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Shariah Risk: Its Origin, Definition, and Application in Islamic Finance

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Abstract

"Risk" is widely used to explain an event pertaining to the probability of an outcome to occur. This paper provides the review of risk from its origin, where the concept of risk has been a concern for humanity since days of old, without the usage of its proper terminology. The study relies solely on related literature and highlights the application of risk in Islamic finance. Reviews of previous studies normally have its own terminology in research methodology. This section covers the issues of how risk is defined by researchers in various disciplines and therefore, how it is specifically related to Islamic finance through a generic and unique name, that is, *Shariah* risk. The major issue highlighted is where the sources are, which led to a deviation from the path that creates harmful effects. There are other sources for the risk that still need to be clarified further, but this study revealed the sources that lead to the changes of circumstances which result in having risks, based on the Quranic evidences in Islamic perspective. Hence, this paper aims to fill the gap of the current literature by showing the need to conduct further research on the derivation of *Shariah* risk and its potential in determining capital requirements in Islamic financial institutions.

Keywords

risk, origin, definition, Islamic finance, *Shariah*

Introduction

The establishment of Islamic financial institutions has brought about a new landscape in the financial system. They offer various financial products and services (hereafter, financial services) that comply with *Shariah* rules and principles. This means that in offering financial services, underlying contracts which include processes, utilization of financial services, and legal documentation should follow the rules and principles of *Shariah*. This is to relate the potential of Islamic financial contracts to serve *Maqasid Al-Shariah*, which is the main thrust of the Islamic financial system and guidelines for Islamic finance operations (Lone, 2016; Lone & Ahmad, 2017).

Failing to comply with the underlying contracts means that Islamic financial institutions deserve specific attention because it may erode customers' confidence in Islamic financial institutions and the whole financial system (El Tiby, 2011; Lahsasna, 2014). Although the unique contractual features of the financial services have exposed Islamic financial institutions to the mix of risks, the risk resulting from failure in complying with *Shariah* principles is considered as a unique aspect and significant in Islamic financial institutions.

It is necessary to have a clear explanation on the origin and definition of risk itself before the appearance of its generic names as well as other possible sources of risks in Islamic finance. The subjects have not been touched by many researchers except for a few that have looked at the foundations and epistemology of risk in the context of language, logic, and social science such as Thompson (1986), Hayes (1992), and Althaus (2005). Despite its current popularity, the concept of risk was seen as neutral in earlier literature. The term "risk" itself has been referred to as the probability of an event that occurs together with the amount of losses or gains that might entail. Today, however, the notion of risk is more likely to be attributed only with negative outcomes (Hayes, 1992).

Therefore, the main concern of this paper is to clarify the origin of risk and its definitions as well as the sources which ultimately led to a unique name such as *Shariah* risk. It addresses the issues of the following questions: Where did the word "risk" originally derived from? What are the possible sources of risk that finally contributed to the generic

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and unique name such as *Shariah* risk? Subsequently, this study could potentially extend the existing literature in two ways. First, it makes significant contribution to the dearth of studies on risk origin and its various definitions. Second, this work illustrates the possible sources of risk that can contribute to the importance of *Shariah* risk derivation which has received little or no attention in previous literature.

This paper is divided into six sections as follows. Section "The Origin of Risks in Islamic Finance" starts with an insight into the origin of risk in Islamic finance followed by the definitions of risk in section "Definitions of Risk". Section "Sources of Risk" provides the sources of risk involving its generic name. Section "Applications of Risk in Islamic Finance" describes the application of risk in Islamic finance. Section "Conclusion and the Way Forward" highlights concluding remarks and the way forward.

The Origin of Risks in Islamic Finance

The origin of risks has been discussed in western academic works such as those of Thompson (1986), Trimpop (1994), and Althaus (2005). In historical literature, despite of being described as a phenomenon in its own way, risk is also used as a framework where events and issues can be analyzed. Not only that the notions of risk have been applied practically without having a specific terminology to describe their action. The concept is found to be practiced since the days of the earliest civilizations (BC) until the existence of a specific terminology to define that concept. Thus, it is also widely used in Islamic financial system today.

Trimpop (1994) revealed that the concept of risk has been a concern for humanity from the earliest days of recorded history. It most likely took place even before that. Among early recordings, Asipu (the scholars and practitioners of diagnosis and treatment in Tigris-Euphrates valley) in Mesopotamia has dealt with risk prediction and management as early as 3,200 BC. They employed approaches which included identifying the importance of a problem, designing alternative actions and collecting data on likely outcomes. For example, these included profit or loss and success or failure. As such, the early recording of risk concepts has also been practiced in law such as in the Code of Hammurabi and in protection plans from natural disasters as a kind of insurance practices in 5th century (BC) in Chinese, Greek, early Roman, and other ancient civilizations. Apart from several doctrines on laws and informal regulations for human interactions, the code also formulated contract of an arrangement when the owner of a ship borrows money and uses the ship itself as collateral for vehicles and cargo besides an interest rate and risk premium for the chance of loss. Until that period in time, the concept of risk was yet to be defined until a specific terminology related to risk appeared in the period of 15th to 19th centuries.

However, the origin of risk is still quite difficult to be traced back as the word "risk" has only appeared in later centuries. The concept of risk is found to be practiced by our forefathers in certain circumstances. The evidences show that people all over the centuries have practiced the concept of risk in the absence of the specific word "risk" to represent their actions (Althaus, 2005). The well-known researcher on risk and culture, Mary Douglas (1982, 1985, 1990) has observed the connotation related to the word "risk" has changed over time. The concept of risk was originally introduced in the 17th century in the context of gambling. It was found to be neutral where it means that "the probability of an event occurring united with the scale of losses or gains that might be involved."

Moreover, quantitative understandings have brought to domination thinking about risk that leads to the development of theories. In pre-1494, a risk is considered as fate coming from God. In the late 15th century, Fra Luca Pacioli (an Italian mathematician) contributed to the first trigger of probability theory by proposing the coin tossing puzzle. This solution did not withstand the analysis by later mathematician, Fermi who solved the puzzle and proved the theory of probability. Consequently, it led to later theories of law of large numbers by Bernoulli in 1711, development of normal distribution (de Moivre) in 1738, the idea of prior beliefs (Bayes) in 1763, and the theory of expected loss in 1800s. The chronology has shown how the origin of risk began from God to its measurement within 400 years.

On top of that, Markowitz continued to develop diversification as an effort toward risk management in 1952, followed by Sharpe and Lintner, with the introduction of CAPM (Capital Asset Pricing Model) in 1964 that described the relationship between risk and expected returns used in the pricing of risky securities. Then, Stephen Ross introduced the development of no-arbitrage theory in 1976 to predict a relationship between the returns of a portfolio and the returns of a single asset through a linear combination of many independent macroeconomic variables. To construct portfolios with certain characteristics, such as risks, Fama and French developed multifactor risk model in 1992. To date, Bank International Settlement (BIS) has adopted value-at-risk (VaR) as a standard since 1998, after it was developed in 1994 by JP Morgan. Hence, the chronology extended with the concept of risk was brought up to date, from measurement to precision in the 50 years later.

In Islamic finance, many studies such as the ones conducted by Khan and Ahmed (2001), Sundararajan and Errico (2002), Elgari (2003), Tariq (2004), Akkizidis and Khandelwal (2008), Greuning and Iqbal (2008), Siddiqui (2008), Eid and Kamal (2012), Febianto (2012), and Al-Suwailem (2013) have focused on risks that are particularly aimed at being controlled risks and how to manage them in a way of that reduces "bad effect" in decision making. Due to that, the issue of how the risk originally exists and why it is perceived as a bad effect instead of a good one should first be answered. Although the concept of risk from western studies originally derived from the fate or will given

Table 1. Summary of Comparison on Risk From Conventional and Islamic Perspectives.

Conventional perspectives	Islamic perspectives
Fate coming from God	Originally from God's fate
Limited sound evidence on risk as harmful effect	Risk as destruction, evidence from Al-Baqarah, 2:195
Found to be neutral in the context of gambling	Very close to *khatr* (an exposure to damage)

Source: Author's summary.

by God, it was found that they have limited sound evidence to categorize the God's will (risk) as an unfavorable result. Therefore, there is a need to discuss on what the meaning of God's will is from an Islamic perspective in the context of risk to identify the basic concept of a risky situation, whether it really produces a good or bad outcome.

In Islam, a set of evidence related to the origin of risk can be identified from the command of God in a Quranic verse:

> And spend in the way of God and do not throw [yourselves] with your [own] hands into destruction [by refraining]. And do good; indeed, God loves the doers of good. (Al-Baqarah, 2:195)

From this verse, God explained that He does not allow us to throw ourselves into destruction. The meaning of destruction here is very close to an earlier description of *khatr*, which is an exposure to damage. Noting that, the concept of risk itself has already been recorded in the Quran through God's command which means a bad outcome. It is proven to answer the issue of whether a risk brings about a good or bad outcome. In a specific context of risk, if a product or service was exposed to damage and not being managed properly, it will face destruction. This discussion shows that the verse of Al-Baqarah (2:195) is proven to describe risk as unfavorable outcome. Therefore, risk in conventional practice slightly differs from Islamic practice in terms of this evidence. Table 1 provides a summary of comparison on risk from conventional and Islamic perspectives.

There is a Hadith supporting the verse Al-Baqarah (2:195) where it describes the practice of risk management. An example of the concept of risk management in Islam can be explained through the famous command from Prophet (p.b.u.h.) to a Bedouin. The Prophet (p.b.u.h.) asked the Bedouin why he left the camel untied. The Bedouin answered, "I trust in God." Hence, the Prophet (p.b.u.h.) said, "Tie your camel, then trust in God." From the Hadith, it explained that Prophet (p.b.u.h.) commanded the Bedouin not to leave his camel untied then trust in God. Instead, the Bedouin was commanded to tie his camel then put his trust in God. It clearly shows that even though everyone should rely on God's will, people should always think clearly and wisely to make the best decision for their actions in certain circumstances as long as it does not violate the *Shariah* rules. The Hadith is significant in declaring the Prophet's order to his people to practice the rules with diligence to reduce unpleasant future outcomes (Hidrus & Abd Rahman, 2013; Laldin, 2013).

According to the above Quranic verse and Hadith, in both cases, God's will can be roughly classified as an unpleasant outcome to humans due to their actions where they are not alert to the probability of an unfavorable outcome to occur. It should be managed in the best way to reduce terrible damages. In another Quranic verse, God also gave a guide on how to manage risks in general. Furthermore, the Prophet Ya'kub said,

> O, my sons! Enter not all by one gate: enter ye by different gates. Not that I can profit you aught against God (with my advice): None can command except God. On Him do I put my trust: and let all that trust put their trust in Him. (Surah Yusuf, 12:67)

This verse explained Prophet Ya'kub's advice to his sons to make the best plan and seek various alternatives so that they will not fall into danger. It depicts a variety of approaches to manage and reduce risks. Since the sets of evidence of risk management have been presented, risk is believed to exist earlier than that. It took place earlier but was unofficially known as "risk." In Islam, risk management is essential in financial transactions. It falls within the ambit of one of the highest objectives of *Maqasid Al-Shariah*, which is the protection of wealth (*hifz al-mal*). The objectives can be achieved by the practices of Islamic financial system with *Shariah* principles and law.

Definitions of Risk

In the Oxford dictionary, "risk" is defined as "a possibility of harm or damage against something which is insured." When the word is used as a noun, its term means the possibility of loss or damage of money or property. As a verb, it means to put oneself or someone or something in danger, failure, or loss. In the fourth edition of *Kamus Dewan*, "risk" is referred to "the probability or danger of loss without considering the possible hazards and is also referred to the unpleasant outcome." These definitions also depend on the point of view of certain disciplines. For example, in finance, "risk" is defined as "the probability that an actual return on an investment is lower than the expected return." In a workplace, risk is the product of the consequence and probability of a hazardous event or phenomenon. In economics, according to Misman and Bhatti (2010), "risk" is known as "the existence of uncertainty about the future outcomes whereas the possibility of more than one outcome and the ultimate outcome is unknown or unclear."

In Islamic finance, the first systematic discussion on risks was produced by Elgari (2003), who defined the concept of *mukhatarah* (risk) as "the situation that involves the probability of deviation from the path that leads to the expected or usual result" and "the likelihood of loss." This is in line with Ibn Manzur (n.d.) in a book of *Lisan ul-Arab*, who explained the concept of risk in accordance with the Arabic language, as *mukhatir* or *mukhatarah* or *khatr*. The experts have revealed the meaning of *khatr* from the language parlance as an exposure to damages or very close to being perished. On the contrary, a majority of scholars have claimed that *khatr* has various meanings such as gambling (*maysir*), uncertainty (*gharar*) or compensation. Throughout his work, Elgari's emphasis is on the construction of theory that captures the unique concept of risk from the Islamic perspective. Hence, he used the linguistic approach by introducing the word *khatar* as an equivalent to "risk" in English. It wavers between existence and nonexistence. He suggested this term in the discipline of Islamic finance. Although other risks such as credit and investment risks are very much affiliated to financial and trade transactions, these risks are quite familiar because they exist in the contract of financial and trade transactions.

However, the lack of clarity is recognized because Elgari's analysis is arguably the most theoretically refined among those that have introduced the term in contemporary Islamic finance discourse. His treatment of the concept is obvious, focusing on the acts undertaken by human beings as the sources of expected results and on the known consequences of losses for the purpose of managing this risk. In his paper, he went as far as asserting that "risk as an ingredient of the process of arriving at financial decisions" and the purpose of studying risk is to "reduce its harmful effects in making decisions." The acts are not naturally given and must be constructed through a contractual basis embedded in the standardization of contractual relations, useable as reliable source of risks. Elgari's definition makes it clear that risk is decomposable into two elements: first, the act itself which allows human beings to make decisions which do not deviate from the right path and, second, the situation that leads human beings to deviate from the path.

The second systematic discussion on risks was produced by Althaus (2005) and Aygun (2007). They substantiated the derivation of risk from the Arabic word, *rizq* or *risq*, which means a portion, anything allotted (by God), livelihood, and from which you gain profit. To this conclusion, Elgari (2003) noted that whatever risk caused by human beings is viewed as coming from God and they should be pleased with it.

Many researchers highlight the third systematic discussion; among them are Elgari (2003), Dusuki and Smolo (2009), Ismail and Ahmad (2010), Abdullah, Shahimi, and Ismail (2011), and Bougatef (2015). They have defined risks based on the principles of jurisprudence (*qawa'id fiqhiyyah*). This principle deliberately shows a relationship of direct proportion between risk and return, that is, a link between profit and loss (*al ghunm bil ghurm*) or revenue corresponds to liability for bearing loss (*al-kharaj bid-dhaman*). Dusuki and Smolo (2009) categorized this discussion as the risk that is compulsory to be borne. For instance, Rosly (2005) highlighted that the seller should bear the risk of damage or depreciation of the merchandise before they are delivered to the buyer. The requirement of bearing risk on the part of the seller is a precondition for business transactions. As mentioned earlier, the basic approach to this principle is based on "*al ghunm bil ghurm*" where the return gained is adequate to the risk borne. The approach is formed based on the Prophet's (p.b.u.h.) Hadith[1]:

> Indeed, profit is the reward for the readiness to bear the loss. (Al-Nasa'i 2001: Ibn Majah)

The word "*dhaman*," in the *fiqh* parlance, refers to various meanings related to one another. Maliki, Shafi'I, and Hambali scholars used the word *dhaman* to refer to a guarantee (*kafalah*) in the sense of fulfilling the duty toward a person by another person. Meanwhile, Elgari (2003) explained that Hanafi scholars defined *dhaman* as the obligations to pay compensation toward the damage. Majority of the *fiqh* scholars have agreed to use this parlance in the context of bearing risk for adequate returns. By this definition, there should be a balance between risks and benefits of transactions. Al-Suwailem (2013) pointed out that an exposure to excessive risk is undesirable because the size of the possible loss is such that, if it eventuates, the consequences are likely to be socially harmful.

In addition, this definition should also be used along with the prohibition of earning profit without liability (or prohibition of riba such as interest payment and receipt) and of transaction involving hazard (*gharar*). It is related to the basic activities of acquiring wealth without legislation. There is no growth in reality where wealth is created. Among them is the risk that is prohibited due to an element of extreme uncertainty (*gharar fahish*). Also included in this category are *gharar* produced as a result of gambling (*maysir*) and zero-sum game that is forbidden by Islamic law (Al-Suwailem, 2000). Jurists have agreed that *gharar fahish* can make the contract void, especially *uqud mu`awadat* (Mohd Razif & Mohamad, 2011). An example of the most obvious *gharar fahish* currently practiced is gambling in any particular price paid for the unknown. The element of uncertainty could expose someone to that kind of illegal risk.

Islam also emphasizes that a risk is not a factor of prohibition to such contracts as long as it is not related to activities of obtaining invalid reward due to *gharar*. This is explained by Ibn Taimiyyah in *al-Fatawa al-Misriyyah*. According to him, God and Prophet (p.b.u.h.) allowed all risks because not every transaction which involved the probability of loss, gain, or neutral is prohibited. What is prohibited is the risk that causes one to have an invalid property. Even if the activities do not include risk, they would be prohibited (Ibn Taimiyyah, 1987).

The above findings have paved the way for a more refined definition of the same approach, namely, based on terminology-based and principle-based approaches. In their initial analysis of the definition, both Elgari and Aygun acknowledge the basis of terminology in deriving the definition of risk. However, in the later stage, Elgari concurs with other researchers that the meaning of risk should originate from the principles of jurisprudence because both approaches are equally important and we want to reach a consensus on the sources that lead to a deviation from the path that causes harmful effects.

Sources of Risk

The origin of the word "risk" is also argued in the literature. The 1660s saw that the word "risk" appeared in different languages such as *risqué* (French), *risco* (Italian), *riesgo* (Spanish), *risiko* (German), and *risiko* (Malay). In the beginning, philosophical creation of risks in its modern sense started by redefining a Latin word "probabilis." By this time, the European etymologies for the word "risk" were common parlance among numerous researchers. They also claimed the Latin word *riscum* where Latin-derived terms are *risco, riscare*, and *rischiare* (Althaus, 2005; Beck & Kewell, 2014). However, there is a healthy disagreement as to the true origin of its modern meaning.

Other derivatives appeared such as "risk taker" (1892), "risk factor" (1906), and "risk management" (1963). The phrase "risk management" leads us to find ways to maintain a good balance between risk and reward and carefully weigh potential profit against potential problems or threats to operational stability. There are a number of sources of risk in Islamic finance. The generic name is apparent after we have identified the definition of "risk."

Although in Islamic finance risks exist, as mentioned by Elgari (2003), the sources that lead to a deviation from the path that creates the harmful effects have not been clear. Today, we tend to discuss the sources of risk in terms of deviation from the optimum solution or process, usually described in terms of expected loss. The optimum solution is a condition where the "contract" in which any changes to certain circumstances will cause risk to occur. It can be considered as a basic hypothesis for the source of risk. This has been theoretically defined by Keskitalo (2006) where he provided the view of a relationship between contracts and risks in different ways. In selected approach to contracts and risks, he discovered three examples of circumstances which involved legal risk, contract risk, and business risk.

First, Keskitalo (2006) explained that contracts themselves will most likely be seen as a source of risks when the contracts found in such circumstances are understood as legal instruments. This view is valid if a party chooses the contracts and contracting activity of businesses and other organizations from the legal risks perspective. The perception of contracts as sources of risk seems to be lean more toward an analytical perception of liability risk, also known as asset risk. This is because the contracts always deal with contractual relationships attached with rights and liabilities.

Second, other than sources of risks, if a party chooses to approach contracts from the concept of contract risks, the details of the contracts will be the main focus to deal with the risks that the contracts are surrounded with. In Islamic finance, this type of risk is often related to the various financial contracts. The applied principle of *Shariah* has brought about a concept where one potentially engages with such contract risk that is *Shariah* risk in which if the change of circumstances deviates from the compliance requirement, the risk does exist. Therefore, the risk is most likely depended on the details of the contracts. Finally, Keskitalo (2006) also added that the contracts are no longer hypothesized merely as sources of risks if a party chooses contracts from the perspective of business risks and views the contracting activity as another division of the organizations' activities. However, its concept is defined as tools for the management of business risk besides the contract and liability of legal risks.

Meanwhile, the discussion of sources of risk should be followed by the differentiation of risk and uncertainty. This is due to the concept that both terminologies differ. What we look into is the risk in economy especially in financial contracts, while the existence of uncertainty (*gharar*) in financial system will cause the contract to be void. These can be further explained in the following discussions.

Risk Versus Uncertainty

The definition relating to the concept of epistemological risk must be recognized earlier from the nature of economics literature. This is intrinsically important in expressing the epistemological definition of risk in the point of risk characteristics to explain something different from uncertainty. The best basic way to differentiate risk and uncertainty is through their definitions. Earlier researcher, Knight (1964) drew a distinction between risk and uncertainty in the following manner. He proposed that this distinction was important for an economic theory because uncertainty affords opportunities for profit that does not exist in certain situations, whereas risks can be calculated.

Most of the studies, such as Hertz and Thomas (1983), Althaus (2005), Mohd Razif and Mohamad (2011), and Hidrus and Abd Rahman (2013), defined that both terms are different from each other. Although the idea of risk and uncertainty is related to the unknown, they agreed that risk is closely referred to an attempt to "control" the unknown by applying knowledge based on the orderliness of the world. This is due to the fact that risk is something that lacks predictability of structure, outcomes, or consequences in a decision making or when planning a situation. Hence, risk requires sound knowledge to understand how uncertainty and

Table 2. Disciplinary Perspectives on the Epistemological Status of Risk.

Disciplines	How risk is viewed	Knowledge applied to the unknown
Mathematics and Logic	Risk as a calculable phenomenon	Calculations
Science and Medicine	Risk as an objective reality	Principles, postulates, and calculations
Social Sciences		
Anthropology	Risk as a cultural phenomenon	Culture
Sociology	Risk as a societal phenomenon	Social constructs or frameworks
Economics	Risk as a decisional phenomenon, a way of securing wealth or avoiding loss	Decision-making principles and postulates
Law	Risk as a fault of conduct and a judicable phenomenon	Rules
Psychology	Risk as a behavioral and cognitive phenomenon	Cognition
Linguistics	Risk as a concept	Terminology and meaning
History and the Humanities		
History	Risk as a story	Narrative
The Arts (literature, music, poetry, theater, art, etc.)	Risk as an emotional phenomenon	Emotion
Religion	Risk as an act of faith	Revelation
Philosophy	Risk as a problematic phenomenon	Wisdom

Source. Althaus (2005).

complexity can be managed. Hertz and Thomas (1983) tend to distinguish risk and uncertainty by stating that risk is suitably related to the concepts of chance such as the probability of loss or the probability of ruin. That means that a risk is a known–unknown where the probabilities exist and are assignable involving likelihood and frequency of occurrence.

On the contrary, uncertainty (as opposed to risk) has been the subject of extensive literature. It denotes the totally random unknown, as well as cannot be predicted or controlled. Contradictory to risks, it is such unknown–unknown due to the probabilities that can be undefined. Hertz and Thomas (1983) highlighted that the situation of uncertainty arises when a consensus or agreement among the set of experts cannot be achieved. There is an undefined probability distribution on the set of outcomes. In Islam, a few researchers have distinguished uncertainty from risk through the Arabic word, *gharar*. Rosly (2005), Dusuki and Smolo (2009), Mohd Razif and Mohamad (2011), and Hidrus and Abd Rahman (2013) agreed with the literal meaning of uncertainty through the word "*gharar*," that is, danger, fraud, and mistake. In terms of Arabic language, *gharar* is a derivative of the verb *gharra* which means trickery, to deceive, to delude, and to mislead. Among *fiqh* scholars, *gharar* is identified as a type of uncertainty (Al-Saati, 2003). Therefore, Prophet (p.b.u.h.) prohibited *gharar* due to its speculative nature that may lead to disputes, unfair gains or "eating other people's wealth unlawfully." According to Ibn Taimiyyah, *gharar* describes selling things with an unknown fate. Selling such things is *maysir* and *gambling* (Al-Suwailem, 2000). Consequently, *gharar* can be defined as the sale of probable goods whose existence and/or characteristics are not certain and due to these reasons, the trade is akin to gambling.

From the above discussion, we have arrived at a simple conclusion that risk is necessary for a valid contract and that its excessiveness combined with elements of uncertainty (*gharar*) can cause a contract to be invalid.

Risk From Economic Perspectives

To date, risk has been understood by economists as an exclusion of prohibited conditions that results in a void transaction. They view risk as a decisional phenomenon, a way of securing wealth or avoiding loss that needs the knowledge of decision-making principles, postulating and calculating risks (Table 2). Generally, every discipline has a different view of risk. It depends on the perspective of the epistemology of risk where a different knowledge is applied to that known–unknown. Hence, the generic name of risk derived from how each discipline views risks.

Risk is inevitable in economic activities where it is seen as "part and parcel of financial intermediation" (Akkizidis & Khandelwal, 2008). Meanwhile, the generic name of risk from the perspective of economic science can also be seen from various dimensions. This is because there are various ways to classify risk until the derivation of its generic names. The classification of risk depends on the outcome (result), loss, or the nature of such risk and it also depends on contracts involved, facility, and hardship faced by an individual.

Basically, there are studies that have divided risk into several categories. Mohd Razif and Mohamad (2011) categorized risks into systematic and nonsystematic risks. Systematic risks are related to the movement of the entire economy, the growth of the industry, and all considerations that can affect the overall price level. For example, changes in interest rates, recession, and war. The above-mentioned factors can result in having a systematic risk because they affect market conditions. In fact, the systematic risk is a risk

that cannot be eliminated or controlled by diversifying risk because the instability of the risk is influenced by macroeconomic factors, whereas nonsystematic risk can be controlled or avoided through diversification. This is because the risk exists only in a particular company or industry. Several factors that lead to unsystematic risk are poor management, financial position, and earnings. Therefore, these risks can be traced through the reading and analysis of company data and information. By referring to the company's annual financial statements, there is a high possibility of this type of risk to exist.

In addition, Khan and Ahmed (2001) have categorized risks into business risk and financial risks. According to them, business risks arise from the behavior of a business such as market risk, credit risk, liquidity risk, and so on, whereas financial risks arise from the probability of losses in the financial markets caused by the movement of financial variables such as foreign exchange rate risk, equity risk, interest rate risk, and commodity price risk.

Al-Saati (2002) and Dusuki and Smolo (2009), however, discussed the division of risks into primary and secondary risks. The primary risk refers to a risk that cannot be avoided and it is interrelated to each business, whereas secondary risks can be eliminated or hedged using derivative financial instruments. Although the primary risk cannot be eliminated as a whole, a part of the risk level can be reduced. For example, a farmer cannot eliminate the price risk but he can reduce the risk by entering the market forward with contracts. He can sell part or all of the harvest to be obtained later in the present.

In Islamic finance, instead of having a generic risk, institutions offering Islamic products and services face additional risks, namely, a unique risk. The unique risks reflect the mix of risks exposed by Islamic financial institutions and risk-sharing arrangements resulting from the contractual design of instruments (Sundararajan, 2007). Accordingly, risks faced by Islamic banks may differ either in terms of the risks' structure or severity compared with conventional banks. For instance, providing home-financing facility under *musharakah*, Islamic banks are exposed to two additional risks compared with conventional banks providing the same facility, namely, equity risk resulting from the asset ownership and *Shariah* risk.

Each risk category that has been mentioned above is part of the types of risk that can be further discussed. There are many other risk categories that have been identified based on the understanding of an individual or organization. What this study is concerned with is the forms of risk which cause difficulties and harmful effects where the risks should be possibly eliminated or, at least, reduced to a minimum. To date, various approaches have been taken to manage risks such as buying an insurance policy, diversifying portfolios, or buying derivative contracts. Based on that note, Islam also has its own perspective on the concept of risk management which will be presented in the next section.

Applications of Risk in Islamic Finance

In capital management of Islamic financial institutions, risk is a part of financial transactions. Thus, it should be taken into consideration. This is because Islamic financial institutions need to set the capital adequacy requirement based on identified risks exposure. The capital acts as a buffer to absorb losses because in a financial system, losses are related to risk. Daher, Masih, and Ibrahim (2015) in a study of determinants of Islamic financial institutions' capital buffers evidently revealed that there are influences of displaced commercial risk (DCR), rate of return (ROR) risk, and equity investment risk exposure on Islamic financial institutions' capital buffers. In other words, Islamic financial institutions should identify the risk exposure to adequately balance the risk and capital.

According to capital regulation in IFSB, Committee on Banking Regulation and Supervisory Practices requires all banks to maintain a minimum capital of 8% from risk weighted asset (RWA) of the banks since the capital adequacy framework was altered in 1990. This is termed as minimizing risk for banks. In addition, for specific Islamic financial institutions, Islamic Financial Services Board (IFSB) has issued The Capital Adequacy Framework for Islamic Banking institutions (RWA; the Framework) that specifies the measurement methodologies for the purpose of calculating RWA for credit risk, market risk, and operational risk, respectively. The financial regulator may specify an additional buffer requirement for an Islamic banking institution, with specific regard to risk profile of the institution.

Risks in Islamic financial institutions are slightly different from their conventional counterparts. Nevertheless, both need to possess adequate capital to absorb exposure to risks. Whether they are conventional or Islamic financial institutions, researchers such as Greuning and Iqbal (2008), Laldin (2013), and Srivastava and Subramaniam (2013) agreed that they are exposed to various risks in their operations. The risks generally fall into four categories such as financial, operational, business, and event risks (El Tiby, 2011). It would be expected that some Islamic financial institutions risks will resemble those encountered by conventional financial institutions, that is, credit, market, liquidity, and operational risks. Even so, Islamic financial institutions face a unique mix of risks due to the contractual design of instruments applied (Sundararajan, 2007). Accordingly, Islamic financial institution's risks may differ in terms of the origin of risks compared with conventional institutions. As mentioned before, by providing home-financing facility under *musharakah*, Islamic financial institutions are exposed to two additional risks from the same facility provided by conventional institutions that is equity risk as a result of the asset ownership and *Shariah* risks.

Consequently, Islamic financial institutions face two types of risk while operating their business. First, Islamic financial institutions face risks which are similar to the ones

faced by conventional financial institutions. Second, they face unique and specific risks. The second type of risk arises from contractual design which ought to comply with *Shariah* rules and principles. The prohibition of interest determines the nature of their financial services and contracts that can be offered by Islamic financial institutions and their associated risks (Ahmed & Khan, 2007; Sundararajan & Errico, 2002). Nevertheless, the existence of risk in financial transactions, particularly in Islamic financial institutions, has become a source of argument from various perspectives. There is a common perception on Islamic banking where the industry is assumed to be safer than its conventional counterparts because it is not based on interest rates. Another argument is that several of the products use a marked-up arrangement so that they carry less risk. However, these points of view are understatements and they are not entirely true. This is because Islamic financing relies more on equity financing rather than debt financing, hence inherently riskier (Akkizidis & Khandelwal, 2008).

Sundararajan and Errico (2002) agreed with this argument where Islamic financial institutions with Islamic banking institutions as a major part can be riskier than conventional financial institutions due to the specific nature of contract risks, namely, the unrestricted number of ways to finance a project using either profit and loss sharing or nonprofit and loss sharing contracts. Another factor that renders Islamic financial institutions riskier than its companion is might be due to the nonstandard practices in each type of contract. As discussed earlier, Islamic financial institutions have to deal with the new risk as a result of the uniqueness in asset and liability structure. This is due to the compliance of *Shariah* requirement (El Tiby, 2011; Khan & Ahmed, 2001). This makes Islamic financial institutions slightly different from conventional financial institutions in terms of risk exposure. Meanwhile, the capital owners in Islamic financial institutions face the unique nature of risk in accordance with the types of financial instruments used, the people hired to manage the banks, and the degree of transparency (Hassan & Dicle, 2005; Rosly & Zaini, 2008). As Islamic financial institutions offer various types of contracts, the risks exist in their operations. Due to that, in a capital management approach, Islamic financial institutions require adequate capital to adapt to these risky circumstances.

Notwithstanding, the financial regulator highlighted that regulatory capital requirements seek to ensure the risk exposures faced by Islamic financial institutions are backed by an adequate amount of capital to absorb losses. This ongoing concern is to ensure the continuing ability of Islamic financial institutions to meet its obligations if they were to fall due to financial instability. Besides, it also preserves the confidence of customers, depositors, creditors, and other stakeholders to deal with the institutions. In a financially difficult situation, capital requirements also seek to further safeguard the depositors and other senior creditors by promoting an additional cushion of assets that can be used to meet claims in liquidation. Hence, this is also a part of risk management purposes.

After the period of subprime crises and an ongoing European debt crisis, risk management becomes a crucial activity for all institutions. The activity is not only important in conventional institutions but also practically allowed in Islamic financial institutions. Due to this, we discuss risk management as one of the subjects of generic risk associated with regulatory capital requirements for Islamic financial institutions. There are following discussions on risk management from Islamic perspective.

Risk Management From Islamic Perspective

Risk management is permissible in Islam (Abdul Kader Malim, 2015). Its concept is acceptable to contemporary Islamic scholars based on the Quranic verse (Al-Baqarah: 282) which requires Muslims to record debt or provide witnesses, and the supporting Hadith (Sunan al-Tirmidhi: 2517) which requires Bedouin to tie the camel before leaving its fate to God (*tawakkal*). Therefore, the management must be parallel with *Shariah* principles because it involves the process of protecting individuals or their properties from facing the probability of loss. It considers the protection of wealth (*hifz al-mal*) as a value which is emphasized in Islam. From the Islamic perspective, risk is allowed and it differs from *gharar* which is prohibited.

God's command regarding the forbidden ownership of the property of others has also been recorded in the Quran. One of the Hadiths of Prophet Muhammad (p.b.u.h.) stated that the safety and property of others cannot be contested; any form of violation of property rights is a property crime. Prophet (p.b.u.h.) also encouraged the sharing of business risks in line with the intention of sharing profits and losses as well as providing mutual assistance and cooperation between one another. This is evident through a Quranic verse which says,

> And cooperate in righteousness and piety, but do not cooperate in sin and aggression. And fear God; indeed, God is severe in penalty. (Al-Maaidah, 5: 2)

> What is [wrong] with you? Why do you not help each other? (As-Saffat, 37:25)

For example, *musharakah* product is based on a capital partnership and joint venture. Each member of the business works on the capital and enjoys the profit and loss of the business together. For products of *mudharabah*, the profit and loss are shared between investors (*rabbul mal*) and entrepreneurs (*mudharib*). Although investors only provide capital and surrender the management of the business to its operators, in the event of a risk or business failure due to the negligence of the operator accidentally, the employer will not have to pay compensation to the investors.

There are also some other verses of the Quran that explained the importance of risk management. God says in Surah Yusuf verses 46 to 49:

> He said: Yusuf, O man of truth, explain to us about seven fat cows eaten by seven [that were] lean, and seven green spikes [of grain] and others [that were] dry—that I may return to the people; perhaps they will know [about you]. [46]
>
> Yusuf said: You will plant for seven years consecutively; and what you harvest leave in its spikes, except a little from which you will eat. [47]
>
> Then will come after that seven difficult [years] which will consume what you saved for them, except a little from which you will store. [48]
>
> Then will come after that a year in which the people will be given rain and in which they will press [olives and grapes]. [49] (Surah Yusuf, 12: 46-49)

In this *Surah*, it is narrated, how the Prophet Yusuf interpreted the dreams of the king of Egypt, where Egypt would face a 7-year drought after 7 years full of prosperity. Based on that interpretation, the Prophet Yusuf a.s. then proposed a plan for dealing with those critical years. The plan is that the Egyptians needed to grow food during the 7 years of prosperity and keep most of it. This should be carried out so that they would be ready when the drought struck for the next 7 years.

Yusuf was then appointed by the king of Egypt as Minister of Agriculture. As the Minister of Agriculture, he implemented a plan that has been framed. As a result, Egypt survived when drought hit and lasted for 7 years. This is a clear evidence of risk management, where the risk of hunger and starvation was reduced by growing food and keeping most of it during the first 7 years—the years of prosperity. This proves that risk management is essential and permissible in Islam as a preparation to face a loss in the event of disasters and undesirable circumstances. Yusuf a.s. was a smart person and could help the administration of Egypt perfectly because he was intelligent and capable in solving the problems encountered. Although the concept is different from the management of financial risk, it shows that the decision has been right and appropriate to reduce the risk.

There are three basic guidelines in Islam. First, humans are not the real owner of properties and resources. This is because God (Allah s.w.t.) is the absolute owner of this world and everything in it. Second, there are instructions and guidance for any action, including the taking-over and development of resources. Third, the ultimate goal of Islam is to achieve prosperity in society as individuals are also encouraged to earn a living with their own effort. Indeed, Islam requires that for whatever is done in the world needs to be based on Islamic principles. Risk management is also not an exception in the implementation of businesses according to Islamic laws.

Risk Management in Islamic Financial Institutions

Risk management is recognized as a main activity for all institutions specifically after the recent subprime crisis and an ongoing European debt crisis. The financial industries experienced a rude awakening from crises occurred. It started when the oldest London merchant bank—Barings PLC reported collapse in 1995, Sumitomo Corporation lost US$2.6 billion on copper derivatives in 1996, Metallgesellschaft AG lost DM1.8 billion on oil futures, and Orange County California lost on interest rate derivatives. More recently, the United States's second and fourth largest banks, Bank of America and Wachovia were wiped out by the subprime crisis, with multibillion dollar write-downs (Tafri et al., 2011). In East Asia, financial institutions were badly affected during the 1997 financial crisis. Earlier on, the first Islamic bank in Malaysia, Bank Islam Malaysia Berhad (BIMB), reported loss in 2005.[2]

Many of the losses could have been avoided if an effective risk management strategy had been practiced. It practically helps to protect the banks from financial losses such as credit risk from subprime mortgage crisis. Generally, banks and organizations use two approaches for risk management strategies. The first one involves risk decomposition and the other involves risk aggregation. Banks practically use both approaches when managing market and credit risk. Both approaches are needed to sustain business growth and continued profitability of the banks where both conventional and Islamic financial institutions are required to possess strategies to manage risks.

In managing risk, the banks need sufficient capital called capital buffer to counter the losses. The capital buffer plays a role as an absorber of unexpected losses, that is, risk absorber. The amount of equity and the forms of capital held reflect the ability of absorbing losses (Abdullah et al., 2011). In this context, the capital acts as a protector of the bank from unfavorable outcomes. As the banks are subjected to banking regulations, their depositors and stability of financial systems are protected by capital requirements. The settings are mainly designed for banking institutions based on international standards supervision. An example includes the Basel II capital requirements.

The Basel II is structured based on three "Pillars." Pillar 1 deals with a new approach for credit risk and a new capital charge for operational risk. The minimum capital requirements that need to be held for credit risk are calculated in a new way which reflects the credit ratings of counterparties, whereas the RWA for operational risk is set as 12.5 times the calculated operational risk capital. Pillar 2 addresses the supervisory review process from the standpoint of the supervisor's responsibility to promote the safety of the banking system. Supervisors are required to do more than just ensuring the minimum capital requirement held. Among their critical role is to encourage the banks to develop and use better risk management techniques. Pillar 3 lays down

market discipline. It requires a minimum number of public reporting standards on risk and risk management intended in enhancing the ability of market participants in the awareness of a bank's risk profile. In relation to this, the adequacy of its capital thus involves such market discipline in the capital adequacy regime.

The document of IFSB issued in 2005 has set number of principles for Islamic financial institutions regarding the risk management. Among the objectives are to ensure Islamic financial institutions comply with the *Shariah* rules with the prohibition of interest as the main element, applying *Shariah*-compliant risk mitigation techniques and complementing the Basel Committee on Banking Supervision's (BCBS) guidelines on risk management to accommodate the specific needs of Islamic financial institutions (El Tiby, 2011).

Nonetheless, the issues related to risk management in Islamic financial institutions requires significant attention. This is because some risks arise due to the nature of Islamic financial institutions themselves. In fact, these additional risks are associated with specific Islamic contracts and business model arising from compliance with *Shariah*. In assessing risk management system in these institutions, there is a need to understand some of these risks by examining the various items of asset and liability sides in their balance sheet (Ahmed, 1997). Therefore, managing risks in Islamic financial institution demands thorough investigation on where some of these risks are originally derived.

Conclusion and the Way Forward

Based on the above discussions, there is a great importance in the development of researches related to risks in Islamic finance to ensure an in-depth understanding of risk origin from the Islamic perspective. Most of the existing researches emphasized on how to manage risk rather than where the risk is derived from, particularly from Islamic point of view.

Although the origin of risk is quite difficult to be traced back due to the word "risk" only appeared in later centuries, the concept of risk is found to be practiced by our forefathers in certain circumstances. This could be an evident to that, without using the specific word "risk" to describe actions, people during the centuries have exercised risk concepts in their practices. The earlier western academic works and Islamic sets of evidence found the risk could originally derive from God's will. The Quranic verse of Al-Baqarah, 2:195, gives explanation to this by classifying risk as destruction which means closely to an exposure to damage that can creates harmful effects.

The potential sources that lead to a deviation from the path that creates harmful effects are described based on the contracts. If the contracts found in such circumstances that are understood as legal instruments, the contracts themselves are known as sources of risks. In Islamic finance, the applied principle of *Shariah* has brought about a concept where one potentially engages with such contract risk that is *Shariah* risk if the change of circumstances deviates from the *Shariah* compliance requirement.

In an application of risk, the unique nature as well as variety of financial and investment activities has its own risk characteristics which affect both sides of the balance sheet of Islamic financial institutions. To manage such those risks, Islamic financial institutions should take into account the risks in their transactions so that the capital can adequately absorb the risks involved.

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Notes

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2. See Ramli et al. (2016).

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