

Synergy Value from Bank Consolidations in Indonesia

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Abstract—Developing nations witnessed tremendous numbers of domestic bank mergers and acquisitions (M&As) and foreign acquisitions in response to deregulation, technological advances, and the globalization of nonfinancial economic activity. These changes in the corporate governance of banks raise essential questions about how these changes create value that can affect bank performance and are the changes permanent or do they tend to return to their previous conditions. This research aims to assess the synergy value created from change of ownership and its effect toward bank's performance shown in their relative performance as well as their standard financial ratios. Data in this research is taken from 37 observations of banks that operated in Indonesia at 2011 – 2016, and then the observations will be analyzed using panel data analysis. Consistent with the previous research, the result of this study shows that there is synergy value created from the consolidations that affects bank performance. Both domestic and foreign acquisitions affect positively in bank performance. While domestic acquisition show improvement in profitability, the foreign acquisition show improvement in asset quality and efficiency.

Keywords—bank, consolidation, synergy value, financial performance.

I. INTRODUCTION

Since the early 1990s, nations of North America and Western Europe witnessed tremendous numbers of bank ownership change in the form of mergers and acquisitions (M&As) [1]. Following the event, M&As happened even more dramatic in Eastern Europe, East Asia, and many in Latin America. These occurred as a response to deregulation, technological advances, and the globalization of nonfinancial economic activity [1]. Between the year 2006 – 2016 Indonesia alone has witnessed 24 bank ownership changes that consist of domestic M&As and foreign acquisitions [2].

The previous study on Indonesian banks was done over the period of 2006 – 2012. It showed that state-owned banks tend to be less profitable and more exposed to risk than private and foreign banks [3]. The domestic acquisition is generally associated with a decrease in the efficiency of the acquired banks. The non-regional foreign acquisition is related to a reduction in risk exposure. While acquisition by regional foreign investors is associated with performance gains [4].

Based on the above findings, it is still essential for conducting the research with an extended period of 2011 – 2016 given the following condition; in December 2012, the

Indonesian Central Bank loosened the Single Presence Policy to support local banks being consolidated through M&As. Under the 2012 regulation, a controlling shareholder is allowed to have a controlling share in more than one bank subject to the nature of the business [5]. The central bank also set policies to raise the capital adequacy of banks, providing incentives for banks to merge as part of their consolidation strategy [6]. Indonesia was expecting a surge in the number of bank M&As in the years following the regulation.

This research aims to prove the argument that the change of ownership by banks operating in Indonesia between 2011 – 2016 create synergy value that impact significantly and positively to their financial performance. And also to prove that the M&As has served the government objectives and give a positive attitude to the Indonesian banking industry.

The rest of this paper is organized as follow: Section II describes the proposed method. Section III presents the obtained results and following by discussion. Finally, Section IV concludes this work and highlight future work.

II. PROPOSED METHOD

Observations used in this research are commercial banks, that operate in Indonesia between the period of 2011 - 2016. We exclude banks that were closed and acquired between that period. Regional Development Banks (BPDs) and Syariah Banks are also excluded in the observation due to differences in business activities to other commercial banks. Our original observation obtained from 75 Indonesian commercial banks but we filtered out banks for which the data necessary to estimate cost and profit functions were not available for all years over the period 2011-2016. This reduced the observation to 37 banks.

To obtain bank-specific relative performance measures we apply parametric frontier techniques to compute both cost and profit efficiency scores for our observation of commercial banks. According to Battese & Coelli in [7] cost and profit efficiency scores are obtained by calculating the ratio between the actual level of costs and profit with the minimum level of costs and maximum level of benefit given the cost & profit frontier. This research also uses financial ratios that generally used to measure profitability, operational efficiency, capital adequacy, asset quality, and liquidity. They are: net interest margin (NIM); return on average assets (ROA); cost-income ratio (CIR); core equity capital to total risk-weighted assets (CAR); non-performing loans to total loans (NPL); and Loan to

Deposit Ratio (LDR). All areas have been considered because they can well analyse the creditworthiness of an institution.

The observations comprised of panel data set for 37 commercial banks operating in Indonesia during 2011 – 2016. The dependent variables capture the bank performance indicators, while the independent variables related to static, selection, and dynamic indicators of bank governance. Thus, the estimating equations will take the following form:

$$\text{Bank Performance Measured} = \alpha + \beta_1 X + \beta_2 Z + \beta_3 D + \beta_4 C + e \quad (1)$$

Where:

α represents Constant;

$\beta_1, \beta_2, \beta_3,$ and β_4 respectively represent regression coefficients for each independent variable.

e represents standard error.

X represent Static Governance Indicators.

Z represent Selection Governance Indicators.

D represent Dynamic Governance Indicators.

C represent Control variables.

This research considers domestic and foreign acquisitions, as well as the percentage of the stake that is involved in the acquisitions. Stake percentage is a new consideration if compared from the previous study of Shaban and James in [3], which is included to see whether there are any bank performance differences between the acquisitions that involve $\leq 50\%$ of total bank stake, and the acquisition that require $\geq 50\%$ of total acquired bank stake. Hence, below are the hypothesis that aimed to be answered by this research:

- H1: Bank acquisition with $\leq 50\%$ stake ownership changes significantly and positively affects bank performance.
- H2: Bank acquisition with $\geq 50\%$ stake ownership changes significantly and positively affects bank performance.

III. RESULT AND DISCUSSION

This section presents the obtained results and following by discussion.

A. Result

Comparing the CE Score and PE Score for each type of bank, we can see that Foreign Banks (FB) are not the most cost efficient anymore, compared to previous study by Shaban and James in [3]. As for the State-Owned Banks (SOB) have the highest Profit Efficiency (PE). In the other hand, Private Domestic Banks (PB) have worst performance in profit efficiency but have the highest cost efficiency score. They also manage to gain profit, because of their nature of being part of a large conglomerate group, where their business is being supported by the leading group's business activity. This is aligned with the previous study that show how private banks are typically less affected by political interference and better able to maximize profits, for instance by aligning the objectives of the

principal and the agent using incentives schemes and superior governance systems.

Besides looking at their comparative efficiency indicators, this research also includes standard bank performance indicators that are included in their financial performance report that shows their profitability, efficiency, capital adequacy, asset quality, and liquidity. From the result, it can be seen that private domestic banks and State-owned banks have higher ROAs compared to foreign banks. However, private banks have a significant high NIM ratio, showing that the primary income for private Banks are still coming from interest-based transactions. In opposite with the foreign banks, that have the lowest NIM coefficient, since they are shifting to service businesses that gain fee-based income (see Table I).

TABLE I. RESULT FOR SELECTIVE EFFECTS OF OWNERSHIP CHANGE ON THE OBSERVATION BANKS

	Relative Performance		Profitability		Operational Efficiency	Capital Adequacy	Asset Quality	Liquidity
	CE SCORE	PE SCORE	ROA	NIM	CIR	CAR	NPL	LDR
PB	0.3606281 0.963	19.68107 0.877	0.0543602 0.972	5.045904 0.046**	-26.59149 0.378	7.247738 0.646	- 0.3301568 0.853	66.35273 0.819
FB	-1.601888 0.841	29.25182 0.823	-0.245948 0.878	3.877824 0.132	-26.59149 0.378	16.63174 0.311	0.470211 0.798	98.28668 0.736
SOB	0.7451669 0.930	69.68638 0.620	0.3045265 0.859	5.078144 0.068	-18.22212 0.571	11.64905 0.506	0.209252 0.915	83.37203 0.777

Foreign banks have significantly lower CIR compared to private domestic and state-owned banks. This consistent with the finding of Shaban and James in [3] that said that foreign banks are more cost-efficient than private and state-owned banks. This study also show that private domestic banks have lower CIR ratio. We can conclude that foreign and private domestic banks have operational procedure that relying mostly on technology rather than human resources, unlike the SOBs, resulting in lower variable labour cost.

Foreign banks have stronger CAR, which can be a result of capital injection from their parent companies or broader access to capital compared to Indonesian private domestic banks and SOBs. However, private banks able to have higher asset quality, as a result of massive write-off due to the high NPL. Beside asset quality, private domestic bank also able to keep their liquidity higher than foreign and SOBs as indicated, although this can also be a sign that they have difficulties in growing their loan portfolio. The selection effects describe the characteristics of banks that experience merger and acquisition at least once in the period of study. They show the nature of banks that are being acquired, which from there we can see the preferences of domestic and foreign banks in determining what kind of banks that they choose to purchase.

TABLE II. RESULT FOR DYNAMIC EFFECTS OF OWNERSHIP CHANGE ON THE OBSERVATION BANKS

	Relative Performance		Profitability		Operational Efficiency	Capital Adequacy	Asset Quality	Liquidity
	CE SCORE	PE SCORE	ROA	NIM	CIR	CAR	NPL	LDR
With $\leq 50\%$ share acquisition								
DA-S	-5.001677 0.903	108.0306 0.534	- 0.7346128 0.370	0.4818069 0.587	0.4912405 0.970	-3.872155 0.406	1.672217 0.125	5.94064 0.828
FA-S	-2.335843 0.928	167.4845 0.129	0.0946107 0.855	1.183935 0.036**	-1.846087 0.825	-5.009811 0.091*	0.0351842 0.959	23.45243 0.209
DA-D	13.56737 0.728	583.5774 0.365	-6.145617 0.436	7.56786 0.539	111.9387 0.446	-17.40087 0.827	10.493 0.248	0
FA-D	1.079922 0.915	118.5004 0.478	0.7743581 0.705	3.606251 0.265	-3.257155 0.932	4.37382 0.832	0.1610685 0.945	53.95811 0.854
With $> 50\%$ share acquisition								
DA-S2	-0.134929 0.998	-54.0621 0.785	0.0795912 0.932	1.36564 0.179	7.148665 0.635	-4.321494 0.417	0.5429392 0.662	15.61893 0.617
FA-S2	46.81111 0.177	131.7648 0.368	1.088326 0.121	-0.006104 0.994	-3.181515 0.778	-12.16815 0.002***	1.431544 0.119	8.504982 0.712
DA-D2	0.3138658 0.980	2.311294 0.991	0.1731995 0.945	6.278898 0.121	-28.20417 0.550	7.099171 0.781	.6013756 0.835	62.70932 0.831
FA-D2	-178.9403 0.000***	437.4162 0.021	0.2357913 0.916	4.033435 0.256	-25.47759 0.543	0.7685941 0.973	0.5570337 0.825	81.02079 0.786
SIZE	0.1440431 0.991	102.7661 0.062	-0.567938 0.029**	-1.397101 0.000***	-9.015157 0.032**	0.0367789 0.980	0.7408984 0.034**	3.823803 0.667
CONS.	-2.836775	1737.416	10.76109	28.42582	219.5991	21.63726	-10.48064	28.66147

As seen from the Table II, both domestic and foreign investors who would like to acquire $\leq 50\%$ of the target bank stake, they tend to choose banks that has lower profit efficiency, low profitability, and low capital. However, foreign banks still select banks that has good asset quality and significantly high NIM ratio. In the case of targeting banks by acquiring $> 50\%$ stake, both foreign and private domestic banks choose those that has low capital. Not only that, foreign investors tend to have profitability and asset quality, while the local investors do not put many attention on other ratios.

It can be concluded that foreign investors choose the banks that they are going to be acquired based on their excellent financial performance and how they manage their asset quality. It can be seen that the decision to purchase more than half of the bank's value is based on the target banks that are already proven to have a good historical performance. Hence the likelihood for the business to be failed is small. As for the banks that are acquired by domestic entities by more than $>50\%$, the results are in the opposite direction. The target banks that are by the acquired by domestic investors by $> 50\%$ have low CAR, high NPL, low PE and CE score, however, they have higher liquidity and better ROA.

The dynamic effects are showing how the banks perform after being acquired. These effects are used to answer the hypothesis of this research regarding how stake ownership change can affect the bank performance indicators. The result of each effect and significance level on each dependent variable is presented in Table 2. By looking at the table and comparing the result from the selection variables and the dynamic variables, we can see that domestic investor make more significant impacts on target banks when they acquire more stake percentage. They are proven to drive the acquired banks or the new merged banks into higher profitability, shown by the ROA and NIM ratio, higher CAR, and lower CIR. However, the liquidity condition is lower and NPL is slightly higher after the acquisition.

Different result come from the foreign investors, they already have impacts on the banks performance no matter the

percentage of stake that they acquire. When they purchase the target banks by $\leq 50\%$, there is higher PE score, lower CIR, and lower NPL. And while when they acquire the target banks by more stake percentage, there is a significant decrease in CIR, CE Score, and lower NPL. The outcome is that there are still some performance ratios that is positively affected by the acquisition of domestic entities is not consistent with the previous study of Shaban and James in [3] where the domestic acquisition is usually associated decline of bank performance. It is explained by Shaban and James in [3] stated that domestic investors in Indonesia are often private banks sharing many characteristics of the banks that they acquire (e.g. limited access to capital, inferior technology, poor managerial skills) [3]. However, with the supervision of the government and the tighter competition, push the bank to grow and have breakthrough ideas to grow their business.

However, there is a threat of having private conglomerate entities as investors; by conglomeration, the cost will be higher in the cost of agency and misallocation of investment occurred between business segments, so that the financial performance was not optimal. The second explanation is that conglomerate is the inefficiency of internal capital market. They might invest in industry segments that are not profitable. They also found that the transfer of the cash flows of an industry segment to other sectors of the industry in one group is not always easy to do, hence it will harm the bank's cash flow [8].

Foreign ownership is not always associated with increase of performance. This study shows that following the acquisition by foreign investor, the profitability is not improving as well as the liquidity ratio. However, the cost efficiency demonstrated by the CIR ratio and asset quality are improved.

B. Discussion

The effect of synergy value created from M&As on the performance of Indonesian banks is being investigated in this research. This study considers not only the static but also selection and dynamic effects of the types of ownership in the same model jointly. This study interprets ownership change as a reflection of governance change. Different from the previous research in [3] we do not differentiate the acquisition's selection and dynamic effects between ASEAN foreign investors and from those of non-ASEAN foreign investors. However, we distinguish the bank's stake acquisition by their percentage. The stake acquisition of $\leq 50\%$ and $> 50\%$ will be considered separately, as we want to see whether majority percentage of stake ownership will affect how the governance change of the acquired banks.

Our finding is that Indonesian private banks do not have the best cost and profit efficiency combined, this finding is not consistent with the previous result of Shaban and James in [3]. The new discovery is that between the period of 2011 – 2016, Private banks are more prudent as they have the lower non-performing loan, which on the previous study was associated with the Foreign banks.

In this research, foreign banks, however, appear to be relatively less prudent, to the extent that foreign ownership, just a slightly better than the state-owned ownership, is significantly associated with a higher proportion of non-performing loans. Foreign ownership shows a commitment to the low cost to income ratio as also shown in the previous study, although it is not consistent with the Cost Efficiency Score. The strong capital adequacy is definitely won by the foreign banks as indicated in their equity to total asset and capital adequacy ratio.

As for the four state-owned banks in this research are becoming the winner of cost and profit efficiency, supported by the highest score of return on asset, return on equity, and net interest margin. Also have the best liquidity situation compared to other banks, as shown in their liquid asset to total asset and loan to deposit ratio. However, they have a higher gross non-performing loan, compared to private banks, and they seem to have weaker capital. Their capital adequacy is also lower than private and foreign banks, although not significant.

Both domestic and foreign investors which acquire $\leq 50\%$ of the bank's stake tend not to select the best performing banks in term of profitability, efficiency, capital adequacy, and also liquidity. The bank's performance is not the primary consideration when buying the stake in a minor amount. However, the acquisition followed by improving capital, asset quality and surprisingly higher efficiency. In contrary, when domestic investors becoming the dominant controller of the bank by acquiring more than 50% of the stake, they choose banks with excellent performance. However, there are almost no difference or improvement beside higher capital following the domestic acquisition by larger stake. It is different when the foreign investors decided to fully on boarding the banks by acquiring more than 50% of the stake. They are not preferring banks with already excellent performance. However, they are able to improve efficiency and asset quality.

Bank consolidation is proven to have effect on the bank performance. In some ratios the impact is positive. However, the synergy value is not always found in every banks M&A. Financial integration pose an advantage to financial sector by providing better service quality, reducing intermediation costs, and lower risk. However, an integrated financial institution can cause a threat, namely conflict of interest. Complexity of its activities also made a financial institution becomes too complicated to monitor. In addition, the integration of financial institutions will also reduce competition because the increase in the concentration of the financial sector. Hence, to balance the benefits and risks of banking institution, supervision will still be required.

IV. CONCLUSION AND FUTURE WORK

This research has presented assessment on the synergy value created from change of ownership and its effect toward bank's performance shown in their relative performance as well as their standard financial ratios. The data in this research is taken from 37 observations of banks that operated in Indonesia at 2011 – 2016, and then the observations will be analyzed using panel data analysis. The results have shown that there is synergy value

created from the consolidations that affects bank performance. Both domestic and foreign acquisitions affect positively in bank performance. While domestic acquisition shows improvement in profitability, the foreign acquisition shows improvement in asset quality and efficiency.

For further study, it is also recommended to analyze the difference between stake ownership changes brings to bank loan portfolio changes to show the strategies being applied following the acquisition. It is also essential to do the analysis on each domestic and foreign acquisition, as the study has shown a large gap of the result between the two types of acquisition. The future research on change of behavior subsequent to the consolidation will be very needed by the practitioners and investors to best have their investment decisions.

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