

# FINANCIAL RISK MANAGEMENT IN SYARIAH CONTRACTS: A Review of Current Literature

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**Abstrak: Manajemen Risiko Finansial dalam Kontrak Syariah: Suatu Tinjauan Literatur Mutakhir.** Secara teori, sistem *musyârahah*, *mudhârabah* dan *murâbahah* merupakan konsep kerja sama bisnis paling ideal. *Musyârahah* dan *mudhârabah* merupakan kontrak bisnis yang telah dikenal sejak awal sejarah Muslim. *Musyârahah* menempatkan para pihak pada posisi yang berimbang pada hak dan kewajiban dalam bisnis sesuai proporsinya. Tulisan ini berusaha mengelaborasi pandangan mutakhir tentang risiko keuangan dalam produk perbankan. Penulis menyimpulkan bahwa pada praktik perbankan syariah, *musyârahah* dan *mudhârabah* hanya menempati porsi yang kecil dibanding *murâbahah*. Dua produk tersebut cenderung menimbulkan *moral hazard* dan *adverse selection* sehingga teori keagenan dan asimetri informasi dapat memberikan penjelasan yang baik terhadap problem *musyârahah* dan *mudhârabah*. Selain itu, konsep *profit-loss sharing*, berdasarkan penelusuran penulis terhadap literatur kontemporer, juga masih kontroversial dan konsep ini rentan terhadap penyimpangan moral.

**Abstract:** Theoretically, the *musyârahah*, *mudhârabah* and *murâbahah* systems are the most ideal concept of profit loss sharing business. *Musyârahah* and *mudhârabah* are business contracts recognized since the beginning of Islamic history. In *Musyârahah* contract, each contracting parties are considered equal in their rights in doing business contract. This writing attempts to elaborate the latest views on financial risk in banking products. At the practical level, the writer concludes that *musyârahah* and *mudhârabah* constitute minor portion than *murâbahah* in the overall Syari'ah banking transactions. These products of Syari'ah banking tend to lead to *moral hazard* and *adverse selection* and thus agency theory and information asymmetrical explain the inherent problem well. In addition, the concept of *profit-loss sharing* according to the writer is still controversial which is also vulnerable to moral hazard.

**Keywords:** risk management, Syariah banking, *musyârahah*, *mudhârabah*, *murâbahah*

## Introduction

I attempt to evaluate the issues of financial risk management in Syariah financial institutions. Syariah financial institutions have unique products, which are different from conventional banking products. The main uniqueness of syariah product lies in its profit loss sharing feature as opposed to interest or fixed rate contracts in conventional banking. These differences bring in distinct consequences. I attempt to evaluate these consequences through theoretical or conceptual and empirical approaches. There are various papers discussing this issue. I attempt to review papers by Aggarwal and Yousef (2000), Febianto (2012) for the conceptual approach, and papers by Boumediene (2011), Tafri, Rahman, and Omar (2011), Hutapea and Kasri (2010), Chong and Liu (2009) for the object of study.

This issue is of interest since *mudaraba* and *musyaraka* can be implemented well in business by early Muslim generation. This point is supported by various narrated hadith. This practice was implemented by prophet Muhammad when he has business contract with Khadījah – later on she became his first wife–, before he became the prophet. Ulama (Muslim clerics) agree and accept that *musyaraka* and *mudaraba* practices are forms of business alliance or business cooperation. This conclusion is supported by the fact that there are few controversies among Muslim scholars on this issue. Moreover, for *mudaraba* contract, most ulamas agree that suppliers of the capital (stockholders or *sahibu al-mal*) are not allowed to as for guarantee or collateral to businessman (*mudarib*).<sup>1</sup> Business guarantee in this context a trust. Guarantee other than a trust is not allowed. Guarantee from a trust shows that *mudaraba* contract is built using principle of trust among stakeholders and businessman. From various narrated hadith, there seem no agency conflicts among business stakeholders. This conclusion is drawn from the fact that there seem no studies on the agency conflicts and information asymmetry among business players in fiqh ulama (clercks).<sup>2</sup>

*Musyaraka* and *mudaraba* (*muqarada*) can be accepted and implemented as a method of business cooperation in early Islam history. Conceptually, *musyaraka* is the most ideal business form, since *musyaraka* places business players in equal position in terms of their rights and obligations. *Mudaraba* is a profit sharing contract, while *musyaraka* is a profit

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<sup>1</sup>Abdullah Saeed, *Islamic Banking and Interest* (Leiden: E.J. Brill, 1996), p. 54.

<sup>2</sup>Phenomenon of information asymmetry is probably already known in prophet Muhammad era. Prophet Muhammad prohibited transaction in the mid way to market, by stopping merchants before they arrive in the market (*talaqqi ruqban*). The prohibition is based on an argument that information possession is different between merchant and buyers. Merchants do not know yet the newest information, while buyers already acquire the newest information. Possession of new information by one party (buyers in this case) may create excessive profit, above normal or natural level of profit, so the merchants are at a disadvantage. However, the study emphasizes moral and ethical issues, rather than agency conflicts. Thus studies of agency conflicts is not known in early Islamic business literature.

and loss sharing contract. These two contracts are those based on syariah principles, with fair or just participation among business players.<sup>3</sup>

Profit loss sharing is known as a basic operating concept in syariah banking, as an opposite of interest based banking known in conventional banking. In reality, this concept is not implemented successfully in syariah financial institutions. Proportions of contracts with profit-loss sharing is low in syariah banking in all countries. I believe that syariah banks experience implementation problems, since there is a trade-off between syariah compliance and the interests of investors and bank depositors.<sup>4</sup>

I believe the contribution of this study will be of great importance in the novelty of it's discussion. Nonetheless, this paper does not mean to be exhaustive. The discussion will begin with the characteristics of Syariah financial products as background study, which then followed by section discussing conceptual approach, The main theme of the paper will be discussed in the proceeding section which then concluded in the overall study as well as its implication towards the Islamic economic studies.

## The Nature of Islamic Law of Contracts

Islam prohibits *riba*. The definition of *riba* is still a controversial issue. Some scholars believe that any kind of interest or rate of return fixed in advance is considered *riba*. Other scholars argue that *riba* is usury in the sense that it places an excessive rate of return. Thus interest rate may not be a *riba*, if interest rate is not excessive. Some other scholars argue that interest rate for consumption credit shall be classified as *riba*, since it puts heavy burden on the debtors who are usually in need of money.<sup>5</sup> However, interest rate for investment credit shall not be classified as *riba*, since the interest rate in this context is a natural consequence of business contract. Although there is still ongoing controversy over the definition of *riba*, most moslem scholars seem to agree that interest is *riba*, hence it should be banned from any transaction.<sup>6</sup>

Syariah financial institutions attempt to institutionalize the prohibition of interest. The purest form of financial contracts that abide the prohibition of interest is profit-loss

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<sup>3</sup>Assem Safieddine, "Islamic Financial Institutions and Corporate Governance: New Insights for Agency Theory," in *Corporate Governance: An International Review*, 2009, 17(2), p. 144.

<sup>4</sup>*Ibid.*, p. 144.

<sup>5</sup>Saeed, *Islamic Banking*, p. 41-50.

<sup>6</sup>Wafica Ghoul, "Risk Management and Islamic Finance: Never the Twain Shall Meet?," in *The Journal of Investing*, Fall, 2008, p. 3. In Indonesia, the prohibition of *riba* was confirmed by stipulation of MUI No. 1. Year 2004, about *Riba*. The controversy whether bank interest is a *riba* or not is still discussed in Fiqh study. The controversy classifies interest bank into three categories: *halâl* (permitted), *haram* (prohibit), and *subhat* (probably better if we abandon). Each category is supported by its arguments. Current Islamic economics which becomes a operational reference for syariah financial institutions decides to opt out from the controversy and decides that an addition to money is interest, and interest is *riba*, and *riba* is prohibited.

sharing contracts. However, Syariah financial institutions also offers various contracts that are not as pure as profit-loss sharing contracts. Some scholars considered that these other types of contracts are similar to debt or interest based contracts. Thus syariah financial institutions offer *Musyaraka*, *mudaraba*, *istisna'*, *salam*, *ijarah* and *murabahah* as their main contracts. Some scholars classify syariah contracts as no-debt creating and debt-creating contracts.<sup>7</sup> Example of non debt-creating contracts are *musyaraka* and *mudaraba*, while other types of contracts can be classified as debt-creating contracts (*Ijarah* and *murabahah* for example). Other scholars classify syariah financial contracts as original syariah contracts as opposed to reshaped syariah financial contracts.<sup>8</sup> Example of original financial contracts are *musyarkah* and *mudaraba*, while example of reshaped syariah contracts are *Ijarah* and *murabahah*.

Bank interest is prohibited on the ground that *riba* is not consistent with fairness or just principle. Money is not a commodity that can be used to produce something (profit) with interest mechanism. Another aspect prohibited by Islam is *gharar* or dubiousness, which is considered business cheating or manipulation. *gharar* creates uncertainty in business transaction. *Gharar* also does not have legal consequences. *Masyir* or gambling is prohibited on the ground that business gains profit in non-natural way, and with unrealistic expectation.<sup>9</sup>

In the next sub-section I review the main contracts for syariah financial institutions: *musyaraka*, *mudaraba*, *salam*, *ijarah*, *istisna*, and *murabahah*. From this review, I will draw some implications, particularly as related to the financial risk management of syariah financial institutions.

### ***Musyaraka and Mudaraba***

*Musyaraka* and *mudaraba*<sup>10</sup> are two types of contracts considered to be the purest form of syariah financial contracts. *Musyaraka* and *mudaraba* offer partnership program between syariah financial institutions and their counterparties. *Musyaraka* is derived from business relation, which in Fiqh is called *shirka al-amwal*. A profit-loss sharing has to be defined in advance, before business starts. Profits are distributed after the actual

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<sup>7</sup>Monzer Kahf, "Maqasid al Shari'ah in the Prohibition of Riba and Their Implications for Modern Islamic Finance," in *Paper prepared for the IIUM International Conference on Maqasid al Shari'ah*, August 8-10, 2006, p. 7.

<sup>8</sup>M. T. Uthmani, *An Introduction to Islamic Finance* (Kluwer Law International, The Hague., 2002), p. 7.

<sup>9</sup>Md. Abdul Awwal Sarker, "Islamic Business Contracts, Agency Problem and the Theory of the Islamic Firm," in *International Journal of Islamic Financial Services*, Vol. I, No. 2, p. 1-2.

<sup>10</sup>The terminology of *mudaraba* was known in Iraq, *mudaraba* is contract between two parties whereby called *saḥibu al-mâl/ rabb al-mâl* (investor) and the other called *mudarib* for the purpose performing the trade for the profit. This kind of partnership had been known in Madina as *muqarada* (*qiradh*). Saeed, *Islamic Banking*, p. 51; al-Zuhailî, *al-Fiqh al-Islâmî wa 'Adillatuh* (Damaskus: Dâr al-Fikr), p. 836.

profit of the business is calculated. Profit sharing can be defined, but not necessarily, from the percentage of the partner's participation in the capital. If there is a loss, it is shared between the partners according to the ratio of their participation in the partnership. Participation in a partnership can be either with money or with other types of asset such as illiquid assets. For illiquid assets, then market value for these assets have to be established. In *musyaraka* contracts, syariah financial institutions have a right to participate in the management of business.

*Mudaraba* is another type of partnership contract between financial institutions and their counterparts (*mudarib*). The basic concept of *mudaraba* is that capital and labor are treated equally. In *mudaraba*, syariah financial institutions have no right to participate in the management of business. Profit and loss sharing has to be determined in advance. In the case of loss, syariah financial institutions lose their capital, while the *mudarib* loses his time and energy working on the business. Liability from *mudaraba* contract is limited to the amount fund supplied to the business, unless some debt are used in the business. In *mudaraba* contract, ownership of the assets remains in the hand of syariah financial institutions. Any appreciation in market value of assets belongs to syariah financial institutions.

### ***Salam, Ijarah, Istisna, and Murabahah***

*Salam* is practiced and allowed by Holy Prophet to help farmers who needed money to finance their plants and family. This practice will prevent farmers from borrowing with usury loans. *Salam* is a sale in which the seller agrees to supply specific goods to the buyer at future date, but the price is paid fully at spot (now).<sup>11</sup> Hence, the price is cash, but the good delivery is deferred. In Islamic banking, the buyer (syariah financial institutions) order the specific goods to the seller and to resell to customer in cash or credit for period of time.

*Ijarah* is similar to financial lease in conventional banking. In *Ijarah*, the ownership of the assets is still on the hand of syariah financial institutions. The usufruct,<sup>12</sup> that is the right to use, is transferred from syariah financial institutions to their counterparties. The assets are reported in the balance sheet of syariah financial institutions. The transfer of ownership from lessor (syariah financial institutions) to the lessee (the counterparties) at the end of contract is not automatic. Syariah financial institutions have to make different contract to transfer its ownership at the end of contract. *Ijara* is one of service in syariah financial institution for the purpose completing customer need

*Istisna'* means "order to manufacture". In this contract, a party asks another party

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<sup>11</sup>Zuhaili, *al-Fiqh al-Islami*, p. 598.

<sup>12</sup>M. Muzaffar, "Ijara: Financing on the Basis of Hire Purchase and Leasing," in *Encyclopaedia of Islamic Banking and Insurance* (London: The Institute of Islamic Banking and Insurance, 1988), p. 143.

(themanufacturer) to manufacture a product that is unavailable in the market, using materials provided by the manufacturer. The price of *Istisna'* can be paid in advance, or at anytime agreed upon between both parties. It can also be paid in full at the time of delivery or in installments at deŭned periods.

*Murabaha* is a type of financing, in which where the bank purchases an asset on behalf of counterparty. The bank then resells the asset to the counterparty at a predetermined price that covers the original cost and an added profit margin. Payment is made in the future in lump sum or in installments. Ownership resides with the syariah financial institutions until all payments are made.

### Financial Risk Management Consequences of Syariah Financing Contracts: Research Issues

The most ideal types of financing contracts are those based on profit-loss sharing principles. Thus, *musyaraka* and *mudaraba* financing should be the largest proportion of financing contracts for syariah financial institutions. Interestingly, empirical findings seem to show that proportion of *musyaraka* and *mudaraba* contracts is much less than that of debt like contracts of *murabahah*. Aggarwal and Yousef (2000) show that, in 1995 *murabahah* and *ijarah* contracts constitute more than 50% of all financing contracts in Syariah financial institutions. *Musyaraka* and *Mudaraba* constitute around 25% of the total financing.<sup>13</sup>

Statistic Islamic Banking in Indonesia show that, *murabaha* constitutes more than 50 % of *mudaraba* and *musyaraka* financing. This fact show us, the implentation of profit loss sharing face the problem in many countries. This number may change as time is progressing. However the central message remains: debt-like financing is still more popular than profit-loss sharing contracts

Table 1  
Size of Various Syariah Financing Contracts

In billion IDR

Types of Contracts	2008	2009	2010	2011	2012
<i>Murabahah</i>	22.486	26.231	37.508	56.365	70.221
<i>Ijarah</i>	516	1.305	2.341	3.839	5.459
<i>Musyaraka</i>	7.411	10.412	14.624	18.960	22.531
<i>Mudaraba</i>	6.205	6.597	8.631	10.229	10.882

Source: Islamic Banking Statistic, January 2013, Bank Indonesia

<sup>13</sup>Rajesh K. Aggarwal, and Tarik Yousef, "Islamic Banks and Investment Financing," in *Journal of Money, Credit and Banking*, Vol. XXXIII, No. 1 (Feb., 2000), p. 103.



This seems to be a puzzle, why syariah financial institutions avoid the ideal types of financing contracts. However, this puzzle seems to be easily explained by the undesirable characteristics of profit-loss sharing contracts. Profit-loss sharing contracts may induce certain undesirable conditions: moral hazard and adverse selection. These conditions are well noted in insurance literature. High risk counterparties will find profit-loss sharing as an optimal way to share their risk with syariah financing institutions (adverse selection). Prudent counterparties may change their behavior into high risk taking, to take advantage of the profit-loss sharing contracts (moral hazard). Syariah financial institutions attempt to manage this risk by providing profit-loss sharing contracts only to few selected counterparties. *Musyaraka* and *mudaraba* will be given only to reputed counterparties and probably with very strict debt covenant. This situation results in lower proportion of *Musyaraka* and *mudaraba* to the total syariah financing.

Furthermore, Aggarwal and Yousef argue that weaknesses of *Musyaraka* and *Mudaraba* contracts are aggravated by poor contracting environment. More specifically, Syariah financial institutions operate mostly in countries with poor governance systems.<sup>14</sup> Countries such as Sudan, Pakistan, Iran, Indonesia, in which syariah institutions operate, tend to have weaker governance systems. Financial markets in these countries are characterized by high degrees of imperfect information and rent-seeking behavior. Data for Iran, Pakistan, and Egypt suggest that these countries have somewhat inefficient bureaucracy, and corrupt economies, and high levels of rent seeking and corruption<sup>15</sup>. Aggarwal and Yousef argue that higher proportions of debt-like financing are an optimal response by syariah institutions to the nature of *musyaraka* and *mudaraba* and the poor contracting environment.<sup>16</sup>

### ***Theoretical and Conceptual Discussion***

Theoretically *Musyaraka* and *Mudaraba* may induce undesirable conditions such as moral hazard and adverse selection, although these non-debt like financings are the ideal contracts in Islamic context. Syariah financing rationally tend to avoid these types of contracts. There seems to be a conflicting incentives: economic and religious incentives. Religious incentives dictate the use of *musyaraka* and *mudrabah*, while economic incentives, given the nature of *musyaraka mudaraba* and contracting environment, dictate the use of debt-like instruments. The questions are how both incentives interact, how to reconcile both incentives. Aggarwal and Yousef develop a model to explain why debt-like contracts are more popular and under what conditions proportion of non-debt like contracts (*musyaraka* and *mudaraba*) should be higher. In their model, the agency problem between syariah financial

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<sup>14</sup>*Ibid.*, p. 117.

<sup>15</sup>Paolo Mauro, "Corruption and Growth," in *Quarterly Journal of Economics* 110 (August 1995), p. 687, 691, 693, 709.

<sup>16</sup>Aggarwal and Yousef, "Islamic Banks," p. 119.

institutions and their counterparties arises from contractual incompleteness and information asymmetry between these two parties.<sup>17</sup> They show that profit-loss sharing can be optimal financial contracts even when the contracts are incomplete. However, the optimality decreases as the level of agency problems increases. The debt-like financial contracts become more dominant in this situation. Other implications emerge from their model. First, debt will be short term in nature. Hence syariah financial institutions have tendency to lend short-term. Next, syariah financial institutions prefer to lend to lower cost investment projects. The use of collateral, although it is not consistent with the spirit of Islam, can be understood as an effort by Syariah financial institutions to reduce agency problems.

In my opinion, theoretical framework of agency problems, information asymmetry will be very helpful in explaining current situation faced by Syariah financial institutions and the evolution of the banks. For example, we can predict that as information asymmetry is reduced, agency problem will be reduced also, the use of *musyaraka* and *mudaraba* will increase. This prediction has policy implications, for example Syariah financial institutions should develop ways to reduce information asymmetry, such as developing good debtor information system, improving qualities of their human resources.

In reality, *mudaraba* is a financing contract with high risk for suppliers of fund (syariah financial institutions). This contract assumes that the fund provided by financial institutions is equal to (worth of) the works of businessman (*mudarib*). This assumption implies that financial institutions can not ask for any responsibility from businessman should businessman fails. Financial institutions are assumed to share business risk. Exceptions are for business failure from managerial errors, crime, and voluntary mistakes by businessman. The fund obtained by syariah financial institutions from depositors should be held accountable to them with all consequences. Traditionally, in Indonesia, depositors and savers for syariah banks (including *mudaraba* and *musyaraka*) expect to gain profit. The truth is that *mudaraba* and *musyarakah* contracts offer both: profit and loss. The possibility of losing is still there with *musyaraka* and *mudaraba* contracts.

However, if this truth is applied to syariah depositors and savers, there will be a danger. Syariah banks will lose their appeal. Most Indonesian savers and depositors are not ready to suffer loss in their banking experience. Thus, we have a challenge how to change behavior and attitude of syariah depositors and savers, from expecting sure profit to expecting both profit and loss. Demand for profit from syariah depositors and savers drives syariah bank to demand sure profit for their investment. This situation logically leads to the popularity of *murabahah* (trade financing) in syariah banking, since *murabahah* contracts offer fixed income, which is similar to loan contracts from traditional banks. This situation also forces syariah banks to become conservative and put heavy restriction on their financing contracts.

The issue of information asymmetry becomes crucial in management of *mudaraba*

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<sup>17</sup>*Ibid.*, p. 95.



financing contracts. Management of *mudaraba* projects is left fully to businessman, who will probably have different risk preference from syariah banks. Businessman (*mudarib*) tend to be more aggressive, be willing to take higher risks, to gain higher profit. On the contrary, syariah banks tend to be more conservative, avoid risky projects. Businessman tends to have better information about the projects than syariah banks. This situation creates information asymmetry between *mudarib* and syariah banks. Trust between *mudarib* and syariah banks becomes very important. The concept of trust in this contract should be redefined, so that trust can be expected to reduce information asymmetry between *mudarib* and syariah banks.

Honesty among businessman in Islam countries is generally viewed as low. Ironically, *mudaraba* and *musyaraka* contracts require high degree of trust and honesty. The low level of honesty creates higher monitoring cost for syariah banks.<sup>18</sup> Syariah banks become inefficient from the process of monitoring their debtors. The low level of honesty can be understood, since the management of the projects is left solely to *mudârib* (businessman).

Professionally, a trust is a part of evaluation by syariah banks implicitly (not explicitly appears on the contracts). If the trust is an important part in designing syariah contracts, the the trust should be explicitly appeared in the syariah contracts. Low level of honesty is still a significant impediment to spreading syariah contracts among syariah banks. Inability to treat (or to include) trust properly into syariah contracts exaggerate the problems. Thus we see that most financing portfolios of syariah banks are dominated by non-profit loss sharing contracts. Thus, syariah banks do not yet reflect the essence of the spirit of syariah.<sup>19</sup>

It seems that discussion on syariah banks relates closely with Islamic economy as a whole. Islamic economy regulates not only the economic system, but also emphasizes behavioral aspects as a balance between material and spiritual needs. Truth or honesty aspects can be expected to minimize information asymmetry and agency conflicts between syariah banks and their debtors. This approach is somewhat different from traditional banking approach. Traditional banks use bonding and monitoring mechanisms to reduce information asymmetry and agency conflicts, while syariah banks can use honesty as additional mechanism to reduce information asymmetry and agency conflicts. Honesty is a basic religious attitude for all aspects of life, including business aspects.

Febianto analyzes more specific risks faced by syariah financial institutions. In general, syariah financial institutions face the same risks as those faced by conventional financial institutions. Thus syariah financial institutions face credit risk, market risk, liquidity risk, rate of return risk, operational risk. Febianto also points out mismatch between

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<sup>18</sup>Sami Hammoud, *Islamic Banking* (London: Arabian Information, Ltd, 1986) in Saeed, *Islamic Banking*, p. 70-71.

<sup>19</sup>Ascarya and Diana Yumanita, *Bank Syariah: Gambaran Umum* (Jakarta: PPSK BI, 2005), p. 62.

the left side and the right side balance sheet of Syariah financial institutions. On the right side (funding side), depositors tend to choose debt-like contracts, such as *murabaha*, while on the left side, there is a pressure for Syariah financial institutions to lend in the form of non-debt like contracts (such as *musyaraka* and *murabahah*).<sup>20</sup> This kind of mismatch increases the risk of syariah financial institutions. Boumediene analyzes more specific risk, which is credit risk, in every syariah financial contracts. In general, all syariah financial contracts contain credit risk in various degree. The discussion seems to suggest that the credit risk of syariah financial institutions is higher than that of conventional financial institutions.<sup>21</sup>

### ***Empirical Discussion***

Various papers discuss risk and risk management faced by syariah financial institutions. Boumediene investigates whether credit risk faced by syariah financial institutions is higher than that of conventional financial institutions. Rather than using conventional credit risk measures, such as non-performing loan, loan loss provision, Boumediene uses option pricing framework of Merton to measure credit risk. The following formula is used to measure distance to default (DD), which is later translated to probability of default. The higher probability default, the higher credit risk.<sup>22</sup>

$$DD = \left( \frac{\ln(V_0/D) + (\mu_v - \frac{1}{2}\sigma_v^2)T}{\sigma_v\sqrt{T}} \right) \dots\dots\dots (1)$$

$$p_T = N(-DD)$$

The variables used are explained in the following table.

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<sup>20</sup>Irawan Febianto, “Adapting Risk Management for Profit and Loss Sharing Financing of Islamic Banks,” in *Modern Economy* 3 (January 2012), p. 74.

<sup>21</sup>Aniss Boumediene, “Is Credit Risk Really Higher in Islamic Banks?,” in *The Journal of Credit Risk*, Vol. VII, No. 3, (Fall 2011), p. 110.

<sup>22</sup>*Ibid.*, p. 111.

Table 2  
Variables Used to Calculate Default Probability

	Conventional banks	Islamic banks
$E$ (equity)	Number of shares outstanding x price of the share at the beginning of each year	Idem
$D$ (debt)	Total liabilities (extracted from balance sheet statements)	Total liabilities: PLS accounts
$\sigma_E$ (equity volatility)	Historical volatility (standard deviation of share price returns) for each year, annualized	Idem
$T$	Maturity of one year	Idem
$\mu_V$	Rate of growth of assets per annum	Idem

Source: Aniss Boumediene, Is credit risk really higher in Islamic banks? *The Journal of Credit Risk* (97–129) Volume 7/Number 3, Fall 2011, p.115.

Using nine Syariah banks and nine conventional banks mostly in middle-east countries, and using data from 2005 to 2009, Boumediene finds that Syariah banks have higher Distance to Default (DD) and lower probability of default, as shown in the following table. The difference is statistically significant at 10% significance level.<sup>23</sup>

Table 3  
Distance to Default and Default Probability for Syariah

Source: Aniss Boumediene, Is credit risk really higher in Islamic banks? *The Journal of Credit Risk* (97–129) Volume 7/Number 3, Fall 2011, p.119.

This result seems to indicate that Syariah financial institutions are successful in managing risks. The other side of the coin from this finding is that Syariah financial institutions are able to manage risk by avoiding profit-loss sharing contracts, the contracts that have high inherent risks explained above. This research indicates that profit loss sharing contracts tend to have high agency conflicts. This situation leads in syariah banks avoiding profit loss sharing contracts. Syariah banks tend to offer more certain contracts such as *murabahah* than profit loss sharing contracts.

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<sup>23</sup>*Ibid.*, p. 119.

Tafri, Rahman, and Omar use survey method to investigate risk management practices for syariah and conventional financial institutions in Malaysia and selected Islamic banks outside Malaysia. They distribute a set of questionnaire to the banks in the sample. They find that there are significant differences in the level of extensiveness of financial risk management practices in syariah and conventional financial institutions. Syariah financial institutions tend to practice financial risk management less extensively than do conventional financial institutions. More specifically, the usage of market value at risk (VaR),<sup>24</sup> stress testing results, credit risk mitigation methods, and also the level of extensiveness of the usage of operational risk management tools between Islamic and conventional banks is different. They conclude that risk management tools and systems for syariah financial institutions are inadequate, particularly in the critical areas of “IT professionals in risk management. They believe that innovations and product developments are needed for Islamic banking in managing risks.<sup>25</sup> Risks in syariah banks are more complex than those in conventional banks. One of the reason is that syariah banks offer more product variations as a consequence of high variation of *akad*, either from funding and financing aspects of syariah banks. The more complex risks certainly need a more complex management, and probably individualistic or tailor made approaches that are more consistent with the characteristics of each product.

Although the following papers do not directly discuss the financial risk management, I would like to discuss these papers. Their findings are of interest to understanding the dynamic of syariah financial institutions. Chong and Liu study Malaysian Syariah Banks. Conceptually, Islamic banks should operate using principle of profit-loss sharing, which should be independent of interest rate movement. However their findings seem to suggest that Islamic banks deviate substantially from the principle of profit-loss sharing. They find that the development of profit-loss sharing on the asset side tends to be slow than that of the liability side. On the asset side, only 0.5% of Islamic bank financing is based on the PLS paradigm of *mudaraba* (profit-sharing) and *musyaraka* (joint venture) financing. On the liability side, however, *mudaraba* (profit-sharing) deposits, which account for 70% of total Islamic deposits, are more predominant.<sup>26</sup> They also find that the investment rates on Islamic deposits are mostly lower and less volatile than that of conventional deposits. This finding is in contrast to our expectation. Given the profit-loss sharing scheme for deposit, we can expect to have more volatile rate of return for profit-loss sharing than that for conventional interest rate.

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<sup>24</sup>Fauziah Hanim Tafri, Rashidah Abdul Rahman and Normah Omar, “Empirical Evidence on the Risk Management Tools Practised in Islamic and Conventional Banks,” in *Qualitative Research in Financial Markets*, Vol. III, No. 2, 2011, p. 86-104, p. 100.

<sup>25</sup>*Ibid.*, p. 103.

<sup>26</sup>Beng Soon Chong, Ming-Hua Liu, “Islamic Banking: Interest-Free or Interest-Based?,” in *Pacific-Basin Finance Journal*, 17 (2009), p. 125–144.

Using the Engle–Granger error-correction model, they show that (a) changes in conventional deposit rates cause changes in Islamic investment rates, but not vice versa, (b) the Islamic investment rates are positively related to conventional deposit rates in the long-term, and (c) when the Islamic investment rates deviate far above (below) the conventional deposit rates, they will adjust downwards (upwards) towards the long-term equilibrium level. Those results seem to indicate that the profit-loss sharing in Syariah banking is actually closely tied to the deposit interest rate in conventional banking. Finally, the authors question the benefit of profit-loss sharing. The widespread of Syariah financial institutions seems to be driven by the widespread of Islamic movement, rather than the economic benefit of profit-loss sharing.

Hutapea and Kasri find that there exists a long-running relationship between the Islamic Bank Margin and its determinants, especially interest rate volatility. In particular, there is a negative relationship between interest rate volatility and Islamic bank margin.<sup>27</sup> This result suggests that Syariah financial institutions should pay close attention to volatility of interest rate. In another interpretation, performance of Islamic banks depends on interest rate or, in this case, the volatility of interest rate.

## Conclusion

I attempt to review literature on the financial risk management of Syariah financial institutions. This discussion is closely related to the discussion of the characteristics of Syariah financial contracts, which are largely based on profit-loss sharing. The uniqueness of profit-loss sharing brings about several consequences.

First, the economic benefits of profit-loss sharing are still controversial. Traditional literature in Syariah financing defends this type of contract based more on religious belief. However, economic incentive seems to exist along with religious incentive. Thus future research should provide economic justification for profit-loss sharing contracts. Second, from the point of view of Syariah financial institutions, profit-loss sharing contracts are highly vulnerable to moral hazard and adverse selection problems. This condition stems from the information asymmetry and agency conflict embedded inherently in profit-loss sharing contracts. I believe that the framework of agency conflict (Jensen and Meckling, 1974) and information asymmetry has promising potential to understand the dynamic of Syariah financial institutions. Third, aside from theoretical and conceptual discussion, I believe that one of the promising research areas in the future is finding the optimal and more practical ways for Syariah institutions to bring profit-loss sharing contracts into Syariah financing reality. So far, Syariah institutions have great difficulties in implementing pure profit-loss

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<sup>27</sup>Erwin G. Hutapea and Rahmatina A. Kasri, "Bank Margin Determination: a Comparison Between Islamic and Conventional Banks in Indonesia," in *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. III, No. 1, 2010, p. 78.

sharing contracts. Overall I believe that syariah financing contracts still provide promising future research, especially in the financial risk management issues for the contracts.

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