THE EFFECT OF FOREIGN BANK PENETRATION ON THE BANKING CONCENTRATION AND ITS IMPACT ON FINANCIAL STABILITY IN INDONESIAN BANKING INDUSTRY

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Abstract

The purpose of this study was to determine the effect of foreign bank penetration on the concentration of banking and its impact on Financial Stability in the Banking Industry Indonesia. This research is a descriptive research with quantitative approach. Penetration of foreign banks measured by FBA (assets of foreign banks), FBC (foreign bank loans), and FBTPF (third party funds of foreign banks). Banking concentration measured with CR3A, and IHH3A. Financial stability is measured by ZROA. This research used multiple linear regression. Empirical findings showed that FBA and FBC significant effect on CR3A, FBC significant effect on IHH3A. Other findings in this study are the FBA has a direct effect on ZROA. Meanwhile, FBC and FBTPF indirect effect on ZROA through CR3A or through IHH3A, in other words CR3A and IHH3A mediates the relationship between FBC and FBTPF with ZROA. This research is interesting for further study because it is still very little research into the effects of the penetration of foreign banks to the stability of banks with banking concentration as an intervening variable.

Keywords: Foreign Bank Penetration, Banking Concentration, Banking Stability, Indonesia

INTRODUCTION

Foreign banks significantly increased their ownership in emerging market nowadays. The foreign ownership of the banking sector has long been an issue towards the effect to financial stability. Banking stability is one of the key issues of any banking market.

Banking stability is defined as a condition in which the banking system efficiently able to perform economic functions, such as allocating resources, the spread of risk and able to make the payment obligations even in difficult situations and shocks, as well as a change in the deep structure (Padoa-Schioppa, 2003). Schinasi (2006) defined banking stability as a condition in which the banking system has the ability efficiently to facilitate the allocation of resources over time, from depositors to investors, the overall allocation of economic resources, can assess/identify, manage risk-financial risks that exist and can better absorb the shock that occurred in the banking sector and the economy.

In Indonesia, the foreign bank penetration from year to year is really high. Foreign ownership in Indonesian banking industry according to Katadata (2012) is approaching 34 percent of all banks in Indonesia. These conditions resulted in foreign bank penetration and their relation to the financial stability of the banking industry in Indonesia has been interesting to be discussed and investigated.

This research investigates the relation between the foreign bank penetrationto financial stability through banking concentration. Millind (2002) and Gopalan and Rajan (2015) have investigated the relation between the foreign bank penetration to banking concentration. Furthermore, Cetorelli, Hirtle, Morgan, Peristiani and Santos (2007) and Mirzaei, Liu and Moore (2011) have investigated the relation between the banking concentration to financial stability. Crystal, Dages and Goldberg (2001), De Haas and Lelyveld (2002), De Haas and Lelyveld (2003), Uiboupin (2005), Herrero and Simon (2006), De Paula and Alves Jr (2007), Schmidt (2008), Kladova, Parfenova and Juscius (2014) and Lee and Hsieh (2014) have tried to investigate the effect of foreign bank penetration to financial stability of the banking industry.

However, the empirical analysis of the effect of foreign bank penetration to the banking concentration and the impact to financial stability has been relatively limited. Therefore, the aim of the paper is to analyze the effect of the foreign bank penetration to the banking concentration and the impact to banking financial stability for banking industry in Indonesia.

LITERATURE REVIEW

Foreign bank penetration can be defined as the entry of foreign banks into a country through the opening of correspondent banks, representative offices, agents, subsidiaries and branches of

commercial banks with the aim to facilitate international transactions services (Deak and Celusak, 1984).

To measure the foreign bank penetration, several studies have tried to measure the foreign bank penetration, as research conducted by Yeyati and Micco (2007), which measured the foreign bank penetration based on the ownership ratio of foreign assets to the total assets of the banking industry, and the understanding of foreign banks is defined as bank controlled by an institution with its headquarters in developed countries. While Jeon, Olivero and Wu (2011) measured the foreign bank penetration in three (3) measurement indicators, (1) the share of total assets of banks owned by foreign banks (FBA), (2) the share of total loans held by foreign banks (FBC) and (3) the number of foreign banks as a % of the total number of banks (FBN).

Furthermore, concentration refers to the degree of control of economic activity by large firms (Milind, 2002). Millind (2002) and Gopalan and Rajan (2015) have investigated the relation between the foreign bank penetration to banking concentration. Milind (2002) examined whether foreign banks presence has helped reduce concentration in the Indian banking market and thus increased competition among banks. Concentration has been measured using the Herfindahl-Hirschman Index of concentration and regressed on a set of explanatory variables derived from relevant theory and prior studies. A dummy variable has been added to measure the impact of ownership on concentration to answer the research question most directly. The results of the study showed that entry of foreign banks did not have significant impact on reducing the level of concentration in the Indian banking market. This may be because of many restrictions still in place on foreign bank activities in India.

Gopalan and Rajan (2015) explored the impact of foreign bank entry on interest-rate-pass-through for a panel of 57 emerging and developing economies over 1995-2009. The paper tested for possible thresholds in terms of foreign bank presence that differentially impact interest-rate pass-through. The empirical results suggested that there were strong threshold effects in that foreign bank entry tends to enhance interest rate pass-through only in countries with greater degree of foreign bank presence compared to those with limited entry. The paper also found that when foreign bank entry led to greater banking concentration, it significantly lowers the extent of interest rate transmission.

Banking stability is defined as a condition in which the banking system efficiently able to perform economic functions, such as allocating resources, the spread of risk and able to make the payment obligations even in difficult situations and shocks, as well as a change in the deep structure (Padoa-Schioppa, 2003). Another definition was expressed by Schinasi (2006) that defined banking stability as a condition in which the banking system has the efficient ability to facilitate the allocation of resources over time, from depositors to investors, the overall allocation

of economic resources, can assess/identify, manage risk-financial risks that exist and can better absorb the shock that occurred in the banking sector and the economy.

Cetorelli, Hirtle, Morgan, Peristiani and Santos (2007) and Mirzaei, Liu and Moore (2011) have investigated the relation between the banking concentration to financial stability. Cetorelli, Hirtle, Morgan, Peristiani and Santos (2007) investigated the relation between the banking concentrations to financial stability. They found that market concentration has not followed a universal upward trend: concentration has increased in some markets and fallen in others. The risk or severity of financial instability depends not just on concentration, but also on whether other firms can promptly substitute for an existing firm.

Mirzaei, Liu and Moore (2011) investigated the effects of market power, banking and bank-environment activities on profitability and stability (risk and returns) for a total of 1929 banks in 40 emerging and advanced economies over the sample period of 1999-2008. The model developed in this paper incorporates the traditional structure-conduct-performance (SCP) and the relative market- power (RMP) hypotheses with the view to assessing the extent to which the bank performance can be attributed to non-competitive market conditions and pricing behaviour. The key findings were: i) a greater market power led to higher bank performance; ii) more concentrated banking systems in advanced economies may be more vulnerable to financial instability; iii) Neither of the hypotheses seemed to be supported for the returns in the emerging banking sector; and iv) higher interest rate spreads increased profitability and stability for both types of economies, however, for emerging banks this seemed to be one of the key elements to increased their profitability raising concerns on economies. Other interesting findings include that off-balance-sheet activities appear to present banks with a trade-off between risk and returns in advanced economies, and the effects of bank age, bank ownership status and regulation on risk and returns, depend on market power.

Studies that have tried to evaluate the effects of foreign bank penetration to financial stability of the banking industry were Crystal, Dages and Goldberg (2001), De Haas and Lelyveld (2002), De Haas and Lelyveld (2003), Uiboupin (2005), Herrero and Simon (2006), De Paula and Alves Jr (2007), Schmidt (2008) and Lee and Hsieh (2014). Crystal, Dages and Goldberg (2001) used bank-specific data for a range of Latin American countries since the mid-1990s. They found the financial strength ratings of local banks acquired by foreign entities generally show slight improvement relative to their domestic counterparts across the seven largest countries. Their case studies in Chile, Colombia, and Argentina did not indicate striking differences in health between larger foreign and domestic retail-oriented banks. However, foreign banks often had higher average loan growth, higher average provisioning expense, and

greater loss-absorption capacity. Foreign ownership might provide important positive effect on the stability and development of emerging market banking systems.

De Haas and Lelyveld (2002) analyzed the development of foreign bank penetration in Central and Eastern Europe (CEE) and its effect to the stability of bank credit. They measured both cross-border credit and activities of foreign bank subsidiaries within CEE. Their analysis showed that the relative importance of foreign bank subsidiaries in CEE has increased considerably during recent years. However, in Estonia, Hungary and Poland foreign banks were also important during the first transition years, as they provided substantial amounts of cross-border credit. They did not find evidence of foreign banks deserting CEE. Although cross-border credit did decrease during some periods, their results showed that foreign banks acquired new local subsidiaries or expanded the credit supply of existing subsidiaries at the same time.

Haas and Lelyveld (2003) studied whether foreign and domestic banks in Central and Eastern Europe have reacted differently to business cycle conditions and host country banking crises. Their panel dataset for more than 300 banks for the period 1993-2000. Their analysis showed that during crisis periods, domestic banks contracted their credit and deposit bases, whereas foreign banks did not. Also, home country conditions matter for foreign bank growth, as there was a significant and negative effect between home country economic growth and host country credit by foreign banks. Furthermore, Uiboupin (2005) found foreign banks has higher credit supply growth during crises, the average volatility of the credit supply by foreign banks was also slightly lower. Therefore, foreign bank entry contributed to host banking market stability. Foreign banks entry was negatively associated with loan loss provisions to total assets ratio. Foreign banks share in total banking market assets (FSA) did not has statistically significant effect on banks' loan loss provisions. They stated that foreign banks were likely to support the stability of the banking markets in the CEE countries.

Herrero and Simon (2006) reviewed the literature on the role of foreign banks in financial stability. From the arguments and empirical evidence, the findings supported the positive role of foreign banks in the financial stability of emerging countries. Foreign banks increased the stability of credit supply. There was no evidence that foreign ownership increased the probability of a banking crisis. There were also arguments that foreign banks could potentially increase the vulnerability of the host economy to external shocks.

De Paula and Alves Jr (2007) found financial liberalization was more intensive in Argentina than in Brazil, and it was followed by the acceleration of dollarization of the Argentine economy. They also found no evidence that in the long run foreign bank entry has contributed, by itself, to strengthen significantly the financial system and to avoid balance of payments crises in Argentina and Brazil. Indeed, the greater stability due to the foreign bank presence would be

derived by the fact that the branches and subsidiaries of large international banks can draw on their parent for addition funding and capital when needed. They also found foreign bank entry in Argentina and Brazil did not contribute effectively to the improvement of the macroeconomic efficiency of the financial system. Schmidt (2008) found that the diversification of the foreign bank's loan portfolio mitigated the agency problem, and permitted the foreign bank to extend credit during downturns where the local banks were forced to contract credit.

Kladova, Parfenova and Juscius (2014) found active acquisition of domestic banks in Latin America has made the banking markets of the region more vulnerable to crises imported from abroad, while the stability of banking sectors in Russia and Central and Eastern Europe has benefited greatly from the process. Such differences might have been caused by different potential of independent development characteristic for the banking markets of the latter regions. Besides, the fact that foreign bank entry in Latin America has been carried out during and as a result of financial crises, while the other regions were prospering during the process, might have also played a certain role in determining different outcomes of the penetration.

Lee and Hsieh (2014) examined the relation between foreign ownership and financial stability, using bank level data for 27 Asian countries. This study took the actual fraction of shares owned by foreign shareholders for each bank during 1995-2009. The purpose of this study was to explain whether increasing foreign ownership can improve financial stability. This study used GMM dynamic panel data techniques. The empirical results indicated that persistence coefficients of (in)stability were positively significant, meaning (in)stability lasts from one year to the next. The effect of increasing bank foreign ownership on stability was significantly negative, supporting the home field advantage hypothesis. A higher degree of credit control liberalization mitigated the negative effect of foreign ownership on financial stability. Decreasing interest rate control and less banking supervision did enhance financial stability, creating possible global advantage. During the Asian financial crisis, liberalization on banking supervision and privatization did harm financial stability. Finally, they confirmed a significantly negative relation between explicit deposit and stability.

METHODOLOGY

The Data

Data in this study are secondary data in the form of figures related to the financial statements of all conventional commercial banks in Indonesia from 2005 through 2014 and corporate units of foreign banks in Indonesia with reference to the Decree of Directors of Bank Indonesia No. 32/37 / KEP / DIR dated May 12th, 1999. In Table 1 below presents the number of banks that serve as the sample in this study.

Table 1: Sample Size

No.	Type Bank (by Category)	Total Bank
1.	State-Owned Bank	4
2.	National Commercial Bank Foreign Exchange	35
3.	Non Foreign Exchange National Commercial Bank	30
4.	Regional Development Banks	26
5.	Mixed Bank	15
6.	Foreign Bank	10
	Total	**120**

Source: Indonesian Banking Directory (2014)

Research Variables

Independent Variables

Independent variables in this study are Foreign Bank Penetration as measured by the ratio of total assets of foreign banks to the total assets of the banking industry (FBA), the ratio of total lending by foreign banks to total loan portfolio of the banking industry (FBC), and the ratio of total deposits of foreign banks to the total deposits of the banking industry (FBTPF).

Intervening Variables

An intervening variable in this study is the concentration ratio of the three largest banks as measured by (CR3A) and the Herfindahl-Hirschman index of the three largest banks as measured by (IHH3A).

Dependent Variable

Dependent variable in this research is the stability of the banking system as measured by (Z-Score = ZROA).

Research Model

Empirical model used in this study are (to be tested using multiple linear regression):

    a. Foreign bank penetration consisting FBA, FBC and FBTPF as the independent variables to the concentration ratio (CR3A) as an intervening variable. The regression equation is constructed as follows:

$$CR3A = \alpha + \beta_1 FBA_{it} + \beta_2 FBC_{it} + \beta_3 FBTPF_{it} + \varepsilon$$

Where, FBA (Foreign Bank Asset) = Foreign bank penetration, as measured by the ratio of total assets of foreign banks to the total assets of the banking industry.

FBC (Foreign Bank Credit) = Foreign bank penetration, as measured by the ratio of total foreign bank loans to total loans of the banking industry.

FBTPF (Foreign Bank's third party funds) = Foreign bank penetration as measured by the ratio of total deposits of foreign banks to total deposits of the banking industry.

CR3A = ratio of the concentration of banking.

To obtain an answer if FBA, FBC and FBTPF have significant effect to the CR3A, the significance test methods will be utilized.

Statistical hypothesis which will be tested in the hypothesis testing are as follows:

If sig (level of significance) >= 5%, FBA, FBC or FBTPF have no significant effect to CR3A.

If sig (level of significance) < 5%, FBA, FBC or FBTPF have significant effect, either positively or negatively to CR3A.

b. Foreign bank penetration consisting FBA, FBC and FBTPF as independent variables to the Herfindahl-Hirschman index (IHH3A) as an intervening variable. Regression equations are constructed as follows:

$$IHH3A = \alpha + \beta_1 FBA_{it} + \beta_2 FBC_{it} + \beta_3 FBTPF_{it} + \varepsilon$$

Where, IHH3A = Herfindahl-Hirschman index.

To obtain an answer if FBA, FBC and FBTPF have significant effect to the IHH3A, the significance test methods will be utilized.

Statistical hypothesis which will be tested in the hypothesis testing are as follows:

If sig (level of significance) >= 5%, FBA, FBC or FBTPF have no significant effect on IHH3A.

If sig (level of significance) < 5%, FBA, FBC or FBTPF have significant effect, either positively or negatively to IHH3A.

c. Foreign bank penetration consisting FBA, FBC and FBTPF as the independent variable to ZROA as dependent variable.

Regression equations are constructed as follows:

$$ZROA = \alpha + \beta_1 FBA_{it} + \beta_2 FBC_{it} + \beta_3 FBTPF_{it} + \varepsilon$$

Where, ZROA = financial stability of the banking industry.

To obtain an answer if FBA, FBC and FBTPF have effect to ZROA, the significance test methods will be utilized.

Statistical hypothesis which will be tested in the hypothesis testing are as follows:

If sig (level of significance) >= 5%, FBA, FBC or FBTPF have no significant effect to ZROA.

If sig (level of significance) < 5%, FBA, FBC or FBTPF have significant effect, either positively or negatively to ZROA.

d. Foreign bank penetration consisting FBA, FBC and FBTPF as independent variables and CR3A as an intervening variable to ZROA as the dependent variable. Regression equations are constructed as follows:

$$ZROA = α + β_1FBA_{it} + β_2FBC_{it} + β_3FBTPF_{it} + β_4CR3A_{it} + ε$$

To obtain an answer if FBA, FBC, FBTPF have effect to ZROA, the significance test methods will be utilized.

Statistical hypothesis which will be tested in the hypothesis testing are as follows:

If sig (level of significance) >= 5%, FBA, FBC, FBTPF or CR3A have no significant effect to ZROA.

If sig (level of significance) < 5%, FBA, FBC, FBTPF or CR3A have significant effect, either positively or negatively to ZROA.

e. Foreign bank penetration consisting FBA, FBC and FBTPF as independent variables and IHH3A as an intervening variable to ZROA as the dependent variable. Regression equations are constructed as follows:

$$ZROA = α + β_1FBA_{it} + β_2FBC_{it} + β_3FBTPF_{it} + β_4IHH3A_{it} + ε$$

To obtain an answer if FBA, FBC, FBTPF and IHH3A has effect to ZROA, the significance test methods will be utilized.

Statistical hypothesis which will be tested in the hypothesis testing are as follows:

If sig (level of significance) >= 5%, FBA, FBC, FBTPF or IHH3A have no significant effect to ZROA.

If sig (level of significance) < 5%, FBA, FBC, FBTPF or IHH3A have significant effect, either positively or negatively to ZROA.

ANALYSIS AND RESULTS

The test results in the foreign bank penetration consisting FBA, FBC, and FBTPF the banking concentration consisting of CR3A and IHH3A and their impact tp banking stability as measured by ZROA are as follows:

The Effect of FBA, FBC and FBTPF to CR3A

Table 2: The Effect of FBA, FBC and FBTPF to CR3A

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,055	,200		20,249	,000
	FBA	-,333	,120	-,348	-2,777	,006
	FBC	-,383	,141	-,489	-2,721	,007
	FBTPF	,307	,168	,361	1,832	,069
		a. Dependent Variable: CR3A				

Regression equation is constructed as follows:

CR3A = 4,055 - 0,348FBA$_{it}$ – 0,489FBC$_{it}$ +0,361FBTPF$_{it}$ + ε

The data in the table 2 shows that the FBA and FBC have significant value (Sig = 0.006) and (Sig = 0.007) smaller than alpha 0.05 means that FBA and FBC have significant effect to CR3A. While FBTPH has significant value (Sig = 0.069) greater than alpha 0.05 means FBTPF has no significant effect to CR3A.

The Effect of FBA, FBC and FBTPF to IHH3A

Table 3: The Effect of FBA, FBC and FBTPF to IHH3A

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,531	,035		15,342	,000
	FBA	-,132	,021	-,664	-6,364	,000
	FBC	-,038	,024	-,235	-1,573	,118
	FBTPF	,037	,029	,209	1,277	,203
		a. Dependent Variable: IHH3A				

Regression equation is constructed as follows:

IHH3A = 0,531 – 0,664FBA – 0,235FBC +0,209FBTPF + ε

The data in the table 3 shows that the FBA has a significant value (Sig = 0.000) is smaller than alpha 0.05 means that only FBA has significant effect to IHH3A.

The Effect of FBA, FBC and FBTPF to ZROA

Table 4: The Effect of FBA, FBC and FBTPF to ZROA

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,385	,193		7,191	,000
	FBA	,385	,115	,441	3,338	,001
	FBC	-,238	,135	-,333	-1,763	,080
	FBTPF	-,254	,161	-,327	-1,573	,118
a. Dependent Variable: ZROA						

Regression equation is constructed as follows:

ZROA = 1,005 + 0,477FBA - 0,283FBC –0,363FBTPF + ε

The data in the table 4 shows that the FBA has significant value (Sig = 0.001) is smaller than alpha 0.05 means that only FBA has the direct and significant effect to ZROA.

The Effect of FBA, FBC and FBTPF and CR3A to ZROA

Table 5: The Effect of FBA, FBC and FBTPF and CR3A to ZROA

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,005	,361		2,782	,006
	FBA	,416	,118	,477	3,531	,001
	FBC	-,203	,138	-,283	-1,467	,144
	FBTPF	-,283	,163	-,364	-1,736	,084
	CR3A	,094	,075	,103	1,241	,216
a. Dependent Variable: ZROA						

Regression equation is constructed as follows:

ZROA = 1,005 + 0,477FBA - 0,283FBC –0,363FBTPF + 0,103CR3A + ε

Table 6: Beta Coefficient Comparison CR3A

Table 5: Standardized Coefficients Beta (FBA * IHH3A; FBC * IHH3A; FBTPF * IHH3A)	Logical Operator	Table 4: Standardized Coefficients Beta (FBA; FBC; FBTPF)	Note
0,477 * 0,103 = 0,049	<	0,441	CR3A not mediate
-0,283 * 0,103 = -0,029	>	-0,333	CR3A mediate
-0,364 * 0,103 = -0,037	>	-0,327	CR3A mediate

The data in the table 6 shows that CR3A not mediate the relationship between the FBA to ZROA, but mediate the relationship between the FBC and FBTPF to ZROA FBC and FBTPF to ZROA. In other words, FBA, FBC and FBTP not have indirect effect to ZROA.

The Effect of Penetration FBA, FBC and FBTPF and CR3A to ZROA

Table 7: Effect of Penetration FBA, FBC and FBTPF and IHH3A to ZROA

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,947	,299		3,164	,002
	FBA	,494	,128	,566	3,861	,000
	FBC	-,207	,135	-,289	-1,530	,128
	FBTPF	-,284	,161	-,366	-1,768	,079
	IHH3A	,826	,434	,188	1,902	,059
a. Dependent Variable: ZROA						

Regression equation is constructed as follows:

ZROA = 0,947 + 0,566FBA - 0,289FBC –0,366FBTPF + 0,188IHH3A + ε

Table 8: Beta Coefficient Comparison IHH3A

Table 7: Standardized Coefficients Beta (FBA * IHH3A; FBC * IHH3A; FBTPF * IHH3A)	Logical Operator	Table 4: Standardized Coefficients Beta (FBA; FBC; FBTPF)	Note
0,566 * 0,188 = 0,106	<	0,441	IHH3A not mediate
-0,289 * 0,188 = -0,054	>	-0,333	IHH3A mediate
-0,366 * 0,188 = -0,069	>	-0,327	IHH3A mediate

The data in the table 8 shows that IHH3A not mediate the relationship between the FBA to ZROA, but mediate the relationship between the FBC and FBTPF to ZROA FBC and FBTPF to ZROA. In other words, FBA, FBC and FBTP not have indirect effect to ZROA.

CONCLUSIONS

There is significant effect between FBA and FBC to banking concentration measured with CR3A. However, there is no significant effect of foreign bank penetration, as measured by the concentration of banking FBTPF to the banking concentration measured by CR3A. Meanwhile, there is significant effect between foreign bank penetration to the banking concentration as

measured with IHH3A. However, there is no significant effect of foreign bank penetration as measured by FBC and FBTPF to the banking concentration as measured by IHH3A.

The foreign bank penetration as measured by FBA has direct and significant effect to the stability of banks as measured by ZROA. But the bank penetration as measured by FBC and FBTPF have no direct and significant effect to the stability of banks as measured by ZROA.

Banking concentration as measured by CR3A not mediate the relationship between the foreign bank penetration, as measured by the FBA to ZROA, but mediate the relationship between the foreign bank penetration, as measured by the FBC and FBTPF or FBA not have indirect effect to ZROA through CR3A, but FBC and FBTPF have indirect effect to ZROA through CR3A. Banking concentration as measured by IHH3A not mediate the relationship between foreign bank penetration as measured by the FBA, but mediate the relationship between foreign bank penetration as measured by the FBC and FBTPF or FBA not have indirect effect to ZROA through IHH3A, but not have indirect effect to ZROA through IHH3A, but FBC and FBTPF have indirect effect to ZROA through IHH3A.

From the above conclusion we can see that the study was limited to testing the effects of foreign bank penetration is measured by the FBA, FBC and FBTPF to the banking concentration is measured by the CR3A and IHH3A and examines their impact on banking stability as measured by ZROA. While there are many variables that impact the ZROA. On the other hand the object being tested in this study is the banking industry in Indonesia. Therefore, this research is still very well researched again by using other variables such as the banking efficiency, banking competition and others.

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