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THE STRATEGIC RATIONAL OF BANKING ACQUISITION IN EMERGING MARKET

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ABSTRACT
The purpose of the research is to study the determinants of banks acquisitions in Indonesia over the period of 2004-2014. The banking industry is one of the fastest growing and well regulated industries during the last ten years. We analyzed seven financial ratios (current ratio, asset turnover, debt to equity ratio, return on asset, return on equity, earning before tax per revenue and earning after tax per revenue) determinants banks take over. This research used the binary Logit regression technique. The empirical results show that the determinants of bank targeted for all types of takeover are the current ratio. The higher current ratio, the higher possiblity be the target acquisitions. there is no significant of debt to equity ratio, asset turnonver, return on asset, return on equity, earning before tax per revenue and earning after tax per revenue as the determinants of the acquisition of banks in Indonesia.

Keywords: *Acquisition, , Banking, Determinant, Emerging Market, Logistic Regression*

1. INTRODUCTION
Banking merger and acquisition in developing countries in Asia have grown significantly since the Asian crisis in 1998. The government took over the banks when the crisis happened. Banking is an industry that is sensitive to a country's economy. After improving in economic condition, the government divested its ownership in banks. This divestment raised many acquisitions from foreign investors. It also happened in Indonesia in which experienced the same 1998 crisis.

For banking industry restructuring, Indonesia government required banks to do the consolidation in order to increase the banks' capital. The increasing in banking capital was done through the merger between banks. Banks was required to do merger when the banks' shareholders have more than one bank in Indonesia, which is called Single Presence Policy.

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After the investors acquired bail-out banks, other investors were looking for banks that can still be acquired in Indonesia. Local banks are also looking for the strategic partner in running their business model that in line with the changes in the competition climate in the banking sector. These local banks approached the foreign investors and vice versa to looking for their strategic partner.

The bank shareholders, management and other stakeholders were trying to find out what attracts the investors to invest their fund in the banking sector. Various research and assumptions have been made to determine the main factor in attracting the banking investors. A good number of researches on mergers and acquisitions have been done, but most focused on the shareholder value creation which was the performance between pre and post acquisition, or abnormal return at the time of the acquisition announced. There are still not many researches done on the determinants of the acquisition, especially determinants acquisition by related industries in developing countries like Indonesia. There are some researches, for example Worthington (2001) Moeller *et al.* (2003), Vandenburg (2004), Ashmore (2004), Jia (2005), Kiymaz (2008) and Correa (2009).

Worthington (2001) found that small size of assets, diversified portfolio, size of revenue and management capabilities are determinant factors in the acquisition target. The study was conducted on non-bank funding institutions in Australia.

Moeller et al. (2003) stated that the size of the acquiring companies is a determinant factor of the results of mergers and acquisitions. Ashmore (2004) found that profitability, capitalization, intangible assets, quality of credit are the determinants of mergers and acquisitions. The research was conducted in 1994-2003 in the United States. Vandenburg (2004) stated that factors such as interpersonal trust, communication, commitment, and teamwork determine the success of mergers and acquisitions. The interpersonal factor is the relationship between the new shareholders with management and employees of the acquired company.

Jia (2005) suggested that the method of acquisition payment determines the decision of mergers and acquisitions, as well as the benefits obtained by the shareholders of the target companies. The method of payment is divided into three categories : payment by cash, payment by the acquiring company's shares, and combination of payment (hybrid). Correa (2009) found that the small size of assets, the diversified portfolio, the size of assets, the size of revenue and capabilities are the determinant factors in the acquisition.

Johan (2012) researched on the determinant of financial services industry acquisition determinant in Indonesia from 2000 – 2011. It is found that the determinants of finance companies targeted for all types of takeover are the size of the assets and profitability ratios. The larger the asset size is, the more attractive the companies will be for acquisition; while companies with low profitability, will be more attractive for acquisition. The sample of the research are 100 finance companies in Indonesia.

Although there are a lot of researches concerning determinants of merger and acquisition, there is no firmly conclusive result yet till now. Therefore, it is important to conduct a research on this specific topic, especially in a well regulated industry with acquirers from related industry which is banking industry.

This research will study the determinants of banking industry acquisition in Indonesia during 2003-2014. Determinants of acquisition will be divided into 7 financial ratio, which are determinants acquisition by any acquirer. Determinants are current ratio, asset turn over ratio, debt to equity ratio, return on asset, return on equity, earning before tax per revenue dan earning after tax per revenue.

The rest of this paper will be arranged as follows, after the introduction, we explain on the methodology, variables and the data in Section 2, followed by the results of the reserach and discussion in Section 3. Finally, Section 4 gives summary and conclusion remarks.

2. METHODOLOGY, VARIABLE AND DATA

2.1 Methodology

Different factors which can explain whether a particular firm can be identified as a take over target be investigated by using binary logit model. In the binary logit model, the type of firm (acquisition and non acquisition) is represented by a dummy variable which takes the value 1 for acquisition and the value 0 for non acquisition. The likelihood of being taken over is related to a set of explanatory variables X_i. The log of the odds ratio in favour of being a merger target is not only only linear in X, but also (from estimation view point) linear in the parameters (Gujarati, 1995 in Misra, 2009). To predict the probability that a given firm will be a acquisition target, the study proposes to estimate the following logit model

$$P(Y) = \left(\frac{1}{1 + e^{-y}} \right)$$

With a logit transformation, then a linear function of explanatory variables will be as follows:

$$\text{Logit(pi)} = \log_e \left(\frac{P(Y)}{1 - P(Y)} \right)$$

where
Y = 1 if the firm is a acquisition target and Y = 0 if it is not. Such a model has also been used by Misra (2009) in their study on prediction of merger targets.

The study assumes that Y is linearly related to the variables show below :

$$Y_{it} = \beta 0 + \beta 1\ CR_{it} + \beta 2\ ATO_{it} + \beta 3\ DER_{it} + \beta 4\ ROE_{it} + \beta 5\ ROA_{it} + \beta 6\ EBPR_{it} + \beta 7\ EAPR_{it} + e_{it}$$

Where :

Y	where 1 = Acquisition and 0 = Non Acquisition
$\beta 1$	= constant
$\beta 2 \ldots \beta i$	= regression coefficient
ε	= error term

Overall, the hypotheses will be tested in this study is explained in Table 1.

2.2 Variables and Measurement

The measurement will be divided into 7 financial ratios as mentioned in table 2.

2.3 Data

This research uses secondary data collected from various banking institutions and official literature, which is the publication of financial data of each bank in mass media, annual reports of listed companies, analyst research from various securities companies, research from various magazines and newspaper and database in publicly well know sources such as

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Bloomberg, particularly the ones regarding mergers and acquisitions.

Table 1 : Hypothesis of the Research

No.	Variables	Hypotheses	Probability of Acquisition
1	Current Ratio	Higher	+
2	Asset Turn Over	Higher	+
3	Debt to Equity Ratio	Lower	+
4	Return On Equity	Higher	+
5	Return On Asset	Higher	+
6	Earning Before Tax Per Revenue	Higher	+
7	Earning After Tax Per Revenue	Higher	+

The data consisted of cross section data with observation period during 2004-2014. Some of the data is obtained by calculation. The results of the variables is explained as in the appendix. The type of data used in this study is data panel type. Data panel is two-dimensional data, the combination of the dimension of time (time series) and the dimension of individual companies (cross section).

Table 2 : Variables of the Research

No	Variable	Symbol	Formula
1	Current Ratio	CR	$\frac{\text{Current Asset}}{\text{Current Liabliteis}}$
2	Asset Turonover	ATO	$\frac{\text{Revenue}}{\text{Total Asset}}$
3	Debt To Equity	DER	$\frac{\text{Total Debt}}{\text{Total Equity}}$
4	Return on Equity	ROE	$\frac{\text{Profit After Tax}}{\text{Total Equity}}$
5	Return on Asset	ROA	$\frac{\text{Profit After Tax}}{\text{Total Asset}}$
6	Profit Before Tax Per Revenue	EBPR	$\frac{\text{Profit Before Tax}}{\text{Total Revenue}}$
7	Profit After Tax Per Revnue	EAPR	$\frac{\text{Profit After Tax}}{\text{Total Revenue}}$

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The object of research is the 10 merger and acquisition transaction in banking industri in Indonesia in 2011 that publish financial reports. Sampling criteria is as follows

1. Banks who listed in the Indoensian Stock Exchange and under Otoritas Jasa Keuangan Supervision (OJK) or Financial Service Authority (FSA) in 2004-2014
2. Banks who is publishing financial reports during the period of 2004-2014
3. Banks who announced acquisition transactions during the period of 2041-2014 in various media or annual reports

Sampling unit is banks. Sampling frame is the list of banks listed in Bapepam-LK/FSA and publishing financial reports during the period of 2004-2014. Sampling size is banks listed in Bapepam-LK and having the specified criteria. The research uses purposive sampling with judgment sampling. Samples should meet few criterias established in this research.

3. RESULTS AND DISCUSSION

Determinants examined include financial performance of the banks. Financial performance measured consists of current ratio, asset turnover ratio, debt to equity ratio, return on equity, return on asset, earning before tax per revenue and earning after tax per revenue. The processing of data uses Binary Logit Regression testing.

3.1 Statistic Descriptive

The average current ratio has reached 1.1x which mean the banks has better current asset compared the current liablites. The sample has better CR ratio. The mean of ATO has reached 8,7% which means the revenue compared total asset of the banks only had 8,7%. The range between the banks are from 4,2% to 15,5%. The average of debt to equity ratio is 10,89x which means the liablities is equal to 10,89x compared to the total equity of the banks. It was considered that the DER is high.

Table 3 : Statistic Descriptive

Variables	N	Minimum	Maximum	Mean	Std. Deviation
CR	60	0.814	1.367	1.100	0.078
ATO	60	0.042	0.155	0.087	0.023
DER	60	2.148	32.924	10.891	7.396
ROE	60	-0.363	0.326	0.089	0.096
ROA	60	-0.021	0.028	0.011	0.009
EBPR	60	-0.272	0.464	0.173	0.131
EAPR	60	-0.275	0.319	0.121	0.110
Valid N (listwise)	60				

The average ROE has reached 8,9% only. It is considered that the return of equity is lower compared the return of other investment in the market. There was a bank has booked a negative ROE at 36,3%. The avarge return on asset (ROA) indicated 1,1%. The lowest ROA of the banks was -2,1% and the highest ROA at 2,8%. The average EBPR at 17,3% of the banks and the lowest EBPR at -27,2% and the highest at 46,45%. The average EAPR indicated at 12,1% means that the earning after tax compared to the total revenue was 12,1%. And the lowest EAPR at -27,5% and the highest at 31,9%.

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3.2 Determinants of Acquired Banks

The SPSS output shows Omnibus Test value obtained is 0.032 < 0.05. With this value which is far below 5%, it can be concluded that this overall logit model can explain or predict the decision of bank acquisition. The Nagelkerke's R^2 is 0,301 indicating 30,1% of the acquisition determinant can be explained by the model. H-L Statistic (Hosmer and Lemeshow) is 0,118 > 0,05 means that the model is quite a good fit .The Classification Table show 78,30 means that overall 78,30% were correctly classified.

3.2.1 Current Ratio

The current ratio (CR) is significant at $\alpha = 5\%$. The higher CR, the more likely it is for a bank company to be acquired. The higher CR indicates that banks has better liquidity position. The current asset consists of the current account and saving account from customers. Current account and saving account is categorized as the cheapest funding cost for a bank. The CR measures the current asset to be covered the current liablities. The higher CR, the more liquidity that a bank have.

3.2.2 Asset Turn Over

The ATO is calculated at 0,597 or higher than 0,05. It is not significant at $\alpha = 5\%$. ATO is not the determinant of the acquisitions.

3.2.3 Debt To Equity Ratio

The DER is calculated at 0,202 or higher than 0,05. It is not significant at $\alpha = 5\%$. DER is not the determinant of the acquisitions.

3.2.4 Return on Equity

The ROE is calculated at 0,395 or higher than 0,05. It is not significant at $\alpha = 5\%$. ROE is not the determinant of the acquisitions. Normally, ROE of the target bank are underperformed compared to the average industry.

3.2.5. Return on Asset

The ROA is calculated at 0,133 or higher than 0,05. It is not significant at $\alpha = 5\%$. ROA is not the determinant of the acquisitions.

3.2.6. Earning Before Tax Per Revenue

The EBPR is calculated at 0,229 or higher than 0,05. It is not significant at $\alpha = 5\%$. EBPR is not the determinant of the acquisitions.

3.2.7. Earning After Tax Per Revenue

The EAPR is calculated at 0,411 or higher than 0,05. It is not significant at $\alpha = 5\%$. EAPR is not the determinant of the acquisitions.

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Table 4 : The Result of Binary Logit Test

Variables	Sig.	
CR	0.046	**
ATO	0.597	
DER	0.202	
ROE	0.395	
ROA	0.133	
EBPR	0.229	
EAPR	0.411	
Valid N (listwise)	0.059	
Omnibus Tests of Model Coefficients	0.032	
Cox & Snell R Square	0.225	
Nagelkerke R Square	0.301	
Hosmer and Lemeshow Test	0.118	

Notes:
1) Numbers shows estimated standard error
**) significant at the real level of 5%

4. CONCLUSION

Using the latest database, this study describes the determinants of acquired banks in Indonesia in 2004-2014 using the 7 key financial ratios (current ratio, asset turnover, debt to equity ratio, return on asset, return on equity, earning before tax per revenue and earning after tax per revenue). This study uses binary Logit regression technique.

The empirical results show that the determinants of bank targeted for all types of takeover are the current ratio. The higher current ratio, the higher possiblity be the target acquisitions. The current asset is consisted of the current account and saving account of customers, which is the lowest cost of funding for a bank. In addition, there is no significance of debt to equity ratio, asset turnonver, return on asset, return on equity, earning before tax per revenue and earning after tax per revenue as the determinants of the acquisition of banks in Indonesia.

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