Diversification, Profitability, and Bank Financial Stability in Indonesia

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Abstract. Covid-19 pandemic and the rapid growth of technology based non-bank financial institutions pose new challenges for the banking industry in Indonesia. One strategy that can be applied to deal with current conditions is to look for other income alternatives, by diversifying. This paper analyzes the relationship between income diversification, profitability, and bank financial stability. The study also examines how bank's profitability level affects the relationship between income diversification and bank financial stability. Using the fixed effect model as an estimator method, the results show that income diversification has a negative and significant impact on bank financial stability. Profitability has a positive and significant impact on bank financial stability. The results also indicate that profitability level has a negative and significant impact in affecting income diversification and bank financial stability relationship. The findings suggest that it is necessary to pay more attention to activities that become the main sources of bank's non-interest income because this can affect diversification and bank financial stability relationship. It's also suggest that banks with higher profitability level tend to carry out more diversification related activities compared to banks with lower profitability level.

Keywords: Income Diversification, Profitability, Bank Financial Stability, Banking, Fixed Effect

1 Introduction

Banking industry has a very important role in Indonesia's economic system, starting from maintaining financial system stability to encourage high economic growth and equal distribution of welfare. Bank financial stability become a determining factor in efforts to maintain financial system stability so that economic growth targets can be achieved.

Based on the distribution of commercial bank loans to third parties data issued by the Financial Services Authority of Indonesia (OJK), from 2002 to 2020 credit distribution in Indonesia increasingly diversified based on field of business. The Adjusted Herfindahl-Hirschman Index (AHHI) for credit distribution data, used to see how spread out credit disbursement is to various business fields. Based on the other data, namely commercial bank income data, there was an increase in the portion of non-interest operating income in December 2020 when compared to data in previous years. This can be seen from the increasing value of the AHHI index on income data, which means that the sources of income for commercial banks are increasingly distributed in Indonesia.

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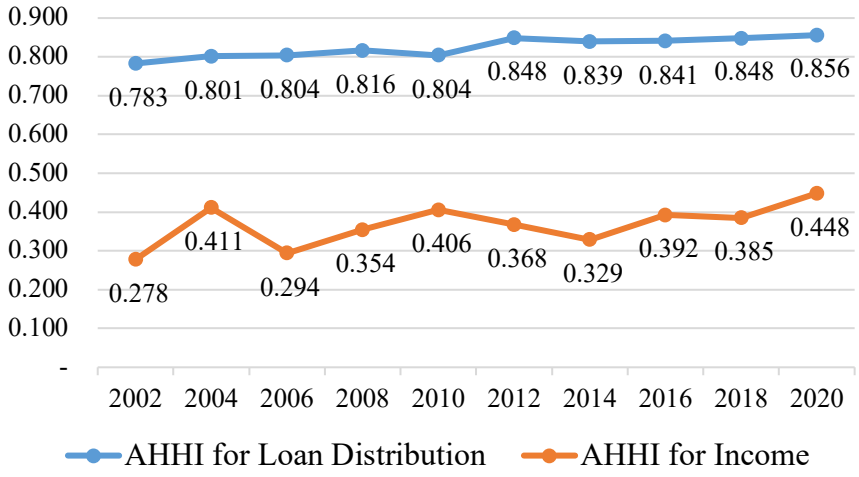
Graph 1. Loan Distribution and Income Diversification Trends of Commercial Banks in Indonesia



(Financial Services Authority of the Republic of Indonesia, 2020)

The data shows an indication that so far, commercial banks in Indonesia have diversified both their lending and earned income, in addition, results of various other studies also show that the financial system of countries in Southeast Asia was more stable when facing the 2008 global financial crisis. Diversification trend as illustrated in the data above can be one of the reasons for more stable financial system in responding to the 2008 global financial crisis.

The 1997-1998 Asian financial crisis had a tremendous impact on the financial institutions of the affected countries, including some countries in Southeast Asia [1]. The 2008 global financial crisis also affected the economies of Southeast Asia region, both in trade and financial sectors, mainly due to fairly strong economic integration between Southeast Asia countries and countries at the center of the crisis. Improvements in the economic sector after the 2008 crisis in countries in Asia were better than post-crisis conditions in 1998, GDP of Asian countries grew 9.4% (QoQ) in 2009:Q2, where GDP grew only 4.3% (QoQ) in 1998:Q4 [2].

The current situation, with Covid-19 pandemic and the rapid growth of technology based non-bank financial institutions, pose new challenges for the banking industry in Indonesia. Banks are required to be more efficient and innovative, as well as expected to reduce costs and increase revenue. One strategy that can be applied to deal with current conditions is to look for other income alternatives, by diversifying which in line with the direction of Bank Indonesia and the Deposit Insurance Agency (LPS), that banks should diversify both their income and funding sources. Regarding its impact on bank financial stability, so far there are no definite conclusions that can be drawn regarding how diversification affects bank financial stability.

Previously, several studies focused on the effect of bank diversification on bank financial stability (among them are Shim [3]; DeYoung and Roland [4]; and Stiroh and Rumble [5]). Diversification is seen to increase company's burden and agency problems, on the other hand, diversification can increase profits by achieving economies of scale and decreasing income volatility. Findings differences on the impact of diversification on bank financial stability in previous studies were also influenced by the economic conditions of the country or region where the study was held.

In addition to diversification, other studies related to bank financial stability also

investigate the impact of profitability on bank financial performance. Pessarossi et al. [6] investigated whether high level of profitability affects the pressure on bank financial performance. Keeley [7] explained that banks with higher levels of profitability are more reluctant to take risks because a greater decline in value will occur in these banks if something bad happens. Another study by Martynova et al. [8] stated that banks with high profitability levels have greater incentive to take risks since these banks can borrow more, then take more risks on side activities, thereby increasing the possibility of pressure on the bank financial performance.

Banking sector in Southeast Asia, particularly in Indonesia, has relatively high performance compared to other regions. Yusgiantoro et al. [9] stated that ROE (return on equity) of banks in Indonesia is one of the highest in Asia, reaching to 20.3% in 2014. Indonesia's contribution to the performance and stability of banking sector in Southeast Asia is quite significant, especially banks operating in the Asian region contributed 46-49% of total bank profits worldwide during the 2010-2014 period [10]. Various literature also concluded that the average net interest margin rate of Indonesian banking sector is one of the highest in Asia, among them are Yusgiantoro et al. [9].

The impact of diversification and profitability on banks financial stability in Southeast Asia countries, particularly in Indonesia, would be an interesting issue for this research, related to its banking sector significant growth in the region. Diversification, as one of the strategies that can be applied by banking sector in facing current industry challenges, would also be an interesting issue for this research, especially its relation to bank financial stability. Likewise for the relationship between profitability and financial stability of banks, due to the relatively high performance of Indonesian banking sector. Besides that, it is also important to examine how the relationship between diversification and bank financial stability varies at a different level of profitability.

This study can expand previous research results by examining how strategies implemented by banks in facing current challenges in the industry affect its financial stability in Indonesia, focusing on income diversification, profitability levels, as well as bank-specific conditions and macroeconomics variables. This study provides additional contributions regarding with lack of research that examines how profitability affects diversification and bank financial stability relationship in Indonesia, so far the previous research only focus on how diversification or profitability affects bank financial stability.

The first theory that underlies this research is the standard portfolio theory in which the combination of cash flows from low or negatively correlated income sources should be more stable, the same theory used in Shim [3]. In another study based on this theory, Diamond [11] saw that diversification can reduce delegation costs at financial intermediary institutions such as banks, as well as banks can reduce the possibility of default by adding additional independent risks (not related to each other). Sinkey and Nash [12] concluded that banks that specialize in credit card loans alone have a higher probability of insolvency than banks that have various combinations of products.

The second theory that forms the basis of this research is the theory proposed by Keeley [7], in which banks with high levels of profitability are more reluctant to take risks, due to the greater value that will be lost in the event of a loss. The same theory used in research related to profitability and financial stability was carried out by Pessarossi et al. [6].

2 Method

2.1 Definition of Variables

The table 1 explains the definition of variables and data sources used in the study.

Table 1. Variables Definition and Data Source

Variable (Expected Sign)		Definition	Data source
Income diversification (+)	AHHI Index	Adjusted Herfindahl-Hirschman (AHHI) index calculation on interest and non-interest income	Bank financial statement and BI/OJK data
Profitability (+)	ROA	Ratio of net profit to total assets	Bank financial statement and BI/OJK data
	ROE	Ratio of net profit to total equity	Bank financial statement and BI/OJK data
Financial stability	Z score	(ROA + CAR) / standard deviation of ROA	Bank financial statement and BI/OJK data
Control variable	Bank size (–)	Natural logarithm of total assets	Bank financial statement and BI/OJK data
	Credit growth (+)	Growth in bank lending	Bank financial statement and BI/OJK data
	NPL (–)	Ratio of non-performing loans to total loans	Bank financial statement and BI/OJK data
	Unemployment rate (–)	Annual unemployment rate (%)	Central Bureau of Statistics (BPS)

2.2 Hypotheses Development

To address the research questions stated in the previous section, the following are the hypotheses used in this study:

2.2.1 Income diversification effect on bank financial stability

Research results related to diversification and bank financial stability conducted by Shim [3] indicate that loan diversification has a positive effect on bank financial stability. Hsieh et al. [13] found that income diversification has a positive effect on financial stability, but this is not significant on loan diversification. Nisar et al. [14] found that diversification, in this case, different types of non-interest income generating activities, has a different impact on bank profitability and stability. Kim et al. [15] found that moderate diversification increases bank stability, but excessive diversification can be detrimental, in addition, it is also found that the relationship between diversification and stability is influenced by temporal dimension. Income diversification will cause bank income to spread from various types of services provided, therefore based on the theory and previous research, income diversification will positively affect bank financial stability.

H_1: income diversification has a positive effect on bank financial stability

2.2.2 Profitability effect on bank financial stability

Keeley [7] states that banks with higher levels of profitability are more reluctant to take risks because greater decline in value will occur in these banks when losses happen. Banks with high profitability levels can also increase their core capital and doing better at maintaining business continuity. Athanasoglou et al. [16] and Le [17] explain that banking systems with high level of profitability tend to increase capital in mitigating financial difficulties, which lead to increased stability in the banking system itself. Results of research conducted by Le [18] also indicate that bank profitability positively related to stability, and vice versa. Higher level of bank profitability associated with better business continuity, therefore based on the theory and previous research, profitability will positively affect the bank financial stability.

H_2: profitability has a positive effect on bank financial stability

2.2.3 Profitability effect on the relationship between income diversification and bank financial stability

Jensen [19] and Shin and Stulz [20] state that diversification can bring agency problems in terms of cross subsidies on business segments that perform poorly, that can lead to inefficiency, where the potential profit expected from diversification is smaller than the costs incurred related to agency problems occurred. In another opinion put forward by Cole and White [21] and DeYoung and Torna [22], effect of diversification is strongly influenced by type of diversification activities implemented by the bank. Diversification effect will be limited if bank distributing loans to riskier borrowers or if bank has a larger portfolio of high risk loans such as commercial housing loans. Banks with high profitability levels have greater incentive to take risks since these banks can borrow more, then take more risks on side activities [8]. This indicates that profitability level will affect the relationship between income diversification and bank financial stability.

H_3: income diversification effect on bank financial stability affected by profitability level

2.3 Methodology

Two models were used in this research to examine the relationship between income diversification, profitability, and bank financial stability. The first model was used to examine income diversification and profitability effect on bank financial stability. The second one was used to examine the interaction of income diversification and profitability on affecting bank financial stability.

In accordance with the model used by Hsieh et al. [13] and Pessarossi et al. [6] to examine income diversification and profitability effect on bank financial stability, in this study the model estimated as follows:

$$STAB_{i,t} = \beta 0 + \beta 1\ DIVERS_{i,t} + \beta 2\ PROF_{i,t} + \beta 3\ SIZE_{i,t} + \beta 4\ LOANGR_{i,t} + \beta 5\ NPL_{i,t} + \beta 6\ UNEM_t + \varepsilon_t \quad \ldots\ldots\ldots(1)$$

Referred to the model used by Shim [3] and Pessarossi et al. [6], we use the model estimated below to examine profitability effect on the relationship between income diversification and bank financial stability. Coefficient β_1 of the interaction term of income diversification and profitability explains how the effect of diversification on bank financial stability varies at different levels of profitability.

$$STAB_{i,t} = \beta 0 + \beta 1\ (DIVERS_{i,t} X\ PROF_{i,t}) + \beta 2\ SIZE_{i,t} + \beta 3\ LOANGR_{i,t} + \beta 4\ NPL_{i,t} + \beta 5\ UNEM_t + \varepsilon_t \quad \ldots\ldots\ldots(2)$$

where $STAB_{i,t}$ denotes the financial stability at bank i and time t, $DIVERS_{i,t}$ denotes the income diversification at bank i and time t, $PROF_{i,t}$ denotes the profitability at bank i and time t, $SIZE_{i,t}$ denotes the bank size, $LOAN_{i,t}$ denotes the credit growth, $NPL_{i,t}$ denotes the NPL rasio, $UNEM_t$ denotes the unemployment rate, and ε_t denotes the error term.

This study uses fixed effect model (panel data regression), which can solve some endogeneity concerns in the model so that an unbiased and consistent coefficient estimate can be obtained. The fixed effect model can take into account unobservable changes and can control for other effects which may be correlated with variables in the model, the same model was also used in Shim [3].

To validate the estimation results, classical assumption tests were conducted to determine whether or not there were autocorrelation, multicollinearity, and heteroscedasticity problems in the model. Chow test and Hausman test were used to selecting the panel data estimation model used in the study. The Chow test was conducted to see if there were any individual effects in the model and the Hausman test was conducted to see whether there were random or fixed individual effects in the model.

3 Result and Discussion

3.1 The Sample

The statistical description of the variables used in the study is shown in Table 2. The sample consists of 200 data from 20 banks over the period of 10 years (2010 – 2019). The correlation coefficient is used to examine whether or not the linear relationship between two variables is strong, with values ranging from -1 to +1. Greater coefficient value indicates a strong relationship between the two variables, while positive and negative signs on coefficient value indicate the direction of relationship between the two variables.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Median	Std.dev	Min	Max
Income Diversification						
DIVERS	200	0.280	0.275	0.104	0.046	0.500
Profitability						
ROA	200	0.022	0.020	0.012	-0.049	0.052
ROE	200	0.148	0.138	0.092	-0.383	0.438
Bank Financial Stability						
STAB	200	3.557	3.561	0.638	1.673	5.095
Control Variable						
SIZE	200	18.673	18.545	1.046	16.176	21.018
LOANGR	200	0.172	0.132	0.232	-0.198	2,262
NPL	200	0.025	0.024	0.015	0.000	0.088
UNEM	200	0.061	0.060	0.007	0.052	0.075

(Researcher, 2021)

Value of the correlation coefficient between two or more independent variables that greater than 0.8 indicates that there is a multicollinearity problem in the model [23]. The correlation

coefficient on all variables used in the study indicates that there is no perfectly correlated variable (shown in Table 3). There is a fairly high correlation coefficient value (0,815) between the two proxies for profitability, namely ROA and ROE, but in this study, both ratios were used as proxies for profitability and the regression was not performed at the same time.

Table 3. Correlation Matrix

	DIVERS	ROA	ROE	STAB	SIZE	LOANGR	NPL	UNEM
DIVERS	1.000							
ROA	0.080	1.000						
ROE	-0.078	0.815	1.000					
STAB	0.072	0.411	0.258	1.000				
SIZE	0.138	0.394	0.237	0.347	1.000			
LOANGR	0.031	0.122	0.198	-0.024	-0.178	1.000		
NPL	-0.077	-0.398	-0.338	-0.237	0.023	-0.191	1.000	
UNEM	-0.058	0.161	0.390	-0.108	-0.305	0.327	-0.088	1.000

(Researcher, 2021)

3.2. Classical Assumption Test

To validate the results explained before, classical assumption tests were conducted. Results of the Durbin-Watson (DW) test show that the model is free from autocorrelation problems. The DW (d) test value obtained is in the range $dU < d < 4\text{-}dU$, so the decision is fail to reject H0 which indicates that there is no relationship between errors, there is no autocorrelation in the model.

Looking at the correlation value between independent variables, there is no correlation coefficient value greater than 0.8. Using the Variance Inflation Factor (VIF) value to look for the presence of multicollinearity problem, there is no VIF value that exceeded 10. The results show that there is no multicollinearity in the model.

Gletser and Park test obtained to investigate the presence of heteroscedasticity problem. The results decision is fail to reject H0, which indicate that there is no heteroskedasticity in the model.

3.3 Empirical Results

The Chow test results show the existence of individual effects, then the decision is to reject H_0 which indicates that the fixed effect estimation model should be used. The Hausman test decision is to reject H_0 which also indicates that the fixed effect estimation model should be used. The fixed effect estimation model can solve some of the endogeneity problems, the same model used in Shim [3].

There are two regression models used in this study, the first model is used to examine income diversification and profitability effect on bank financial stability, the second one is used to examine profitability effect on the relationship between income diversification and bank financial stability.

Table 4 reports estimation of the parameters of the first model, the results show that income diversification significantly affect bank financial stability within the 5% significance level. The estimated coefficients of income diversification are negative and significant. The results also show that profitability, using ROA as proxy, has a positive and significant effect on bank financial stability within the 1% significance level. Using ROE as proxy of profitability, the results show that the estimated coefficients are positive and significant within the 1% significance level. Profitability has a positive relationship towards bank stability either

when tested using ROA or ROE as proxies.

Table 4. Regression Results of Income Diversification, Profitability, and Bank Financial Stability

Variable	STAB		STAB	
DIVERS	-0,105	**	-0,110	**
ROA	0,186	***		
ROE			0,141	***
SIZE	0,009		0,009	
LOANGR	-0,156		-0,030	
NPL	-0,017		-0,021	
UNEM	-0,656	***	-0,721	***
Constant	1,939		1,361	
Observation	200		200	
Total Bank	20		20	
Adjusted R-squared	0,649		0,695	

***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively

Income diversification carried out by commercial banks in Indonesia during the sample period significantly affect bank financial stability in a negative way, this contradicts the standard portfolio theory in which the combination of cash flows from low or negatively correlated income sources should be more stable. The results are in line with previous research conducted by Abuzayed et al. [24] on banks operating in the Gulf Cooperation Council (GCC) region, where income diversification does not increase bank stability. Another study conducted by Nisar et al. [14] found that different types of non-interest income generating activities done during diversifying have different impacts on bank stability. Current research results, which indicate a negative relationship between income diversification and bank financial stability, could also be caused by the selection of non-interest income generating activities made by commercial banks in Indonesia.

Based on commercial bank profit and loss data as of December 2020 obtained from the Financial Services Authority of Indonesia (OJK), the largest portion of non-interest income for commercial banks in Indonesia derived from spot/derivative transactions gain (41% of total non-interest income), followed by dividend/gain from investment in shares with equity method/commissions/provisions/fees (26%), and increase in fair value and gain from sale of securities (4%) in the third position. The dominance of spot/derivative transactions as the source of non-interest income illustrates that acquisition of non-interest income for commercial banks in Indonesia is strongly influenced by price movements in foreign exchange market which tend to fluctuate. A large portion of non-interest income from these transactions can be one of the causes of income diversification negative effect on bank financial stability. Different results may be obtained if commission/provision/fee income dominates the non-interest income source of commercial banks in Indonesia, regarding that this income is directly related to the products and services offered by the bank such as financing products and other services, which are not directly affected by price fluctuations in the market.

Economic development movement towards digitalization and competition with technology based non-bank financial institutions will encourage commercial banks to produce variety of products and new services, this will generate additional income in the form of commissions/fees which are part of non-interest income. In the future, if income diversification carried out by commercial banks in Indonesia focuses on obtaining non-interest income which is not too affected by market price fluctuations, research on income

diversification effect on bank financial stability can produce a different direction result.

Profitability, both when using ROA and ROE as proxies, significantly affects bank financial stability of commercial banks in Indonesia positively during the sample period. Higher level of profitability, as seen from ROA and ROE, indicates a more stable bank financial condition. The results are in line with the theory proposed by Keeley [7], where banks with high levels of profitability are more reluctant to take risks, due to greater value that will be lost in the event of a loss. The results are also consistent with previous research conducted by Le [18] on commercial banks operating in Vietnam, as well as research conducted by Al-Khouri and Arouri [25] on commercial banks operating in the Gulf Cooperation Council (GCC) region.

The relatively high performance of the Indonesian banking sector, when level of profitability used as one of the performance indicators, compared to other Asian countries can be one of the factors that trigger an increase in bank capital adequacy. Le [17] explained that banking systems with high level of profitability tend to increase capital in mitigating financial difficulties. An increase in the capital with such a goal can improve bank financial stability in the future. Based on commercial bank performance data as of December 2020 obtained from the Financial Services Authority of Indonesia (OJK), the minimum capital adequacy ratio for commercial banks in Indonesia has increased from 22.93% in December 2016 to 23.89% in December 2020. Other capital ratios, such as core capital to risk weighted assets ratio, also increased from 21.19% in December 2016 to 22.24% in December 2020. This increase in capital ratio could be one of the causes of the positive relationship between profitability and bank financial stability in Indonesia.

Overall the results obtained regarding income diversification effect on bank financial stability are contrary to Hypothesis1 that income diversification has a positive effect on bank financial stability. The results also provide support for Hypothesis2 that profitability has a positive effect on bank financial stability.

Table 5 reports estimations of the parameters of the second model, which is used to examine how the effect of income diversification on bank financial stability varies at different levels of profitability. The results show that the estimated coefficients of the interaction terms (income diversification and profitability), with ROA as proxy of profitability, are not significant in influencing bank financial stability within any significance level. Different test results are obtained when ROE is used as proxy of profitability, the interaction terms are negative and significant within the 1% significance level.

Table 5. Regression Result of Income Diversification and Profitability Interaction Terms on Bank Financial Stability

Variable	STAB		STAB	
DIVERS X ROA	-0,022			
DIVERS X ROE			-0,077	***
SIZE	-0,014		-0,034	
LOANGR	0,061	***	0,050	*
NPL	-0,021		-0,019	
UNEM	-0,793	***	-0,816	***
Constant	1,666		2,033	
Observation	200		200	
Total Bank	20		20	
Adjusted R-squared	0,688		0,681	

***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively

The effect of income diversification on bank financial stability of commercial banks in Indonesia during the sample period varies at a different level of profitability. Significant results were only obtained when ROE was used as proxy of profitability. The result indicates that when income diversification carried out by banks with higher profitability levels, the condition of bank financial stability is more unstable than when it carried out by banks with lower profitability levels. The results obtained are in line with Martynova et al. [8] explanation that banks with high profitability levels have greater incentive to take risks since these banks can borrow more, then take more risks on side activities. Banks doing side activities with aim of obtaining additional income which will then diversify their income.

When discussing research results related to the negative relationship between income diversification and bank financial stability of commercial banks in Indonesia, there is a possibility that the negative relationship is caused by the dominance of non-interest income sources from activities that are strongly influenced by market price fluctuations. Based on bank performance and profit/loss data of commercial banks as of December 2020 obtained from the Financial Services Authority of Indonesia (OJK), group of banks with high profitability level (BUKU 3 and 4, with an average ROA of 1.54%) carried out more diversification related activities when compared to group of banks that has lower profitability level (BUKU 1 and 2, with an average ROA of 0.47%). Non-interest income portion of BUKU 3 and 4 banks' income is 34.5% on average, while for BUKU 1 and 2 banks the portion is only 26%. Based on these data, it can be concluded that banks with higher profitability level tend to carry out more diversification related activities compared to banks with lower profitability level, while according to research results income diversification is negatively related to bank financial stability. This can confirm the research results that there is an influence of profitability level on the relationship between income diversification and financial stability of commercial banks in Indonesia.

Overall the results provide support for Hypothesis3 that income diversification effect on bank financial stability affected by profitability level. Diversifying banks with higher profitability levels tend to be more financially unstable compared to those with lower profitability levels.

Results of the control variable related to bank specific conditions show that credit growth affects bank financial stability significantly in a positive direction, where banks with larger credit growth tend to be more stable. This is consistent with results obtained in previous studies by Hsieh et al. [13] and Abuzayed et al. [24]. Another bank specific control variable, which is bank size and NPL rasio, does not significantly affects bank financial stability. Regarding control variable related to macroeconomic conditions, the unemployment rate, the estimated coefficients are negative and significant. The same results were also obtained in a study conducted by Shim [3].

In order to obtain more comprehensive results on research regarding the relationship between diversification, profitability, and bank financial stability, further research can use different regression models and proxies, besides that the sample used in the next research can also be expanded. For the banking industry, due to the effect of income diversification, profitability, and the interaction between profitability and income diversification on financial stability, banking management is advised to maintain profitability and be more careful in diversifying. Income diversification should be more focused on business activities that are not related to market price fluctuations, so that the impact of diversification on bank financial stability can be more maintained and in accordance with the initial goal of diversification. Regulators are advised to pay attention to profitability levels in the banking sector, considering that profitability affects financial stability. In addition, the level of profitability is an important

thing that needs to be noticed in analyzing the relationship between income diversification and bank financial stability. Regarding the diversification carried out by commercial banks, it is necessary to pay more attention to activities that become the main sources of non-interest income, because this can affect the relationship between diversification and bank financial stability.

4 Conclusion

This paper aims to examine the relationship between income diversification, profitability, and bank financial stability. In addition, the study also analyzes how bank profitability level affects the relationship between income diversification and bank financial stability. Other variables that can describe bank specific and macroeconomic conditions are used as the control variable in the study, specifically bank size, credit growth, NPL ratio, and unemployment rate.

The fixed effect model was used to do the empirical analysis in this paper. The results present that income diversification has a negative and significant effect on bank financial stability. This shows that income diversification implemented by banks does not sufficient enough to increase its financial stability. Regarding profitability, the results show that profitability has a positive and significant effect on bank financial stability. This indicates that higher level of profitability tends to increase bank financial stability.

The regression analysis shows that profitability level has a negative and significant impact in affecting income diversification and bank financial stability relationship. Indicating that diversifying banks with higher profitability levels tend to be more financially unstable compared to those with lower profitability levels.

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