differently, economic agents tend to choose a surer “certainty equivalent,” even if it is for a less amount than an expected value that is at least partially dependent on

¹⁵⁶ Thus, Preference A will be ranked higher and chosen over Preference B if and only if the utility of A is higher than the utility of B. If the utility of A and B is the same, then the economic agent is indifferent between them; it is said in such a scenario that they lie on the same indifference curve.

chance (or wholly dependent on chance, depending on the particular perspective on the source of risk). This behavioural trait is what endows the majority of economic agents with the often-mentioned risk-averse title. In the context of market risk management by way of derivatives, it can be observed that firms choose a more certain hedged outcome (even if it is for a lower overall income), rather than “play the market” (even if it has a higher expected value).¹⁵⁷

The reverse of the above proposition is also advanced in the literature on the subject matter of risk aversion whereby risk-seekers are more inclined to require a higher certainty equivalent in order to forgo the prospect of full return based on chance. The theory of loss aversion developed by Tversky and Kahneman (Kahneman & Tversky, 1979; Tversky & Kahneman, 1986), for its part, adds another angle to behaviour under uncertainty by showing that rational economic agents would seek to avoid losses, even if that entails assuming more risk.

With that, and based on the above formulation of the concept of utility and the theories that surround its existence, once one amalgamates Al-Suwailem’s perspectives on the subject matter, namely: a.) The need for active risk taking in investment decisions (Al-Suwailem, 2000, p. 4), b.) The impermissibility of reliance on chance to achieve desired outcomes (Al-Suwailem, 2000, p. 9), and c.) The rejectionist stance of derivatives that, in actual fact, allow economic agents, who are mostly risk averse, to transpose the chance of expected value based on the randomness of the market risks to a safer certainty equivalent; it becomes apparent that the conclusions drawn by Al-Suwailem regarding the prohibition of derivatives based on zero-sum argumentation evolve into a full circle of indeterminacy.

That being said, and in returning to the discussion of the *Shari’a* derivative contract proscription due to its *monetary* zero-sum trait that was interpreted to be linked to *Maysir*, there is no reason to suspect, as Al-Suwailem (1999) proclaims, that parties to a zero-sum game, as in a derivative contract, for example, must have one risk

¹⁵⁷ This assumes no risk of default by the counterparty. However, even if this risk is included, it is likely to be viewed as being smaller than the full force of market risk; otherwise, hedging would not exist.

averse counterparty and one risk taking counterparty or two counterparties with neutral risk preferences (Al-Suwailem, 1999, p. 74).¹⁵⁸ At the very least, this conjecture exhibits the neglect of the prospect of having a mutual gain for two hedging parties to a derivative transaction (which exists albeit uncommonly) who are both risk averse.¹⁵⁹ In fact, it has been shown that by employing hedging modalities both parties enjoy higher indifference curves (i.e., mutually higher utilities) (Culp, 2004, p. 79).

Considering the above, a real contention can be made that the probability of the existence of two hedging parties in the derivatives markets is dwarfed by the presence of speculators, many of whom are of the gambling type. To this, it should be stated that legal theory never prohibited the existence of contract law under the pretext of eliminating wagering contracts; rather it chose various means to facilitate the existence of ordinary contracts and attempted to reduce the incentives to engage in the wagering ones.

Such a stance can be observed to exist unequivocally in Islamic jurisprudence and has, interestingly, even been acknowledged by Al-Suwailem himself in his reference to the work of Ibn Al-Qayyim in regards to the contentious *Gharar* characterization of the sale of hidden (e.g., underground) fruits and vegetables wherein Ibn Al-Qayyim argues: “To consider this (particular transaction) as *gharar* is not to the *faqih* [*Shari’a* scholar] (as such). It is experts who decide whether it is *gharar* and gambling or not” (Al-Suwailem, 1999, p. 79). Thus, after all, it may be conceivable that the “experts” armed with less stringent assumptions on human economic behaviour may provide insight that shows that derivatives may in certain contexts not be regarded as *Maysir* (and *Gharar*).

¹⁵⁸ Al-Suwailem (1999, p. 74) references Binmore who clearly states that utility *can* be approximated as a monetary amount if games like “[two-player] poker and Backgammon” are being played by parties who are risk neutral, which is “unlikely to be a good assumption about people’s preferences in general” (Binmore, 1992, p. 238). Interestingly, Binmore also contends that Backgammon and two-player Poker are not strictly competitive games if both players are risk averse (Binmore, 1992, p. 238).
¹⁵⁹ The role of the financial intermediary will be discussed in the next section; however, at this stage it is not self-evident that financial intermediaries (i.e., not proprietary traders) are risk takers since it has been shown that they keep a balanced book (see below).

That being said, it is acknowledged that the early Muslim scholars did have it right in their description of *Maysir* as a zero-sum game in terms of monetary payoff. This *description* is not disputed and has, in fact, been recognized as one attribute in the still-in-use common law definition of wagering contracts by Hawkings many centuries later. What is being disputed, however, is the reverse argumentation by Al-Suwailem that attempts to cast any zero-sum game as *Maysir* (and *Gharar*). Indeed, this is what El-Gamal was attempting to convey in his work on *Gharar* wherein he rejected Al-Suwailem's attempts at the formalization of the prohibition of *Gharar* along zero-sum lines by affirming that: "there are many examples of pure zero-sum games which are not forbidden based on gharar, and other contracts which are forbidden because of gharar, but which are not near-zerosum" (El-Gamal, 2001, p. 2).

The focus in this section has been on the work of one distinguished academic: Al-Suwailem. This is due to the clear recognition of the influence of his work on the discourse of *Maysir* (and *Gharar*), in general, and derivatives, in particular, as evidenced by the imprints of his conclusions in the Islamic finance literature that followed and indeed the comments by some of the respondents in the interviews. It is common to critique an academic endeavour (including the present one); the emphasis here has been in the appropriateness and soundness of assumptions that underlie the work of Al-Suwailem that called for the prohibition of derivatives (and many other contemporary contracts) based on the perception of zero-sum traits.

It has been argued that these assumptions were: a) misplaced since they actually target the use of zero-sum games in strategy contexts, and b) incomplete in that they really did not tell the entire story behind the existence of zero-sum contracts (e.g., derivatives and insurance) in the first place or the behaviour of economic agents that surrounds their existence (i.e., utility). In the end, one can clearly discern a sense of confusion in the conjectures by Al-Suwailem in his multiple writings on the topic whereby the professed stance (e.g., rejection derivatives for risk management) is contradicted by the argumentation (e.g., rejection of reliance on chance).

Essentially, one must be careful in the modelling of their work as an objective law of science when, in fact, it is built on many assumptions many of which vary in the degree of appropriateness and soundness. This applies even more forcefully in the realm of jurisprudence where academic conjectures can lead to outright religious prohibitions. To this, it should be affirmed that the present research, even in its stance on the permissibility of derivatives, is an argumentation based on available evidence that was presented throughout this and the previous chapters.

With that, and after arguing in this and the preceding section that a wagering contract, which is an elusive concept to define, entails multiple traits that include but are not defined by zero-sum monetary payoffs; how can society distinguish between speculation which is part of everyday life and gambling that has been shown to be the source of social malcontent? This is an important question insofar as it is significant to define the acceptability of the type of environment that hosts market risk management endeavours by way of derivatives along with the classification of the parameters for their usage. In essence, the discussion into the permissibility of derivative instruments would not be complete without due consideration to the environment that facilitates risk transfer, which includes the contentious matters of speculation and financial intermediaries that were raised in the course of the interviews. This is what the next sections will seek to address.

Section III: Investment, Speculation, and Gambling: The Environment of Risk Management

The difficulty in the exact conceptualization of gambling is equally present in the conceptualization of its less sinister (or not sinister at all, depending on the perspective) cousin: speculation (Kreitner, 2007, p. 100), which is believed to have a second personality by the name of investing. Effectively, one can largely estimate gambling behaviour; and they may be able to largely view preservation of capital as investing.¹⁶⁰ It is the delineation of the limits of the wide reaches of speculation that

¹⁶⁰ Preservation of capital can be viewed as increasing the resource endowment to maintain purchasing power. This can be related to the distinction between investment and speculation made by Graham and Dodd where they note that: “An investment operation is one which, upon thorough analysis

sits between those two concepts that poses the greatest difficulty for the social sciences (economics, law, sociology, etc.) (Kreitner, 2007; Tumpel-Gugerell, 2003) and apparently also Islamic jurisprudence.

Essentially, there is wide recognition, even in Islamic thought as evidenced by the literature (Al-Masri, 1993, p. 35) and in the opinions by some of the respondents across all groups, that every affair, economic or otherwise, in life is a form of speculation due to the uncertainty of the future. For example, from the interviews, one of the respondents stated that: “I think investment, in one way or another, entails speculation.” However, one does not know with a high degree of precision the lines that separate all these three concepts in the realm of economic theory since they all commence with a particular resource endowment and the desire to increase it through time as per some sort of target or objective. That being said, at least some form of classification, even if of the general type, may be warranted in order to address the near constant barrage of accusations of financial mischief thrown at derivative instruments in the Islamic finance discourse (Al-Suwailem, 2006; IRTI, 2000; OIC, 1992; Usmani, 2010).

With that, the search for the definition of speculation, which is perhaps harder to define than its gambling cousin, commences with the examination of the attempts by many writers to allocate particular attributes to the elusive concept (Fridson, 1993). For Adam Smith, one of the fathers of modern economic theory, a speculator is one who: “exercises no one regular, established, or well-known branch of business. He is a corn merchant this year, and a wine merchant the next, and a sugar, tobacco, or tea merchant the year after. He enters into every trade when he foresees that it is likely to be more than commonly profitable, and he quits it when he foresees that its profits are likely to return to the level of other trades. His profits and losses, therefore, can bear no regular proportion to those of any one established and well-known branch of business” (Smith, 1778, p. 140).

promises safety of principal and an adequate return. Operations not meeting these requirements are speculative” (Graham & Dodd, 1934, p. 54).

The above reference to speculation by Smith (1778) certainly does add some guidance to the path of distinction between investing and speculating on the *decent* portion of the normative scale, as it were, of economic activities. In effect, the force that propels speculation to forego its roots in the relative safety of investing appears to depend, in part, on the level of opportunism through a proactive engagement with the various markets that hold prospects of higher profits considering its relative riskiness vis-à-vis the passivity in the acceptance of the status quo with perhaps some mild improvements. This, it is conjectured, can be thought of as the key that begins to unlock the mysteries of the boundaries of speculation with investing and gambling at either side of it. To be able to turn the key, however, it is important to at least get a distinction (once more, even if not exact) of the middle ground on the normative scale based on the profit generation inclinations.

For this, and in recognizing the commentary of the notables: Emery, Schumpeter, and Kaldor when they were remarking that price change is a chief objective of the speculators (Emery, 1896, p. 96; Kaldor, 1939, p. 1; Schumpeter, 1939, p. 679), it may be argued that the characterization of the middle ground on the normative scale depends, in essence, on the behaviour of economic agents in regards to price changes. That is, it is the nature and extent of opportunism with regards to price changes that is a crucial trait of a speculator whether this exists in the real economy in the pricing of goods and services (closer to investing), the financial and tradables sectors in the pricing of securities and other assets that trade on the secondary markets (perhaps somewhat in the middle), or in the pricing of odds by counterparties (closer to gambling).

Accordingly, while it is acknowledged that the price changes can influence the timing (hours vs. days vs. weeks vs. months vs. years) of the purchase and sale of whatever it is that is bought or sold and can possibly be an indication of the place of the economic agent on the normative scale (Kamali, 2000b, p. 147), it should also be recognized that more than one motive can inspire short-term trading (Stout, 1999). In fact, with a particular focus on Islamic jurisprudence, there seems to be no evidence to suggest that short-term trading is prohibited. That being said, while the act of

short-term trading may not be prohibited as such, there may be reasons to reduce the incentives for its excessive engagement due to its negative externalities on the financial markets (e.g., increased volatility, financialization of the economy, etc.); indeed, the negative externalities can be discerned to be the rationale behind the public policy decision to increase the tax rates on this type of practice in some jurisdictions.

Interestingly, this does demonstrate a reverse of the argumentation that has been elaborated thus far in this discussion with its contention, based on available evidence, for the sanctioning of what has previously been impermissible. In effect, the case of contemporary tax law in regards to high turnover trading does demonstrate the need, in some circumstances, to limit less-than-ideal practices, even if on the face of it they are rather legitimate.¹⁶¹ In other words, the understanding of the prohibitions is not static; new restrictions and prohibitions may be imposed on previously permitted activities under the banner of *Mafsada* (public harm) in the same manner that hitherto prohibited transactions should be allowed within the context of *Maslaha* (public interest).

To return to the topic of the boundaries of speculation, it is of high importance to note here that it is not so much the line of business of the speculator (including their background) or the instrument that they use (or its ownership traits) that defines in an unequivocal fashion where their economic actions belong on the normative scale. Rather, it is in the ability of these actions to demonstrate how they perceive to be the best manner to generate profit from their ex-ante resource endowment. For history is replete with a plethora of individuals and businesses (e.g., real sector operator, traders, financial intermediaries, etc.) that have used a multitude of tools (e.g., Tulips, equities, fixed-income securities, derivatives, etc.) with varying degrees of ownership that instigated crises due to gambling behaviour with profound social, economic, and political consequences (Chancellor, 1999). This, again, relates to the points that were elaborated in the Derivatives in Islamic Finance Chapter (Chapter 6)

¹⁶¹ Notably, hedging transactions are exempt from the higher tax rates that are peculiar to this form of financial activity in some jurisdictions since the focus is on ex-ante exposure rather than the timing of trading activities. See Regulation 1.1221-2 of the IRS Code, for example.

wherein it was contended that ownership (and the associated issues of delivery and possession) is not a sole endower of transactional legitimacy; nor is the act of entering into a derivative contract, absent any contextualization, a true indicator of committing a religiously prohibited deed.

To illustrate, and with a focus on the derivatives, when one scrutinizes some of the sensational disasters (Procter and Gamble, Gibson Greetings, Orange Country, etc.) that were the result of the usage of these instruments, they will observe that, in Bernstein's words, "these disasters in derivative deals among big-name companies occurred for the simple reason that corporate executives ended adding to their exposures to volatility rather than limiting it. They turned the company's treasury into a profit center. They treated low probability events as being impossible" (Bernstein, 1996, p. 323). Moreover, even when one examines the financial sector's derivatives debacles of Barings Brothers and LTCM; in addition to, more recently, AIG, Lehman Brothers, Bear Stearns, among many others, there it may become self-evident that: "they ignored the most fundamental principle of investment theory: *you cannot expect to make large profits without taking the risk of large losses* [sic]" (Bernstein, 1996, p. 323).

Thus, it very much appears that the omnipresent axiom of *Alghonom Bialghorom*, as elaborated in the seventh century, was right on the spot; and with it the reinforcement of what was stated previously: *it is the perception of the best manner to generate profit by way of changing prices from the ex-ante resource endowment that is a rough indicator of the place of those activities on the normative scale*. Along the same lines, the notion of the intent of entrepreneurs in regards to hedging or gambling aims has been mentioned by some of the respondents in the interviews and can, consequently, be considered within the wider conceptualization of the aforementioned axiom and the normative scale.

Notwithstanding the above, it is acknowledged that there are some traits that are generally associated with the propensity of gambling behaviour that can add (and have actually added) to the depth of academic research on the subject matter; these

are: turnover (Glaser & Weber, 2009; Simonson, 1972), classification of the economic agent (Bessembinder & Seguin, 1993; Chang, Chou, & Nelling, 2000; de Roon, Nijman, & Veld, 2000; Wang, 2003), and usage of credit (Chancellor, 1999; Kindleberger & Aliber, 2005; Mill, 1848, pp. 393-396). Other indicators (in addition to some of the above) that were provided by many respondents in interviews include: percentage of profit generated from speculative activity, gap between upside and low side, exposed book size, and the undertaking of proper due diligence. However, even though the merits of many of these designations are not disputed, it should be recognized that these general indicative traits are just that; they are generalizations, not definite classifiers.

One may be tempted to add to the above list the type of instrument used by the speculator, which may indicate their propensity to leave the anchor tying them to the realm of investing in a bid to wade into that of gambling. Indeed, this appears to be the crux of the *Maysir* argumentation of the *Shari'a* scholars and some of the respondents, particularly in the academics, *Shari'a* scholars, and legal experts group, outlined in the Derivatives in Islamic Finance Chapter (Chapter 6) who professed a judgement against derivatives. In essence, the view (and the hope) is that the elimination of the instrument leads to the elimination of the act.

To this, it may be simply stated that derivatives are merely tools, albeit versatile ones, for a wide variety of purposes. True, apart from risk management, they may be used to speculate and gamble (with profound consequences) on the changes in prices in the financial markets. However, it should also be notable that this practice is not too dissimilar to that of using equities (e.g., remember Saudi Arabia Tadawul exchange in 2003-2006) or real estate (e.g., remember Dubai in 2005-2009) in an irresponsible manner for an economic gain. In effect, the nature of the instrument and/or the underlying variables has become almost an irrelevant consideration to those parties intent on gambling since there is, as Bernstein said, clearly an impaired ability to exercise self-control due to heightened emotion clouding rational decision making and a lack of a full understanding of what they are dealing with (i.e., cognitive difficulties) (Bernstein, 1996, p. 7).

The positive thing that emerges from the discussion in this and the previous chapters is that it revolves around the permissibility of derivatives for market risk management endeavours that are verifiable by modern accounting theory and market practice. Specifically, they should arguably be used in the context of transferring the non-core market risk exposures of real sector entities (and financial institutions that facilitate their existence), which can, in turn, reduce the probability of financial distress, underinvestment, loss of potential financing savings and market competitiveness, and lower overall firm value. The anchor, consequently, to the investment sphere is stronger than any that has been examined thus far (ownership, delivery, possession, instrument, turnover, credit usage, and classification of economic agent).

The above also concurs with the clear pre-eminence of the real sector in Islamic jurisprudence that can be observed to manifest itself in the commentary that exists in the Islamic finance literature in regards to gambling, in general, and derivatives, in particular (Al-Suwailem, 2006; El-Gari, 2010; Kamali, 2000b; Khan, 1997; Moody's, 2010 ; Salamon, 2000). This was also apparent in the opinions by many of the respondents; to illustrate, one respondent stated that “the preference for contractual hedging [in Islamic finance] is to have hedging activities tied to the real economy.”

Effectively, some of the contemporary commentators in Islamic finance do make a distinction between the constructive risks that are created as part of real economic activities (including speculative risks) and the artificial risk creation by the gambling parties that is exogenous to the real sector (Al-Suwailem, 2006, p. 40; Kamali, 2000b, p. 147). This can be perceived to correspond to what Emery wrote in the late nineteenth century when he stated: “whereas gambling consists of placing money on artificially created risks of some fortuitous event, speculation consists in assuming the inevitable economic risks of changes in value” (Emery, 1896, p. 101),

Along the same lines, in regards to the charge by Al-Suwailem that derivatives facilitate the commoditizing of risk and thereby severe risk from real economic

activity (Al-Suwailem, 2006, pp. 39-41), it is not self-evident how the derivative contracts commoditize risk and separate it from real economic activity in a manner that is different from, say, Salam contracts. For besides the fact that the ex-post vis-à-vis the ex-ante character of payment is an irrelevant consideration from the severance of risk standpoint, when one enters into a derivative contract, particularly the forward-based ones, that the transferred risk, which presumably originated from the real economy, goes along with any associated return (i.e., the farmer transfers the potential gain to the trader along with any potential losses [risks]).

With the above generalized conceptualization of the environment that hosts the market risk management endeavours of real sector entities (including the association between gambling, speculation, and investment), the discussion now turns to a related subject, which is the role of the financial intermediaries who facilitate hedging practices as speculators in the financial markets.

Section IV: The Role of Financial Intermediaries as Speculators

The discussion thus far has concentrated on the usage of derivative instruments as hedging tools for market risk management in scenarios that are linked to the real economy. Notably, it was argued that the market risk exposures for real economic activity also include those being faced by financial institutions, such as Islamic banks (e.g., interest rates/profit rates and currency), that enable real sector entities to create wealth in society in a value-added manner that promotes human well-being. Throughout the discussion there have been allusions to the role of financial intermediaries, or risk transfer specialists as referred to by Culp (2004), who, even though not hedgers themselves, have been shown to be indispensable for the effective and efficient undertaking of market risk management activities in society due to the diversity in the needs that exist between the various hedging counterparties (Catania & Alonzi, 1997; Smith, Smithson, & Wakeman, 1988).

One starts with an articulation by Marshall on the role of speculators in producing a socially valuable service where he states:

“Man cannot create material things. In the mental and moral world indeed he may produce new ideas; but when he is said to produce material things, he really only produces utilities; or in other words, his efforts and sacrifices result in changing the form or arrangement of matter to adapt it better for the satisfaction of wants. All that he can do in the physical world is either to readjust matter so as to make it more useful, as when he makes a log of wood into a table; or to put it in the way of being made more useful by nature, as when he puts seed where the forces of nature will make it burst into life. It is sometimes said that traders do not produce: that while the cabinet-maker produces furniture, the furniture dealer merely sells what is already produces. But there is no scientific foundation for this distinction. They both produce utilities, and neither of them can do more: the furniture-dealer moves and rearranges matter so as to make it more serviceable than it was before, and the carpenter does nothing more” (Marshall, 1910, p. 63).

The words of Marshall are particularly relevant to the subject matter of derivatives contracts in that the financial intermediary, as a speculator that specializes in the transfer of risks that emanate from the real economy, can be thought of as serving a function that is not too much different from the role of a financier operating as a middleman between depositors/investors and entrepreneurs/fund seekers. In effect, they use the benefits of economies of scale to lower their search costs to generate a more certain knowledge base (in a relative sense to the hedging community) in order to reduce forecasting errors (Arrow, 1951; Culp, 2004).¹⁶²

Essentially, and as recognized early in the twentieth century by Fisher, the role of the financial intermediary can be thought of as being built on the recognition of the inverse relationship between risk and knowledge (Fisher, 1906, p. 291). Furthermore, the utility produced to society, above and beyond the potential for risk reduction due to the increase in the knowledge base, also includes increased liquidity, lower trading costs, enhanced market depth, and immediacy in execution (Catania & Alonzi, 1997; Culp, 2004).

In undertaking their function, the financial intermediary, after utilizing the full potential of the portfolio approach to risk management by way of the combination (i.e., better statistical inferences) and diversification (i.e., less-than-perfect correlation opportunities) benefits, can decide whether to maintain the residual

¹⁶² Haushalter (2002) does demonstrate the existence of the need for economies of scale to have a workable hedging program. This was also confirmed by one of the respondents in the practitioners group.

exposure on its balance sheet or transfer them to another financial intermediary (Knight, 1921; Kreitner, 2007). That is, if they have adequate capital reserves, they can choose to absorb the price risk inherent in the “warehousing” of derivatives by not offsetting the unmatched exposure with another party; or, alternatively, they could decide to “run a balanced book” with matched assets and liabilities (Whittaker, 1987). This approach was incidentally confirmed by one of the respondents in the practitioners group. However, it would appear that financial intermediaries, at least the prudent ones, choose to run a balanced book by offsetting any residual exposures to outside parties (Culp, 2004, p. 60; Haushalter, 2000, p. 106; Hull, 2010, p. 72).

Interestingly, based on the above, it may become ostensible that, absent artificial risk creation by excessive speculation in a manner that is akin to wagering, this framework that is driven by market risk management (or reverse inquiry as noted by a respondent in the practitioners group) may actually offer society lower overall risks. This is because the risks that are transferred are anchored to real market activities even if continuously transferred in smaller chunks to third parties in the financial sector.

Further, although there may be systemic risks due to the potential of default by a major financial intermediary in the aforementioned inter-linked chain of risk management (Hull, 2010), this particular risk is reduced by the fact that a default by hedgers tends to be more idiosyncratic (i.e., good candidate for diversification) than default on loans. In effect, the defaulted derivative contract will have to be characterized by both financial distress by the counterparty *and* a negative contract value (Smith, Smithson, & Wakeman, 1988).

With that, it may now be appropriate to broach the topic of fees charged by financial intermediaries, which is a topic that was raised in the Market Risks and Their Management Chapter (Chapter 4) and one that has been a point of contention in the Islamic finance discourse (as noted by one of the respondents in the academics, *Shari'a* scholars, and legal experts group, for whom the best alternative was risk sharing). To commence with, even though there are fees that accrue to the financial

intermediary, they are not premiums to guarantee against a certain amount of loss as is done in the insurance industry which is apparently negatively perceived by Islamic jurists.

Thus, as stated by Patterson in a manner that fits rather nicely with the *Alghonom Bialghorom* axiom: “[T]he hedger will not pay his ‘premium’ in cash, he pays it by foregoing his gains on a rising market. This brings the ‘insurer’ in as a participator in the enterprise, a situation which is incompatible with the analogy of insurance. To deduct a fixed premium from gross profit (as the insured does in shifting his fire risk) is quite a different matter from turning over to the risk-taker an undetermined portion of the possible profits of the enterprise. Hence hedging does not fit the Procrustean bed” (Patterson, 1931, p. 882).

Notwithstanding the above, it is not self-evident from some of the Islamic finance literature on derivative contracts where does the animosity towards fee generation by financial intermediaries reside and what is the rationale for its prohibition in a hedging context (Al-Shubaili, 2012, pp. 49-50). This is especially pertinent since, as has been argued by Kamali, the intermediaries, whether on a *Mudharib* (investment manager) or *Wakeel* (agent) basis, are allowed to earn remuneration for their efforts (Kamali, 2000b, p. 176). In effect, there is really no need for the fees, as advocated by Chapra and Khan, to be “Islamised by resorting to Islamic instruments” (Chapra & Khan, 2000, p. 81).

Apart from the ambiguity in regards to the religious permissibility for fee generation in some of the contemporary financial practices, it is difficult to economically rationalize an argument whereby the costs related to building an infrastructure to collect and analyse market intelligence (e.g., highly skilled personnel and expensive computational and statistical systems) in order to ascertain intrinsic values should be done without some form of compensation. The importance of these fees in building the necessary capital reserves that can respond to market shocks, as a counterparty to the hedging parties, is also not an insignificant consideration. In addition, the fees need to be contextualized in that they are in the form of a bid-ask spread that is quite

competitive as a result of being determined by the supply and demand forces in the financial markets. Essentially, the hedging community has a wide array of financial intermediaries to choose from based on their contractual fees and reputation.

That said, there are merits to the argument that the for-profit nature of the financial intermediaries in the hedging sphere, especially when combined with pure speculative strategies, can result in aggressive behaviour that eventually goes beyond the positive role of financial intermediation into the unsustainable realm of gambling. This is perhaps what Al-Suwailem (2006) was referring to when he noted the classic problem of the willingness vs. the ability to take risks in the financial markets. Although, in the case of market risk management (i.e., not credit derivatives that are mostly priced on a mark-to-model basis), this has little to do with the professed distortions in pricing due to asymmetries of information between the hedging party and the financial intermediary (Al-Suwailem, 2006, pp. 37-38).

Thus, it may be estimated that the concern here relates, in a sense, to the discussion in the previous section with its focus on the normative scale of economic activities and the tendency by some economic agents to transcend the realm of speculation into that of gambling. This was seconded through the assertion by one of the respondents in the academics, *Shari'a* scholars, and legal experts group, while commenting on derivatives usage, that one may, under the auspices of the Islamic theory of *Daroura* (necessity), be allowed to drink wine if their life is in peril (e.g., extreme thirst with no water resources). However, the issue, in Islamic jurisprudence, as he quickly noted, then becomes when the use of *Daroura* becomes the accepted norm in the Islamic finance industry (i.e., derivatives for pure speculation becomes the custom). Another respondent from the same group said the issue is: “where does it stop?”

Interestingly, while recognizing the aforementioned legitimate concern, it may be conjectured that the fee structure of financial intermediaries can be of value in the evolution from theoretical formulation of the normative scale of economic activities to practical application in that it can actually be a decent measure of the gambling inclinations by the non-hedging counterparties (i.e., financial intermediaries) in the

derivatives markets. In essence, it has been contended by some writers that distorted fee structures that are not backed by economic fundamentals and financial realities may actually encourage aggressive risk taking in a bid to generate excess profits (Murphy, 2012; Whittaker, 1987). Specifically, the willingness to take risks may not be commensurate with the ability to do so based on the size of the transaction, the characteristics of warehoused inventory of derivatives, the capital base, profile of the counterparty, investing and funding charges, and any cost structures that should be factored explicitly into the willingness vs. ability equation (G30, 1993; Hull, 2010; Litzenberger, 1992).

Accordingly, it becomes apparent based on the above that the social good offered by financial intermediaries in efficiently allocating the risks that exist in society as opposed to perhaps creating risk for its own sake depends in no small part to their fee structures. These fee structures are, in actual fact, observable to their own internal risk management function and externally to the other counterparties, not least of which are the supervisory authorities.¹⁶³ In effect, the stability of the utility provided by the financial intermediary, as a speculator focusing on risk transfer, is contingent on their proper indication of willingness to take risks (i.e., competitive vs. uncompetitive fees) in a manner that accurately corresponds to their ability to do so.¹⁶⁴ In short, it is not exclusively a weakness; it can also be an opportunity.

With that, one may conclude this section by stating that the discussion on the role of financial intermediaries in the hedging sphere and the expressed potential for improvement in the current *modus operandi* of the derivatives markets were elaborated with the objective of exploring the prospect of having Islamic financial institutions serve the role of financial intermediaries in the derivatives markets to facilitate the hedging activities of their clients, even if it is on a reverse inquiry basis. This is something which does not currently exist; in fact, as noted by some respondents in the practitioners group, the conventional financial institutions have

¹⁶³ Of course, this would require an increased level of external disclosure than is currently present.

¹⁶⁴ Some financial intermediaries are market makers and thus are expected, or required, to continuously quote spreads in their designated markets. In other words, they may not be able to stop quoting fees for their services.

the Islamic finance industry as a “captive market” in that regard. Notably, this reality endures even for the Islamic swaps market. Effectively, even if the argumentation for the permissibility of the derivative instruments were accepted by the Islamic finance scholarly community, the decision to preclude the speculative services of financial intermediaries in the hedging sphere would make the market risk management endeavours by operators in the real economy a much more challenging task in terms of execution.

Moreover, it supports some of the calls being made within the Islamic finance industry for a pragmatic approach to the conceptualization of permissibility; particularly, in contemporary activities in the financial markets (Bacha, 1999; El-Gamal, 2006; El-Gari, 1993; Kamali, 2000b). This was perhaps best articulated by El-Gari, in the context of stock markets, when he argued:

“Therefore, we do not find it useful to follow an approach of ignoring the stock market transactions and brushing aside everything that we feel is not permitted in Islam, arguing that the remainder should be the basis for the Islamic market. Indeed, we do not feel that this is a useful approach. What we feel is more appropriate is to identify the components that we have already dealt with and then build up a structure of the Islamic market depending upon what is legally permitted and alternatives for whatever is not allowed, in order that we can ensure full compliance with the rules of Shari'ah [sic] and, at the same time, a market that is vigorous and bristle... The fact that [there] is a possibility or likelihood [of impermissible activities] does not provide a sufficient justification for doing away with a large number of market transactions which are otherwise useful and beneficial” (El-Gari, 1993, pp. 9-10).

Conclusion

It has been contended throughout the thesis that the Islamic finance literature should transcend the supreme emphasis on the legal sphere in the interpretation of the scripture and grant more credence to the economic theories that can explain human behaviour with resources. In this chapter, the discussion focused on one of the key topics that were often repeated in the discourse on derivatives in Islamic finance, namely the linkages between these financial contracts and the prohibition of *Maysir*.

For this, it has been argued in this chapter that one ought to distinguish between the instrument, the framework, and the act even if they all centre on dealings that relate in one way or another to uncertainty about the future. More specifically, within the

framework of *Shari'a*, the act of *Maysir* should be the focus of the prohibition *not* the particular financial tools (i.e., derivatives) and frameworks (i.e., risk transfer and financial intermediaries), which have been shown to provide positive economic effects. The significance of that argument becomes apparent in the paradoxical prohibitive stance in regards to derivatives that exists even in the face of appeals for allowing the use of these instruments only for market risk management purposes.

In effect, it should be realized that the complete elimination of particular forms of financial instruments is not the answer to the *Maysir* problem since it eradicates positive benefits for no clear and attainable purpose (i.e., eliminate gambling behaviour). Essentially, as is markedly understood by the students of economic theory, one should be reminded that the formulation of any economic-related directive should be ambitious in that it seeks to maximize the benefits (human welfare) and reduce the costs (including negative externalities) associated with its implementation, but should not adopt an untenable objective of seeking to guarantee only the emergence of benefits.

In fact, what could be contended, instead, is that the aspiration for complete purity in financial transactions by way of the juristic rejection of the utilization of derivatives as hedging instruments by real sector operators, is that such a position can be a form of injustice. This is because it opens the door for increased uncertainty, and its effects, in the economic dealings in society (i.e., financial distress, reduced competitiveness, lower economic development, etc.).

Finally, it is appreciated that there is a concern amongst the majority, if not all, of the stakeholders in the Islamic finance industry regarding the possibility of having the risk and return profile of derivative usage become so unbalanced that it overwhelms the beneficial economic functions of these instruments and result in financial crises with profound negative consequences. The answer to that concern, or any other for that matter, is not in the complete elimination of any financial tool that contains the prospect of instability, rather it is allowing an important instrument that assists in the mitigation of market risks under a regulatory framework that controls its usage. For

this, the imposition of the IAS 39 hedge accounting rules, as outlined in the previous chapter, in addition to the prospect for increased disclosure in regards to inherent risk exposures of financial intermediaries along with their fee structures can be of great value.¹⁶⁵

¹⁶⁵ Notably, the financial intermediaries can be an SPV of a larger banking institution focusing on market risk management services for the Islamic finance industry. This would alleviate some of the fears associated with the sharing of proprietary information by these firms.

Chapter Nine: Conclusion and Ending Remarks

Section I: Summary of Research Findings

The thesis commenced with the formulation of two particular aims which have been addressed in the course of the research: Firstly, economic-centred theories, along with a wider elaboration of the *modus operandi* of the financial markets, were inserted into the Islamic finance discourse on the subject matter. Secondly, the rationale for the various stances on the permissibility of derivatives hedging instruments were examined in a manner that accounts for the numerous instruments currently existing in the financial markets as well as some of the proposed solutions circulating in the Islamic finance industry.

Along the same lines, the thesis strived, by way of the deductive research strategy and qualitative methodology, to tackle the research questions that were articulated, namely: 1) What is the basis for the proscriptions of the usage of derivative hedging instruments for market risk management in the Islamic finance industry, and 2) What is the basis for allowing derivative hedging instruments for market risk management in the Islamic finance industry?

In effect, the preceding six chapters were elaborated with the objective that was built on the need of having a comprehensive, multi-layered discussion on the subject matter of market risk management, in general, and the usage of derivatives as hedging instruments, in particular, within the Islamic finance industry. However, before the articulation of the six substantive chapters, it was deemed important to start with the Research Philosophy Chapter (Chapter 2) which endeavoured to demonstrate the significance of the conceptualization of truth in Islamic thought.

This is especially relevant in matters within the realm of *Mua'amalat* (dealings between individuals) wherein truth is arguably a product of consensus regarding its utility for human well-being. Notwithstanding the above, it should be recognized that humans traditionally struggle to attain proximity to the truth in religious matters due to intellectual impediments as well as linguistic and historical challenges. The

scientific study of Islam, consequently, calls for more humble epistemological stances rather than the obstinate belief in the veracity of economic-centred religious positions (i.e., not acts of worship).

With the philosophical foundation in place, the thesis then proceeded with an increased focus on the subject matter of the research commencing with the Market Risks and Their Management Chapter (Chapter 4) that sought to show that the contemporary challenges and opportunities faced by the real sector is much different from those existing in seventh century Arabia. Furthermore, there were numerous rationales elaborated that substantiated the importance of managing non-core market risk exposures to interest rates, currencies, and commodities (particularly through risk transfer mechanisms). Notably, the above was formulated with an associated contention that Islam does not impose the passive acceptance of all risks as evidenced by the proper contextualization of the firmly established doctrines of *Al-Durariyat Al-Khamsa*, *Al-Akhdh Bel-Asbab*, and *Alghonom Bialghorom*.

The Conventional Derivatives: Theory and Practice Chapter (Chapter 5), for its part, contributed to the achievement of the aims of the thesis by focusing on the usage of derivatives as hedging instruments within the realm of economic theory and market practice. The significance of this chapter does become ostensible with the often-mentioned viewpoint within the Islamic finance industry of the presence of linkages between derivatives and the prohibitions of *Riba* (usury), *Gharar* (excessive uncertainty), and *Maysir* (gambling). Specifically, it was argued in the course of the chapter that derivatives are not debt instruments since there is no funding arrangements within their structures. Moreover, the interest rates are used within the framework of pricing, not a means to uniquely increase the indebtedness of one party to another in a consistent manner.

In regards to *Gharar*, it was actually shown that derivatives are versatile tools that can reduce the uncertainties associated with the financial markets in a transparent manner. As for the proximity to *Maysir*, it may have become self-evident that hedgers traditionally choose not to “play the market” by way of the usage of

derivative instruments. Notably, the delineation of the specifics of the conventional derivatives anticipated some of the arguments that were outlined in the following chapters in regards to the proscription of cash settlement and margining.

The Derivatives in Islamic Finance Chapter (Chapter 6), by directly focusing on the permissibility of the derivative instruments, detailed the complex and circular-natured juridical debates on the topic of the research by the *Shari'a* standard-setting bodies as well as many of the Islamic finance commentators and interview respondents. In the course of the discussion, the thesis contributed to the discourse on the subject matter by classifying the various viewpoints into two distinct groups.

The first group comprised the theoretical *Shari'a* issues that dealt with the characterization of derivatives as debt instruments as well as those that revolved around the possession and ownership of assets that are thought to be inexistent in a manner that precluded the prospect of delivery. In the course of the discussion, it was argued, once more, that the preceding chapter on conventional derivatives should not have led to any association between derivatives and debt instruments. In addition, the issues surrounding possession, ownership, existence, and delivery were shown to be centred on the reduction in the prospect of usury, disputation, ill-intent, and gambling behaviour rather than being elaborated for the purpose of curtailment of hitherto legitimate economic activity.

The second group, for its part, focused on the contractual *Shari'a* issues wherein reformulations of conventional derivative contracts were undertaken through the forcing of tenuous linkages between them and pre-modern “Islamic” contracts. The hoped-for outcome, it may be conjectured, was to legitimize an *a priori* position in regards to the permissibility of derivative instruments under the purview of the Islamic jurisprudence. The end result, however, was far from the aspirations in that what was on offer was arguably *not* a means to safe guard the Islamic finance industry, but rather a choice between either what effectively amounts to defective economic hedging instruments with negative externalities or what is, in essence, defective *Shari'a* instruments.

In light of the foregoing, the existing literature on the topic of the research along with the interviews undertaken have revealed that it is perhaps not the theoretical issues or contractual specifications that are the crux of the prohibitive stances on the usage of derivative hedging instruments. Instead, there was evidence that it may be the unease in the dealings of money (including hoarding behaviour) and the fears of permitting the indulgence in gambling activity that are the dominant forces in the restrictive positions.

The unease in the dealings of money, which was discussed in the Permissibility of the Underlying Variables and the Recognition of the Contract Chapter (Chapter 7), can become ostensible in the context of derivative instruments that have monetary underlying variables (e.g., interest rates and currencies). A chief apprehension in this circumstance is the potential for engaging in *Riba* transactions (particularly its *Al-Fadl* and *Al-Nasi'ah* forms). The above, in turn, was revealed by the presence of two strains of conjectures in the Islamic finance literature and the views by the respondents: a.) Islam dictates the exclusive dealing in trade related activities that revolve around tangible underlying variables (e.g., commodities), and b.) The concentration on the prohibition of hoarding is on money, as a means of hoarding, rather than the act of hoarding itself. The research showed that both of these conjectures are erroneous.

A related issue that emerged, particularly in the course of the interviews, is the manifestation of the restrictions in the dealings in money on the formal recognition of financial instruments with monetary underlying variables. In effect, the absence of any AAOIFI ruling on the derivative instruments (even the “Islamic” varieties) has showcased the triumph of normative accounting principles in the Islamic finance industry vis-à-vis neutral information reporting for optimal decision making (which may have religious overtones).

As for the concerns associated with the utilization of derivative instruments as vehicles for the satisfaction of facile and unearned gambling tendencies with all the

ensuing anti-social behaviour, the *Maysir*, Hedging, and Derivatives Chapter (Chapter 8) has demonstrated that the conceptualization of gambling is a taxing and multifarious affair that is by no means a precise science (at the current stage of knowledge, at least). Accordingly, it was shown that the search for the objective exclusion of the means to the indulgence in gambling whether in terms of framework (i.e., zero-sum arrangements) or instruments (e.g., derivatives) has thus far continued to be elusive and has mostly remained in the subjective territory. That being said, the façade of the existence of some form of objective criteria that can eliminate gambling has actually served to impose on the hedging community unnecessary restrictions that hamper real economic activity.

In a similar vein, given that speculation (which is understandably difficult to define) as a concept is not proscribed in Islam, the thesis espoused a position that financial intermediaries, as facilitators of hedging activities in the real economy, should be permitted to operate within the confines of Islamic jurisprudence, if they are willing and able to perform that function in a manner that does not compromise the stability of the financial markets.

Section II: Contribution of the Thesis and Implications of the Findings

The delineation of the findings of the research in the previous section moves the discussion onto the contribution of the thesis. One can start with the inferences that can be made based on the research findings wherein it may be stated that the thesis, has revealed what can arguably be described as an over-generalized discourse on the topic of the research in the Islamic finance literature and commentary. In particular, it was shown that the prohibitive stances on the market risk transfer strategy and derivative instruments as tools for the implementation of that strategy were adopted in a generous fashion without the needed level of extensiveness and depth in the understanding of what is essentially an economic subject matter. This, of course, became apparent in that the standard-setting bodies in the Islamic finance industry have demonstrated a case of static rigidity due to the excessive reliance on the

Islamic theory of *Qiyas* (analogical reasoning), untroubled not only by the potential for large unmitigated market risk exposures of a growing Islamic finance industry that is being increasingly interconnected to the international financial markets, but also in the probable negative implications of these open exposures on the real sector.

More specifically, the thesis sought to contextualize the debate on derivatives in the Islamic finance literature and commentary with a more thorough discussion on the economics, rationale, and usage of derivative instruments in a *market risk management* framework (i.e., not for gambling) that has numerous benefits for the hedging entities, in particular, and for sustainable growth in Islamic economies, in general, (increased cross-border trade and investment, reduced distress costs, etc.).

The aforementioned approach, it is argued, surpasses the chosen path for the *modus operandi* in the Islamic finance industry in regards to facing up to the market risk management challenges which appears to have been built on contentious juridical judgements based on incomplete legal analysis of contemporary contractual forms vis-à-vis their pre-modern “Islamic” counterparts (with an ensuing circular-natured debate on technicalities). Accordingly, the hoped-for outcome of the thesis has been transcending the modern “Islamic” hedging instruments/frameworks that revolve around being either: 1) Transaction level solutions that inherently disregard the difficulties of implementation along with an ostensible neglect of the benefits of a portfolio approach to risk management, or 2) A formulistic exercise of financial engineering with multiple Arabic-named contracts that generate the exact same risk and return profile as well as payoff structures of the prohibited conventional derivative instruments.

Notwithstanding the above, it is acknowledged that the contention that derivatives are effective instruments for the management of market risks in the most efficient manner will undoubtedly be met with hostility by some in the Islamic finance community who will continue to refuse to accept the presence of derivatives in the industry. In the course of the rebuttal, they may choose to continue to evoke a mixture of rationales (which have been disputed in many parts of the thesis) that seek

to regenerate the attempts to superficially associate derivative usage for hedging purposes with the prohibitions of *Riba*, *Gharar*, and *Maysir*.

This, almost certainly, will be undertaken by citing multiple opinions of some of the most respected jurists in Islam in an effort to gain juridical legitimacy for the proposed judgment with little regard to the required contextualization of these venerable opinions to whatever perspective they are applied to. Surprisingly, and for some paradoxical reason, it is not apparent, as has been shown in the thesis, that the indispensable Islamic theories of *Maslaha* and *Daroura* have had a role in this almost exclusive *Qiyas*-based framework of juridical determination.

To confront this conundrum, one should perhaps start with the recognition that the view of the *Shari'a* on economic matters will inherently be an economic perspective, not a legal one that focuses on contractual technicalities. This realization, in turn, leads to three essential theoretical foundations that underlie the substance of the whole thesis. First, economics is the scientific study of the behaviour of economic agents (individually and as a society) with limited resources through time.¹⁶⁶

Second, the behaviour of economic agents is indiscriminate in that a Muslim economic agent with resources will largely behave the same way as a non-Muslim economic agent. That is, the Muslim brain is not wired any differently to a Non-Muslim brain. To be certain, there may be religious and cultural factors that may affect behaviour; however, there have not been any evidence that would point to the fact that Muslims behave in a *fundamentally* different manner with resources than non-Muslims.¹⁶⁷ Finally, Islam as a religion that communicates the message of God to mankind (not just Muslims) shows a path for a better distribution of those limited resources among the economic agents.

¹⁶⁶ This definition is closest to the one offered by Lionel Robbins in his *An Essay on the Nature and Significance of Economic Science* in that he stated that: "Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses." (Robbins, 2007, p. 15). Notably, the definition that is used implicitly acknowledges the conceptualization of the ends and means by economic agents as well as the alternative uses along with the explicit mention of time.

¹⁶⁷ Although, this may be a good candidate for future research in the economics field (see the next section).

The statement “better distribution,” in the last sentence, along with the acknowledgement that all economic agents behave in largely similar fashion is fundamental to the proper understanding of economics in the Islamic finance industry and the formulation of an effective policy that focuses on the noble objectives in the *Shari’a*. With that, one can proceed with the appeal to the Islamic finance industry to go beyond the emphasis of labelling contracts as being either Islamic or conventional along formulistic lines and proceed to grant greater credence to the all-too-important substance of the justice (or injustice) that surrounds the distribution of limited resources.

This should be undertaken in light of a better understanding, as shown in the thesis, of how the proscriptions of *Riba*, *Gharar*, and *Maysir* (as divine clues cloaked in the garb of prohibitions) manifest themselves in contemporary commercial and financial environments. It is aspired that the present thesis on market risk management and derivative hedging instruments in Islamic finance can be regarded as a step in that direction.

In terms of the implications arising from the elaboration of the thesis, one may start with the recommendation, based on the evidence presented in the course of the research, that the *Shari’a* scholarly community and the standard-setting bodies should adopt a position that grants permissibility, in theory and in practice, to the contemporary market risk management framework. This should also entail the acceptance of derivative instruments as tools for the implementation of that *market risk management framework* (i.e., not for gambling).

To be certain, it is recognized that the usage of the option-based instruments in the Islamic finance industry may be a contentious matter to some members of the Islamic finance community due to their asymmetric payoff structures wherein there is a potential for profit-making in a manner that exceeds the losses associated with original market risk exposures. The above is an understandable position when the discussion, as in the thesis, focuses exclusively on market risk management. That

being said, the forward-based derivative instruments are not endowed with such payoff ambiguity if there is indeed an equal offsetting risk exposure to the hedging entity. Thus, given that the forward-based instruments, for the most part, neutralize the risk exposure they should be allowed within the Islamic finance industry as an effective means of hedging market risks.

Moreover, it has been shown in the research that there is no substantive evidence that backs the opinion that only commodity price risk can be hedged and that any other types of risk have to be dealt with exclusively through commodity *Murabaha* contracts combined with *Wa'ad* structures. Consequently, it is recommended that entities with legitimate hedging needs should be allowed to use derivative instruments (once more they can be limited to the forward-based ones) to manage interest rate and foreign exchange market risk exposures in a manner that allows financial intermediaries to function as facilitators for the hedging activities of real sector entities.

Finally, the standard-setting bodies should strive to ensure that the usage of these instruments is properly recognized on the financial statements of the entities that utilize them; for this, IAS 39 has been shown to offer confidence that the derivative instruments are properly accounted for in addition to an assurance that they are used in a hedging context. This IAS 39 framework can be conjoined with a derivative trading platform in the form of an exchange that is centred on market risk management endeavours in a manner that incorporates the highest standards of transparency and good governance.

Section III: Limitations and Suggestions for Further Research

In terms of the limitations of the thesis and the suggestions for further research, the thesis has perhaps revealed that, despite the recent focus granted to the subject matter, the Islamic finance industry is just scratching the surface on this important topic. One of the chief limitations that was evident in the course of carrying out the data collection was the shortage of financial reporting of market risk management

variables which, in turn, has resulted in the lack of relevant empirical evidence. This is perhaps an area where infrastructure organizations in the Islamic finance industry (e.g., IIFM, AAOIFI, IFSB, etc.) along with academic institutions can contribute in order to advance the discourse.

As for the potential for further research, it would be of immense value to comprehend, to a greater extent than is currently present, the role of conviction on the economic behaviour of people. In effect, the deeper elaboration of this research in the future would undoubtedly be useful to a superior understanding (and perhaps even measurement) of the behaviour of various groupings of economic agents given their religious belief system.

Moreover, even though it is not peculiar to the Islamic finance industry, further research that can result in a better conceptualisation of gambling in economic thought will certainly be beneficial in the proper contextualization of dual purpose financial instruments (i.e., investment/hedging tools). This should, in turn, result in less aptitude for sweeping generalizations as has been markedly present in the discourse on derivatives in both the conventional and Islamic finance domains.

Appendix I: Research Respondents

Practitioners

1. Mr. Hasan Demierhan, Director, Treasury Department, Islamic Development Bank, Saudi Arabia.
2. Mr. Zainol Mahmood, Division Manager, Capital Markets Division, Treasury Department, Islamic Development Bank, Saudi Arabia.
3. Mr. Zakky Bantan, Financial Analyst, Treasury Department, Islamic Development Bank, Saudi Arabia.
4. Mr. Ahsan Ali, Director, Head of Islamic Origination, Standard Chartered Bank, Dubai, UAE.
5. Mr. Khalid Al Qattan, First Vice President, Head of Treasury and Investments, Al Baraka Banking Group, Bahrain.
6. Mr. Malek Khodr Temasah, Vice President, Treasury and Investments, Al Baraka Banking Group, Bahrain.
7. Mr. Lilian Le Falher, Executive Manager, Head of Treasury, Financial Institutions, and Debt Capital Markets, Kuwait Finance House, Bahrain.
 - a. Mr. Le Falher is also on the Board of Directors of the IIFM.
8. Mr. Samir Ali Aftis, Assistant Manager, Structured Products and Asset Management, Kuwait Finance House, Bahrain.
9. Dr. Mohamed Habib Djarraya, Acting Director, Islamic Financial Services Department, Islamic Development Bank, Saudi Arabia.
10. Mr. Aboubakr Barry, Director, Financial Control Department, Islamic Development Bank, Saudi Arabia
11. Mr. Zaffarulla Sathar, Manager, Dues and Accounting Division, Financial Control Department, Islamic Development Bank, Saudi Arabia.
12. Ms. Sabeen Saleem, Chief Executive Officer, Islamic International Rating Agency (IIRA), Bahrain.
13. Mr. Hafizan Haron, Vice President, Ratings, Malaysian Rating Corporation Berhad (MARC), Malaysia
14. Mr. Ahmed Murad Hammouda, Acting Director, Group Risk Management Department, Islamic Development Bank, Saudi Arabia.
15. Mr. Srinivas Nallamothe, Risk Manager, Risk Management and Compliance, Bahrain Islamic Bank, Bahrain.
16. Mr. Mohammed A. Wahed Al Khaja, Senior Manager, Credit and Administration, Bahrain Islamic Bank, Bahrain.
17. Mr. Tahir Mahmood, Senior Manager, Business Development, Bahrain Financial Exchange, Bahrain.
18. Mr. Norfadelizan Abdul Rahman, Acting Global Head of Islamic Capital Markets, Bursa Malaysia, Malaysia.

Academics, *Shari'a* Scholars, and Legal Experts

19. Dr. Sami Al Suwailem, Senior Economist and Manager, Islamic Financial Products Development Center, Islamic Development Bank, Saudi Arabia.

20. Dr. Layachi Feddad, Officer-in-Charge, Advisory Services in Islamic Economics and Finance Division, Islamic Research and Training Institute, Saudi Arabia.
21. Dr. Ahmad Al-Islambouli, Researcher, Islamic Research and Training Institute, Saudi Arabia.
22. Prof. Dr. Mohammad Hashim Kamali, Founding Chairman and CEO, International Institute of Advanced Islamic Studies (IAIS), Malaysia.
23. Dr. Abdul Karim Abdullah, Assistant Research Fellow, IAIS, Malaysia.
24. Dr. Muhammad Al-Bashir Muhammad Al-Amine, Group Head of Shari'ah Compliance, Bait Al-Khair, Bahrain.
25. Mr. Sohail Zubairi, CEO, Dar Al Shariah Consultancy, Dubai, UAE.
26. Mr. Mian Muhammad Nazir, Senior Vice President, Dar Al Shariah Consultancy, Dubai, UAE.
27. Mr. Muddassir H. Siddiqui. Ex-partner DentonWildeSapte Law Firm and current Shari'a Advisor to Reuters Islamic Index.
28. Prof. Obiyathulla Ismath Bacha, Director of Graduate Studies, INCEIF, Malaysia.
29. Prof. Abbas Mirakhor, Former Executive Director at the International Monetary Fund and First Holder INCEIF Chair of Islamic Finance.
30. Dr. Lahsasna Ahcene, Graduate Studies Academic Advisor, Shariah and Legal Studies Department, INCEIF, Malaysia.
31. Prof. Zubair Hasan, Professor of Islamic Economics and Finance, INCEIF, Malaysia.
32. Dr. Zamir Iqbal, Lead Investment Specialist, World Bank Treasury, Washington, DC, USA.
33. Dr. Sherin Kunhibava, Senior Lecturer, Faculty of Law, University of Malaya, Malaysia.
34. Assoc. Prof. Mohamad Akram Laldin, Executive Director, Islamic Shariah Research Academy for Islamic Finance (ISRA), Malaysia.
 - a. Dr. Laldin is also a member of the Shariah Advisory Committee of Bank Negara Malaysia (Central Bank of Malaysia).
35. Prof. Ashraf Bin Md. Hashim, Head of ISRA Consultancy, Malaysia.
 - a. Dr. Hashim is also a member of the Shariah Advisory Committee of Bank Negara Malaysia (Central Bank of Malaysia).
36. Assoc. Prof. Ayraf Wajdi Dusuki, Head of Research Affairs, International Shariah Research Academy for Islamic Finance (ISRA), Malaysia.
37. Dr. Aida Othman, Partner, Zaid Ibrahim and Company (ZICOLaw), Malaysia.
 - a. Dr. Aida Othman is also the Director of ZI Shariah.
38. Mr. Madzlan Mohamad Hussain, Partner, Zaid Ibrahim and Company (ZICOLaw), Malaysia.
39. Mr. Loo Tatt King, Partner, Zaid Ibrahim and Company (ZICOLaw), Malaysia.
40. Ms. Lilly Adelina Hashim, Zaid Ibrahim and Company (ZICOLaw), Malaysia.

Regulators

41. Mr. Ijlal Alvi, Chief Executive Officer, International Islamic Financial Market (IIFM), Bahrain.
42. Dr. Ahmad Rufai Muhammad, Head of Shariah, International Islamic Financial Market (IIFM), Bahrain.
43. Mr. Jaseem Ahmed, Secretary General, Islamic Financial Services Board (IFSB), Malaysia.
44. Mr. Khalid Hamad. Executive Director, Banking Supervision, Central Bank of Bahrain, Bahrain.
 - a. Mr. Hamad is also the Chairman of the International Islamic Financial Market (IIFM).
45. Mr. Hussain Ali Sharaf, Director, Islamic Financial Institutions Supervision Directorate, Central Bank of Bahrain, Bahrain.
46. Mr. Wah Mohd Nazri bin Wan Osman, Director, Islamic Banking and Takaful Department, Bank Negara Malaysia (Central Bank of Malaysia), Malaysia.
47. Mr. Rustam Mohd Idris, Deputy Director, Islamic Banking and Takaful Department. Bank Negara Malaysia (Central Bank of Malaysia), Malaysia.

Consultants

48. Mr. Ashar Nazim, Director, Islamic Financial Services, Ernst and Young, Bahrain.
49. Mr. Sohaib Umar, Senior Manager, Islamic Financial Services Group, Ernst and Young, Bahrain.
50. Dr. Hatem El-Tahir, Director, Islamic Finance Knowledge Center, Deloitte, Bahrain.
51. Mr. Yusuf Khalifa Aljawder, Business Analyst, Islamic Finance Knowledge Center, Deloitte, Bahrain.
52. Mr. Neil Miller, Global Head of Islamic Finance, KPMG, Dubai, UAE.

Appendix II: Research Questions to Respondents

General

1. Overall view on market risk management in Islamic finance?
2. How does your organization (or your clients) view and implement risk management?
 - a. Gap-Analysis, Duration-Gap, VaR, etc.
 - b. Immunize the portfolio vs. opportunistic risk management
3. Should all risk be accepted in order to legitimize returns?
4. Overall view on risk transfer as a strategy of risk management (reduction, consolidation [combination and diversification])?
5. Overall thoughts on *Qiyas*-based contemporary contract derivations from pre-modern contracts

Derivatives

1. Overall view on derivatives?
2. Why should they be permitted or prohibited?
 - a. *Riba*, *Maysir*, *Gharar*, or contractual deviances?
3. Should they be permitted for risk management?
4. Should they be permitted for investment/speculation?
5. If derivatives are permitted exclusively for risk management, what would be your views?
6. Does it matter what the structure of the derivatives is if it is used for a legitimate purpose? (ends vs. means)
 - a. Should companies be allowed to use conventional derivative instruments for hedging?
 - i. Common stock for *Shari'a*-compliant firms.
 - b. Should Islamic finance design Islamic derivatives that replicate derivative hedging instruments?
 - i. Commodity *Murabaha* and *Wa'ad*?
 - ii. *Urbun* and *Khiyarat* for Options?
 - iii. *Salam* and *Istisna'a*?
7. How are derivatives dealt with in accounting methods?
 - a. Hedge accounting vs. Mark-to-market

Gambling vs. Hedging vs. Investing

1. How would you differentiate between: a.) Investing, b.) Speculation, and c.) Gambling?
2. Does it make a difference if the derivatives are used for hedging, investing, speculating, and/or gambling?

Currency and *Riba*

1. What is an asset and how is it defined in Islamic finance?
 - a. How is *Manfa'a* defined?

2. What is a liability and how is it defined in Islamic finance?
 - a. How is *Dayn* defined?
3. Is currency a commodity?
4. Is currency an asset (*haqq*)?
 - a. Why and why not?
5. Is Gold or Silver a commodity in Islamic jurisprudence?
 - a. What if it is used as a currency?
 - b. Does it matter if it is backed by the value of Gold or the faith and credit of the issuing government?
6. Why would you think that some writers consider Gold a type of *Mal* and not currency (physical, chemical composition, value by the society, etc.)?
7. Is Libor as a benchmark an asset?
8. Can Libor be bought or sold?
 - a. Implications on derivatives?
9. Is a positive position on a derivative contract an asset and a negative position a liability?

Exchange

1. Do you think that Islamic hedgers should participate in conventional derivative markets?
2. Should there be an Islamic derivatives platform?
 - a. How should it be structured?
 - b. Should speculators be allowed to participate?

Summary

1. Do you think a debate on derivatives should take place again at the Fiqh Academy and AAOIFI?
 - a. It has been 20 years since it was last discussed in the Islamic Fiqh Academy.
2. Do you think that AAOIFI should issue a standard on derivatives?
 - a. Allowed only for hedging, for example?

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