

RISK OF PROFIT LOSS SHARING FINANCING: THE CASE OF INDONESIA

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Abstract. Risk of Profit Loss Sharing Financing: The Case of Indonesia.

This study analyzes the risk of profit-and-loss sharing finance in Indonesian Islamic banking. Data used is secondary data obtained from the Financial Services Authority's 2009-2014 publication. Financing risk is measured by risk return and opportunity cost. Results of the study show that risk return in mudharaba financing is more volatile than that in musharaka as it is potentially driven by agency problems. In all groups of banks, higher incomes are more promising in mudharaba than musharaka; but individually musharaka is more attractive to Islamic Rural Bank groups, and vice versa for the Sharia Bank groups. The one side it is more secure for Islamic banking to allocate funds in musharaka contract, which is an alternative to murabaha. However, musharaka contract is less attractive due to lower potential returns. Although high returns are more promising in mudharaba, this financing mode has higher risk of returns.

Keywords: *mudharaba; musharaka; murabaha; profit-loss sharing; risk averse*

Abstrak. Risiko Pembiayaan Profit Loss Sharing: Kasus Indonesia.

Penelitian ini menganalisis risiko pembiayaan profit loss sharing perbankan Islam di Indonesia. Data yang digunakan merupakan data sekunder hasil publikasi Otoritas Jasa Keuangan periode 2009-2014. Risiko pembiayaan diukur dengan risiko pengembalian dan opportunity cost. Hasil penelitian menunjukkan bahwa risiko pengembalian pada pembiayaan mudharaba lebih berfluktuasi dibanding musharakah yang secara potensial didorong oleh agency problem. Untuk seluruh kelompok bank, mudharaba lebih menjanjikan pendapatan yang lebih tinggi dibanding musharaka; tetapi secara individual musharaka lebih menarik bagi kelompok Bank Pembiayaan Rakyat Syariah, dan sebaliknya bagi Bank Syariah. Pada satu sisi perbankan Islam lebih aman untuk mengalokasikan dananya pada kontrak musharaka sebagai alternatif murabaha, namun kontrak musharaka kurang menarik karena memiliki potensi pengembalian yang rendah. Sementara mudharaba menjanjikan pengembalian yang tinggi namun memiliki risiko pengembalian yang tinggi pula.

Kata kunci: *mudharaba; musharaka; murabaha; profit-loss sharing; risk averse*

Introduction

Islamic banking refers to a system of banking that is consistent with the principles of Islamic law (Sharia). Sharia prohibits the interest charges (*riba*) for the lending and accepting of money. Islamic banking actually promotes the concept of profit and loss sharing. There are two types of Islamic bank operating in Indonesia presently: Sharia Bank (Sharia Commercial Bank and Sharia Business Unit) and Islamic Rural Bank. Sharia Commercial Bank (Bank Umum Syariah, BUS) is a Islamic bank providing services in the transaction of payments. Sharia Business Unit (Unit Usaha Syariah, UUS) is a work unit of a conventional commercial bank that conduct business activities based on Sharia principles. Islamic Rural Bank (Bank Pembiayaan Rakyat Syariah, BPRS) is Islamic bank which do not provide services in the transaction of payment.

Islamic banking still has a relatively low share in Indonesia banking industry, with only about 5 percent. However, there has been a significant growth over the last five years. In Data from the Financial Services Authority (Otoritas Jasa Keuangan, OJK) indicates that in December 2014 the number of third party funds (*dana pihak ketiga*, DPK) customers rose to nearly 10 million new accounts in the Sharia Bank, and the number of DPK deposit accounts increased from 4.5 million in 2009 to 14.4 million in 2014. Along with the increase in deposits, there was also an increase in the Sharia Bank financing, as indicated by 3.8 million funding requests that they serve, which is a huge number compared to 800 thousand financing requests that the finances were able to serve in 2009. Increased financing also occurs in BPRS, which in 2014 served twice the number of customers demanding financing in 2009.

Table 1. The Islamic Banking Network

Indikator	2008	2009	2010	2011	2012	2013	2014
Sharia Commercial Bank (BUS)							
- Number of Bank	5	6	11	11	11	11	12
- Number of Office	581	711	1,215	1,401	1,745	1,998	2,151
Sharia Business Unit (UUS)							
- Number of Bank	27	25	23	24	24	23	22
- Number of Office	241	287	262	336	517	590	320
Islamic Rural Bank (BPRS)							
- Number of Bank	131	138	150	155	158	163	163
- Number of Office	202	225	286	364	401	402	439
Total Office	1,024	1,223	1,763	2,101	2,663	2,990	2,910

Source: OJK (2015)

As can be seen on Table 1, the network of BUS and BPRS branches has also increased. The number of BUS was relatively stagnant from 2010 to 2013, where as the UUS experienced a declining trend. Similarly, the number of their offices has been declining sharply since 2012.

Data obtained from the OJK (2015) show that over the last five years Islamic banking assets has grown by an average of 33 percent. BUS and UUS assets have increased almost five-fold since 2009; while BPRS assets multiplied by 3.4-fold. Asset grow this certainly sourced from either debt or capital and the creation of new sources of revenue for Islamic banking. However, from the aspect of financing allocation it appears to be less encouraging since the financing disbursed only relied on one type, namely *murabaha*, a mode of cost plus sales financing; while other modes of profit-and-loss sharing, namely *mudharaba* and *musharaka*, leases or *ijara*, and loan or *qardh*, only contributed insignificantly to the total finance. As for the Sharia Bank, the average proportion of *murabaha* financing in 2014 was nearly 60 percent, whereas for the BPRS it reached to more than 80 percent.

The tendency of financing allocation in the *murabaha* of Islamic banking is not without reason. The *murabaha* is a cost plus sales financing, where the purchaser (debtor) promise to purchase at a price which includes the cost of the purchase plus a pre-agreed profit. Thus, *murabaha* is risk-free. The other sides, profit and loss sharing (PLS) contract in Islamic banking is sourced from *mudharaba* and *musharaka*. The *mudharaba* is a profit-sharing agreement that fund owner (investor) provides capital to entrepreneurs (*mudharib*) on condition that profits generated will be divided among the parties according to specified agreement. In the event of a loss due to normal process of business, the losses was borne entirely by the capital owner. However, if a loss is due to the manager's negligence and fraud, then the entrepreneurs is fully held responsible for the loss. The *musharaka* involves a partnership between two parties who both provide capital towards the financing of new or established projects. Both parties share the profits on a pre-agreed ratio, allowing managerial skills to be remunerated, with losses being shared on the basis of equity participation (El Massah and Al-Sayed, 2013).

The differences in the types of the financing (portfolio) imply a difference in risks. The fund managers will prefer a financing that promises low risks but high profit. They will take into account potential profit or desirable profit rate and the relative income levels of various types of financing. A comparison of the relative income levels in different types of financing termed as opportunity cost. Where as a comparison between the level of desirable profit and the level of real income is

called expected profit. Markowitz (1959) was studied a linkage between financing portfolio and risk in the context of expected utility theory. Studies on Islamic banking risks have been conducted by several researchers, but they generally focused on credit risk (Abusharbeh, 2014; Said, 2013; Misman, 2012; Arifin and Tafri, 2014); liquidity risk (Said, 2013; Muhammad et al, 2011; Ahmed et al, 2011; Arifin and Tafri, 2014); operational risk (Said, 2013; Marlina, et al, 2011); management risk (Arifin, et al; 2009; Al-Tamimi and Al-Mazrooei, 2007). There is a paucity in the study of financing risks in the context of expected utility, and opportunity cost between *murabaha* and PLS financing.

This study is an attempt to examine the risk of profit loss sharing (PLS) financing in the context of expected utility in Indonesian Islamic banking. It attempts to reveal the natural risk *musharaka* and *mudharaba* financing; and between type of banks (*Sharia* and Islamic Rural Bank). This paper is justified on the following reasons. (1) It provides an important point for research involving the risk of PLS financing of Indonesian Islamic banking industry. (2) It is one of the first empirical studies that use opportunity cost (PLS financing against *murabaha* financing) to examine risks of Islamic banks in Indonesia. (3) The empirical results of this study could help Indonesian Financial Service Authority in providing solutions for the lack of participation in PLS financing. Relatively few Islamic banking literatures evolved study of risk in expected utility context which may make a strong contribution to the area of Islamic banking. Significantly, this research has a new contribution in filling the gap of previous literatures to manage risk taking behaviour of Islamic banking.

The remainder of this article is organized as follows. The next section explores the literature of the study. The third section describes research methodology. The fourth section analyzes the data variables and the implications. Moreover, the final part concludes the research.

Literature Review

The type of contract in Islamic banking can be categorized into contract for profit and non profit. Islamic banking recognizes the profit contract consists profit loss sharing and non profit loss sharing. The profit loss sharing contract refers to a type of financing that has uncertain returns such as *mudharaba* and *musharaka*, whereas non sharing contract is applicable to a type with more certain returns, such as cost plus sales and lease. Included in the cost plus sales contract are *murabaha*, *salam* and *istishna*, whereas lease mode includes *ijara* contract. The *murabaha* is a term of Islamic fiqh which means a specific form of trading when the seller said the acquisition cost of the goods and other charges incurred for

acquiring goods and margin of the desired (Ascarya, 2006). The *mudharaba* is a profit sharing contract, with one party providing 100 per cent of the fund to invest and the other party (the *mudharib*). The *musharaka* involves a partnership between two parties who both provide fund of new or established business. Both parties share the profits on a pre-agreed ratio, with losses being shared on the basis of equity participation. One or both parties can undertake management of the business.

Thus, naturally both *mudharaba* and *musharaka* financing are highly risky, causing banks' inclination to avoid them, or to adopt a risk-averse attitude towards the financing, which inevitably result in financing concentrated in *murabaha*. Chapra (2007) expresses his views that the share of PLS modes is so far relatively small in the financing operations of Islamic banks, and that of sales-based modes is predominantly high. Chapra (2007) emphasizes that the socioeconomic benefits of the prohibition of interest may not be realized fully until the share of PLS modes rises substantially in total financing. Khan and Bhatti (2008) considers that the PLS system is the heart of Islamic financial intermediation

Abid (2014) conclude two factors inflict the most significant effect on the lower level of application of *musharaka* by Islamic banks: (1) management's monitoring and controlling technique causes effect on the application of *musharaka* at a greater scale because of the fact that they are not fully equipped to deal with the issues relating to *musharaka* based financing and (2) the risk aversion approach of top management has also affected the larger reliance on *musharakah* based financing by the Islamic banks.

Islam views Business as something that has no 'fixed' income; therefore it is only natural that any business is vulnerable to risks. Risk is defined as the possibility of one or more components of bank portfolio to fail (Freixas and Rochet, 2008), and this includes the possibility of debtor's failure to repay its obligations or in ability to completely return their debts (Ghozali, 2007). Credit risk can be classified into individual risk and portfolio risk (Saunders and Cornett, 2003).

A research on portfolio risks and how to determine optimal risks was first conducted by Markowitz (1959). Risk is measured quantitatively by Markowitz and treated as a statistical measure called variance. A risk variance is a return distribution that measures the firmness of the return distribution around the average, or better known as the expected return (expected utility). Markowitz assumes that investors prefer larger return with lesser risks. Markowitz treats any portfolio as a single point (Beste et al, 2002). To avoid or minimize risks, investors diversify their investment strategies by creating a portfolio of several stocks that are considered efficient. Thus investors themselves are more likely to adopt a risk-averse behavior. In the context

of their behavior towards the risk it self, three types of behavior are possible: (1) risk-averse, giving a choice between two assets with equal rates of return, an investor will select the asset with lower level of risk; (2) risk-lover (seeking), giving a choice between two assets with equal rates of return, an investor will select the asset with higher level of risk; and (3) risk neutral, giving a choice between two assets with equal rates of return, the investor is indifferent to select any of them (Reilly and Brown, 2012).

Islamic bank transactions are more suitable for risk-lover or aggressive depositors, but on the contrary, it is more suitable for risk-averse or conservative borrowers, because PLS helps the borrower to share risk with Islamic Bank, for example musharaka (El Massah and Al-Sayed, 2013). Abid (2014) revealed the various factors influencing the application of musharaka financing by Islamic banks in three major categories: (1) internal factors; include: management's monitoring and controlling techniques; the role of top management, and effect of shariah supervision; (2) external factors: customers' preferences, dan government policies; and (3) communal factors: moral hazard, operational difficulties, and high risk.

A risk-averse attitude of fund owners can also be seen from their choice of a contract, where a revenue-sharing contract is more preferable than a profit-and-loss sharing contract, since the revenue-sharing type can reduce financial risks, although it still has an equal rate of return as the value of gross receipts is always greater or at least break even, while the value of receipts minus production cost will result in profit or loss. This means that in the revenue-sharing type, fund owners will never lose (at least for the revenue-sharing = 0 yet the capital remains intact), whereas in the profit-and-loss sharing type, fund owners may suffer losses to the extent of the amount of their capital (Ascarya: 2006).

Methods

This study analyzes secondary data obtained from the monthly publication of the Indonesian Financial Services Authority in 2009-2014 period. The analysis is focused on the assessment of potential risks which consists: risk of return and risk of income losses as a result of participating in a particular type of financing (opportunity cost). The risk of return under uncertainty is measured by expected utility and variance of profit. This study use equivalent rate of return as proxy rate profit variable, thus risk of return is estimated by the standard deviation of equivalent of PLS return. A high standard deviation means that the profit is volatile (uncertain) or high risk, while a low standard deviation means a profit is generally consistent in producing similar returns or low risk.

$$S = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n - 1}} \dots\dots\dots(1)$$

- where: S = risk of return of PLS financing
 x_i = each value of equivalent rate of return of PLS financing
 \bar{x} = mean of equivalent rate of return of PLS financing
 n = the total number of data points

The risk of opportunity cost (OC) in Islamic banking is the average ratio of the equivalent rate of return of PLS against *murabaha* financing, or:

$$OC_{pls} = \frac{x_{pls}}{x_m} \times 100 \dots\dots\dots(2)$$

- where: OC_{pls} = opportunity cost of PLS financing
 x = equivalent rate of return
 pls = *mudharaba, musharaka* financing
 m = *murabaha* financing
 OC > 1 means that it is more attractive to invest in the PLS financing

On the other hand, risk-taking behavior is one that is adopted by Islamic banking to avoid a financing that has uncertain returns (PLS financing). The higher of proportion of PLS financing, the higher of willingness to share risk. Risk taking behavior estimated by:

$$RT = \frac{s_{pls}}{s_m} \dots\dots\dots(3)$$

- RT > 1 risk lover;
 RT ≤ 1 risk averse

- where: RT = Risk-taking relative
 s = share of financing
 pls = *mudharaba, musharaka* financing
 m = *murabaha* financing

Results and Discussion

The Financing Development of Islamic Banking

The types of financing currently offered in *Sharia* Bank (SB) are *mudharaba*, *musharaka*, *murabaha*, *istishna*, *ijara* and *qardh*. In addition to these, BPRS also provides *salam* and multi-services contracts. The composition of financing services provided by SB over the period of 2009-2014 is presented in Table 2. In general, there was a tendency for the amount of financing to increase, except for *qardh* which has decreased since 2012. Up to 2014, the total value of *qardh* financing was 5.9 billion. The biggest financing on SB was *murabaha* which has increased more than five times since 2009. The average proportion of *murabaha* contracts over the last six years was 58 percent; on the next place was *musharaka* contracts, about 22 percent; and the third one was *mudharaba*, reaching only 9 percent. The dominance of *murabaha* finance was also apparent in BPRS as can be seen in Figure 1, with a proportion of 80 percent. In contrast to these, the total amount of *ijara*, *istishna*, and *salam* contracts is below 1 percent.

Table 2. The Composition of Financing of Sharia Bank (billions of rupiah)

Contract	2009	2010	2011	2012	2013	2014
Mudharaba	6,597	8,631	10,229	12,023	13,625	14,354
Musharaka	10,412	14,624	18,960	27,667	39,874	49,387
Murabaha	26,321	37,508	56,365	88,004	110,565	117,371
Istishna	423	347	326	376	582	633
Ijara	1,305	2,341	3,839	7,345	10,481	11,620
Qardh	1,829	4,731	12,937	12,090	8,995	5,965
Total	46,886	68,181	102,655	147,505	184,122	199,330

Source: OJK (2015)

On the other hand, based on the types of use, banking financial allocation can be categorized into productive (working capital and investment) and consumptive financing. A statistical data about Islamic banking in December 2014 period reveals that allocation for productive financing was about 60 percent, and the remaining

percentage went to consumptive financing. This financing variation would surely affect the variation of existing non-performing financing (NPF) because working capital, investment, and consumption financing pose different risks. The percentage of NPF occurred in Islamic banking financing in 2014 are as follows: 6.24 on working capital, 4.45 on investment, and 2.6 on consumer. The data indicates that consumer financing has a rate of refund that is smoother and less risky than the other types, and as a result consumer financing has a sufficiently high share in Islamic banking.

Furthermore, although financing allocation is used for productive, PLS is not the only contract offered, since other contracts, such as *murabaha* are also available. As of December 2014, the proportion of productive financing which used PLS contract on SB was 53.27 percent, while on BPRS it was only 21.29 percent. That PLS contract has an insignificant role in productive financing is a further indication of Islamic banking's reluctance to share risks.

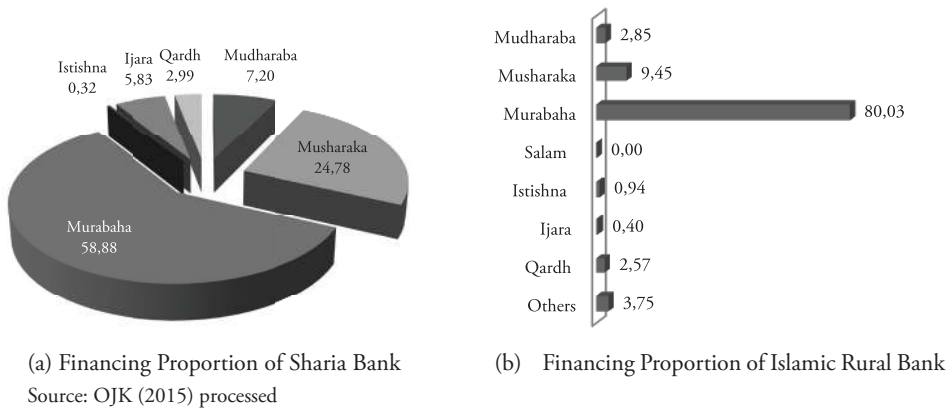


Figure 1. The proportion of Financing in Islamic Banking 2009-2014

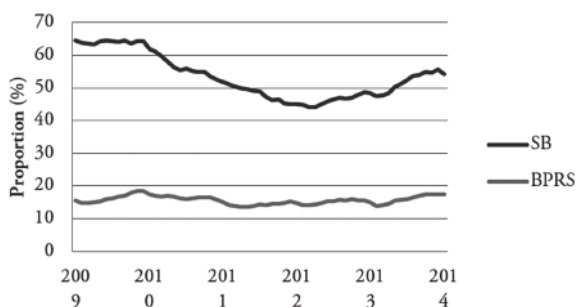
The Islamic Banking in Indonesia more risk averse, as shows average value risk taking lower than one (or 0.35) as presented in Table 3. That means, proportion of PLS financing is 35 percent of murabaha financing. The risk averse behavior is more restrained in the SB groups than BPRS, as indicated by the risk averse average of the SB, which reached 0.55, while BPRS reached 0.16. Thus, BPRS is highly risk-averse in financing allocation. In fact, the BPRS group is extremely rigid in allocating funds to PLS contract, as was indicated by the small standard of deviation which was 0.01. Figure 2 provide a comparative development of risk-averse of Islamic Banking in Indonesia within the period 2009-2014.

Table 3. Descriptive Statistics Risk Taking Behaviour of Islamic Banking in Indonesia

Description	Sharia Bank (SB)	Islamic Rural Bank (BPRS)	Total of Bank
Maximum	0.66	0.18	0.66
Minimum	0.44	0.14	0.14
Average	0.55	0.16	0.35
Standard Deviation	0.07	0.01	0.20

Source: Result of Research

A relatively high spike of risk-averse behavior was experienced by SB group up to 2012. In the beginning of 2013, this risk-averse tendency seemed to decrease both in the groups of BPRS and SB. At the end of 2014, the proportion of PLS against *murabaha* financing of BPRS was still low or about 17 percent, while that of the SB was 54 percent. The downward trend in the risk aversion is expected to continue in the SB group, which controls more than 90 percent of Islamic banking financing in Indonesia. The risk aversion of BPRS group is also expected to continue to decline, given that BPRS is a financial institution that closer to small medium enterprise's (SME's). In fact, the financial share of SME's in BPRS reaches 60 percent of the total financing distributed.



Source: OJK (2015) Processed

Figure 2. Risk Averse Behavior of Indonesian Islamic Banking 2009-2014

Table 4 presents risk of return of PLS financing. Based on the type of financing in total, the risk of return of *mudharaba* is higher than *musharaka*, as indicated by the standard of deviation 5.34 percent; while *musharaka* was 4.14 percent. In terms

of individual bank, there are different levels of risk. On the SB groups, the risk of return of *mudharaba* is higher than *musharaka*, but opposite to BPRS.

Table 4. Descriptive Statistics Risk of Return of Profit Loss Sharing Financing (percent)

Description	Sharia Bank (SB)		Islamic Rural Bank (BPRS)		Total	
	Mudharaba	Musharaka	Mudharaba	Musharaka	Mudharaba	Musharaka
Maximum	77.09	14.97	23.52	23.79	77.09	23.79
Minimum	14.14	10.85	14.73	14.18	14.13	10.85
Average	18.03	12.82	18.47	20.04	18.25	16.43
Stand. Deviation	7.33	1.22	2.01	2.56	5.34	4.14

Source: Results of the research

Furthermore, other financing risk associated with Islamic banking is opportunity cost (OC). A descriptive statistics of the opportunity costs is given in Table 5. OC average of *mudharaba* contract to all group bank show the value more than one (or >1); and lower than one (or <1) to *musharaka* contract. However on an individual basis, this is only consistent on SB group. This shows that in SB groups, the opportunity to earn a higher income is more probable in *mudharaba* than *musharaka* contract. The opposite applies to BPRS. Thus, when viewed from the income aspect, *mudharaba* is the next most appealing financing after *murabaha* in SB, whereas *musharaka* takes this position in BPRS.

Table 5. Descriptive Statistics Opportunity Cost of PLS Financing (percent)

Description	Sharia Bank (SB)		Islamic Rural Bank (BPRS)		Total	
	Mudharaba	Musharaka	Mudharaba	Musharaka	Mudharaba	Musharaka
Maximum	1.51	1.11	1.23	1.24	1.51	1.24
Minimum	0.22	0.14	0.71	0.73	0.22	0.14
Average	1.14	0.86	0.96	1.04	1.05	0.94
Standard Deviation	0.19	0.19	0.10	0.14	0.18	0.19

Source: Results of the Research

There is obviously a difference in the risk taking behaviors adopted by SB and BPRS. While SB s are more flexible about facing risk, BPRS is more rigid or more reluctant to share risks due to lower ability to control the financing risk. Most BPRS have high efficiency but not have high profitability, vice versa (Warninda and Hosen, 2015). BPRS being powerless against *mudharib* and other business partners that belongs mostly small medium enterprises (SME's). The SME's group is also one of the constraints of the implementation of PLS contract (Ahmed, 2006; Iqbal and Llewellyn, 2002). The most important aspect (priority) performance of sharia microfinance among the clusters is human resources (Amalia and Atiqah, 2015).

The risk of return *mudharaba* in general much more volatile than *musharaka*. This is largely due to the fact, in *mudharaba* fund granted is managed by the *mudharib* itself. The only obligation of the *mudharib* is to report any revenue. Its potentially causing *mudharaba* to be highly vulnerable to agency problems (Chong & Liu, 2009). Agency problems occur when an entrepreneur has an incentive to report lower revenues. Initially, this issue arises due to asymmetric information on *mudharib*, which causes the Islamic Banking to experience *adverse selection* (Shinsuke, 2010; Safieddine, 2009). It is then obvious that business ethics is another potential issue related to PLS financing in Islamic Banking (Farooq & Ahmed, 2013).

Furthermore, empirical findings show that, for the entire groups of banks, the value of the opportunity cost (OC) of *mudharaba* is bigger than one (or > 1), and *musharaka* is lower than one (or < 1). However, for individual bank, the OC of *mudharaba* is < 1 , while *musharaka* is > 1 in the BPRS group. This suggests that, in terms of potential revenue in BPRS, *musharaka* contract is more attractive than *mudharaba*, and the opposite occurs in the SB group.

Based on the discussion above, it is clear that on the one hand Islamic banking considers it more secure to allocation funds to *murabaha* contract, which is an alternative to *musharaka*. However, *musharaka* contract is less attractive due to the low potential revenue that can be gained. While *mudharaba* offers more promising high returns, it is also accompanied by high risk of return. Therefore, among the reasons why banks are reluctant to apply for *mudaraba* are the high risk and the prudential reason. One of factors causing high risk in *mudharaba* is asymmetric information, which in turn may tempt *mudharib* into moral hazard. Having said that, it must be recognized that the risk itself is natural in business. However, when a risk involves moral hazard, then a systemic steps is needed to minimize such behaviors. Since it encourages unfair profit loss sharing, moral hazard is seen as one form of business injustice. As a result, Islamic Banking more disincentives to develop *mudharaba* contract.

There are actually several steps that can be taken to deal with the issue of moral hazard, for example apply a standard financial records to *mudharib*. However, such recording needs to be examined by an independent party. Although *mudharib* is not required to keep a financial statements (since it is only a small business group), it remains important to evaluate *mudharib's* financial performance.

Therefore, to protect all parties that have agreed in a partnership, it is importance to clear rules as well as a mechanism of checks and balances. This mechanism can also be applied to the case of *musharaka*. Although it is recognized in *musharaka* that banks can be involved in business management or in the intervention of partner's business according to particular agreement, some standard guide lines concerning financial records are needed, particularly those which recognize expenses and income, in order to reach a shared understanding between both parties of similar vein. It is also necessary to make every effort to improve banking managerial capabilities of *mudharib* and its business partners.

Conclusion

Islamic banking generally adopts risk averse behaviors in allocating PLS financing, but Islamic Rural Bank group is apparently more risk averse than Sharia Bank. In general, the risk of return of *mudharaba* is more volatile than the risk of return of *musharaka*, due to the high potential of agency problems in *mudharaba*. The results of this study further reveal that among all groups of banks, *murabaha* promises higher incomes than *musharaka*. Individually, however *mudaraba* is more attractive to the groups of Sharia Banks, except for Islamic Rural Bank which considers *musharaka* to be more promising in gaining higher returns and therefore find it more attractive. Islamic banking considers it more secure to allocation of financing to *mushakara* contract, as an alternative to *murabaha* contract, although its less attractive due to the low potential revenue that can be obtained. However, while *mudharaba* is more promising in terms of high returns, it is also accompanied by high risk of return. Several steps can be taken to minimize the risk averse behaviors of Islamic banks: *first*, developing a standard of financial records under management of an independent agency; *second*, introducing a regulation that serves as a mechanism of checks and balances; *third*, increasing banking managerial abilities of *mudharib*/business partners over business conditions.

References

- Abid, M.M. (2014). *Critical Analysis of Some of The Major Internal Hindrance Factors in The Application of Musharakah Financing by the Islamic Banks*. International Journal of Education and Research Vol. 2 No. 9, pp 125-142
- Abusharbeh, M.T. (2014). *Credit Risks and Profitability of Islamic Banks: Evidence from Indonesia*. World Review of Business Research Vol. 4. No. 3. pp. 136 – 147
- Ahmed, M. (2006). *Practice of Mudharaba and Musharaka in Islamic Banking*. Journal of Islamic Economics and Finance Vol. 2 No.1.
- Ahmed, A. & Naqvi. (2011). *Liquidity Risk and Islamic Banks: Evidence from Pakistan*. Interdisciplinary Journal of Research in Business Vol. 1, Issue. 9. pp.99- 102
- Amalia, Euis & Atiqah, M. (2015). *Evaluating The Models of Sharia Microfinance in Indonesia: An Analytical Network Process (ANP) Approach*. Al-Iqtishad: Vol. 7, No. 1. pp.13-30
- Ariffin, A.F. & Tafri, F.H. (2014). *The Impact of Financial Risk on Islamic Banks' Profitability*. International Conference on Business, Sociology and Applied Sciences (ICBSAS'14) March 26-27, 2014 in Kuala Lumpur
- Ariffin, N, et.al. (2009). *Risks in Islamic Banks: Evidence From Empirical Research*. Journal of Banking Regulation, 10(2), pp 153-163.
- Ascarya. (2006). *Contract and Product of Islamic Banking: Concepts and Practices Some State*. Jakarta: Bank Indonesia.
- Al-Tamimi, H. & Al-Mazrooei, F. (2007). *Banks' Risk Management: A Comparison Study of UAE National and Foreign Banks*. The Journal of Risk Finance, Vol. 8 No. 4. pp. 394-409.
- Beste, et al, (2002). *The Markowitz Model: Selecting an Efficient Investment Portfolio*. Lafayette College, Mathematics REU Program.
- Chapra, M.U. (2007). *The Case Against Interest: Is It Compelling?*, Thunderbird International Business Review Vol. 49 (2). pp.161-186.
- Chong, B.S. & Liu, M.H. (2009). *Islamic Banking: Interest-Free or Interest-Based*. Pacific-Basin Finance Journal 17, 125–144.
- El Massah, S. & Al-Sayed, O. (2013). *Risk Aversion and Islamic Finance: An Experimental Approach*. International Journal of Information Technology and Business Management. Vol.16 No.1 , pp. 49-77

- Farooq, M. & Ahmed, M.M.M. (2013). *Musharaka Financing: Experience of Pakistani Banks*. World Applied Sciences Journal 21 (2), pp. 181-189.
- Freixas, X & Rochet J.C. (2008). *Microeconomics of Banking*. Maschacutes: MIT Press.
- Ghozali, I. (2007). *Banking Risk Management: Value at Risk approach*. Semarang: Badan Penerbit Universitas Diponegoro.
- Iqbal, M. & Llewellyn, D. (2002). *Islamic Banking and Finance: New Perspectives on Profit-Sharing and Risk*. USA: Edward Elgar Northampton
- Jacobs, B.I, et.al. (2005). *Portofolio Optimization with Factors, Scenarios, and Realistic Short Positions*. Operation Research Vol 53 No. 4, pp. 586-599
- Khan, M.M. & Bhatti, M.I. (2008). *Development in Islamic Banking: The case of Pakistan*. England: Palgrave Macmillan
- Marliana A, et.al. (2011). *Operational Risk in Islamic Banks: Examination of Issues*. Qualitative Research in Financial Markets, 3 (2), pp. 131–151.
- Misman, F.N. (2012). *Financing Structures, Bank Specific Variables and Credit Risk: Malaysian Islamic Banks*. Journal of Business and Policy Research Vol. 7. No. 1. April 2012 Special Issue. pp. 102 - 114
- Muhammad F, et.al. (2011). *Liquidity Risk Management: A comparative Study Between Conventional and Islamic Banks of Pakistan*. Interdisciplinary Journal of Research in Business, 1, 35-44.
- Otoritas Jasa Keuangan. (2015). *Islamic Banking Statistics December 2014*, Jakarta: Otoritas Jasa Keuangan RI.
- Pratama, Y.C. (2015). *Macroeconomic Variable and Its Influence on Performance of Indonesian Islamic Banking*. Al-Iqtishad: Vol. 7 No. 1, pp. 45-58.
- Reilly, F. & Brown, K. (2012). *Analysis of Investment and Management of Portfolio*. Canada: South-Western
- Said, A. (2013). *Risks and Efficiency in the Islamic Banking Systems: The Case of Selected Islamic Banks in MENA Region*. International Journal of Economics and Financial Issues Vol. 3, No. 1, pp.66-73
- Saunders, A. & Cornett, M.M. (2003). *Financial Institutions Management: A Risk Management Approach*. Singapore: Mc Graw Hill.
- Shinsuke, Nagaoka. (2010). *Reconsidering Mudarabah Contracts in Islamic Finance: What is the Economic Wisdom (Hikmah) of Partnership-based Instruments?.* Review of Islamic Economics, Vol. 13, No. 2, pp. 65–79.

Warninda, T.D. & Hosen, M.N. (2015). *Mapping and Correlation Analysis of Efficiency and Profitability: The Case of Islamic Rural Bank in Indonesia*. Al-Iqtishad: Vol. 7 No. 1, pp. 1-12