The Analysis of Bank Specific Factors, Macroeconomics and Corporate Governance to Financing Risk in Islamic Commercial Banks in Indonesia

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Abstract. Financing Risk is the root of financial instability in the banking sector. The aim of study is analysis of the factors that affect the financing risk level of NPF (non-performing finance) in Islamic banking such as bank-specific factors, macroeconomic factors, and corporate governance factors. This quantitative research utilizes a sample of all Islamic commercial banks in Indonesia for the period of 2015-2019 with analysis instruments of Structural Equation Model-Partial Least Square (SEM-PLS) that using WarpPLS 7.0. The results of data analysis indicate that bank-specific factors represented by CAR, FDR and age each have a significant relationship to NPF. Macroeconomic factors also affect the NPF as shown in the analysis of inflation and GDP data. Finally, corporate governance factors is FBD and BMD, also show their relationship to NPF.

Keywords: Financing Risk (NPF), Bank Specifics, Macroeconomics, Corporate Governance, Banks

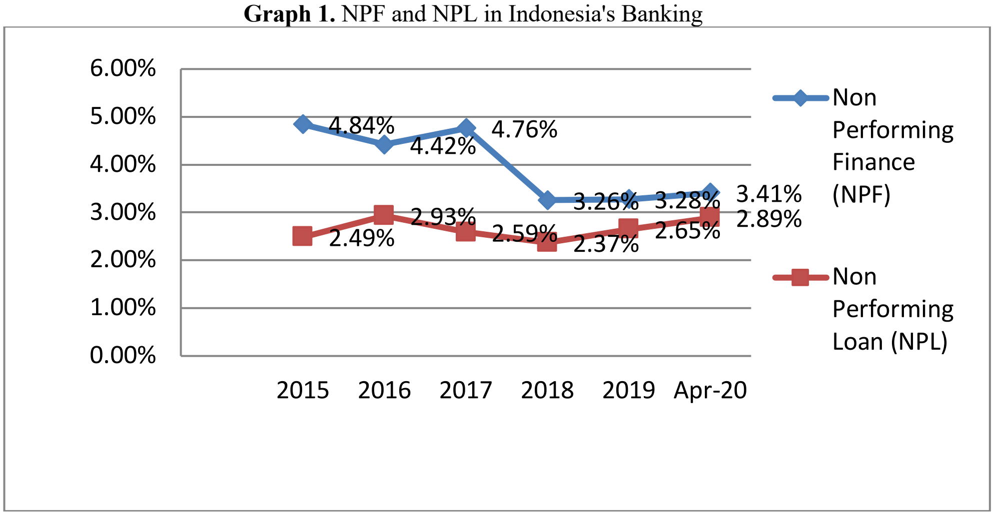
1 Introduction

In banking, there are always risks that can cause losses. These risks also occur in Islamic banking, one of the financing risk which are represented by Non-Performing Financing (NPF). Financing risks (NPF) is a condition when the debtor is unable to cover the financing burden [1] so that this is the main cause of financial instability in the banking sector. The impact of financing risk will affect the financial health of banks and become one of the causes of the global crisis in 2007 [2]. A high NPF will affect interest rates, investment circulation, cause a liquidity crisis, and affect the real sector so that it has an impact on the community's economy because most of the economies in developing countries are dominated by banks [2]. Islamic banking has a higher level of financing risk (NPF) than conventional banks, because Islamic banks do not recognize the term interest, but recognize a profit-sharing system and trust, so that losses and profits will be shared [3][4]. In more detail, the following graphs of NPF and NPL of banking in Indonesia are shown in Graph 1.

ICE-BEES 2021, July 27-28, Semarang, Indonesia

DOI 10.4108/eai.27-7-2021.2316921

Graph 1. NPF and NPL in Indonesia's Banking



(Indonesian Banking Statistics, 2020)

Graph 1 shows the npf movement from 2015-2017 of 4.84%, 4.42% and 4.76%, 2018 decreased significantly to 3.26%, and increased until April 2020 3.41%, meaning the overall NPF trend very volatile, different when compared to NPLs in conventional banks which are relatively stable in the range of only 2%. Whereas according to Bitar et al. [5] the greater the financing/credit disbursed by banks, the greater the risk obtained, in this case the credit disbursed by conventional banks is much greater than the financing disbursed by Islamic banks but the percentage of NPL in conventional banks is smaller than the NPF in Islamic Bank. So, this indicated that Islamic banks have not been maximal in reducing the risk of non-performing financing.

Understanding how important it is to control NPF, several studies have reported that bank-specific factors (CAR, FDR, age) can reduce the risk of non-performing financing because management efficiency in managing funds and utilizing resources plays an important role in determining the direction of management policies to suppress NPF. According to Irawati et al. [6], CAR or Capital Adequacy Ratio is the capital structure owned by banks to protect finances or financing channeled to customers from unwanted things. According to İncekara [7] CAR has a positive effect on financing risk in banks, the growth of CAR in banks results in the growth of financing risk, the same result is also stated by Firmansyah [8]. The Financing to Deposit Ratio (FDR) in conventional banking is known as the Loan to Deposit Ratio (LDR) which is a comparison between the financing disbursed to customers and the number of funds collected by the bank from various sources [9]. FDR is indicated to affect financing risk in Islamic banking, research results by Faiz [4] said that FDR has a negative effect on NPF while Soebagio [10] explains if LDR increases then NPL will also increase. The age of the company is the quantity of time that the company has to remain in the business world, the age of the Islamic Commercial Bank symbolizes the accumulation of understanding of its field [11], the longer an issuer has been established, the more understanding it has so that according to Bofondi and Gobbi [12] said that bank age has a negative effect on NPL, but Syamlan and Jannah [13] said that bank age has a positive effect on financing risk-taking.

According to Gregory Mankiw [14], Inflation is the tendency to increase the price of goods and services in general within a certain period of time which takes place continuously. According to the Indonesian Central Statistics Agency, GDP is the total number of goods and services that a country can produce in a certain period of time. Inflation and GDP factors are considered to be able to reduce the risk of non-performing financing because macroeconomic conditions will affect the welfare and per capita income of the community so that it can create a good financing cycle between the community (debtors) and banks (creditors) [14][15][16][17][18][19][20][21]. In a study Kjosevski et al. [22] reported that inflation has a negative effect on NPF. Different results were presented by Ghosh [23]; Iriani and Yuliadi [24]; Rajha [25]; and Sechafia and Abduh [26] reporting that inflation had a positive effect on NPF. Furthermore, according to İncekara [7] another macroeconomic variable, namely GDP, has a negative influence on financing risk, meaning that if there is an increase in one unit of GDP it will decrease the level of non-performing financing risk (NPF), agrees with Incekara [7]; Koju et al. [2]; and Louzis et al. [21] explaining that GDP has a negative effect on NPF.

Furthermore, the factors of corporate governance are the Female Board of Directors is the number of female members on the board of directors. Several studies have been conducted by García-Meca et al. [27]; Gulamhussen and Santa [28] explaining that the presence of female members in influencing the performance of the company, this performance will have an impact on management activities in reducing the level of risk of problems. However, according to Saha and Ghosh [17], female members on the board of directors did not affect the NPF. In addition to the representation of members of the board of directors, the activities of the board of directors which can be seen from the frequency of meetings in a year also affect the level of NPF. Research by Tahir et al. [29] reported a positive relationship between the number of board meetings related to Non-Performing Loans. However, different things were said by Islam [30] reporting that the number of board meetings had a negative effect on the Bank's NPL.

The majority of studies to the best of the author's knowledge report on the level of NPF in terms of bank-specific and macroeconomic factors. However, it is limited regarding the influence of representation of female members on the board of directors and the activities of the board of directors on NPF in a case study of Islamic commercial banks in Indonesia, these variables are associated with banking performance as seen from profitability and not on financing/credit risk. So that the originality parameter in this study is to include these variables and their effect on NPF in Islamic commercial banks in Indonesia.

The purpose of this study is to predict the determinants of the risk of non-performing financing in banks by applying the SEM-PLS method. This study provides guidelines and strategies for Islamic bank managers to maintain the level of non-performing financing risk (NPF), because NPF can affect the bank's financial structure and affect customer interest in using Islamic banking services.

2 Method

This research is included in quantitative research because it uses data in numerical form and is arranged mathematically intending to explain the hypothesis [31]. Based on the level of explanation, this research is included in causal associative research. The population and sample of this study are all Islamic commercial banks in Indonesia operating from 2015-2019. This study uses secondary data from the official website of Islamic commercial banks, the OJK (Financial Services Authority) and BI (Bank of Indonesia) websites regarding the annual report from 2015-2019 consisting of Non-Performing Financing (NPF) data, Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), Age Company (Age Company), inflation, Gross Domestic Product (GDP), Female Board of Directors (FBD), and Board Meeting of Directors (BMD) data. Data analysis used the Structural Equation Model–Partial Least Square (SEM-PLS) method, which is a hybrid modeling technique in uniting various forms of statistical calculation methods, such as path analysis, factor analysis, and regression with the help of WarpPLS 7.0 [32] because SEM-PLS does not require data quantity and does not have to assume normal [33]. In addition, it can be used to predict or describe weak theories, then the Structural Equation Model - Partial Least Square (SEM-PLS) allows the use of algorithms with OLS or Ordinary Least Square analysis, because it can streamline algorithm calculations.

3 Result and Discussion

From the data analysis that has been carried out using WarpPLS 7.0, the results of the calculation of the fit model are shown in Table 1.

Table 1. Fit and Quality Indices Model Analysis

Description	Result	P Values	Criteria	Status
APC	0.209	0.017	P<0.05	Fit
ARS	0.446	0.001	P<0.05	Fit
AARS	0.384	0.001	P<0.05	Fit
AVIF	1.361	-	Value<5, ideally 3.3	Fit
AFVIF	4.058	-	Value<5, ideally 3.3	Fit
GoF	0.668	-	Medium>0.25, large>0.36	Fit
SPR	0.857	-	Acceptable if>0.7, ideally 1	Fit
RSCR	0.872	-	Acceptable if>0.9, ideally 1	No Fit
SSR	1.000	-	Acceptable if>0.7	Fit
NLBCDR	0.929	-	Acceptable if>0.7	Fit

(Result of WarpPLS 7.0 (Data processed by researchers, 2021))

Table 1 shows the ten conformity and quality indices of the global model, and the results of the APC, ARS, and AARS values are 0.209; 0.446; 0.384 consecutively. The values of the three indices are declared fit because the conditions for acceptance of a model must be 0.005 of the significance values. Likewise for other indicators, namely AFVIF, AVIF, GoF, SPR, SSR, and NLBCDR, each of these indicators has completed the measurement criteria, which means that all models have met the criteria and are declared fit. While the RSCR indicator is declared unfit because the results obtained are not greater than 0.9.

Table 2. Outer Model

Variable	Loading	P Values	Description	Weight	VIF	Result
CAR (X1)	1.000	<0.001	Valid	1	0.000	Sig
FDR (X2)	1.000	<0.001	Valid	1	0.000	Sig
Age (X3)	1.000	<0.001	Valid	1	0.000	Sig
Inflation (X4)	1.000	<0.001	Valid	1	0.000	Sig
PDB (X5)	1.000	<0.001	Valid	1	0.000	Sig
FBD (X6)	1.000	<0.001	Valid	1	0.000	Sig
BMD (X7)	1.000	<0.001	Valid	1	0.000	Sig

Variable	Loading	P Values	Description	Weight	VIF	Result
NPF (Y1)	1.000	<0.001	Valid	1	0.000	Sig

(Result of WarpPLS 7.0 (Data processed by researchers, 2021))

The table 2 above showed the measurement of CAR, FDR, age, inflation, GDP, FBD and BMD. The weight indicator on the measurement of all variables shows a significant value. In this study, multicollinearity did not occur, because it had a VIF value for other variables (<2.5).

Table 3. Inner Model

	CAR	FDR	Age	Inflation	GDP	FBD	BMD	NPF
R-Squared								0.446
Adj R-Squared								0.384
Composite Reliab	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Cronbach' Alpha	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Avg. Var. Extract	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Full Collin. VIF	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Q-Squared								0.628

(Result of WarpPLS 7.0 (Data processed by researchers, 2021))

R-value (squared) 0.75; 0.50 and 0.25 for each endogenous latent variable in the structural model could be interpreted to be substantial, moderate, and weak. R-(squared) NPF is 0.446, this means that the variance of non-performing financing risk can be explained by the variance of CAR, FDR, Age, Inflation, GDP, FBD and BMD of 44% with weak criteria.

Table 4 shows the analysis of the hypothesis that explains the relationship between variable X and variable Y. The significance value in this study is 5%.

Table 4. Hypothesis Analysis

Independent Variable	Dependent Variable	Path Coef	P-Value	Result
CAR (X_1)	NPF (Y_1)	-0,132	0,126	Insignificant
FDR (X_2)	NPF (Y_1)	0,282	0,006	Significant
Age (X_3)	NPF (Y_1)	0,357	<0,001	Significant
Inflation (X_4)	NPF (Y_1)	0,013	0,458	Insignificant
PDB(X_5)	NPF (Y_1)	-0,019	0,438	Insignificant
FBD (X_6)	NPF (Y_1)	-0,356	<0,001	Significant
BMD (X_7)	NPF (Y_1)	-0,300	0,004	Significant

(Result of WarpPLS 7.0 (Data processed by researchers, 2021))

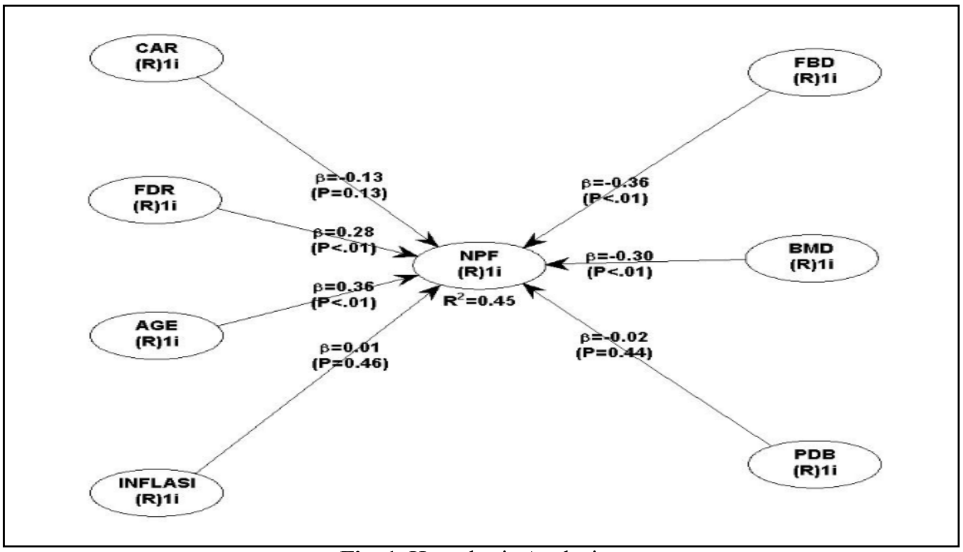


Fig. 1. Hypothesis Analysis
(Result of WarpPLS 7.0 (Data processed by researchers, 2021))

The results of the complete hypothesis analysis are shown in Fig. 1

The results of this study explain that bank-specific variables such as CAR do not affect NPF. The hypothesis that says CAR has a positive effect on NPF is rejected. This means that any changes to the CAR cannot affect the NPF of Islamic banks. Banks are considered better at improving various financing products to maximize their funds so that the productivity of funds can increase profitability. This study is in line with Cathcart et al. [34]; Hair et al. [33]; Haldane and Madouros [35]; and Saha and Ghosh [17] which says that CAR does not affect the NPF of Islamic banks.

Furthermore, the FDR variable influences the NPF. The hypothesis that says FDR has a positive effect on NPF is accepted. This finding shows that if a bank disburses a large amount of financing, it tends to be arbitrary or non-selective in determining prospective customers, thereby increasing financing risk. In addition, high FDR will result in a liquidity crisis in banks, which can affect the financial cycle between banks and customers. However, when the amount of financing disbursed is low, it reflects that the funds owned by the bank are less productive so that it can affect profitability. When compared with conventional banks, the loans disbursed are much larger than Islamic bank financing, but conventional banks can reduce credit risk lower than the risk of Islamic bank financing. So, this indicates that Islamic banks have not been maximal in reducing the risk of non-performing financing. This study supports the findings of Menicucci and Paolucci [9]; and Soebagio [10] which said that FDR positively affects NPF.

Furthermore, the variable age of the company has a positive effect on the NPF. The hypothesis which states that company age has a positive effect on NPF is accepted. Older companies have a higher NPF level because older companies tend to be less aware of technology and always maintain old traditions that may not be valid anymore. This can reduce the company's performance and innovation in running the business. Older companies should be able to take advantage of technology to identify good or bad potential customers to reduce the NPF level. This study confirms Bouwman and Malmendier [36]; and Coad et al. [37] which said that firm age positively affects the NPF of Islamic banks.

Based on the research that has been done, the macroeconomic variables, namely inflation and GDP, do not affect the NPF. The hypothesis which says that inflation has a positive effect on NPF is rejected because a certain inflation rate does not affect the risk of non-performing financing in Islamic banks. After all, high inflation does not make customers rule out obligations in repaying loans. Furthermore, the hypothesis which states that GDP has a negative effect on NPF is rejected, meaning that changes in inflation and GDP have no impact on the NPF level of Islamic banks because changes in macroeconomic variables will be responded to by the government's monetary policy before affecting the public as bank customers. This study reveals the same thing as Radivojević et al. [38] which said that inflation does not affect NPF. Furthermore, Popita [39] also revealed that GDP does not affect the NPF of Islamic banks.

The central bank will be faced with a problem between the elasticity of GDP and inflation. When the central bank seeks to support economic recovery (which will result in a lower NPF level), the central bank will implement an expansionary monetary policy, so that at a certain point it can grow GDP. However, this can significantly increase inflation, and high inflation causes the prices of goods and services to increase, thereby increasing the burden on the community and having an impact on the quality of bank and customer financing. However, with all efforts, developing countries in Europe can persistently suppress the inflation rate so that it does not have an impact on financing risk [40].

The results of the study reveal that the corporate governance variable, namely the Female Board of Directors, has a negative effect on NPF. The hypothesis which states that the Female Board of Directors has a negative effect on Non-Performing Financing is accepted. The larger the proportion of FBD causes the NPF to decrease because women have a character that tends to be careful in making decisions, women tend not to want to take too big risks, so they are more selective in allocating financing and choosing prospective customers so that they can suppress NPF. This is in line with research Andries et al. [41] and Islam [30] said that every increase in the portion of FBD can reduce the NPF of Islamic banks.

Furthermore, the BMD variable has an effect on NPF, the hypothesis which says that BMD has a negative effect on NPF is accepted, every decision by Islamic bank management to increase the number of meetings can reduce the NPF level, because when the board of directors increases the frequency of meetings it shows the level of concern of the board of directors for the company's performance, In addition, the high intensity of the meeting will provide an opportunity for management to improve performance, perseverance, competence, and good decisions to reduce the risk of non-performing financing in Islamic banks. This study is in line with Islam [30] which said that when banks increase the number of meetings, they can provide good management decisions to reduce the level of risk of non-performing financing in Islamic commercial banks.

4 Conclusion

Based on research on non-performing financing risk (NPF) with a sample of all Islamic commercial banks in Indonesia using the SEM-PLS method, four variables were found that affect the NPF level, namely the FDR variable, company age, FBD, and BMD. FDR has a positive effect on NPF, when banks allocate large financing, it can increase NPF, because when banks have great ability to channel funds, banks tend to be not careful in determining prospective customers, thereby increasing NPF. Furthermore, older companies generate high

NPF, because older companies tend to be insensitive to technological developments, besides that older companies also still maintain old traditions that may no longer be valid. FBD has a negative effect on NPF, when the proportion of female members on the board of directors increases, it can put pressure on NPF. Because women tend to be careful in taking risks, so they are more selective in distributing financing and choosing prospective customers. It was found that BMD has a negative effect on NPF, every management increasing the number of meetings can reduce the NPF level, because the intensity of meetings can improve performance, competence, and create good policies to reduce the level of non-performing financing risk (NPF) of Islamic banks.

The implications of this research as input for the management of Islamic banks in Indonesia consider the variables that significantly affect the NPF. Because the risk of financing the problem cannot be avoided, but it can be managed, of course with the right management steps.

The limitation of this research is that the sample is only from Islamic commercial banks in Indonesia, even though Islamic banks are spread all over the world. When looking at the influence of corporate governance variables on NPF, it is necessary to add a qualitative approach to conclude a problem more clearly. Should use methods other than SEM-PLS in data analysis.

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