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Submission date: 13-Jun-2023 04:09AM (UTC-0500)

Submission ID: 2115135887

File name: 125958342_1.pdf (376.41K)

Word count: 4085

Character count: 21657

Three Line of Defense: An Effective Risk Management

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ABSTRACT

This study aims to determine the effect of three lines of defense on risk management. Risk management as the dependent variable is measured by content analysis based on the risk profile. The independent variable, namely the three lines of defense, was measured by content analysis based on 2013 COSO Internal Control in the form of 17 principles covering five components. The sample was determined based on the purposive sampling method and resulted in 60 Sharia banking observation units registered with the Financial Services Authority (OJK) for the 2015-2019 fiscal year. The results of simple linear regression analysis show that three lines of defense affect risk management. The results of this study imply that the three lines of defense model plays an essential role in realizing the effectiveness of risk management, where the effectiveness of risk management will be achieved if the control and assurance functions are carried out proportionally by the three lines of defense.

Keywords: Internal control, three line of defense, risk management, sharia banking.

1 INTRODUCTION

Operating in one of the countries with the largest Muslim population globally, sharia banking in Indonesia is considered to have the strengths and opportunities to win and fulfill market demand compared to conventional banking. Thus, it is not surprising if many conventional banks have begun to expand their business to sharia institutions and sharia business units. For sharia banks, they have listed their shares on the IDX and have been well performed so far (www.cnbcindonesia.com, 2021). Unfortunately, the coronavirus pandemic (Covid-19) has hit many business sectors and sharia banking is one of the many affected. Teguh Supangkat, deputy commissioner of banking supervision at the Financial Services Authority (OJK), said that the business of sharia banks was slowing down amid Covid-19, although it is still better than conventional

banks. This is evidenced by the improvement of some key ratios as of May 2020. The growth of loans received grew by 10.14% year to date (YTD). It also grew by 9.35% YTD on the assets side, while third-party funds rose to 9.24% YTD. In contrast with their competitors, the credit growth of conventional banks was only 3.04% YTD, while third-party funds only reached 8.87% YTD. Thus, these numbers indicate that the public has high confidence in Sharia banking, albeit the Covid-19 pandemic outbreak (Lidyana 2020).

The pandemic hits the banking sector by weakening economic growth, which leads to a slowdown of credit growth and a decline in the banking industry's profitability. Apart from these external factors, the bank may also be facing several internal problems, such as increasing errors, commission, and fraud that are difficult to prevent, high NPL/NPF ratio, inadequate quality of human resources,

unreliable information technology, and other internal problems that occur in each bank depends on the complexity of its business. These external and internal factors indicate that banks operate in an environment full of uncertainty and full of risks, requiring proactive action to overcome risks to survive and thrive. The greater the risk faced by the bank, the greater the capital required by the bank. This is why good risk management is vital in the banking sector, as it will affect its ability to compete. A bank that can manage its risk well will require less capital and, consequently, expand its business quickly. To minimize the risks, bank management must have sufficient expertise and competition so that various potential risks can be early anticipated, better handled, and potential losses could be avoided as much as possible. In line with the principles of the six pillars of the API (Indonesian Banking Architecture), especially the fourth pillar, the implementation of risk management is very important in creating soundness and integrated banking industry (Ikatan Bankir Indonesia 2015). Risks that must be assessed for Sharia Commercial Banks (BUS) consist of 10 (ten) types of risk: credit risk, market risk, operational risk, liquidity risk, legal risk, strategic risk, compliance risk, reputation risk, return risk, and investment risk.

The implementation of risk management should be the responsibility of all parties involved in a company organization, including the risk management unit. In order to enable the organization to address uncertainty reliably, The European Commission initially established three lines of defense in 2006 as a voluntary audit directive within the European Union (Rasmussen 2017). Since then, its popularity has been growing and is now a globally accepted framework for integrated governance, risk management, and compliance across lines of defense within organizations. The Institute of Internal Auditors formally adopted this model in a position paper published in 2013, which was then codified into COSO 2013 framework in 2015 (Committee of Sponsoring Organizations 2015). The three lines of defense model is the key

model that enables organizations to organize and manage layers of controls and responsibilities. The three lines of defense model, introduced by the Institute of Internal Auditor in 2013, is designed to provide a means to improve communication about risk management and control by clarifying essential roles and tasks (Institute of Internal Auditor 2013).

In carrying out its duties and authorities, sharia banking faces risks that can increase and are complex due to the dynamic development and business demands, both internally and externally. For this reason, comprehensive and integrated risk management is required by strengthening aspects of internal control. The implementation of risk management is carried out by referring to international best practices, which are divided into three lines of defense. In this regard, The IIA (Institute of Internal Auditor 2013) also states that the three lines of defense model can enhance clarity regarding risks and controls and help improve the effectiveness of risk management systems. This means the three lines of defense in the company play an essential role in realizing the effectiveness of risk management in the company concerned.

Three lines of defense is a multi-layered defense mechanism in identifying, measuring, monitoring and controlling risk exposure across all organizational lines in accordance with their duties and authorities as to the first line, second line, and third line of defense (Hasan 2016). The effectiveness of risk management in the company will be reflected in the effectiveness of applying the three lines of defense model as shown in Figure 1. The more mature this model is applied, the more intense the creation of a risk management culture integrated throughout the process and all company lines towards a strong and comprehensive level of organizational resilience. The three lines of defense is a defense mechanism that describes the effective functions and responsibilities of risk management and control.



Figure 1. The three lines defense
Source: The Insitute of Internal Auditors (2013)

Bank implements risk management not only because they want to meet the mandatory provisions of the Financial Services Authority Regulation, i.e., Peraturan Otoritas Jasa Keuangan Nomor 65/POJK.03/2016 Tentang Penerapan Manajemen Risiko Bagi Bank Umum Syariah Dan Unit Usaha Syariah, but also because they are also obliged to fulfill the demand of the owner of the company to implement effective risk management. Thus, managers are obliged to manage the company not motivated by individual goals but rather to achieve company goals. This is in line with the principles of Stewardship Theory, which is to create an organizational structure that can help managers formulate and implement plans to optimize company performance (Hanggraeni 2015). According to Stewardship Theory, managers will behave as stewards of the company and try to cooperate rather than oppose owners when their interests are not in line (Donaldson & Davis 1991). This is because managers feel that common interests are more important to achieve organizational goals (Hanggraeni 2015). This can be achieved by creating an organizational structure that can assist the formulation and implementation of plans in order to optimize company performance. The implementation of the three lines of defense is a way to clarify the duties and roles of each line of defense in an organization to achieve effective risk management. The more mature this model is applied, which is represented by higher-level disclosure of three lines of defense, the more intense the creation of a risk management culture and all company lines towards a strong and comprehensive level of organizational resilience, hence the lower risk faced

by the company.

Several previous studies have discussed the application of risk management and its relation to company performance. Research by Cahyaningtyas et al. (2017) examines the effect of the inherent risk profile and GCG on the value of banking companies. This research indicates that the risk profile rating is proportional to capital adequacy and GCG has a significant positive effect on firm value, while inherent risk does not affect firm value. Furthermore, Cahyaningtyas & Sasanti (2019) reveal that risk management and Good Corporate Governance (GCG) significantly impact company performance. Faisal & Ismoyorini (2019) examine the effect of risk management on the performance of banking companies in Indonesia but failed to prove that the risk committee has a positive influence on bank performance. A literature study by Djuitaningsih (2018) introduces the importance of three lines of defense on enterprise risk management, while Sihab & Diyanti (2019) propose a different approach by analyzing the application of three lines of defense in the risk management of natural gas trading companies. However, Sihab & Diyanti (2019) do not take the association of three lines of defense towards the effectiveness of risk management into consideration, which leaves a research gap that is addressed in this study. Although many private sectors in Indonesia have adopted the three lines of defense, the voluntary nature of the three lines of defense implementation offers a unique possibility to study the role of three lines of defense in the risk management of Sharia banking in particular. Thus, this study proposes that the three lines of defense model influences risk management. This research was conducted on Sharia banking in Indonesia by observing the effectiveness of the overall application of risk management for ten types of risk as stipulated in the Financial Services Authority Regulation concerning risk management for sharia banks with a control function that is reflected in the concept of the three lines of defense. Three lines of defense are determined based on attributes codified in COSO

2013, while risk management is determined based on POJK Number 65/POJK.03/2016.

2 RESEARCH METHODS

The population of this study was 14 Sharia banking registered at the OJK. The study sample is determined by the purposive sampling technique, a sampling technique with specific pre-determined considerations (Sugiyono 2019). The criteria for selecting the study sample were as follows: (1) Sharia bank registered at the OJK during 2015-2019, (2) Sharia bank that published annual reports and financial reports during 2015-2019 consecutively, and (3) the company published the information needed in this research, including the disclosure of risk management and three lines of defense. Of all 14 companies registered at the OJK during 2015-2019, this study obtained a sample consisting of 12 companies, which equals 60 units of observation.

The dependent variable in this study was risk management. Risk management in this study was represented by the level of risk management disclosure, which is measured by an index. A higher disclosure index score of a company represents the effectiveness of risk management which reflects lower risk faced by the company. By performing content analysis on the ten risks of Sharia banks according to POJK Number 65/POJK.03/2016, the calculation of the disclosure index for risk management disclosure can be formulated as follows:

$$Risk\ management = \frac{number\ of\ items\ disclosed}{10} \times 100\% \quad (1)$$

The independent variable in this study was the three lines of defense. The three lines of defense was measured by the disclosed level of three lines of defense using the content analysis method on the 17 principles of COSO 2013 for Sharia Banks, which consist of 51 attributes. Higher disclosure index score of a company represents stronger three lines of defense. In line with

(Fadlan 2019), the calculation of the disclosure index for the three lines of defense can be formulated as follows:

$$Three\ lines\ of\ defense = \frac{items\ disclosed \cdot point}{51} \times 100\% \quad (2)$$

To examine the relationship between three lines of defense and risk management, a panel regression model was formulated as follows:

$$Y = a + \beta X_1 + e \quad (3)$$

Where: Y= risk management, a= constant, β = regression coefficient, X_1 = three lines of defense, e= error term.

3 RESULTS AND DISCUSSIONS

Table 1 shows the results of descriptive statistics, each for mean value, standard deviation, minimum and maximum values. From the data exhibited in Table 1, it can be seen that risk management has a minimum value of 1.200 and a maximum value of 3.000. The mean value of risk management is 2.02667, with a standard deviation value of 0.588842. Table 1 also shows that the three lines of defense has a minimum value of 2.804 and a maximum value of 3.471. The mean value of three lines defense is 3.10131, while the standard deviation value is 0.223830.

Table 1. Descriptive Statistics Results

Var	N	Mean	Std.Dev.	Min	Max
Y	60	2.02667	0.588842	1.200	3.000
X	60	3.10131	0.223830	2.804	3.471

Source: Processed data (2021)

Table 2 elaborates more on the details on characteristics of data collected for each variable. Data in Panel 1 of Table 2 shows each company's level of risk management in the study. The data indicate that although risk management of Sharia banking varies

throughout the years, it can be concluded that most of the banks in this study sample are at a low to moderate level (62%). Meanwhile, as shown in Panel 2 of Table 2, it can be concluded that although the value for three lines of defense disclosure of each bank in this study sample varies, nevertheless, all fell in the good category (100%).

Table 2. Descriptive Statistics Results

Risk	2015	2016	2017	2018	2019	Total
Low	17%	8%	8%	8%	8%	10%
Low to moderate	50%	58%	67%	67%	67%	62%
Moderate	33%	33%	25%	25%	25%	28%
Moderate to high	0%	0%	0%	0%	0%	0%
High	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%
Classification	2015	2016	2017	2018	2019	Total
Not Disclosed	0	0	0	0	0	0
Very poor	0	0	0	0	0	0
Fair	0	0	0	0	0	0
Good	100%	100%	100%	100%	100%	100%
Very Good	0	0	0	0	0	0
Excellent	100%	100%	100%	100%	100%	100%

Sources: Processed data (2021)

This study performs a panel data regression to analyze the relationship between three lines of defense and risk management. However, panel data typically displays both contemporaneous correlations across units and unit-level heteroscedasticity, making inference from standard errors produced by OLS incorrect. Since this study shows the presence of an autocorrelation problem, it is necessary to correct the model for the violation found. Two methodologies help to correct this kind of problem in panel data: Feasible Generalized Least Square (FGLS) and Panel Corrected for Standard Errors (PCSE). According to Hoehle (2007) as well as

Reed & Webb (2010), FGLS is infeasible if the panel's time dimension T is smaller than its cross-sectional dimension N. In this study, T (5 years) is smaller than N (12 company); hence this study opted to perform PCSE instead. A PCSE accounts for these deviations from spherical errors and allows for better inference from linear models estimated from panel data (Bailey & Katz 2011). The results of PCSE regression are presented in Table 3.

Table 3. Panel Data Regression Results

Variable	Coef.	t-Stat.	P> z
Constant	0.812	-5.74	0.000
Three line of defense	-1.066	9.59	0.000
R-squared	0.0073		
Prob > Chi2	0.000		
Wald Chi2(1)	32.93		
Number of observations	60		

The regression analysis results in Table 3 show a probability of 0.000 at a significance level of 5%. It means that the study provides evidence that the three lines of defense has an impact on risk management. Although the value R-Squared of 0.00729 suggests a weak contribution of the three lines of defense on risk management, the coefficient value of -1.066 suggests a negative direction of the relationship between three lines of defense with risk management. This confirmed the Stewardship Theory that applying the three lines of defense applied has somehow taken part in lowering the risk, which is in line with the organization's objective to achieve effective risk management. As indicated in Table 2, with a good level of three lines of defense, the highest risk level faced by the bank in the study sample is only categorized as moderate. This confirmed that the three lines of defense provide a simple and effective way to improve internal control and risk management by clarifying each related party's important roles and duties, thereby increasing the effectiveness of the risk management system.

The study results are consistent with Djuitaningsih (2018), which states that an exploration of the quality of each component of risk management is required to measure

the effectiveness of risk management. Therein lies the important role of the three lines of defense in realizing the effectiveness of risk management. The effectiveness of risk management will be realized if the control and assurance functions are carried out proportionally by the three lines of defense where the first line of defense must take the dominant portion of the control function, while the second line of defense must take the portion of the control and assurance function in a balanced manner, and lastly, the third lines of defense must take control the assurance function.

4 CONCLUSION

This study aims to obtain empirical evidence of the effect of three lines of defense on risk management in Sharia banking. This research was conducted by regressing the data on the disclosure of the three lines of defense application to the disclosure of risk management published in the annual financial reports of Sharia banks in Indonesia during a five-year observation period. The results show an effect of the three lines of defense on effective risk management, which confirms the Stewardship Theory and previous research. Based on the conclusions outlined, it implies that the company should consider to fully utilize the three lines of defense in carrying out risk management since it provides a simple and effective way for the company to improve communication in risk control and management by clarifying the important roles and tasks of each line both as own and manage risks, overseeing risks and independent assurance, thereby increasing the effectiveness of risk management system. In addition, OJK as the regulatory and supervisory institution could consider applying three lines of defense as the mandatory component in the internal control mechanism for the financial services industry to enhance the protection of the interests of consumers and the public.

Although the current study succeeded in proving the research hypothesis proposed, its result should be interpreted carefully because it is subject to certain limitations. First, determining the value of the disclosure index is mainly based on the author's perceptions, which are subject to the author's judgment. In addition, the limited number of independent variables makes the degree of variation in the explanatory variables of the dependent variable to be limited. Furthermore, the sample used in this study was only focused on Sharia banks, so the conclusions produced in this study cannot be generalized to different company types. To generalize the findings beyond the listed sample, this study recommends future research to develop the scope of risk management research and three lines of defense in conventional banking, add more explanatory variables, and employ a different approach to assess the three lines of defense and risk management.

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