

Performance Measurement System, Attitude Toward Risk and the Performance of Profit Sharing Financing in Indonesian Islamic Bank

Ataina Hudayati
Sofiah Md Auzair

ABSTRACT

This study was undertaken to investigate the relationship between diagnostic and interactive use of performance measurement system (PMS), attitude toward risk and profit sharing (PS) financing performance in Islamic banks. PS financing performance is conceptualised using two dimensions, i.e. the quantity and the quality of PS financing performance. Utilising a survey method, questionnaires were mailed to 115 Islamic Rural Banks in Indonesia, out of them, 69 (62%) were returned and used for analysis. The results found positive relationship between diagnostic use of PMS and attitude toward risk and negative relationship between interactive use of PMS and attitude toward risk. Although the results also provide support for the negative relationship between attitude toward risk and the quality of PS financing, we find no support for the relationship between attitude toward risk and quantity of PS financing. This study provides evidence on the role of PMS in Islamic banking institutions.

ABSTRAK

Kajian ini bertujuan untuk mengenal pasti hubungan di antara sistem pengukuran prestasi (SPP) yang digunakan secara diagnostik dan secara interaktif, sikap terhadap risiko, dan prestasi pembiayaan perkongsian untung (PPU) dalam perbankan Islam. Prestasi PPU dinyatakan dalam dua aspek iaitu kuantiti dan kualiti pembiayaan. Kajian ini menggunakan reka bentuk survei lapangan, dengan mengirimkan 115 soal selidik kepada Bank Perkreditan Rakyat di seluruh Indonesia. Daripada seluruh soal selidik yang dikirimkan, 69 (62%) dikembalikan dan digunakan sebagai dasar analisis. Kajian ini menemukan adanya hubungan positif di antara SPP yang digunakan secara diagnostik dan sikap terhadap risiko serta menyokong hubungan negatif SPP yang digunakan secara interaktif dan sikap terhadap risiko. Meskipun kajian ini juga menyokong hubungan negatif di antara sikap terhadap risiko dan kualiti PPU, temuan kajian tidak menyokong adanya hubungan positif di antara sikap terhadap risiko dan kuantiti PPU. Kajian ini menunjukkan bukti empirikal tentang peranan SPP dalam perbankan Islam.

BACKGROUND

Generally, Islamic banks offer two types of financing; debt-based and profit sharing financing. With regard to financing activities, Islamic bank may appear similar to conventional bank when they practice debt-based financing. What differs is debt-based financing in Islamic bank is based on Islamic principles which is usually called contract of exchange (Saiful Azhar 2005: 57).

For financing activities based on the contract of exchange, banks will first buy the asset and sell it back to the customer with added mark-up. Customer will pay the bank the price of the asset plus the mark-up agreed by both parties. As a result, in this type of financing, bank will receive a fixed return. Payment of the asset may be made in instalments (Lee & Detta 2007:78-79). In Islamic bank, examples of debt-based financing which is based on contract of exchange consist of bay' bithaman ajil, murabahah, ijarah, istisna and salam (Saiful Azhar 2005:57).

While debt-based financing is based on selling and buying concept, Islamic bank also offer profit sharing financing which is based on investment concept. In this case, banks will advance the financing needed by the entrepreneur/customer to finance their business venture. Profit resulted from the venture will be shared between entrepreneur/customer and the bank at agreed ratio. Customer will pay back the money to the bank for the amount equal to the principal and bank's share of profit. Consequently, bank receives no fixed return, because, the return distributed to the bank will depend on the amount of profit from that financing. Examples of profit sharing financing include musharakah and mudharabah.

Nevertheless, practice of the Islamic banking shows that the dominant contract for financing activities is based on the debt contract. Iqbal and Mirakhor (2002, 2007) assert that profit sharing financing account for only 20% of total financing. In some countries the percentage is even lower. For instance, in Malaysia, between 2002 and 2005, the percentages of profit sharing financing were between 0.3% and 0.7% (Bank Negara Malaysia 2002, 2003, 2004, 2005). In Indonesia, the development of profit sharing financing is considered better than the other countries and possibly is the highest in the world, i.e. between 29 % and 35.8% of total financing (Bank Indonesia 2004, 2005, 2006, 2007).

Even though the two types of financing practiced by Islamic bank are accepted by the shariah law, scholars in Islamic economics and finance acknowledged profit sharing as a basic concept of Islamic banks rather than debt-based financing (Al-Omar & Abdel-Haq 1996:12; Lewis & Algaoud 2001:1-3; Siddiqi 1983:22). According to these scholars, compared to the debt-based contracts, profit sharing contracts have some advantages: a) increasing fairness and efficiency of income distribution; b) increasing stability of the value of money; and c) increasing investment (Siddiqi 1983:85-94). Other advantages of profit sharing financing includes suitable in unstable economic condition (Tag El-Din 2003), and comply with the concept of economic cooperation (Choudhury 1997).

Accordingly, review of the literature suggests that the quantity of profit sharing

financing needs to be increased (Ahmed 2002; Samad & Hassan 1999), because it reflects the commitment of Islamic bank on the community development (Samad & Hassan 1999). A large number of profit sharing financing should be one of Islamic bank objective. Furthermore, Ahmed (2002) asserts that there should be a balance between profit sharing financing and debt-based financing.

The above discussion seems to suggest that the quantity of profit sharing financing could become an important criterion for Islamic bank's performance. However, if banks are to perform effectively, a high quantity of profit sharing financing needs to be followed by high quality of financing, that is, a relatively low non-performing financing.

From a psychological perspective, it is argued that the low quantity of financing might be due to motivation problems, in this case, it refers to banks may have a low attitude toward risk (or risk-averse) which leads to the rejection of profitable financing proposal (Deakins & Hussain 1994; Fletcher 1995). Low attitude toward risk might in turn lead to low quantity of profit sharing financing because profit sharing financings face higher risk compared to debt based financing (IFSB 2005). As indicated earlier, profit sharing financing has no guarantee over the return of profit. For example, IFSB (2005) assert that risk weighted of profit sharing financings are 400% while debt-based financings to be around 20% to 150 %. Therefore, if the quantity of profit sharing financing is to be increased, or a criterion of Islamic banks performance is to be improved, attitude toward risk of Islamic banks should be changed.

According to Merchant and Van der Stede (2003:7-10), staff motivation problem can be dealt with a proper management control system (MCS). In this study, the problem of motivation will be examined using agency theory. Agency theory assumes that agent is risk-averse (low attitude toward risk) while principal is risk-neutral (Eisenhardt 1989; Jensen & Meckling 1976). Some studies recommend that MCS may improve attitude toward risk and hence the motivation problem (Bromiley 1991; Eisenhardt 1989; Jemison 1987; Miller & Friesen 1982; Singh 1986). Therefore, this study predicts that MCS could be used in improving attitude toward risk. It is expected that, improved attitude toward risk will lead to higher quantity of profit sharing financing.

This paper aims to examine the impact of MCS on profit sharing financing performance. Profit sharing financing performance is operationalised into two aspects, i.e. the quantity of profit sharing financing and the quality of profit sharing financing. MCS used in this study is the dimensions of performance measurement system (PMS) as suggested by Simons (1990), i.e. interactive use of control and diagnostic use of control. Specifically, the paper focuses on how the diagnostic and interactive use of performance measurement systems (PMS) affect attitude toward risk. This paper also examines the relationship between attitude toward risk and profit sharing financing performance. To investigate the role of PMS in increasing attitude toward risk, we conducted a survey in Indonesian Islamic banking, where the percentage of profit sharing financing is considered largest in the world. We predicted that the diagnostic use of PMS will be positively associated with attitude

toward risk, while interactive use of PMS will negatively be associated with attitude toward risk. In the case of the relationship between attitude toward risk and profit sharing financing performance, we predicted that attitude toward risk will be positively associated with the quantity of profit sharing financing but negatively associated with the quality of profit sharing financing.

AN INTERACTIVE AND DIAGNOSTIC USE OF MCS

Simons (1994) defined management control system (MCS) as the formal, information-based routines and procedures used by managers to maintain or alter patterns in organisational activities. Instead of using a structural approach, Simons used a process approach in formulating his definition and argued that the role of MCS is not limited to strategy implementation but also strategy formulation. Accordingly, Simons (1990, 1994, 1995) approached MCS through its different use; the diagnostic and interactive use of formal MCS.

Diagnostic use of controls refer to automated control which measures results and compare them with the goal that have been set (Simons 1994, 1995). Diagnostic controls help managers track the progress of individual, department, or production facilities toward strategically important goals. In addition, it focuses on critical performance variables. The purpose of diagnostic control includes, provide motivation, resources, and information to ensure achievement of important organisational strategies and goals (Simons 1994). Three characteristics of diagnostic controls include the ability to measure the output of a process, the existence of predetermined standards against which actual results can be compared and the ability to correct deviations from standards (Van Iwaarden et al. 2006).

Management controls become interactive when business managers use planning and control procedures to actively intervene ongoing decision activities of sub-ordinates (Simons 1994). Through interactive use of control, senior managers participate in the decisions of subordinates and focus organisational attention and learning on key strategic issues. Interactive control takes place when managers become involved in monitoring the controls which leads to a dialogue with the organisation and enables strategic uncertainties to be identified.

Overall, Simons (1994) suggest that top managers can make any control system interactive by: 1) ensuring that system is an important tool in supporting higher level manager to discuss with subordinates; 2) ensuring that system is a regular focus of attention by operating managers throughout the organisation; 3) participating in face-to-face meetings with subordinates; 4) continually challenging and debating data, assumptions and action plans.

Although the diagnostic and interactive use of MCS discussed by Simons may cover broader elements of MCS, the discussion above reflect most on their use on the performance measurement systems. According to Simons (1990, 1995), managers choose usually no more than one specific MCS (e.g. budgets, project management systems or PMS) to be used interactively at any point in time. Therefore, to distin-

guish the style of MCS use, in this study, the interactive and diagnostic use of only PMS will be studied. PMS has been known to be an important element of MCS that determines organisation’s performance (Zimmerman 2003). It has been acknowledged that PMS is a key agent of change (Brignall 1997) and its role in providing accurate feedback on effectiveness and efficiency of operations have been frequently emphasized. The role of PMS today is not just as a control and monitoring toll, but also as a management tool (Amizawati & Sofiah 2003).

THEORETICAL FRAMEWORK AND HYPOTHESIS FORMULATION

AGENCY THEORY AND THE ROLE OF PERFORMANCE MEASUREMENT SYSTEM

Agency theory assumes that agents are self-interested, risk-averse and work-averse (Eisenhardt 1989; Jensen & Meckling 1976; Rose 1973). Agents who behave risk-averse create agency problem, because by taking risk-averse behaviour agents could not achieve principal’s objective (Zimmerman 2003). With regard to agency problems, Eisenhardt (1985) and Ekanayake (2004) emphasized incentive and monitoring of the PMS could be used to reduce such problems. Merchant (1985) and Van der Stede (2000) also indicate that tight controls could reduce also budgetary slack (a form of agency problem) as managers who are risk averse chose not to be detected by the tight system. As agency problem decreases, it is expected that performance will be higher.

THE MODEL

This study will focus on diagnostic and interactive use of PMS, attitude toward risk, and performance of profit sharing financing. As indicated earlier, performance of profit sharing financing is represented by two variables, quantity and quality of financing. The theoretical model of this study is exhibited in Figure 1.

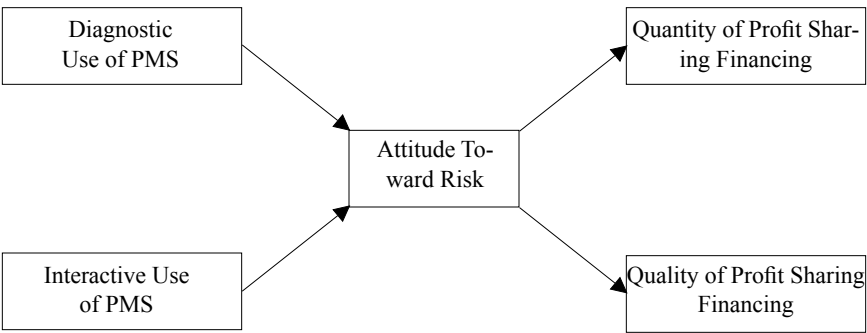


FIGURE 1. Theoretical Framework

THE RELATIONSHIP BETWEEN INTERACTIVE AND
DIAGNOSTIC USE OF PMS ON ATTITUDE TOWARD RISK

To the knowledge of the authors, there is no previous study investigating the relationship between diagnostic and interactive use of performance measurement system and attitude toward risk. Nevertheless, agency theory based studies reviewed indicate focus given on the relationship between organisational design, monitoring system and incentive system, which are broader elements of management control systems, on attitude toward risk (Willman et al. 2002). For instance, Miller & Friesen (1982) stated that information as monitoring device can be used to increase attitude toward risk in conservative firm and to reduce attitude toward risk in entrepreneurial firm. Singh (1986) investigated the effect of decentralisation on attitude toward risk. Following Singh (1986), Jemison (1987) explored the relationship between organisational process including centralisation in decision making, formalised planning system and departmental interdependence on attitude toward risk. The study found that formalised planning system and departmental interdependence leads to lower business risk. These findings indicate that factors influencing attitude toward risk include structure of decision making, information for monitoring device, and formalised planning system. As those factors are considered as elements of management control system (MCS), this lead us to believe that similar relationship would also exist between diagnostic and interactive use of PMS and attitude toward risk.

Other researchers focused on examining the effect of expectation (or target) on attitude toward risk. For example, Bromiley (1991) contended that expectation has a positive effect on attitude toward risk. The result of that study is consistent with Payne, Laughhunn and Crum (1980) who argued that there was a positive relationship between target and attitude toward risk. As a result, empirical evidence showed that target for achieving organisational objective motivate individual to increase their level of attitude toward risk. Incentive system which is a part of performance measurement system, was another factor which is predicted to influence attitude toward risk (Eisenhardt 1989). Eisenhardt (1989) expects that output-based incentive system is positively related to attitude toward risk. Referring to the explanation by Simons (1995), this imply that a positive relationship is also expected to exist between attitude toward risk and the diagnostic use performance measurement which is aimed at determining goals and targets, which appear to be similar to the characteristic of MCS resulted from studies by Bromiley (1991), Eisenhardt (1989) and Payne et al. (1980).

In addition, the use of diagnostic performance measurement to control attitude toward risk is in line with the views of Abernethy and Brownell (1999) and Bruining, Bonnet and Wright (2004) that traditional role of control system as diagnostic role by evaluating and providing reward to manager performance. In its traditional role, control system is purely monitoring devices which are the heart of agency theory. Therefore it is expected that the use of diagnostic performance measurement might be utilised to enhance attitude toward risk in Islamic banks. Hence

it can be predicted that the higher the usage of diagnostic performance measurement the higher the bank Islam's attitude toward risk. Formally, the relationship between the use of diagnostic performance measurement and attitude toward risk is hypothesised as follows:

Hypothesis 1

The use of diagnostic performance measurement system will be positively related to the attitude toward risk.

The impact of interactive performance measurement system on the attitude toward risk can be implied by referring to studies in the area of budget planning process from the agency theory perspective. From this perspective, the participation of lower/sub-division in formulating budget might cause lower/sub-division to create slack on the budget prepared (Chow et al. 1985). Budget slack might cause a bias in the budget and lower its effectiveness as a measure of performance. If the opportunity given to lower/sub-division to participate in the budget planning process can cause negative impact on the planning, then the same effect could possibly happen should the same opportunity is given in the process of performance evaluation.

As previously discussed, the use of interactive performance measurement focuses on discussion process between lower and upper levels managers concerning activities conducted by lower/sub-division. This opportunity, which can be utilised to bargaining process, might reduce the effectiveness of PMS in controlling agent's attitude toward risk as agents are able to negotiate with their superior for any deviation from the budget. Based on agency theory assumptions on agent's behaviour, self interest and opportunistic, the use of interactive performance measurement which involves discussion process between lower and upper levels managers concerning activities conducted by lower/sub-division, might create similar negative impact. Hence it can be predicted that the higher the use of interactive performance measurement the more negative the impact it has on attitude toward risk. This leads to the second hypothesis stated as follows:

Hypothesis 2

The use of interactive performance measurement will be negatively related to the attitude toward risk.

ATTITUDE TOWARD RISK AND PROFIT SHARING FINANCING PERFORMANCE

Profit sharing financing is considered as a riskier financing than debt-based financing, therefore it might be predicted that Islamic banks with more positive attitude toward risk will have higher level of profit sharing financing and hence positive relationship is expected to prevail between profit sharing financing and the quantity of financing. Positive relationship between the attitude toward risk and the quantity of financing can also be explained by behavioural theory predicting positive relationship between attitude and behaviour. Some studies on attitude toward risk

will determine the behaviour toward risk that actually prevailed (Sitkin & Weingart 1995; Williams & Narendran 1999). Managers with highly attitude toward risk have higher probability to be risk taker. Hence if banks implement profit sharing financing in higher quantity, it reflects that the banks behave to be risk taker as well. Using the assumption of behavioural theory that states that positive relationship exists between attitude and behaviour, it might be expected that similar positive relationship between attitude toward risk and quantity of profit sharing financing will exist.

Hypothesis 3

There is a positive relationship between attitude toward risk and the quantity of profit sharing financing.

Even though attitude toward risk is expected to have positive relationship with the performance of profit sharing financing from quantity aspect, that attitude toward risk might create negative impact on the quality aspect of profit sharing financing. This negative impact is what is termed as the *spillover effect* which means that the design of certain MCS may provide a benefit to organization, however, at the same time there is a negative effect concerning the design of such kind of MCS on the other aspect (Van der Stede 2000). For example, Van der Stede (2000) found that there was a spillover effect concerning the use of rigid budgetary control style which on one hand may decrease budget slack creation but at the same time increased managerial short-term orientation. This is in line with Bashir (1999) statement that higher attitude toward risk adopted by banks can drive them to extending riskier financing and hence decreasing quality of financing. This excessive attitude toward risk is due to self interest behaviour of agent. It is even more prevalent under banking system insured with deposit insurance system provided by government. This kind of attitude toward risk might create higher level of non-performing loan, cause financing quality to degrade and even lead to get bankrupt. Therefore it can be predicted that there exists a negative relationship between attitude toward risk and quality of profit sharing financing, and formally it is hypothesised as follows.

Hypothesis 4

There is a negative relationship between attitude toward risk and the quality of profit sharing financing.

METHODOLOGY

SAMPLE SELECTION

A self-administered questionnaire together with a reply-paid envelope was sent to the Financing Managers of the Islamic Rural Banks of Indonesia. Indonesian banks were selected due to their practice of profit sharing financing that were considered the highest in the world. Islamic Rural Banks are medium-sized banks with a total population of 115 banks in January 2008 (Bank Indonesia 2008). While this number

is higher than larger sized Islamic banks in Indonesia, the total population is still considered rather limited. Thus, this study treats all 115 Islamic Rural Banks as target respondents.

Respondents answered anonymously questions regarding the quantity of profit sharing financing, the quality of the profit sharing financing, organisational willingness to take risk and the interactive and diagnostic use of performance measurement system of the banks, according to their perspectives. One week after mailing the questionnaire, reminder letters (including second copy of questionnaire) were sent to all managers and follow up phone calls were made to all of them), entreating those who had not yet responded to do so and thanking those who had responded. Of the 115 questionnaires sent, 69 (62%) were returned and usable for analysis.

On average, respondents have been employed by the banks for about 10 years (S.D. = 6.4) and aged around 37 years (S.D. = 7.39). The banks have been in existence for an average of 9.6 years and the average number of employees is 19 (a proxy for size). Descriptive statistics of the companies and the respondent are summarized in Table 1.

MEASUREMENT OF VARIABLES

The questionnaire includes items measuring the diagnostic and interactive use of

TABLE 1. Descriptive Statistics of the Companies and Respondent

	Minimum	Maximum	Mean	Std. Deviation
Financing Managers Experience	1 year	35 years	9.8406	6.45922
Financing Managers Age	23 years	60 years	36.8116	7.39291
Company Age	0.75 years	37 years	9.6616	5.85681

PMS, attitude toward risks and profit sharing financing performance. In most cases, the instruments were adapted from previous research and modified to fit the current research context. Each measure was anchored on a 7-point scale. The questionnaire was sent to respondents using Indonesian language. Therefore, an English language expert was asked to review the questionnaire to ensure that the translation from original measurement (in English) to Indonesian language is appropriate. After a review by the language expert, it was sent to bank practitioners to make sure that it can be understood and suitable in Islamic banking context. These procedures resulted in refinement of some of the measures. The measures of the variables are described as follows:

Interactive and diagnostic use of performance measurement system (PMS)
Interactive and diagnostic use of performance measurement system were measured

by the instrument developed by Henri (2006) based on the concept of interactive and diagnostic use of MCS suggested by Simons (1995). To measure diagnostic use of PMS, respondent were asked to rate the extent to which top management team currently uses performance measures to: track progress toward goals; monitor results; compare outcomes to expectations; and to review key measures. For the interactive use of PMS, respondent were asked to rate the extent to which top management team currently uses performance measures to: enable discussion in meetings of superiors, sub-ordinates and peers; enable continual challenge and debate underlying data, assumptions and action plans; provide a common view of the organisation; tie the organisation together; enable the organisation to focus on common issues; enable the organisation to focus on critical success factors; and to develop a common vocabulary in the organisation. The score of 1 indicated low diagnostic and interactive use of PMS while the score of 7 indicated high diagnostic and interactive use of PMS.

Attitude toward risk

In this study, attitude toward risk is defined by organisational willingness to take risk as stated by William & Narendran (1999). While risk is defined in three elements, they are 1) potential losses, 2) the significance of those losses, and 3) the uncertainty of those losses. Attitude toward risk was measured using a single item as used by William and Narendran (1999). Respondents were asked to rate on a 7-point scale, their organisations' willingness to take risks as compared with others. Low score indicated low attitude toward risk while high score indicated high attitude toward risk

Profit sharing financing performance

This study utilises two measures of profit sharing financing performance using rational goal model and internal process model as suggested by Lewin and Minton (1986). Rational goal model is applied when using quantity of profit sharing financing as the criteria of performance. While internal process model is applied with the use of the quality of process sharing financing process (Wei-Shong & Kuo-Chung 2006) as the criteria of profit sharing performance. The quantity of profit sharing financing performance was measured using a single item. Respondents were asked to rate the percentage of the quantity of profit sharing financing in Islamic bank in which they work compare to their competitors. To measure the quality of profit sharing financing performance, respondents were asked to rate the extent to which the process concerning profit sharing financing were conducted including: determination of the collection of information concerning 5C (character, capacity, cash, condition, and control) as accurate and complete; quality of analysing the loan recommendation report made in accordance with the 5C information; explanation of the enterprise's future financial situation and quality prediction using the loan recommendation report and 5C information; accuracy in the preparing of loan related documents and contracts; full completion of the documents and contracts

received; check of relevant documents of loan operations; check of relevant documents of financing; timely reaction made to the unusual payment situation of the customer; the accuracy and completeness of the 5C information gathered by periodic inspection; analysis report of the recommendation report made for 5C information. Original measurement of the quality of profit sharing financing consists of ten items. However, as three items load less than 0.7, we removed those three items (check of relevant documents of loan operations; check of relevant documents of financing; timely reaction made to the unusual payment situation of the customer) from original instrument. The measures were anchored on a 7-point scale. Low score indicated low quantity and quality of profit sharing financing while high score indicated high quantity and quality of profit sharing financing.

VALIDATION OF CONSTRUCT

To analyze the hypothesis, the partial least squares (PLS) approach to structural equation modelling (using SmartPLS version 2) was used in this study. PLS is a component-based modelling technique that simultaneously examines theory (structural model) and measures (measurement model). The advantages in using PLS are 1) its ability to handle multiple exogenous and endogenous constructs at the same time, 2) its ability to handle multicollinearity among endogenous constructs and 3) its ability to create latent construct scores directly on the basis of cross products involving multi-item measures.

According to Hulland (1999), the adequacy of the measurement model can be assessed by looking at: 1) individual item reliabilities; 2) the convergent validity of the measures associated with individual constructs and; 3) discriminant validity. Individual item reliability is assessed by examining the loadings of measures with their respective construct. A rule of thumb employed by many researchers is to accept items with loadings of 0.7 or more. Table 2 showed that all items used in this study exceed loadings of 0.7, indicating that all items are reliable.

Convergent validity was measured using Cronbach's Alpha and composite reliability (Hulland 1999). As indicated in Table 3, all of the construct have a Cronbach's Alpha and composite reliability exceeding the cut off point of 0.7 as suggested by Nunnally (1978).

The third assessment is the discriminant validity. Discriminant validity represents the extent to which measures of a given construct differ from measures of other constructs in the same model. Discriminant validity can be measured by the cross loading. Table 4 presents cross loadings of the discriminant validity and showed that the correlation between indicator of the quality of financing and the construct of the quality of financing are higher compare to the correlation between indicator of the quality of financing and another construct. In this case, it can be stated that indicators of the quality of financing have a discriminant validity. As summarised in Table 4, the data shown also indicate the same occurs with other constructs.

STATISTICAL ANALYSIS AND RESULTS

TABLE 2. Loadings of Measurement

Variables (Measurement)	Loadings
Diagnostic use of performance measurement system	
Track progress toward goals	0.893472
Monitor results	0.913236
Compare outcomes to expectations	0.913471
Review key measures	0.766625
Interactive use of performance measurement system	
Enable discussion in meetings of superiors, sub-ordinates and peers	0.779758
Enable continual challenge and debate underlying data and action plans	0.778220
Provide a common view of the organisation	0.862807
Tie the organisation together	0.827630
Enable the organisation to focus on common issues	0.839656
Enable the organisation to focus on critical success factors	0.888054
Develop a common vocabulary in the organisation	0.857220
Attitude toward risk	1.000000
Quantity of profit sharing financing	1.000000
Quality of profit sharing financing	
Determination of the collection of information concerning 5C	0.759335
Quality of analysing the loan recommendation report	0.817941
Explanation of the enterprise's future financial situation	0.879525
Accuracy in the preparing of loan related documents and contracts	0.852923
Full completion of the documents and contracts received	0.865047
Accuracy and completeness 5C information gathered by periodic inspection	0.729499
Analysis report of the recommendation report made for 5C information	0.704677

TABLE 3. Composite Reliability and Cronbach's Alpha

	Composite Reliability	Cronbach's Alpha
Attitude Toward Risk	1.000000	1.000000
Diagnostic Use	0.927838	0.894731
Interactive Use	0.941132	0.926875
Quality of Financing	0.927032	0.907773
Quantity of Financing	1.000000	1.000000

The outputs of path coefficient between constructs to test the hypothesis are presented in Table 5.

Chin and Newsted (1999) suggest that to determine the adequacy of a sample for PLS, researchers should find the larger of two possibilities: (a) the construct with the largest number of formative measures or (b) the endogenous construct with the largest number of exogenous construct impacting on it. The sample size should be equal to or more than 10 times of either (a) or (b) mentioned earlier, whichever is

TABLE 4. Discriminant Validity: Cross Loadings

	Attitude Toward Risk (ATR)	Diagnostic Use (DU)	Interactive Use (IU)	Quality of Financing (QUALITY)	Quantity of Financing (QUANTITY)
DU1	0.141401	0.893472	0.677606	0.650162	0.122453
DU2	0.107472	0.913236	0.729200	0.645273	0.168855
DU3	-0.028782	0.913471	0.829084	0.738698	0.112564
DU4	-0.215727	0.766625	0.750486	0.626732	0.284350
IU1	-0.172027	0.678660	0.779758	0.559250	0.041076
IU2	-0.017072	0.650488	0.778220	0.516906	0.284051
IU3	-0.136976	0.747694	0.862807	0.696822	0.202188
IU4	-0.008238	0.730124	0.827630	0.628993	0.116838
IU5	-0.197930	0.657321	0.839656	0.645847	0.289689
IU6	-0.145046	0.743314	0.888054	0.651190	0.169142
IU7	-0.043360	0.799513	0.857220	0.743864	0.068189
QUALITY1	-0.259069	0.520135	0.591456	0.759335	0.070285
QUALITY2	-0.041556	0.648515	0.670430	0.817941	0.186618
QUALITY3	-0.138529	0.695307	0.688038	0.879525	0.073880
QUALITY4	0.001615	0.718557	0.661176	0.852923	0.073757
QUALITY5	-0.004776	0.704549	0.667538	0.865047	0.102342
QUALITY6	-0.274089	0.480068	0.512467	0.729499	0.105945
QUALITY7	-0.187255	0.478749	0.486517	0.704677	0.166091
QUALITY	0.088575	0.195985	0.201139	0.135321	1.000000
ATR	1.000000	-0.001116	-0.125505	-0.146633	0.088575

TABLE 5. Path Coefficient of the Structural Model
(t Statistic in Bracket)

	Attitude Toward Risk	Quality of Financing	Quantity of Financing
Attitude Toward Risk		-0.099487 (1.666163)*	0.110920 (0.955879)
Diagnostic Use	0.405979 (1.733314)*	0.445471 (2.563212)**	0.043569 (0.284854)
Interactive Use	-0.474104 (1.997750)*	0.371693 (2.162955)*	0.177649 (1.057636)

*p < .05 (one-sided), **p < .01 (one-sided).

We calculated t-values through a bootstrapping with 69 cases and 500 samples.

greater. In this study criteria (b) is used by looking at Quality of Financing with 7 exogenous construct impacting on it. Thus, this will be 70 or more. Because of the limited number of Islamic Rural Banking (115) and the response rate 62% is considering high, the sample size of 69 is therefore considered adequate for PLS.

As indicated in Table 5, path coefficient and t statistic on the relationship between diagnostic use of PMS and attitude toward risk is 0.405979 and 1.733314 respectively. This result indicated that there is a significant positive relationship ($\pm=0.05$) between diagnostic use of PMS and attitude toward risk. Therefore, if firm PMS emphasis on achieving organisational objective, attitude toward risk of Islamic bank will be higher. This finding supports hypothesis 1.

Hypothesis 2 predicts that there is a negative relationship between interactive use of PMS and attitude toward risk. Path coefficient and t statistic on the relationship between interactive use of PMS and attitude toward risk is -0.474104 and 1.997750 respectively. This result showed that there is a significant negative relationship ($\pm=0.05$) between interactive use of PMS on attitude toward risk. In another word, the involvement of superior to actively intervene in ongoing decision activities of sub-ordinates reduce attitude toward risk of Islamic bank. Therefore, this finding supports hypothesis 2.

The third hypothesis stated that there is a positive relationship between attitude toward risk on the quantity of profit sharing financing. Nevertheless, the finding showed that the path coefficient on the relationship between attitude toward risk is 0.110920 and t statistic is 0.955879 indicating an insignificant positive relationship between attitude toward risk and the quantity of profit sharing financing. This finding indicates that the quantity of profit sharing financing of Islamic bank is not affected by attitude toward risk. Thus, the data do not support hypothesis 3.

Hypothesis 4 predicts that there is a negative relationship between attitude toward risk and the quality of profit sharing financing. The path coefficient and t statistic which is presented in Table 5 showed that path coefficient is negative and significant thus indicates that there is a negative relationship between attitude toward risk and the quality of profit sharing financing. Thus, the data supports hypothesis 4. Consequently, the higher attitude toward risk of Islamic bank, the lower the quality of profit sharing financing.

Using PLS, an interesting finding that can be revealed although not stated in the form of formal hypothesis, is concerning the relationship between diagnostic and interactive use of PMS on the quality of profit sharing financing. Due to limited evidence on direct relationship between interactive and diagnostic use of PMS on profit sharing financing performance, formal hypothesis concerning those relationship were not formulated. As presented in Table 5, the path coefficient and t statistic on the relationship between diagnostic use of PMS and the quality of financing is 0.445471 and 2.563212 respectively. This indicates that there is a significant positive relationship ($\pm=0.01$) between diagnostic use of PMS and the quality of financing. The same relationship between interactive use of PMS and the quality of profit sharing financing is also shown to exist. Path coefficient of 0.371693 and t statistics of 2.162955 showed that this relationship is positive and significant.

CONCLUDING DISCUSSION

The resilience of Islamic banking institution facing the global economic downturn, is among the factors that increase the attention of world economist in finding solutions for financial survival. Worldnews. Com (2007) predicted that 50 percent of the Islamic community will invest in the Islamic banking institution by 2015. This study is undertaken to respond the call for the need to understand Islamic banks management system in a country with the highest reported Muslim population, Indonesia.

In general, this study attempts to understand if banks attitude toward risk affect the choice of more popular debt-based financing as compared to profit-sharing financing, although the latter is seen by Islamic scholar as the basic concept of Islamic banks. From the motivational point of view, we expect the management control systems, operationalised as the performance measurement systems (PMS) has a role in influencing the bank managers attitude toward taking risky projects. Thus, using agency theory, this study examines the role of interactive and diagnostic use PMS on banks' attitude toward risk and how they affect the profit-sharing financing performance of Islamic banking. The premise of agency theory which is agents are considered as self-interested and risk-averse is utilised to formulate hypotheses for the study.

Hypothesis 1 and 2 predicted that diagnostic use of performance measurement system (PMS) may have a positive effect on attitude toward risk while the interactive use of PMS may have a negative effect on attitude toward risks. The evidence supported the prediction thus proving the hypotheses concerning the role of PMS from the agency theory perspective. One important consequence on the use of PMS interactively is that low level manager may have an opportunity to negotiate the achievability of the target. This may imply that interactive use of PMS may reduce the effectiveness of diagnostic control to reduce agency problem.

The findings concerning the use of interactive and diagnostic use of PMS extend prior literature using concept of control developed by Simons (1990, 1994, 1995). While previous studies have found that interactive and diagnostic use of PMS may have an effect on market orientation, entrepreneurship, innovativeness and organizational learning (Bisbe & Otley 2004; Henri 2006; Widener 2007), no previous study have been examining the role of diagnostic and interactive use of PMS on attitude toward risk.

Those previous studies focused on the role of interactive use of PMS on increasing organisational capabilities while diagnostic use of PMS reduced organisational capabilities. Consequently, those previous study emphasized the benefit of interactive use of PMS on raising organisational capabilities and then focusing the disadvantage of diagnostic use of PMS. On the other hand, this current study support empirical findings concerning the benefit of diagnostic use of PMS, i.e. reducing agency problem and then the findings also provide evidence concerning the negative effect of interactive use, i.e. increasing agency problem, through low motivation in accepting risky projects.

Hypothesis 3 and 4 predicted relationships between attitude toward risks and the performance of profit-sharing financing, operationalised through the quantity and quality of profit sharing financing. Nevertheless, the data provide no sup-

port for the relationship between banks' attitude toward risk and the quantity of profit-sharing financing. The finding is rather surprising as it imply that the risk taking behaviour of bank managers do not affect the reason for low practice of profit-sharing financing. On the other hand, the significant and negative of path coefficient found in the study indicate a significant relationship between attitude toward risk on the quality of profit-sharing financing. This indicates support for hypothesis 4 and implies that the risk taking behaviour of the managers affect the quality of profit-sharing financing. It is unclear at this point why the prediction of agency theory which argues that reducing agency problem will lead to increasing organisational performance in terms of quantity of profit-sharing financing is not supported by the data while the argument is supported when performance is based on quality of profit-sharing financing.

The finding that there is a negative effect of attitude toward risk on the quality of profit sharing financing provides support for the literature concerning the spillover effect of MCS design. Specifically, while the use of PMS appears to initiate managers to take riskier projects, it also reduces the effectiveness of profit sharing financing quality. This study provide support for prior study in MCS area by Van der Stede (2000) and is in line with Bashir (1999) statement that higher attitude toward risk adopted by banks can drive them to extending riskier financing and hence decreasing quality of financing.

An advantage of using partial least square (PLS) to analyze the relationships between the variables studied is the additional findings revealed, i.e. a positive and significant direct relationship between both diagnostic and interactive use of PMS were found with the quality of profit sharing financing. This consequently implies the role of PMS in increasing directly the performance in Islamic banking. Bank managers appear to appreciate clarity of performance measures in their work. The relationships would not have been exposed through the use of more commonly used techniques in the MCS area such as the regression analysis.

The paper provides a number of contributions to the literature. First, theoretically, the findings confirm prior studies using agency theory concerning the ability of MCS design to reduce agency problem. More importantly, it extends prior studies by providing empirical evidence on the role of diagnostic and interactive use of PMS in handling bank managers' attitude toward risk. So far, no previous studies have studied systematically these roles especially in Islamic banks. This leads to the practical contribution of this study for Islamic bank managers. It provides evidence on the practice of the use of PMS and its effect on behaviour. It is not about simply having a performance measurement systems in place but, the way it is being used do have an impact on the banks' performance.

Methodologically, this study attempts to develop a profit-sharing financing performance instrument. Although it still warrants further research, it provides a starting point for a measurement to be used for future research in the Islamic banking area.

LIMITATION AND EXTENSION FOR FUTURE RESEARCH

While this study can be considered as still at an infancy stage, in interpreting the results, several limitations must be acknowledged. Hypotheses formulated in this study are based on prior findings not specifically undertaken in service organisations let alone in Islamic banks. Several unique characteristics of this industry must be acknowledged and they may also limit the generalization of the findings to other industries.

The limitation associated with using agency theory in developing the model in this study to examine the relationship between PMS and profit sharing financing performance must be acknowledged. This relates to the assumption that agents are risk averse and self-interested. Future research may propose the use of another perspective to complement the agency theory for instance using the knowledge-based view. This knowledge-based view concerning the role of PMS on the performance has been used by Henri (2006). The use of knowledge-based view concerning the role of MCS also suggested by Dietrich (2001) and Chenhall (2003). The use of two perspectives may support the argument of Zimmerman (2003) concerning the role of MCS. Zimmerman (2003) argues that MCS may have two important role, i.e. decision making and control. In addition, Zimmerman (2003) argues that the more suitable perspective concerning the role of MCS is using two perspectives, i.e. MCS as control system and decision making device. Agency theory perspective focused on the role of MCS as monitoring (control device) while knowledge-based view may focused the role of MCS as decision making tools.

Eisenhardt (1989) stated that there are two alternative concerning the role of MCS in reducing agency problem. The first alternative is using information system to monitor agent's behaviour and agent will be paid based on their behaviour (using fixed based-compensation) and the second alternative is using output-based compensation. This paper only focuses on the role of information system to monitor agency problem, i.e. attitude toward risk. Future research may extent this paper using output-based compensation. Specifically, future research may examine the role of output-based compensation system on attitude toward risk.

Finally, this study is also restricted in that it has considered only one type of agency problem, i.e. attitude toward risk. Future research may study the role of diagnostic and interactive use of PMS on other types of agency problem, for example: budgetary slack and managerial short term orientation.

REFERENCES

- Abernethy, M.A. & Brownell, P. 1999. The role of budgets in organizations facing strategic change: an exploratory study. *Accounting, Organization and Society* 24:189–204.
- Ahmed, H. 2002. *A Microeconomic model of an Islamic bank*. Jeddah: Islamic Development Bank, Islamic Research and Training Institute.
- Al-Omar, F. & Abdel-Haq, M. 1996. *Islamic banking: Theory, practice & challenges*. Karachi: Oxford University Press.

- Amizawati Mohd Amir & Sofiah Md Auzair. 2003. Performance measurement systems in Service Organisations. *Proceedings International Seminar UKM-USK*.
- Bank Indonesia. 2004. Annual Report. Jakarta.
- Bank Indonesia. 2005. Annual Report. Jakarta.
- Bank Indonesia. 2006. Annual Report. Jakarta.
- Bank Indonesia. 2007. Annual Report. Jakarta.
- Bank Indonesia. 2008. Monthly Report January 2008. Jakarta.
- Bank Negara Malaysia. 2002. Annual Report. Kuala Lumpur.
- Bank Negara Malaysia. 2003. Annual Report. Kuala Lumpur.
- Bank Negara Malaysia. 2004. Annual Report. Kuala Lumpur.
- Bank Negara Malaysia. 2005. Annual Report. Kuala Lumpur.
- Bashir, A.H.M. 1999. Risk and profitability measures in Islamic banks: the case of two Sudanese banks. *Islamic Economic Studies* 6(2):1–24.
- Bisbe, J. & Otley, D. 2004. The effects of the interactive use of management control systems on product innovation. *Accounting, Organization and Society* 29:709–737.
- Brignall, S. 1997. A contingent rationale for cost system design in services. *Manage. Acc. Res.* 8: 325–346.
- Bromiley, P. 1991. Testing causal model of corporate risk taking and performance. *Academy of Management Journal* 34(1):37–59.
- Bruining, H., Bonnet, M. & Wright, M. 2004. Management control systems and strategy change in buyouts. *Management Accounting Research* 15:155–177.
- Chenhall, R.H. 2003. Management control systems design within its organizational context: Findings from contingency-based research and directions for the future. *Accounting, Organizations and Society* 28 (2/3): 127–168.
- Chin, W.W. & Newsted, P.R. 1999. Structural equation modelling analysis with small samples using partial least squares. In *Statistical Strategies for Small Sample Research*, edited by Rick Hoyle. Sage Publications.
- Choudhury, M. A. 1997. *Money in Islam: A Study in Islamic Political Economy*. London: Routledge.
- Chow, C.W., Cooper, J.C. & Waller, W.S. 1988. Participative budgeting: Effects of a truth inducing pay scheme and information asymmetry on slack and performance. *The Accounting Review* 63: 111–122.
- Deakins, D. & Hussain, G. 1994. Risk assessment with asymmetric information. *International Journal of Bank Marketing* 12(1): 24–31.
- Dietrich, M. 2001. Accounting for the economics of the firm. *Management Accounting Research* 12: 3–20.
- Eisenhardt, K. M. 1989. Agency theory: an assessment and a review. *Academy of Management Review* 14: 57–74.
- Eisenhardt, K.M. 1985. Control: Organizational and economic approach. *Management Science* 31(2): 134–149.
- Ekanayake, S. 2004. Agency theory, national culture and management control systems. *Journal of American Academy of Business* 4(1/2): 49–57.
- Fletcher, M. 1995. Decision making by Scottish bank managers. *International Journal of Entrepreneurial Behavior & Research* 1(2): 37–53.
- Henri, J.F. 2006. Management control system and strategy: A resource-based perspective. *Accounting, Organizations and Society* 31: 529–558.
- Hulland, J. 1999. Use of partial least squares in strategic management research: a review of four recent studies. *Strategic Management Journal* 20: 195–204.

- IFSB (Islamic Financial Service Board). 2005. *Capital adequacy standard for institutions offering only Islamic financial service*. Islamic Financial Service Board, Kuala Lumpur, Malaysia.
- Iqbal, Z. & Mirakhor, A. 2002. *Development of Islamic financial institutions and challenges ahead*. In *Islamic, Growth and Innovation*, edited by Archer, S. & Karim, R. London: Euromoney.
- Iqbal, Z. & Mirakhor, A. 2007. *An introduction to Islamic finance: theory and practice*. Singapore: John Wiley & Sons.
- Jemison, D.B. 1987. Risk and the relationship among strategy, organizational process, and performance. *Management Science* 33(9): 1087–1101.
- Jensen, M. & Meckling, W. 1976. The theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economic* 3: 305–360.
- Lee, M.P. & Detta, I.J. 2007. *Islamic banking and finance law*. Petaling Jaya: Pearson Malaysia Sdn. Bhd.
- Lewin, A.Y. & Minton, J.W. 1986. Determining organizational effectiveness: another look, and an agenda for research. *Management Science* 32(5): 514–538.
- Lewis, M.K. & Algaoud, L.M. 2001. *Islamic Banking*. UK: Edward Elgar Publishing Limited.
- Merchant, K.A. & Van der Stede. 2003. *Management control systems: Performance measurement, evaluation and incentives*. Harlow England: Prentice Hall.
- Merchant, K.A. 1985. Budgeting and the propensity to create budgeting slack. *Accounting, Organization and Society* 10(2): 201–210.
- Miller, D. & Friesen, P.H. 1982. Innovation in conservative and entrepreneurial firms: two models of strategic momentum. *Strategic Management Journal* 1–25.
- Nunnally, J.C. 1978. *Psychometric Theory*. (2nd ed). New York: McGraw-Hill.
- Payne, J.W., Laughhunn, J. & Crum, R. 1980. Translation of gambles and aspiration level effect in risky choice behaviour. *Management Science* 26 (10): 1039–1055.
- Ringle, C. M., Wende, S. & Will A. 2005. SmartPLS 2.0 (beta), www.smartpls.de.
- Ross, S.A. 1973. The economic theory of agency: the principal's problem. *American Economic Association* 63(2): 134–139.
- Saiful Azhar Rosly. 2005. *Critical Issue on Islamic Banking and Financial Markets*. Kuala Lumpur: Dinamas Publishing.
- Samad, A. & Hassan, K. 1999. The performance of Malaysian Islamic bank during 1984–1997: an exploratory study. *International Journal of Islamic Financial Service* 1(3).
- Siddiqi, M. N. 1983. *Issues in Islamic Banking: Selected Papers*. UK: The Islamic Foundation.
- Simons, R. 1990. The role of management control systems in creating competitive advantage: New perspective. *Accounting, Organizations and Society* 15: 127–143.
- Simons, R. 1994. How new top managers use control systems as levers of strategic renewal. *Strategic Management Journal* 15: 169–189.
- Simons, R. 1995. Control in an age of empowerment. *Harvard Business Review* 67(2): 80–88.
- Singh, J.V. 1986. Performance, slack and risk taking in organizational decision making. *Academy of Management Journal* 29(3): 562–585.
- Sitkin, S.B. & Weingart, L.R. 1995. Determinant of risky decision-making behaviour: a test of the mediating role of risk perceptions and propensity. *Academy of Management Journal* 38(6): 1573–1592.
- Tag El-Din, S.I. 2003. Toward an optimal risk management tool for profit sharing finance. *International Seminar on Islamic Wealth Creation*. University of Durham, 7th–9th July.
- Van der Stede, W.A. 2000. The relationship between two consequences of budgetary control: budgetary slack creation and managerial short-term orientation. *Accounting, Organiza-*

- tion and Society 25(6): 609–622.
- Van Iwaarden, J., Van der Wiele, T. & Williams, R. 2006. A management control perspective of quality management: an example in the automotive sector. *International Journal of Quality & Reliability Management* 3(1): 102–112.
- Wei-Shong, L.P. & Kuo-Chung, M.A. 2006. The internal performance measures of bank lendings: a value-added approach. *Benchmarking An International Journal* 13(3): 272–289.
- Widener, S.K. 2007. An empirical analysis of the levers of control framework. *Accounting, Organization and Society* 32:757–788.
- Williams, S. & Narendran, S. 1999. Determinants of managerial risk: exploring personality and cultural influences. *The Journal of Social Psychology* 139(1): 102–125.
- Willman, P., Fenton-O’Creevy, M., Nicholson, N. & Soane, E. 2002. Traders, managers and loss aversion in investment banking: a field study. *Accounting, Organization and Society* 27: 85–98.
- Worldnews. Com (19 September, 2007).
- Young, S.M. 1985. Participative budgeting: the effects of risk aversion and asymmetric information on budgetary slack. *Journal of Accounting Research* 23: 829–842.
- Zimmerman, J.L. 2003. *Accounting for decision making and control*. 4th ed. New York: McGraw-Hill.

Ataina Hidayati
Indonesian Islamic University
Yogyakarta
Indonesia
Email: ahidayati@yahoo.com