

The strategic rationale of financial institutions acquisition

Suwinto Johan

Sekolah Tinggi Manajemen PPM, Jakarta, Indonesia

e-mail: suwintojohan@gmail.com

Abstract

The aim of the paper is to study the determinants of finance companies takeover in Indonesia. The finance company industry is one of the fastest growing industries during the last fifteen years with compounded annual growth rate of 122%. The banking industry which provides majority of the funding, has made finance companies as takeover targets. The automotive manufacturers and dealers which provide the products of financing, have the similar strategy. We analyzed seven micro key financial ratios (profitability, efficiency, growth, firm size, risk, liquidity and solvency) and business portfolio determinants of finance companies take over by examining the relationship between backward integration with banks and forward integration with automotive manufacturers and dealers. We use the binary Logit regression technique. The empirical results show that the determinants of finance companies that were targeted for all types of takeover are the size of the assets and return on equity ratio. The probability of being targeted as a takeover candidate by banking industry (backward integration), is larger for finance companies with higher asset size and diversified portfolio. On the contrary, the probability of being targeted as a takeover candidate by automotive manufacturers and dealers (forward integration), is larger for finance companies with higher profitability, provisioning, leverage, asset size and earning ratios.

Keywords: Takeover, acquisition, forward integration, backward integration, determinant

JEL Classification Code: G21, G32, G34

DOI: [10.20885/jsb.vol23.iss2.art2](https://doi.org/10.20885/jsb.vol23.iss2.art2)

Introduction

Indonesia finance company industry grew from IDR 37 trillion in 2001 to IDR more than IDR 450 trillion in 2015 with compounded annual growth rate (CAGR) of 125%. The average assets size of each finance company grew by eight times from IDR 150 billion to IDR 1.15 trillion. The contribution of the amount of financing from finance companies to Indonesia gross domestic product reached 3.59% (Nuryartono 2012), and the contribution of the amount of financing by finance companies to Indonesia total national credit reached 12.5% in 2011.

During 2001-2015, the number of finance companies decreased, from 245 to 202. During this period, there were 66 companies which licenses had been revoked, and there were only 14 new licenses being issued. After 2006, Finance Minister issued regulation No. 84/PMK.012/2006 allowing the establishment of new finance companies with minimum capital of IDR 100 billion, reducing leverage ratio which is limited to ten times from fifteen times, and allowing receiving loans from other entities, with required rating by independent institutions, with minimum tenor of one year. This regulation also reiterated that finance company is not allowed to receive direct funding from public and all financing being processed must have underlying transaction or underlying product.

Banking is the major source of funding for finance companies, with portion ranges from 78%-91% in the last ten years. Issuance of bonds becomes alternative source of funding, but its portion decreased from 22% in 2003 to only 10% in 2010. This dependence results in a lot number of finance companies acquired by banks. Out of the top ten banks, there were nine banks conducted the acquisition of finance company during the last fifteen years. Banking industry, especially big banks, utilize finance companies as a source to grow. This fact matches with the research of Moeeler et al. (2003) stating that large companies did mergers and acquisitions due to the limited internal growth.

Finance company industry is an industry which demand is a derived demand (Hutabarat, 2012). Financing must have underlying transaction or product, there must not be any financing or loans provided without real transaction of goods or services. The most rapid growth occurred in consumer financing and leasing. Consumer finance accounts for 70% and leasing accounts for 28% of the total financing assets. Consumer finance increased CAGR from 2001 to 2011 by 133%, while leasing increased CAGR from 2001 to 2010 by 117%.

The high percentage of financing indicates the dependence of manufacturers and distributors of automotive on finance company industry. There were nine acquisitions of finance companies done by automotive manufacturing and distributor companies over the last ten years. Singh and Montgomery (1987) found that the acquisitions that occurred between similar industries (related acquisitions) had more value than acquisitions between industries which were not similar (unrelated acquisitions). Affiliated finance companies are required to support the sales of the parenting companies, known as captive finance company. Finance company industry can be grouped into three, which are:

1. Finance companies that have affiliation to auto manufacturers and dealers of goods as a source of product,
2. Finance companies that have affiliation to banking industry or financial group conglomerate as a source of funding,
3. Independent finance companies that have no affiliation with auto manufacturers or dealers or financial group institutions.

There are more 30 finance companies which are affiliated with banks and financial conglomerate, who controlled more than 30% of the total industry's asset. While finance companies which are affiliated with automotive manufacturers and dealers are more than 25 companies which controlled 33,5% of the total industry's asset. In terms of quantity, there are 152 finance companies with controlled assets of only less than 30%.

Independent finance companies need to consider making affiliation to the auto manufacturers as the supplier of financed goods (forward integration) or with the banks/financial group as the provider of funds (backward integration). Affiliation with one party will strengthen the position of an independent finance company in competition. Haugen and Langetieg (1975) stated that mergers and acquisitions could change the level of solvability, insolvency or creating a change in price, quality and quantity of industrial raw materials.

Josh and Njangiru (2015) found that the mergers and acquisitions has raised their shareholders value in banking industry in Kenya. The study revealed that the main reason is the raised of the profitability of the banks. The research consisted of 14 banks have merged or acquired by others from the period of 2000 - 2014. The research use SPSS co-efficient of correlation.

A merger and acquisitions transaction is a very complex transaction which involves many steps from motivation, due diligence, pricing, payment methods, deal announcement, deal completion and post-acquisition integration to value creation. The research also found that there are significantly increase in M&A by Chinese Firms in global market. (Zhu and Zhu, 2016).

There are already numerous researches concerning determinants of acquisition, however there is no conclusive result yet. Therefore, it is important to conduct a research on the strategic rationale of financial institutions acquisitions, especially in a specific industry with acquirers from related industry. Financial industry is one of the major contributors to economy growth of a country. It is essential for the industry players to know that the determinant of the acquisitions.

Literature Review

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), Vander Vennet (2002), Moeller *et al.* (2003), Vandenburg (2004), Ashmore (2004), Jia (2005), Correa (2009), Kiymaz (2008), Akkus *et al.*, (2015) and Rao-Nicholson (2016)

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. 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.

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).

Akkus *et al.*, (2015) found that the determinants of banks mergers are cost efficiencies, relaxing of regulations and network effect. The research also found that only 6% of mergers destroy value and only less than 1 percent reducing overall merger value. The research was using the revealed preference model.

Andriosopoulos and Yang (2015) found that the institutional investors increase the likelihood of an M&A to be a larger, cross border deal and opting for full control. The research also found the the market react negatively to the announcement of cross border merger and acquisition during the period 2007-2008 financial crisis.

Rao-Nicholson (2016) found that the completed merger and acquisitions during the financial crisis are more profitable than those implemented before or after the crisis. The main reason are the synergies created between firms during the crisis. The main determinants of long term post M&A performance are firm size, cross border acquisition, cash reserves and friendly nature acquisitions. There are no relationship between payment method, industry relatedness and percentage of target share acquired.

Although there are already numerous researches concerning determinants of acquisition, there is no conclusive result yet. Therefore, it is important to conduct a research on this topic, especially in a specific industry with acquirers from related industry.

This paper will study the determinants of finance industry acquisition in Indonesia during 2001 – 2011. Determinants of acquisition will be divided into three, which are determinants acquisition by any acquirer, determinants acquisition by banking industry as backward integration, and determinants acquisition by automotive industry as forward integration. Determinants are grouped into 8 dimensions, which are profitability, efficiency, solvency, liquidity, size, growth, risk, and portfolio.

The rest of the paper will be organized as follows, after the introduction, we describe the data and methodology in Section 2, followed by the result and discussion in Section 3. Finally, Section 4 gives summary and conclusion remarks.

Methods

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 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:

$$Y_{it} = \beta_0 + \beta_1 \text{REGR}_{it} + \beta_2 \text{TAGR}_{it} + \beta_3 \text{NIGR}_{it} + \beta_4 \text{PAGR}_{it} + \beta_5 \text{PATA}_{it} + \beta_6 \text{EXIR}_{it} \\ + \beta_7 \text{EXPA}_{it} + \beta_8 \text{EXGR}_{it} + \beta_9 \text{LITA}_{it} + \beta_{10} \text{LEV}_{it} + \beta_{11} \text{PROV}_{it} + \beta_{12} \text{FSI}_{it} + \beta_{13} \text{LIQ}_{it} \\ + \beta_{14} \text{ROA}_{it} + \beta_{15} \text{ROE}_{it} + \beta_{16} \text{NPM}_{it} + \beta_{17} \text{REPA}_{it} + \beta_{18} \text{PORT}_{it} + e_{it}$$

Where:

Y where 1 = Acquisition and 0 = Non Acquisition

β_1 = constant

$\beta_2 \dots \beta_i$ = regression coefficient

ϵ = error term

Overall, the hypotheses to be tested in this study are:

No.	Variable	Hypotheses	Probability of Acquisition	References
1	Efficiency	Higher	+	Richard and Manfredo (2003); Correa (2009)
2	Firm Size	Bigger	+	Berger (1995); Tremblay & Tremblay (1998); Worthington (2001); Louri (2001); Correa (2009)
3	Growth	Lower	+	Moore (1997); Worthington (2001), Correa (2009)
4	Liquidity	Less	+	Worthington (2001)
5	Portfolio	Larger	+	
6	Profitability	Lower	+	Worthington (2001); Correa (2009); Ashmore (2004); Hernando et al., (2008); Erdogan (2012)
7	Risk Management	Higher	+	Ashmore (2004)
8	Solvency	Higher	+	Hannan and Piloff (2006); Lanine and Vander (2007)

Variables and Measurement

The measurement will be divided into 8 dimensions with 18 ratios. The total 8 dimensions consist of 7 financial characteristic and 1 business characteristic.

Tabel 1. Research Variable

Growth Ratio	
Revenue Growth	$REGR = \frac{Revenue(t) - Revenue(t-1)}{Revenue(t-1)}$
Total Asset Growth	$TAGR = \frac{Total\ Asset(t) - Total\ Asset(t-1)}{Total\ Asset(t-1)}$
Net Income Growth	$NIGR = \frac{Net\ Income(t) - Net\ Income(t-1)}{Net\ Income(t-1)}$
Productive Asset Growth	$PAGR = \frac{Productive\ Asset(t) - Productive\ Asset(t-1)}{Productive\ Asset(t-1)}$
Productive Assets To Total Assets	$PATA = \frac{Productive\ Asset}{Total\ Asset}$
Efficiency Ratio	
Expense Income Ratio	$EXIR = \frac{Expense}{Income}$
Expense to Productive Assets	$EXPA = \frac{Expense}{Productive\ Asset}$
Expenses Growth	$EXGR = \frac{Expense(t) - Expense(t-1)}{Expense(t-1)}$
Solvency Ratio	
Liabilities Total Assets	$LITA = \frac{Total\ Liabilities}{Total\ Asset}$
Leverage Ratio	$LEV = \frac{Total\ Liabilities}{Total\ Equity}$
Risk	
Provisioning Policy	$PROV = \frac{Total\ Provisioning}{Total\ Productive\ Asset}$
Size Ratio	
Firm Size	$FSI_t = \ln Total\ Asset(t)$ $FSI_{t-1} = \ln Total\ Asset(t-1)$
Liquidity Ratio	
Liquidity Ratio	$LIQ = \frac{Total\ Productive\ Asset}{Total\ Liabilities}$
Profitability Ratio	
Return on Assets	$ROA = \frac{Net\ Income}{Total\ Asset}$
Return on Equity	$ROE = \frac{Net\ Income}{Total\ Equity}$
Net Profit Margin	$NPM = \frac{Interest\ Income - Cost\ of\ Fund - Expenses}{Interest\ Income}$
Revenue to Productive Assets Ratio	$REPA = \frac{Revenue}{Total\ Productive\ Asset}$
Portfolio	
Number of Portfolio	Number of Portfolio Type in Balance Sheet

Data

This study uses secondary data collected from various institutions and official literature, which is the publication of financial data of each company in mass media, annual reports of listed companies, research from various security companies, research from various magazines and database in Bloomberg, particularly the ones regarding mergers and acquisitions.

The data are panel data consisting of cross section data with observation period during 2001 – 2011. Some of the data is obtained by calculation. Formulation of the variables is presented as in the appendix. The data used in this study is data panel. Data panel is two-dimensional data, the combination of the dimension of time (time series) and the dimension of individual companies (cross section).

The object of research is the entire finance companies in Indonesia in 2011 that publish financial reports. The number of companies registered in Financial Services Authority (Otoritas Jasa Keuangan) are 202 companies. Sampling criteria is as follows: (a) Finance companies listed in the Financial Service Authority (FSA) or Otoritas Jasa Keuangan (OJK) in 2011. (b) Finance companies publishing financial statements during the period of 2001-2011. (c) Finance companies announcing acquisition transactions during the period of 2001-2011 in various media and/or annual reports.

Sampling unit is finance companies. Sampling frame is the list of companies listed in OJK and publishing financial reports during the period of 2001-2011. Sampling size is all finance companies listed in OJK and having the specified criteria. The study uses purposive sampling with judgment sampling. Samples must meet certain criteria established in this study.

Results and Discussion

Descriptive Statistics

Growth ratio

For total asset growth (TAGR), finance companies got an average asset growth of 1.61 times during 2001 to 2011. There were finance companies that experienced zero growth or negative growth, and also those that experienced growth up to 206 times of total asset from the previous year.

Productive asset growth (PAGR) experienced a higher average productive asset growth compared to previous year asset growth which was equal to 2.87 times. As for the net income growth (NIGR), finance companies reached net income growth of 2.27 times on average compared to the previous year. There were several finance companies that suffered declining net profit by -69.26 times and there were some that reached a maximum profit growth of 435.64 times. Revenue growth (REGR) of finance companies reached 2.23 times increase during the period of the study.

Efficiency ratio

On average, finance companies have a ratio structure of productive assets to total assets (PATA) that amounts to 76%. This achievement is higher than government regulations which regulate a minimum of 40%. In terms of operating costs, finance companies have a ratio of operating expenses to operating income (EXIR) of 1.74 times. The high level of EXIR shows that finance companies also generate income other than interest income. Other income includes insurance sales revenue, fines revenue due to customer tardiness, customer instalment payments and other income. Meanwhile, the operating costs of productive assets (EXPA) in finance companies reach 55% on average. The growth of operating costs (EXGR) experienced a growth of 2.13 times on average compared to the previous year.

Solvency ratio

For solvency ratio, the ratio of debt to total assets (LITA) reached 0.80 times on average. The ratio of debt to equity (Leverage / LEV) reached 0.32 times on average. This leverage is still relatively low compared to those allowed by the regulation, which is up to 10 times. However, there are finance companies that have negative equity, which results in a negative Leverage ratio.

Risk ratio

For uncollectible receivables provisioning (PROV), finance companies reserve a provision of 3.84%.

In tax policy, finance companies are allowed to do the uncollectible receivables provisioning amounting to 2,5% for business leasing and 5% for consumer financing.

Size ratio

On average, the total assets (FSI) of finance companies reached IDR 12 billion per company. This average value is the average total assets from 2001 to 2011. The largest finance company has asset of IDR 18 Trillion.

Liquidity ratio

The liquidity ratio (LIQ) of financing receivables to debts comparison is 6.93 times on average. This value reflects a fairly liquid state, where each IDR 1 of the debt is born by IDR 6.93.

Profitability ratio

In terms of profitability, finance companies have a return on assets (ROA) of 6.04% on average. This value is categorised as high compared to other financial industries. As for the return on equity (ROE), the average reached 10.37%. This average value of ROE is relatively low compared to the Indonesia investors' expectations of return.

As for the Net Profit Margin (NPM), finance companies have a Net Profit Margin of 3.55% on average and operating income to earning assets (REPA) of 40.06%. REPA shows numerous customer financing portfolios on two-wheel motor vehicles and electronics. On consumer vehicle financing, finance companies charge interest and administrative costs around 40% effectively per year.

Tabel 2. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
EXIR	1100	-0.467	316.667	1.746	11.867
ROA	1100	-9.560	26.127	0.060	0.910
ROE	1100	-61.075	29.843	0.103	2.260
NPM	1100	-16.177	7.536	0.035	0.697
PROV	1100	-1.095	4.518	0.038	0.226
LEV	1100	-326.617	296.094	0.328	99.065
PATA	1100	0.0000	1.764	0.755	0.231
LIQ	1100	0.0000	1077.571	6.933	42.585
EXPA	1100	-0.535	201.628	0.553	6.142
REPA	1100	-0.407	19.015	0.400	0.803
LITA	1100	0.0000	159.125	0.804	4.823
FSI	1100	0.0000	16.739	12.137	2.074
TAGR	1100	0.0000	206.220	1.606	6.584
PAGR	1100	0.0000	856.499	2.871	2.539
NIGR	1100	-69.258	435.643	2.271	18.305
REGR	1100	-0.390	352.090	2.226	12.537
EXGR	1100	-3.079	456.272	2.134	15.136
Valid N (listwise)					

Determinants examined include financial performance and structure of the business portfolio. Financial performance measured consists of growth ratio, efficiency ratio, solvability ratio, size ratio, liquidity ratio, and profitability ratio. Business portfolio is the type of portfolio held by finance companies. The processing of data uses Binary Logit Regression testing.

Determinants of Acquired Finance Companies

Using the logit test, the study found that the probability of finance companies to be targeted for acquisition is higher for finance companies having lower profitability or return on equity and larger firm size. Low profitability is in line with the results of research conducted by Richard and Manfredo (2003) and Correa (2009). Whereas about large firm size, it is consistent with the results of research by Hernando (2008) and contrary to the results of research by Berger (1995), Worthington (2001) and Correa (2009).

The SPSS output shows χ^2 value obtained is 100.782 with p-value 0.000. With this value which is far below 5%, it can be concluded that this overall logit model can explain or predict the decision of finance company acquisition. The Nagelkerke's R^2 is 0,124 indicating 12,4% of the acquisition determinant can be explained by the model. However, H-L Statistic (Hosmer and Lemeshow) is 0,262 > 0,05 means that the model is quite a good fit. The Classification Table show 71,10 means that overall 71,10% were correctly classified.

Profitability ratio

Return on Equity (ROE) is significant at $\alpha = 5\%$. With odds ratio of 0.768, it can be concluded that the chances for finance companies with ROE lower than 1% to be acquired is 0.768 times higher compared to the finance companies with higher ROE. The lower ROE is, the more likely it is for a finance company to be acquired. Low return on equity indicates a low level of performance in the company. ROE shows satisfaction of company's shareholders on performance. The potential to improve the performance is large and price of acquisition becomes lower. The acquired company will look for a target company with a good profitability to be acquired. The statistical results is in line with the research results of Worthington (2001); Correa (2009); Ashmore (2004); Hernando (2008); Erdogan (2012)

Size ratio

Firm Size (FSI) is significant at $\alpha = 1\%$. With odds ratio of 1.375, it can be concluded that the chance for finance companies having FSI more than 1% to be acquired is 1.375 times larger compared to finance companies having smaller FSI. The size of the company becomes one of the determinants for acquisition. The larger a company is, the more likely it is to be acquired. Firm size shows the total assets and number of receivables owned. Accounts receivable is a source of revenue for finance companies. The highest asset or size, it will create a better profitability, as stated "too big too fall". The result supported by Berger (1995); Tremblay & Tremblay (1998); Worthington (2001); Louri (2001); Correa (2009)

Determinants of Finance Companies Acquired by Banks

The probability to become the target of acquisition by banking industry is higher for finance companies which have larger firm size and business diversification.

From the SPSS output, χ^2 value obtained is 111.651 with p-value 0.000. With the value below 1%, it is concluded that this overall logit model can explain or predict the decision of finance company acquisition. The Nagelkerke's R^2 is 0,167 indicating 16,7% of the acquisition determinant can be explained by the model. However, H-L Statistic (Hosmer and Lemeshow) is 0,445 > 0,05 means that the model is quite a good fit. The Classification Table show 84 means that overall 84% were correctly classified.

Table 3. The Result of Binary Logit Test – All Acquisition

Variabel	Binary Logistik			Binary Logistik		
	Acquisition	Odd	Backward Integration	Odd	Forward Integration	Odd
Constant	-5.047 (0.598)	*** 0.006	-7.401 (0.909)	*** 0.001	-3.983 (0.892)	*** 0.019
EXIR (BOPO)	-0.043 (0.058)	0.958	-0.061 (0.109)	0.941	-0.009 (0.027)	0.991
EXPA (BOPA)	-0.006 (0.312)	0.994	0.357 (0.311)	1.429	-0.717 (0.476)	0.488
EXGR (BOGR)	-0.014 (0.038)	0.986	-0.030 (0.055)	0.970	0.003 (0.095)	1.003
PATA	0.103 (0.454)	1.109	-0.759 (0.613)	0.468	-0.112 (0.682)	0.894
ROA	0.297 (0.204)	1.346	0.132 (0.291)	1.142	0.291 (0.233)	1.338
ROE	-0.264 (0.124)	** 0.768	-0.130 (0.128)	0.878	-0.266 (0.131)	** 0.766
NPM	0.066 (0.261)	1.069	0.013 (0.274)	1.013	0.044 (0.279)	1.045
REGR (POGR)	-0.240 (0.032)	0.977	-0.003 (0.025)	0.997	-0.094 (0.130)	0.910
REPA (POPA)	0.334 (0.274)	1.396	-0.095 (0.329)	0.909	0.730 (0.363)	** 2.075
PROV	0.133 (0.489)	1.142	-0.609 (0.721)	0.544	1.057 (0.569)	* 2.879
LIQ	0.001 (0.002)	1.001	-0.054 (0.039)	0.947	-0.015 (0.014)	0.985
LEV	0.004 (0.003)	1.004	0.001 (0.003)	1.001	0.005 (0.003)	* 1.005
LITA	-0.011 (0.059)	0.989	-0.216 (0.340)	0.806	0.000 (0.055)	1.000
FSI	0.319 (0.047)	*** 1.375	0.473 (0.064)	*** 1.605	0.177 (0.070)	** 1.194
TAGR	0.044 (0.079)	1.045	0.079 (0.122)	1.082	0.006 (0.131)	1.006
PAGR	0.021 (0.029)	1.021	-0.029 (0.039)	0.972	0.048 (0.038)	1.049
NIGR	-0.007 (0.008)	0.993	-0.006 (0.011)	0.994	-0.006 (0.017)	0.994
PORT	0.031 (0.091)	1.031	0.300 (0.116)	*** 1.350	-0.232 (0.145)	0.793
Omnibus Test	0.000		0.000		0.000	
Nagelkerke R2	0.124		0.167		0.090	
Hosmer and Lemeshow	0.262		0.445		0.051	
Classification Table	71.10		84.00		90.90	

Notes: Numbers in () shows estimated standard error

*) significant at the real level of 10%

***) significant at the real level of 5%

****) significant at the real level of 1%

Firm size

Firm Size (FSI) is significant at $\alpha = 1\%$. With an odds ratio of 1.605, can be concluded that finance companies having FSI more than 1%, will have probability 1.605 times larger to be acquired than finance companies with lower FSI. The larger the finance company is, the greater the probability for acquisition will be. The size of these companies shows total assets owned. Total assets of finance companies will demonstrate the ability to acquire customers and the number of accounts owned. This is in line with the size priority by banking industry in business development. The result of large firm size is consistent with the results of Hernando (2008) and contrary to the results of research by Barber (1995), Worthington (2001) and Correa (2009).

Portfolio diversification

Business portfolio (PORT) is significant at $\alpha = 1\%$. With odds ratio of 1.305, it can be concluded that finance companies having more portfolio, will have probability 1.305 times larger to be acquired compared to finance companies with less portfolio. Diversified portfolio is reflected in the portfolio held to be the determinants of the acquisition by banks. The more diversified the portfolio is, the greater the probability to be acquired by banks will be. Portfolio consists of consumer financing, credit card receivables, leasing and factoring. Consumer financing and credit card receivable is part of consumer banking. Leasing and factoring portfolio could complement banking business, as banks are not allowed to do leasing and factoring. Whereas regarding the diversified portfolio, it is almost similar to a study by Singh and Montgomery (1987). Singh and Montgomery found that the acquisition will have greater probability, if acquired by similar companies (acquisition related). The acquisition by banks is related acquisition. Kiymaz & Baker (2008) also found that acquisition can occur if many aspects can be synergized. Banking and finance companies can do business synergies with complementary portfolio. Finance companies can provide leasing and factoring, while banks cannot, while there is big number of banking customers who require the lease to obtain tax shield.

Determinants of Finance Companies Acquired by Automotive Industry

The probability to be the target of acquisition by automotive industry is larger for finance companies which have lower profitability or return on equity, higher provisioning, higher leverage, higher efficiency, and larger firm size. From the SPSS output, χ^2 value obtained at 47.500 with p-value 0.000. With this value is well below 1%, it is concluded that this overall logit model can explain or predict the decision of acquisition of finance companies. The Nagelkerke's R^2 is 0,090 indicating 9% of the acquisition determinant can be explained by the model. However, H-L Statistic (Hosmer and Lemeshow) is 0,051 > 0,05 means that the model is quite a good fit. The Classification Table show 90.9 means that overall 91% were correctly classified.

Profitability

Return on equity (ROE) is significant at $\alpha = 5\%$. With odds ratio of 0.766, it can be concluded that the chance of finance companies with ROE lower than 1% to be acquired is 0.766 times larger compared to the finance companies with higher ROE. The lower the return on equity is, the greater the probability to be acquired will be. Low ROE shows low performance, so there is higher potential to be sold by old shareholders. New additional capital is also needed for finance companies with low performance. Revenue To Asset Productive (REPA) is significant at $\alpha = 5\%$. With odds ratio of 2.075, it can be concluded that finance companies with REPA greater than 1%, will have probability 2.075 times larger to be acquired compared to the finance companies with smaller REPA. The higher the operating income / interest (yield) is, the greater the probability to be acquired will be. Operating income is interest income on financing portfolio. The higher the interest charged, the more attractive it will be for the investors acquiring it. Interest income is the main source of income for finance companies. The acquired company will look for a target company with a good profitability to be

acquired. The statistical results is in line with the research results of Worthington (2001); Correa (2009); Ashmore (2004); Hernando (2008); Erdogan (2012)

Asset quality

Provisioning (PROV) is significant at $\alpha = 10\%$. With odds ratio of 2.879, it can be concluded that the chance of finance companies with PROV more than 1% to be acquired is 2.879 times larger compared to the finance companies with smaller PROV. The higher provisioning is, the greater the probability to be acquired will be. The new shareholders will have higher confidence on the provisioning for doubtful accounts. This provisioning will cover the potential loss that will be caused by financing existing at the time of acquisition. The results is similar as shown in the research resulted by Ashmore (2004)

Solvability

Leverage (LEV) is significant at $\alpha = 10\%$. With odds ratio of 1.005, it can be concluded that the chance of finance companies with LEV greater than 1% to be acquired is 1.005 times larger compared to the finance companies with lower ratio. The greater the leverage is, the higher the probability to be acquired will be. High leverage will result in limited potential growth. Government regulations leverage of finance companies to be ten times at the maximum. When the finance companies have achieved substantial leverage, then additional equity is needed. Additional equity can be derived from old shareholders, as well as the acquisition by new shareholders. Thus, high leverage is the determinant of acquisition. It is supported by Hannan and Piloff (2006); Lanine and Vander (2007)

Firm size

Firm Size (FSI) is significant at $\alpha = 5\%$. With odds ratio of 1.194, it can be concluded that finance companies with FSI greater than 1%, will have probability 1.194 times larger to be acquired compared to the finance companies with lower FSI. Firm size is also a determinant of the acquisition by automotive industry. The larger the company's assets are, the higher the probability to be acquired will be. The same is also applies for return on equity. The result of large firm size is consistent with the results of Hernando (2008) and contrary to the results of research by Berger (1995), Worthington (2001) and Correa (2009).

Conclusion

Using the latest database, this study describes the determinants of acquired finance companies in Indonesia in 2001-2011 using the 7 micro key financial ratios (profitability, efficiency, growth, firm size, liquidity, reserve and business portfolio). This study also contributes to the determinants for the industry that have forward and backward integration. This study uses binary Logit regression technique. The empirical results show 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 probability of being targeted as a takeover candidate by banking industry (backward integration), is larger for finance companies with higher asset size and diversified portfolio. On the contrary, the probability of being targeted as a takeover candidate by automotive manufacturers and dealers (forward integration), is larger for finance companies with higher profitability, higher provisioning amount, higher leverage, bigger asset size, and higher earning ratios. In addition, there is no significance of growth, efficiency and liquidity ratio as the determinants of the acquisition of finance companies in Indonesia. The three dimensions are not found either in forward integration and backward integration.

References

- Akkus O., Cookson J. A. & Hortacsu A., (2015), The Determinants of Bank Mergers: A Revealed Preference Analysis, *Management of Science*, Volume 62 Issue 8, November 2015 <https://doi.org/10.1287/mnsc.2015.2245>.
- Andriosopoulos D., & Yang S. (2015) The Impact of Institutional Investors On Mergers And Acquisitions In The United Kingdom, *Journal of Banking and Finance* Vol. 50 Page 547-661 ISSN 0378-4266 <http://dx.doi.org/10.1016/j.jbankfin.2014.06.004>.
- Ashmore, L. E., (2004), Determinants of premiums offered in acquisitions of commercial banks during a period of accounting evolution, PhD Disertation, Nova Southeastern University.
- Berger, A. N. (1995), The Integration of the Financial Services Industry: Where Are the Efficiency? *North American Actuarial Journal*, Vol. 4 No. 3: 25-45.
- Berger, A. N., & Humphrey D. B., (1993), Bank Scale Economies, Mergers, Concentration, and Efficiency: The US Experience, Financial Institutions Center, The Wharton School, University of Pennsylvania.
- Berger, A. N., Demsetz R., Straham P. E., (1999), The Consolidation of Financial Services Industry: Causes, Consequences and Implication for the Future, *Journal of Banking and Finance*, Vol. 23: 135 – 194.
- Correa, R., (2006), Essays on Financial Integration, *PhD. Disertation*, University of Columbia, United State, Retrieved March, 20, 2011 from ABI/INFORM Global database, (Published No. UMI 3213495).
- Correa, R., (2009), Cross Border Bank Acquisitions: Is there a Performance Effect? *Journal Financial Service*, Vol. 36: 169-197.
- Edorgan, A. I., (2012), The Determinants of Mergers and Acquisitions: Evidence from Turkey, *International Journal of Economics and Finance* Vol. 4 No. 4: 72-77.
- Hannan, T.H., & Piloff, S.J, (2006), Acquisition targets and motives in the banking industry, *Finance and Economics Discussion Series*, 2006-40, Federal Reserve Board.
- Haugen, R. A., & Langetieg T.C., (1975), An Empirical Test For Synergism In Merger, *The Journal of Finance*, Vol. XXX No. 4: 1003 -1014.
- Hernando, I., Nieto M. J., & Wall L.D., (2008), Determinants of Domestic and Cross Border Bank Acquisitions in the European Union, *Journal of Banking and Finance* Vol. 33 No. 6: 1022-1032.
- Hutabarat, M., (2012), Comparative Study on Regulation and Control Non Bank Financial Institution – Finance Company, Bapepam LK-Mazars-USAID.
- Jia, N., (2005), Essays on the determinants of Merger and acquisition decisions, *PhD. Disertation*, University of Wisconsin-Madison, United State, Retrieved March, 20, 2011 from ABI/INFORM Global database, (Published No. UMI 3186072).
- Josh, G. W. & Njangiru M. J., (2015), The Effect of Mergers and Acquisitions on Financial Performance of Banks (A Survey of Commercial Banks In Kenya), *International Journal of Innovate Research and Development* Vol. 4 Issue 8, July 2015, ISSN 2278-0211 (Online).
- Kiyamaz, H., & Baker, H.K. (2008), Short Term Performance, Industry Effects, and Motives: Evidence from Large M&As, *Quartely Journal of Finance and Accounting*, Spring 2008, Vol. 47.(2): 17-44.

- Lanine, G., & Vander-Vennet, R., (2007), Microeconomic determinants of acquisitions of Eastern European banks by Western European banks, *Economics of Transition*, 15(2), 285–308.
- Louri, H., (2001), Entry through Acquisitions Determinants of Multinational Firm Choices, *Review of Industrial Organisation* Vol. 19 pp 199-209.
- Misra, S. D., (2009) Determinants of Target Firms in a Takeover, *International Journal of Finance and Economics*, ISSN 1450-2887 Issue 29: 172-178.
- Moeller, S.B., Schlingemann F.P., & Stulz R.M., (2003), Do Shareholders of Acquiring Firms gain from Acquisitions?, *NBER Working Paper Series*, National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138.
- Moore R.R., (1997), Bank Acquisition Determinants: Implications for Small Business Credit, Financial Industry Studies Department Federal Reserve Bank of Dallas.
- Nuryartono N., (2012), Comparative Study on Regulation and Control Non Bank Financial Institution – Finance Company, Bapepam LK – Mazars, Bidakara Hotel.
- Richard, T.J., & Manfredo M.R., (2003), Cooperative Mergers and Acquisitions: The Role of Capital Constraints, *Journal of Agricultural and Resources Economics* 28 (1): 152- 168.
- Rao-Nicholson R., Salaber J. & Cao T.H., (2016), Long Term Performance of Mergers and Acquisitions in ASEAN Countries, *Research in International Business and Finance* <https://dx.doi.org/10.1016/j.ribaf.201509.024>.
- Singh, H., & Montgomery C. A., (1987), Corporate Acquisition Strategies and Economic Performance, *Strategic Management Journal*, Volume 8. Issue 4. 377-386.
- Tremblay, V. J., & Tremblay, C. H., (1988), The determinants of horizontal acquisitions: Evidence from the US brewing industry, *The Journal of Industrial Economics*, 37, 21–45, doi:10.2307/2098551.
- Vandenberg, R. J. & Hettie, A. R., (2004), Integrating managerial perceptions and transformational leadership into a work-unit level model of employee involvement, *Journal of Organizational Behavior*, No.26, 561–589.
- Worthington A.C., (2001), Efficiency in Pre-Merger and Post-Merger Non Bank Financial Institutions, *Managerial and Decision Economics*, 22: 439-452.
- Zhu H., & Zhu Qi., (2016) Mergers and Acquisitions by Chinese Firms: A Review and Comparison with other mergers and acquisitions research in the leading journals, *Asia Pacific Journal Management* Vol. 33: 1107-1149, DOI 10.1007/s10490-016-9465-0.