Analysis Business Risk In Commercial Bank Indonesia

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Abstract

This research sought to ascertain the impact of capital sufficiency and revenue growth diversification on the operational risks of Indonesia's traditional commercial banks. Conventional commercial banks in Indonesia from 2017 to 2021 make up the study's population. Based on a purposive sample procedure with specific criteria in accordance with the study aim, the sampling methodology is used. The path analysis model is employed in this study. One of the statistical analysis methods used in quantitative research is the path analysis methodology (path analysis). The following conclusions can be reached from data analysis based on study objectives, hypotheses, and analytic models: Income Diversification Variable partially affects business risk . The capital adequacy variable partially influences business risk . Asset Growth Variables partially affect business risk . Income Diversification Against Business Risk through Asset Growth is more dominant than Capital Adequacy Against Business Risk through Asset Growth

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Introduction

The development of globalization begins with advances in technology and information. Globalization cannot be avoided by countries in the world because the flow of information and trade in goods and services between countries continues to increase which can affect economic growth. However, globalization can also be considered detrimental if it causes various problems in a country such as income inequality which can eliminate the positive impact it has (Ikumapayi, Oyinbo, Akinlabi, & Madushele, 2020).

The negative impact of globalization is that globalization increases wage inequality in creating and creating nations that rely on state organizations. Countries in the world cannot avoid globalization because the flow of information and trade in goods and services continues to grow which can have an impact on economic growth. However, if a country experiences a number of problems due to globalization, such as income inequality, that can also be viewed negatively, which will state the benefits of globalization (Heimberger, 2020).

Economic growth in Indonesia is certainly inseparable from the role of banks as financial intermediary institutions. Banks as financial institutions are closely related to the necessities of life and human business activities. The activities of banks as financial intermediaries ranging from absorbing funds from the public to channeling them in the form of loans and others make the role of banks increasingly important in the movement of the business sector (Romalia & Hasan, 2023). Globalization in the economy has had a major influence on the progress of the banking sector , but on the other hand there has been an increase in risks arising from the

increasingly integrated movement of the world economy as occurred in the 1997-1998 global crisis. This phenomenon then has an impact on the high level of fluctuation in income received by banks. The level of fluctuation or volatility of income can illustrate the magnitude of the bank's business risk , namely uncertainty in the forecast of operating income in the future (Widarni & Bawono, 2023).

In general, the types of income that can be obtained by banks through products and services provided to the public can be divided into two groups, namely interest income and non-interest income (fee based income). Interest income (interest income) is the main banking income obtained through loan interest. However, at this time the increasingly tight competition between banking institutions has resulted in a decrease in profits through interest income. Therefore, banks must start looking for ways to overcome the losses incurred due to decreased credit interest income, namely through an income diversification strategy carried out with the aim of reducing risks that are concentrated on one source of income (Ammar & Boughrara, 2019).

The diversification strategy chosen by the bank is to develop non-interest income earned through service provision activities. The definition of fee-based income is the basic income earned by a bank through all branch income originating from non-interest and will make a major contribution to obtaining profit margins for a branch itself. Fee-based income or non-interest income which is chosen as an alternative to reduce dependence on interest income, has a relatively smaller income but contains an element of certainty, moreover it plays an important role in the smooth running of savings and loan activities in banking. In finance, diversification means reducing non-systematic risk by investing in various assets. If the movement of each asset is not in the same direction, the risk posed to the portfolio is smaller than the average weighted risk. This is a consideration for banking management to diversify (Najam, Abbas, Alvarez-Otero, Dogan, & Sial, 2022).

Growth also contributes to the probability of acceptance of risk to be accepted. This variable, which is measured by changes in total assets from the previous year, reflects future business growth opportunities for the bank. On the other hand , growth can also reflect the preferences of bank managers in terms of taking risks. A high growth rate refers to a high risk-taking attitude (Albayati, Kim, & Rho, 2020).

The risks that cannot be separated from bank operations certainly need to be managed. Risk management or what is known as risk management can be realized by carrying out a series of assessments on the soundness level of the bank (Haryanto, Bachtiar, & Khotami, 2020). According to Bank Indonesia Regulation Number: 13/1/PBI/2017, which governs the grading of the soundness level of commercial banks, banks must maintain and/or increase the soundness level of banks by using the principles of caution and risk management when doing business. A bank's soundness level is determined by an evaluation of the bank's condition based on risk and performance. By analyzing financial statements, the bank may determine its actual financial situation, which paints a picture of its soundness. One indicator to assess the soundness of a bank is related to bank capital. It should be noted that capital is one of the issues that must always be a priority for banks. The capital ratio or CAR is known as an international standard that recommends a minimum level of capital adequacy that can ensure a bank absorbs a reasonable number of losses before bankruptcy occurs.

Based on the explanations that have been put forward, it is interesting to study the determinants of bank business risk consisting of diversification, size, growth, and capital with the

research title "Diversification of Income and Business Risks of Conventional Commercial Banks in Indonesia."

Research Methods

The approach used in this research is quantitative. The intended research approach is used to answer the formulation of the problem by focusing on testing hypotheses with measurable data. Hypothesis testing is carried out through multiple linear regression methods and will produce conclusions that can be generalized.

Based on the formulation of the problem, hypothesis and analysis model, some of the variables used in this study are as follows:

1. Dependent Variable
   The dependent variable used in the research is business risk . Business risk is measured by SDROA
2. Independent Variables (Independent)
   The independent variables used in the study consist of:
   a. Diversification of banking income as measured by DIV
   b. Bank growth rate as measured by GROWTH
   c. The level of bank capital adequacy as measured by CAR

Operational definition

Operational definitions are used to provide clarity to the variables analyzed in the study so that they are easier to understand. The following is the operational definition in research:

1. Independent Variable (Dependent)
   a. SDROA
      SDROA is a variable that indicates the level of management uncertainty in obtaining income from assets owned . The SDROA calculation is obtained by calculating the standard deviation of the bank's return on assets which is formulated as follows:

$$\mathrm{SDROA} = \sqrt{\frac{(\mathrm{ROA}_{it} - \overline{\mathrm{ROA}}_{it})^2}{n-1}}$$

2. Independent variable (Independent)
   a. DIV
      DIV is a variable that can explain the income diversification carried out by banks other than interest. The formula used to calculate NNII is:

$$\mathrm{NNII} = 1 - \mathrm{HHISIZE}$$

      GROWTH shows the level of banking growth obtained through the percentage change in assets in a certain year compared to the previous year. The formula used to measure GROWTH is:

$$\mathrm{GROWTH} = \frac{\text{Total Assets}_{it} - \text{Total Assets}_{it-1}}{\text{Total Assets}_{it-1}}$$

   d. Capital Adequacy Ratio (CAR)
      CAR is a ratio to measure the capital adequacy of a bank. The CAR value can be seen in the bank's financial statements.

Population and Sample

Conventional commercial banks in Indonesia from 2017 to 2021 make up the study's population. The sampling technique is based on a purposive sampling method with certain criteria according to the research object. The following are the criteria for the sample studied:

1. commercial banks Conventional registered in the Indonesian Banking Directory with complete and accountable data for the period 2017 -2021
2. Have and publish financial reports for five consecutive years during the period 2017 - 2021.

Analysis Techniques

Path analysis is the model used in this investigation. One of the statistical analysis methods used in quantitative research is the route analysis methodology. Because there are intervening / mediating variables, the phrases direct influence and indirect influence are typically used in path analysis. In order to determine the direct and indirect impacts of a collection of independent factors on the dependent variable, route analysis is used to examine the pattern of connections between variables.

Based on to know the relationship pattern of each of these variables, a system of structural equations can be arranged as follows:
The effect of diversification, capital adequacy and asset growth on business risk with the following equation:
LP = b3 CM + b4 KM + b5 KP + e2

Results And Discussion

Path Analysis Test Results

In the first path analysis step is to test sub-structure 1. Based on the results from PASW statistics 20.0 , it can be seen as follows:

Testing the effect of Sub-Structure of Income Diversification, Capital Adequacy and Asset Growth on Business Risk

Model 1: Summary X1, X2 and X3 against Y

R-square, also known as the coefficient of determination, displays the proportion of how much an independent variable's changes are influenced by the dependent variable. The following is the resulting determination (R^2):

Table 1. Sub-Structure Summary

Summary models

Model	R	R Sq.	Adj. R Sq.	std. Error
1	.598 [a]	.357	.336	1.61775

a. Predictors: (Constant), Asset Growth, Capital Adequacy, Income Diversification

Based on the table above , it can be explained that income diversification and capital adequacy and asset growth can explain changes in business risk variables of 35.7 % [see R Square 0, 357] while the remaining 64.7 % [100% - 35.7 %] is explained by variables other than income diversification and capital adequacy and asset growth.

The t-test is used to determine if each independent variable has an impact on the dependent variable, and the F-test is used to determine whether the resulting regression model is appropriate. The F-test and t-test findings are as follows:

Table 2. F Test Results

ANOVA [a]

Model		Sum of Squares	df	MeanSquare	F	Sig.
1	Regression	133,883	3	44,628	17,052	.000 [b]
	residual	240,774	92	2,617		
	Total	374,656	95			

a. Dependent Variable: Business risk

b. Predictors: (Constant), Asset Growth, Capital Adequacy, Income Diversification

Based on the F test in table 2 above, shows a significant level for the F test of 0.000. Because the probability value < 0.05 means that income diversification, capital adequacy, and asset growth affects business risk (X3), the resulting regression model is suitable or appropriate for explaining business risk.

Table 3. Test Results t

Model	Unstandardized Coef.		Standardized Coef.	t	Sig.
	B	std. Error	Betas		
1	8,637	1,488		5,806	.000
Income Diversification	.245	.122	.226	1998	.049
Capital adequacy	.230	.111	.200	2068	041
Asset Growth	.473	.113	.500	4.173	.000

a. Dependent Variable: Business risk

The results of the t test in the table above show that:

1. Income Diversification variable (X_1) has a significant level of 0.049 (sig < 5%). This means that the variable Income Diversification (X_1) partially affects business risk .
2. The capital adequacy variable (X_2) has a significant level of 0.041 (sig < 5%). This means that the capital adequacy variable (X_2) partially affects business risk .
3. Asset growth variable (X_3) has a significant level of 0.000 (sig < 5%). This means that the Asset Growth variable (X_3) partially affects business risk .

Based on the results of the analysis of the sub-structure path analysis 2 (X1; X2; X3 against Y) each value is obtained:

a. $\rho yx1$ = Beta = 0.226 [t= 1.998 and probability (sig) = 0.049]
b. $\rho yx2$ = Beta = 0.200 [t= 2.068 and probability (sig) = 0.041]
c. $\rho yx3$ = Beta = 0.500 [t= 4.173 and probability (sig) = 0.000]
d. The magnitude of the residual coefficient $\rho y1\ \varepsilon 2 = 1 - R^2 = 1 - 0.357 = 0.643$

Thus, tables and path diagrams for sub-structure 2 are obtained, namely as follows

Table 4. Influence Between Research Variables

Variable	Path Coefficient	Influence			Influence Together (R^2)
		Direct	No Direct through X3	Total	
Sub-structure 1 (Revenue Diversification, Capital Adequacy Against Asset Growth)					
X1 (Revenue Diversification →Asset Growth)	0.562	0.316%	-	0.316%	0.514 (51.4%)
X2 (Capital Adequacy→Asset Growth)	0.274	0.75%	-	0.75%	
ε1	0.486	-	-	-	
Sub-structure 2 (Revenue Diversification, Capital Adequacy and Asset Growth Against Business Risk)					
X1 (Diversification of Income → Business risk)	0.226	5.10%	33.2%	38.30%	0.357 (35.7%)
X2 (Capital adequacy → Business risk)	0.200	4%	17.7%	21.7%	
X3 (Asset Growth → Business Risk)	0.500	25%	-	-	
ε2	0.643	-	-	-	

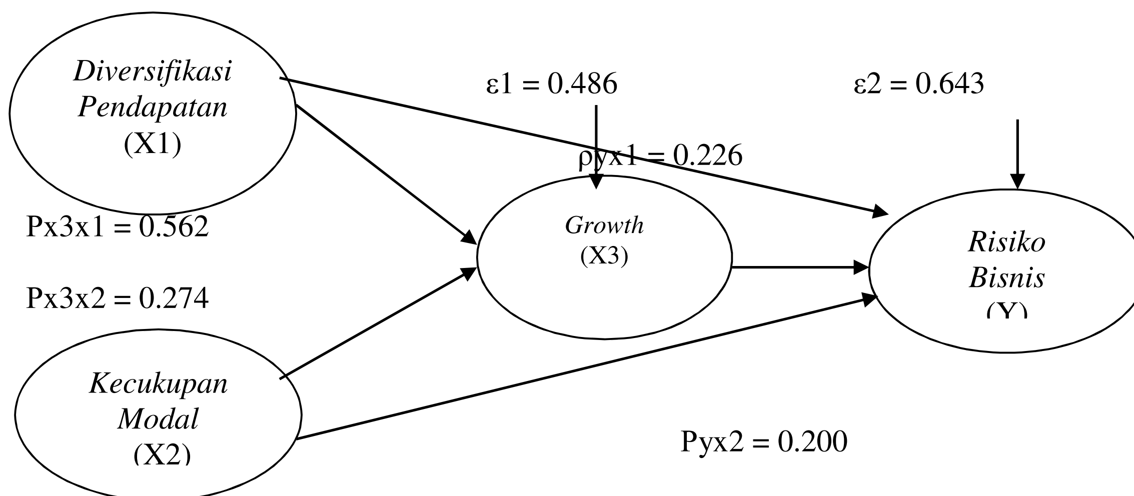

Figure 1. Sub-Structure 2: X1, X2 and X3 against Y

1. Indirect effect, income diversification (X1) to business risk (Y) through asset growth (X3) = **ρx3x1** x **ρyx3 = (0.562) x (0.500) = 0.281 (28.1%)** . Thus influence the total = (**ρyx1)^2 +** IE = 0.0510 + 0.281 **= 0.332 (33.2%)** .
2. Indirect effect, capital adequacy (X2) to business risk (Y) through asset growth (X3) = **ρx3x2** x **ρyx3 = (0.274) x (0.500) = 0.137 (13.7%)** . Thus the total effect = (**ρyx2)^2 +** IE = 0.04 + 0.137 **= 0.177 (17.7%)** .

Discussion

According to test results, revenue diversification significantly reduces company risk. This beneficial impact indicates that the risk of the bank's operations increases as the extent of revenue diversification increases. Income Diversification is an effort taken by banks to reduce risk through alternative sources of income with the assumption that losses from one income can be compensated for by other income. On the other hand, the increase in the amount of income variability is also accompanied by an increase in the risks associated with income diversification. Such conditions make the benefits of diversification disappear and explain the positive effect of the variable as a form of non-interest income instability. Income included in non-interest itself is divided into several activities such as receiving deposits, servicing payments, foreign exchange transactions, transfers, collection, clearing, safe deposit boxes , bank cards, bank notes, bank guarantees, bank references, bank drafts, letters of credit , tourist checks, buying and selling of securities, and other services. Each of these sources of non-interest income can provide benefits to banks but can also increase risks, especially for foreign exchange banks whose activities involve foreign exchange transactions . The exchange rate crisis that hit Asia in 1997 has caused many problems for banks, especially national private banks.

Despite the fact that there is no correlation between the factors, the higher the growth rate, the larger the business risk for the bank. Growth in assets is identified with an increase in operational activities that contain potential risks as a manifestation of the manager's risk-loving attitude . One form of activity is the addition of the amount of credit distribution. Credit as the largest source of operational funds in a bank's asset balance sheet contains related risks which then disrupt the smooth flow of income earned by the bank and result in a high level of volatility. These results are consistent with research by Li, Feng, Zhao, & Carter, (2021) which found positive results between growth and banking risk as measured by SDROA .

Bank capital variable which is proxied by CAR has a positive but not significant effect on business risk . This shows that the greater the CAR value , the greater the business risk faced by the bank, although the variable cannot explain the effect with certainty. Capital for banks is used as a tool to accommodate losses and maintain community capital. With the amount of CAR owned, the bank has more courage to take on bigger business risks or it can be said that the bank has a risk attitude lover. Thus research by Luqman Hakim & Martono, (2019) found that a high CAR encourages banks to be more aggressive in making decisions, thereby increasing the potential for losses.

Conclusions And Suggestions

Conclusion

The following conclusions can be reached from data analysis based on study objectives, hypotheses, and analytic models :

a) Income Diversification variable partially affects business risk .
b) The capital adequacy variable partially influences business risk .
c) Asset Growth Variables partially affect business risk .
d) Income Diversification Against Business Risk through Asset Growth is more dominant than Capital Adequacy Against Business Risk through Asset Growth

Suggestion

The recommendations that can be provided are as follows, based on the findings of the study and the inferences made:

1. The banking management should pay attention non-interest income in managing banking operations because these factors have a significant effect on business risk . In an effort to minimize the business risks faced, management should be more careful in terms of income diversification, especially for small-sized banks.
2. The community should pay attention to the factors that affect business risk , especially non-interest income and sizes that have a significant influence in order to take steps to prevent unexpected possibilities.
3. It is hoped that there will be further research using other factors that are thought to have a strong influence on business risk with a larger sample size.

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