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The Financial Performance Of Indonesia's Listed Acquiring Companies Post Acquisitions

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Abstract

This research provides a comparison of consolidated financial performance of the public listed acquiring companies in Indonesia up to three years post acquisitions and one year before the acquisitions in order to observe whether the post-acquisition financial performance of the selected companies are better than the pre-acquisition, and observe the factors that caused change in the financial performance. This research adopted quantitative descriptive research to describe whether a set of quantitative variables after an event is significantly different from those before the event. This research also provides observations on key drivers causing the difference between the quantitative variables before and after an event. This research adopted purposive sampling and the samples were selected from the acquiring companies listed in Indonesia Stock Exchange. Profitability, leverage, and liquidity ratios are utilized as indicators for the financial performance of the acquiring companies. Wilcoxon Signed Rank Test is used to perform hypothesis test on two set of samples to determine whether those samples are significantly different. The hypothesis test shows that only ROA and ROE are significantly different pre and post acquisitions. With reference to publicly available data, 21.0% of total acquisitions indicates contribution to the improvement in financial ratios of the acquiring companies.

Keywords: financial; ratios; Indonesia; acquisitions; performance

INTRODUCTION

Every year companies aim to grow either organically or inorganically. A company can grow organically through expansion of their operation such as entering new geographic area, targeting new market segment, establishing new business, etc. Alternatively, the company can also grow its business through inorganic expansion by acquiring shares in other companies, merging with other companies, or joint venture. With

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reference to (Foster 1986) in (Helga and Salamun 2006), share acquisition refers to the acquisition of entire or majority of shares issued by targeted entities by using cash or other financial instruments. (Ross et al 2008) stated that the other way to acquire another firm is to purchase the firm's voting stock with an exchange of cash, shares of stock, or other securities. According to (Payamta 2003; Setiawan 2004), acquisition will result in change of control from the acquired company to the acquiring company. According to (Ross et al 2008), merger refers to the complete absorption of one firm by another where the acquiring firm retains its name and identity, and it acquires all of the assets and liabilities of the acquired firm. Based on (Brigham and Houston 2004), the primary motivations of merger or acquisition are synergies, potential tax benefit, assets with price lower than replacement cost, diversification, residual value and manager's personal incentive. According to (Jarillo 2003), a successful merger and acquisition must have a well-conceived strategy behind selection of target company, have a well-defined strategy of integrating the target and acquiring company, and consider drawbacks of paying too high premium. Theoretically, the acquiring companies could benefit from synergies (Larrson and Finkelstein 1999), economic of scales (Pangarkar and Lim 2003), greater monopoly (Sharma and Ho 2002), etc., resulting in better consolidated financial performance post-acquisitions. Financial performance could be indicated among others, through profitability ratios, liquidity ratios, and solvency ratios. This research will use EBITDA margin, net profit margin, return on asset, return on equity, debt to asset ratio, current ratio, and quick ratio as indicators to post-acquisition financial performance of the acquiring company.

According to (Fang et al. 2004), mergers and acquisitions do not always result in better financial performance expected by the companies involved in the acquisition as the companies face obstacles to achieve benefits of the mergers and acquisitions. Factors that caused acquisitions do not result in better performance of the acquiring company post-acquisition are among others, inability to realize the expected synergies, more complex organization structure resulting in higher costs, and additional income from the acquisition does not sufficient to cover the cost of debt for acquisition.

This research focuses on observing and analyzing the financial performance of public listed companies in Indonesia Stock Exchange with business in non-financial sector ("Selected Acquiring Companies") and completed majority shares acquisitions ("Acquisitions"). The basis underlying the selections of the Transactions are set out below:

a. This research excludes the extraordinary impacts of Covid-19 pandemic commencing in 2020 to 2022. The research will observe and analyze the impact on financial performance up to 3 years upon acquisitions.

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b. This research excludes Companies with business in financial sector as financial metrics used in this research are substantially different from the metrics used for analyzing performance of companies in financial sector such as bank and multifinance.
c. This research includes only acquiring companies that are listed in Indonesia Stock Exchange for the following reasons: (a) the acquiring companies are typically the initiator of the acquisitions; and (b) information of the listed companies is publicly available.

The objective of this research is to determine (a) whether the post-acquisition financial performance of the Selected Acquiring Companies are better than the pre-acquisition; and (b) the factors causing better financial performance post acquisition.

To observe the changes in pre and post-acquisition financial performance of the Selected Acquiring Companies, the following questions will be addressed in this research:

a. Does profitability of the Selected Acquiring Companies increase after the Acquisitions and what factors that drive the change in profitability post-acquisitions? EBITDA margin, net profit margin, return on asset, and return on equity will be observed in order to understand profitability trend of the Selected Acquiring Companies.
b. Does the financial leverage of the Selected Acquiring Companies increase after the Acquisitions? Debt to asset ratio over the observation period will be used to indicate the trend of financial leverage of the Selected Acquiring Companies.
c. Does the liquidity of the Selected Acquiring Companies increase after the Acquisition? Current ratio and quick ratio will be observed in order to understand liquidity trend of the Selected Acquiring Companies.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Literature Review and Hypothesis Development

Financial ratios are analytical tools used to assess a company's financial performance and evaluate management performance over a specific period. The assessment will indicate how an event, such as merger or acquisition, affects the financial performance of the companies. Acquisitions are driven by different motives and may impact the company's financial performance differently. Set out below are potential type of integration in an acquisition:

a. Horizontal integration is a growth strategy whereby a company takes over another company that operates at the same level of value chain. This means that both companies offer similar goods or services to similar customer base. Horizontal

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integration allows the companies to reduce costs by sharing resources such as technology, production, marketing, and distribution.

b. Vertical integration is a growth strategy through acquisition of a producer, vendor, supplier, or distributor to strengthen value chain and capture downstream and upstream profits. There are two types of vertical integration:
   - Backward integration where a company acquires another business that produces inputs for the acquiring company's business; and
   - Forward integration where a company acquires another business that utilizes the outputs of the acquiring company's business.

c. Conglomerate integration is an expansion initiative through acquisition of unrelated business to an acquiring company.

The result of the assessment utilizing financial ratios and observations on key factors causing changes in financial ratios will be used by investors and creditors to make decisions in respect of whether the investors or creditors will invest or provide loan to the company and how the investment or loan will be structured.

Variables Used in This Research

This research will utilize profitability, leverage, and liquidity ratios to observe the impact of acquisitions on the Selected Acquiring Companies. These three types of ratios are considered representative indicators to understand financial performance of an acquiring company post acquisitions as they could indicate:

a. the existence of potential synergy in consolidated revenues or costs upon the acquisition and integration of the acquiring company and the acquired company, which will increase the consolidated operating profit, net profit margin, ROA, and ROE;
b. whether credit risk increases upon acquisitions, which could be driven by acquisition of a company with higher leverage ratio (e.g. debt to asset ratio) than that of the acquiring company or an acquisition funded by additional interest bearing debt of the acquiring company; and
c. whether upon acquisition and integration, the acquiring company (at consolidated basis) become more or less liquid in meeting its short term liabilities (indicated through current and quick ratios).

Profitability ratios

Profitability ratios refer to financial ratios used to assess the ability of a company to generate earnings relative to its revenue, assets, or shareholders' equity for a specific point in time or over a time period. This research will utilize EBITDA margin, net profit

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margin, return on asset, and return on equity to observe impact on the Selected Acquiring Companies' profitability post acquisitions.

Leverage ratio

Leverage ratio refers to financial metrics used to indicate the level of interest bearing debt relative to another financial metric, indicating how much capital sourced from debt or the ability of a company to meet its financial obligations. This research will utilize debt to asset ratio to observe impact on the Selected Acquiring Companies' capital structure post acquisitions.

Liquidity ratios

Liquidity ratios refer to financial metrics used to determine the ability to meet its current liabilities without raising additional external capital. This research will utilize current ratio and quick ratio to observe impact on the Selected Acquiring Companies' liquidity post acquisitions.

Previous Researches

Other researchers have also conducted researches to understand the impact of acquisition or merger on the financial performance of publicly listed companies in Indonesia. Set out below are the conclusions on each metrics of the companies after the acquisition or merger:

a. Net Profit Margin

(Akhbar Nurdin Maspupah 2021) in their research that upon 4 years post mergers and acquisitions completed in 2012 ("ANM Research"), observed that net profit margin of the samples post mergers and acquisitions decreased compared to the same margin pre mergers and acquisitions. Research conducted by (Gozali and Panggabean 2019) ("GP Research") in their research with 25 samples for mergers and acquisitions completed during 2012 and 2013 showed that there were significant differences in net profit margin of publicly listed companies in Indonesia within one, two, and three years after mergers or acquisitions as compared to net profit margin of the samples one year prior to the mergers or acquisitions. However, there was no significant difference in net profit margin of the samples four years after the mergers or acquisitions as compared to the net profit margin one year prior to the mergers or acquisitions. According to (Mardianto Christian Edi 2018) in their research with 284 samples for mergers and acquisitions completed during 2008 to 2012 ("MCE Research"), net profit margin decreased but not significant statistically for a period up

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to 3 years post mergers and acquisitions as compared to the net profit margin before the mergers and acquisitions. Through a research for mergers and acquisitions completed during 2010 to 2013, (Finansia 2017) ("F Research") showed that there was no significant difference on net profit margin of the samples after mergers or acquisitions. (Novalisa and Djajanti 2013) in their research on mergers and acquisitions completed during 2005 to 2007 ("ND Research") observed that there was no significant difference on net profit margin of the samples post mergers and acquisitions. (Gupta and Banarjee 2017) ("GB Research") also observed that there was no significant difference on net profit margin of the acquiring companies in India post acquisitions. (Rashid and Naeem 2017) ("RN Research") observed that there was also no significant difference on net profit margin of acquiring companies in Pakistan post acquisitions. According to (Inoti Onyuma Muiru 2014) ("IOM Research"), net profit margin of acquiring companies in Kenya decreased post acquisitions.

b. *Operating Profit* Margin

GP Research concluded that there were significant differences in operating profit margin of the samples within one, two, and three years after mergers or acquisition as compared to operating profit margin of the samples one year prior to the mergers and acquisitions. However, there was no significant difference in operating profit margin of the samples four years after the mergers or acquisition as compared to the operating profit margin one year before the mergers or acquisition. Based on research conducted by MCE Research, operating profit margin decreased but not significant statistically for a period up to 3 years post mergers and acquisitions as compared to the net profit margin pre mergers and acquisitions. ND Research also observed that there was no significant difference on operating profit margin of the samples post mergers and acquisitions.

c. Return on Asset

Based on ANM Research, upon 4 years post mergers or acquisitions, return on asset of the samples decreased compared to the same ratio pre mergers and acquisitions. According to research conducted by (Jannah 2020) with 42 samples for mergers and acquisitions completed from 2012 to 2017 ("J Research"), return on asset of the samples decreased but not significant statistically post mergers and acquisitions. GP Research showed that there were significant differences in return on asset of the samples one year before and four years after the mergers or acquisitions. Based on F Research, there was no significant difference in return on asset of the

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samples post mergers and acquisitions. Based on research conducted by (Laiman and Hatane 2017) with 12 samples for mergers and acquisitions completed in 2010 and 2011 ("LH Research"), there was no significant difference between return on asset ratio of the samples post mergers and acquisitions and the same ratio pre the mergers and acquisitions. Based on ND Research, there were significant differences in return on asset of the samples post mergers and acquisitions. According to IOM Research, ROA of acquiring companies in Kenya decreased post acquisitions. Based on (Selcuk and Yilmaz 2011) ("SY Research"), ROA of acquiring companies in Turkey decreased post acquisitions.

d. Return on Equity

According to ANM Research, upon 4 years post mergers or acquisitions, return on equity of the samples decreased compared to the same ratio pre the mergers and acquisitions. (Zuhri Fahlevi Abdi Irma Maemunah 2020) through their research with 20 samples for mergers and acquisitions completed in 2015 ("ZFAIM Research"), showed that after mergers and acquisitions return on equity decreased but not significant statistically compared to the same ratio before the mergers and acquisitions. (Lim and Ruslim 2020) in their research with 30 samples for mergers and acquisitions completed in 2012 until 2017 ("LR Research") showed that there was no significant difference between return on equity pre and post mergers and acquisitions. GP Research showed that there were significant differences in return on assets of the samples one year before and four years after mergers or acquisition. LH Research and ND Research presented in their research that there was no significant different between return on equity ratio of the samples post mergers and acquisitions and the same ratio pre mergers and acquisitions. Same as observation in on ROA, SY Research also observed that ROE of acquiring companies in Turkey decreased post acquisitions.

e. Debt to Equity Ratio

ANM Research presented that debt to equity ratio increased upon mergers or acquisition. J Research observed that debt to equity ratio of the samples increased and significant statistically post mergers and acquisitions. Based on ZFAIM Research, debt to equity ratio post mergers and acquisitions increased and there were significant differences compared to the same ratio prior to the mergers and acquisitions. GP Research showed that there was no significant difference between debt to equity ratio pre and post mergers and acquisitions. MCE Research showed that post mergers and acquisitions, debt to equity ratio decreased but not significant statistically compared

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to pre mergers and acquisitions. According to LH Research and ND Research, there was no significant different between debt to equity ratio of the samples post mergers and acquisitions. Based on RN Research, there was no significant difference on leverage ratio of acquiring companies in Pakistan post acquisitions.

f. Current and Quick Ratio

ANM Research showed that current ratio and quick ratio decreased upon mergers or acquisitions. According to J Research, post mergers and acquisitions current ratio decreased but not significant statistically compared to the same ratio before the mergers and acquisitions. LR Research showed that there was no significant difference between quick ratio of the samples after mergers and acquisitions. GP Research concluded that there was no significant difference on current ratio and quick ratio of the samples after mergers or acquisitions. According to F Research, there was no significant difference between current ratio of the samples post mergers and acquisitions. Based on LH Research, there was no significant difference between current ratio of the samples post mergers and acquisitions. Based on ND Research, there was no significant difference between current ratio and quick ratio of the samples post mergers and acquisitions. GB Research also observed that there was no significant difference on liquidity ratios of the acquiring companies in India post acquisitions. Based on RN Research, liquidity ratio of acquiring companies in Pakistan was not significantly different post acquisitions.

Research Model

Set out below is the research model adopted in this research:

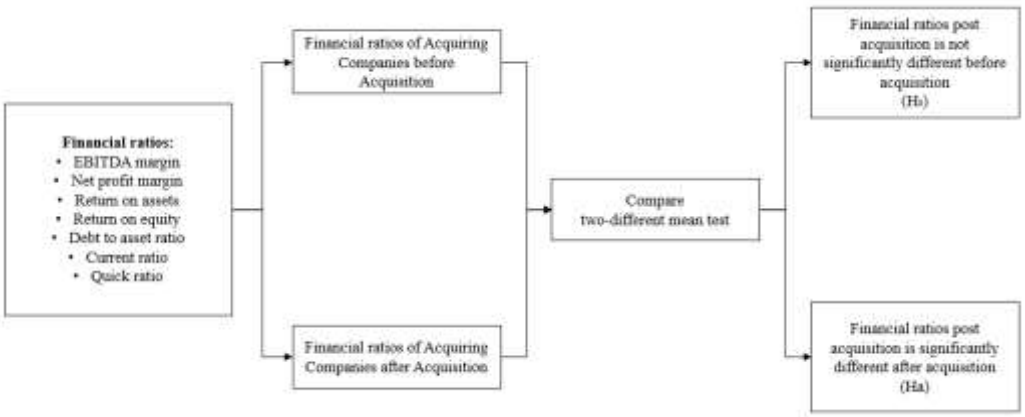


Figure 1: Research Model

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Hypothesis of the Research

Based on the results of the above previous researches, majority of those researches indicated that there were no significant difference between financial performance before and after mergers and acquisitions. Hence, the hypothesis of this research is set out below:

H_1: EBITDA margin is not significantly different between before and after the Acquisitions.

H_2: Net margin is not significantly different between before and after the Acquisitions.

H_3: Return on asset is not significantly different between before and after the Acquisitions.

H_4: Return on equity is not significantly different between before and after the Acquisitions.

H_5: Debt to asset ratio is not significantly different between before and after the Acquisitions.

H_6: Current ratio is not significantly different between before and after the Acquisitions.

H_7: Quick ratio is not significantly different between before and after the Acquisitions.

RESEARCH METHOD

Type of Research

This research will adopt quantitative descriptive research as this research's purpose is to describe whether a set of quantitative variables after an event is significantly different from those before the event. According to (Arikunto 2010), descriptive research is a research conducted to investigate a situation or condition. This research will not change, add, or manipulate the object of the research however, This research will only observe what was happened to the research's object and will describe the factual observation in the report.

Measurement of Variables

The independent variable of this research is majority shares acquisition completed by the Selected Acquiring Companies while, the dependent variables are the financial ratios of the Selected Acquiring Companies. Set out below is the formula and measurement for the financial ratios used as the dependent variables:

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Table 1
Dependent Variables - Financial Ratios

Variables	Formula	Unit	Measurement
EBITDA margin	$EBITDA\ margin = \frac{EBITDA}{Revenue}$	%	Ratio
Net profit margin	$Net\ profit\ margin = \frac{Net\ profit}{Revenue}$	%	Ratio
Return on assets	$Return\ on\ assets = \frac{Net\ profit}{Average\ total\ assets}$	%	Ratio
Return on equity	$Return\ on\ equity = \frac{Net\ profit}{Average\ shareholders'\ invested\ equity}$	%	Ratio
Debt to asset ratio	$Debt\ to\ asset = \frac{Interest\ bearing\ debt}{Total\ asset}$	Times	Ratio
Current ratio	$Current\ ratio = \frac{Current\ assets}{Current\ liabilities}$	Times	Ratio
Quick ratio	$Quick\ ratio = \frac{(Cash\ and\ equivalent + Marketable\ securities + Account\ receivables)}{Current\ liabilities}$	Times	Ratio

Unit of Analysis

The unit of analysis adopted in this research is at consolidated level.

Sample Design and Number of Sample

This research adopted purposive sampling as there are limited number of companies listed in Indonesia Stock Exchange that completed acquisitions during a certain period of time. The samples are selected from specific target population, which is acquiring companies listed in Indonesia Stock Exchange. Criteria for the samples are set out below:

a. acquiring companies listed in Indonesia with non-financial business;
b. the acquiring companies completed acquisition of majority shares in target companies during period of pre Covid-19; and
c. annual reports and financial statements of the acquiring companies are publicly available for the observation period and relevant financial ratios will be collected for period of 2013 until 2019 to isolate unique situation during Covid-19 pandemic which commenced in Indonesia in 2020.

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According to (Hair Black Babin Anderson 2017), number of samples is calculated as the number of indicators multiplied by five. As the number of indicators is seven therefore, the number of samples is at minimal 7 x 5 = 35 samples. The samples consist of 35 acquiring companies in 13 industries (industry categories are based on Global Industry Classification Standard) and had completed 62 acquisitions pre Covid-19. The samples show that the acquiring companies are public listed companies in Indonesia Stock Exchange while the majority of acquired companies are non-listed companies. Additionally, the samples also indicate that majority of the acquisitions occurred in real estate management and development industry, which was completed by 12 acquiring companies (34.3% of total acquiring companies), followed by food and staples retailing and food products industry, which was completed by 7 acquiring companies (20.0% of total acquiring companies).

Time Horizon

Based on the time horizon, the research is a longitudinal study as it will observe financial performance of the Selected Acquiring Companies before and after acquisitions, hence data are collated 1 year before, and 1 year, 2 years, 3 years after acquisitions.

Data Collection Method

Data in this research will be collected from secondary sources. According to (Sekaran & Bougie 2016), secondary data are data that have been collected by others for other purposes than the purpose of the current study. Secondary data sources consist of among others, statistical bulletin, government publications, published and unpublished information available from either within or outside a company, company websites, etc. This research will collect the financial information from company's annual reports and S&P Capital IQ.

Data Analysis

According to (Sekaran & Bougie 2016), quantitative data analysis consists of descriptive statistics and hypothesis testing.

Based on (Sekaran & Bougie 2016), descriptive statistics for a variable are provided by frequencies, measures of central tendency, and dispersion. This research will use measures of central tendency and dispersion as descriptive statistics for each variable. The descriptive statistics will be provided for each financial ratios for period of 1 year before, and 1 year, 2 years, and 3 years after acquisition of the samples of acquiring companies.

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According to (Sekaran & Bougie 2016), there are three measures of central tendency: (i) mean or average, which offer a general picture of the data without inundating one with each of the observations in a data set; (ii) median, which is the central item in a group of observations when they are sorted in either an ascending or descending order; and (iii) mode, which is the most frequently occurring phenomenon. This research will use mean as the measure of central tendency.

(Sekaran & Bougie 2016) set out that there are three measures of dispersion connected to mean, which are: (i) range referring to extreme values in a set of observations; (ii) variance, which is calculated by subtracting the mean from each of the observations in the data set, taking the square of the difference, and dividing the total of these by the number of observations; and (iii) standard deviation, which is another measure of dispersion for interval and ratio scale data, and commonly used, and calculated as square root of the variance. This research will use standard deviation for the measure of dispersion.

Normality Test

In order to test whether the samples used in this research are normally distributed, it will use Kolmogorov-Smirmov Test. If the test shows that the samples are normally distributed then the two samples difference test will be conducted using two sample t-test. However, if the test shows that the samples are not normally distributed then the two samples difference test will be conducted using Wilcoxon Signed Rank Test.

Hypothesis Test

The hypothesis test is performed using SPSS software to answer the question whether after acquisition, financial performance of the Selected Acquiring Companies are different from their financial performance and position before acquisitions. The hypothesis is that there is no difference between the Selected Acquiring Companies' financial performance before and after acquisitions.

RESULT AND ANALYSIS

List of the Acquisitions, the acquiring companies, and the financial information of the companies are collated from S&P Capital IQ while, information in respect of annual financial performance analysis of the acquiring companies is collated from their annual reports. There are sixty two (62) majority shares acquisitions completed by 35 public companies listed in Indonesia Stock Exchange for the period pre Covid-19. This research:

a. compares the financial performance of the Selected Acquiring Companies 1 year before the completion of the Acquisitions and 1 to 3 years after the completion of the

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Acquisitions and observes whether the financial performance increases within 3 years after the Acquisitions; and

b. identifies potential key drivers resulting in changes of financial performance of the Selected Acquiring Companies 1 year before the completion of the Acquisition and 1 to 3 years after the completion of the Acquisitions.

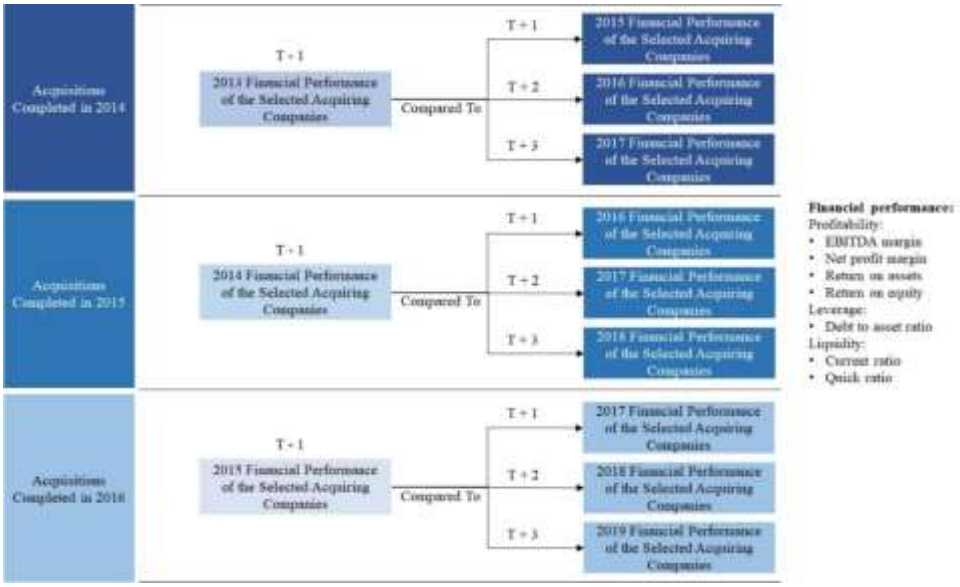


Figure 1: Data in the Research

Descriptive Statistics of Financial Performance 1 Year Before Acquisitions

Table 2.Descriptive Statistics - 1 Year Before Acquisitions

Financial Ratios	N	Mean	Standard Deviation	Min	Max
EBITDA margin	35	28.6%	22.0%	-19.2%	109.4%
Net margin	35	15.7%	28.5%	-32.4%	157.1%
Return on asset	35	4.9%	5.0%	-6.4%	18.8%
Return on equity	35	9.0%	11.7%	-26.5%	28.9%
Debt to asset	35	0.27	0.18	0.00	0.71
Current ratio	35	2.13	2.29	0.27	11.99
Quick ratio	35	1.20	1.37	0.15	5.98

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The above descriptive statistics will be utilized as the base figures to be compared to the corresponding financial ratios for 1 year, 2 years, and 3 years post acquisitions.

Descriptive Statistics of Financial Performance 1 Year After Acquisitions

Table 3 .Descriptive Statistics - 1 Year After Acquisitions

Financial Ratios	N	Mean	Standard Deviation	Min	Max
EBITDA margin	35	23.2%	20.1%	-35.8%	58.6%
Net margin	35	40.0%	257.8%	-284.0%	1509.3%
Return on asset	35	2.6%	10.1%	-43.6%	18.6%
Return on equity	35	3.5%	27.8%	-135.2%	42.9%
Debt to asset	35	0.32	0.19	0.00	0.75
Current ratio	35	2.49	4.93	0.21	29.55
Quick ratio	35	0.95	1.33	0.06	7.40

EBITDA margin, return on asset, and return on equity decreased a year after acquisitions compared to the same ratios 1 year before acquisitions while, net profit margin increased mainly due to one-time event and non-operating activities, which were:

a. reversal of USD99.97 (or equivalent to approximately IDR1.22 trillion based on IDR:USD foreign exchange rate of 12,207 as of 31 December 2017) million impairment on oil and gas properties located in Libya; and
b. change in accounting treatment for investment property adopted by a property company from cost method to fair value method, resulting in significant increase (approximately IDR1.07 trillion) in fair value.

Debt to asset ratio and current ratio increased while quick ratio decreased a year after acquisitions compared to the same ratio 1 year before acquisitions, indicating that higher portion of consolidated assets was funded through interest bearing debt and consolidated current assets could meet the short term or current liabilities however, cash equivalent, marketable securities, and account receivables (more liquid assets than other current assets) are able to meet less portion of short term or current liabilities.

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Descriptive Statistics of Financial Performance 2 Years After Acquisitions

Table 4.Descriptive Statistics - 2 Years After Acquisitions

Financial Ratios	N	Mean	Standard Deviation	Min	Max
EBITDA margin	35	25.2%	16.1%	0.9%	59.0%
Net margin	35	11.8%	44.8%	-74.2%	189.1%
Return on asset	35	3.3%	6.3%	-8.5%	17.5%
Return on equity	35	3.6%	17.0%	-72.7%	31.8%
Debt to asset	35	0.32	0.19	0.00	0.80
Current ratio	35	3.87	12.41	0.13	75.60
Quick ratio	35	0.94	1.18	0.01	6.35

EBITDA margin, net profit margin, return on asset, and return on equity two years after acquisitions are lower than the same ratios 1 year prior to acquisitions.

Upon two years after acquisitions, debt to asset remained higher than the same ratio a year before acquisitions. Current ratio improved compared to the same ratio a year before acquisitions while quick ratio remained lower than the same ratio before acquisitions.

Descriptive Statistics of Financial Performance 3 Years After Acquisitions

Table 5.Descriptive Statistics - 3 Years After Acquisitions

Financial Ratios	N	Mean	Standard Deviation	Min	Max
EBITDA margin	35	12.8%	45.4%	-219.5%	55.2%
Net margin	35	-3.7%	75.4%	-268.3%	221.8%
Return on asset	35	-5.4%	44.9%	-264.1%	16.9%
Return on equity	35	5.0%	12.6%	-33.0%	29.0%
Debt to asset	35	0.35	0.30	0.00	1.70
Current ratio	35	3.55	10.88	0.04	66.19
Quick ratio	35	0.84	1.14	0.00	6.38

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EBITDA margin, net profit margin, return on asset, and return on equity three years after acquisitions are lower than the same ratios a year prior to acquisitions and even lower than the same ratios one and two year(s) after the acquisitions.

Upon three years after acquisitions, debt to asset remained higher than the same ratio a year before acquisitions. Current ratio improved compared to the same ratio while quick ratio remained lower than the same ratio a year before acquisitions.

Based on the above descriptive statistics, in general, financial performance of the Selected Acquiring Companies did not improve upon three years after acquisitions. The observation in this research based on descriptive statistics is consistent with some observations set out in the following previous researches:

a. J Research whereby the net profit margin and current ratio of its samples (companies in Indonesia) decreased while debt to equity ratio increased, upon mergers and acquisitions for period of 2012 to 2017;
b. MCE Research whereby the net profit and operating profit margin of its samples (companies in Indonesia) decreased upon mergers and acquisitions for period of 2005 to 2016;
c. ZFAIM Research whereby the debt to equity ratio of its samples (companies in Indonesia) increased upon mergers and acquisitions in 2015;
d. IOM Research whereby the profitability ratio of its samples (companies in Kenya) decreased upon mergers and acquisitions for period of 2001 to 2010; and
e. SY Research whereby the ROA and ROE of their samples (companies in Turkey) decreased upon mergers and acquisitions. The ROA and ROE upon mergers and acquisitions for period of 1970 to 1994 also decreased in the YH Research on companies in Japan.

There are factors related and unrelated to acquired companies, causing financial performance of the Selected Acquiring Companies did not improve upon the acquisitions. The main factors unrelated to acquired companies and causing the average consolidated profitability decreased three years upon acquisitions are: (a) gross margin of the growing business is significantly lower than the other businesses; (b) overcapacity in the industry causing declining average utilization rate of production facility and resulting in a significant pressure on selling price; (c) deconsolidation in the investment; and (4) global trade barriers causing decrease in commodity price followed by increasing cost of goods sold resulting in declining profitability.

In addition to the factors unrelated to acquired companies, information regarding performance of the acquired companies as provided in the Selected Acquiring Companies' annual reports, indicated that only 13 of 62 acquisitions or equivalent to 21.0% contributed positive impact to the acquiring companies' revenues or profits. The

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acquired companies could contribute to financial performance improvement of the Selected Acquiring Companies due to but not limited to: (a) integration in supply chain and increasing sales volume; (b) the acquired company operating business with growing number of customers; (c) the acquiring company was able to improve productivity and focus on profitable projects; and (d) the acquiring and acquired companies as a group being able to negotiate better cost per unit of sales.

Observation based on type of acquisitions indicates that vertical acquisition more likely results in positive impact to the acquiring companies' revenues and profits than conglomerate and horizontal acquisitions.

Normality Test

This research adopted Kolmogorov-Smirmov test in order to test whether samples are normally distributed. If value of D-table is greater than or equal to maximum D-value then accept hypothesis null (H_0), which means the data is normally distributed. Otherwise, reject H_0 or data is not normally distributed. Based on Kolmogorov-Smirnov table, the D-value for 35 samples and 95% confidence level ($\alpha = 0.05$) is 0.22. Set out below is the result of normality test for financial ratios based on Kolmogorov-Smirnov test:

Table 6 .Result of Normality Test

Financial ratios	T - 1 year	T + 1 year	T + 2 years	T + 3 years
EBITDA margin	Normally Distributed	Normally Distributed	Normally Distributed	Not Normally Distributed
Net margin	Not Normally Distributed	Not Normally Distributed	Not Normally Distributed	Not Normally Distributed
ROA	Normally Distributed	Normally Distributed	Normally Distributed	Not Normally Distributed
ROE	Normally Distributed	Not Normally Distributed	Normally Distributed	Normally Distributed
Debt to asset	Normally Distributed	Normally Distributed	Normally Distributed	Normally Distributed
Current ratio	Not Normally Distributed	Not Normally Distributed	Not Normally Distributed	Not Normally Distributed

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Financial ratios	T - 1 year	T + 1 year	T + 2 years	T + 3 years
Quick ratio	Not Normally Distributed	Not Normally Distributed	Normally Distributed	Not Normally Distributed

Based on the above table, 50.0% of the samples are normally distributed while, 50.0% are not normally distributed. Therefore, the financial ratios data are not normally distributed.

Hypothesis Test

The objective of hypothesis test is to test whether there are significant differences between financial performance of the Selected Acquiring Companies before and after the Acquisitions. The Hypothesis null is there is no difference between the financial performance before and after the Acquisitions. As the samples are not normally distributed, this research adopts Wilcoxon Signed Rank Test to test the Hypothesis. Set out below are the results of the hypothesis tests:

Hypothesis Test: Financial Performance 1 year before and after the Acquisitions

Table 7.Hypothesis Test - 1 Year Before and After the Acquisitions

Financial ratios	Test Statistics	Critical Value	Result	Conclusion
EBITDA margin	219	195	Accept H_1	No Significant Difference
Net margin	235	195	Accept H_2	No Significant Difference
ROA	218	195	Accept H_3	No Significant Difference
ROE	194	195	Reject H_4	Significant Difference
Debt to asset	182	195	Reject H_5	Significant Difference
Current ratio	245	195	Accept H_6	No Significant Difference
Quick ratio	224	195	Accept H_7	No Significant Difference

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Hypothesis Test: Financial Performance 1 year before and 2 years after the Acquisitions

Table 8.Hypothesis Test - 1 Year Before and 2 Years After the Acquisitions

Financial ratios	Test Statistics	Critical Value	Result	Conclusion
EBITDA margin	270	195	Accept H_1	No Significant Difference
Net margin	193	195	Reject H_2	Significant Difference
ROA	173	195	Reject H_3	Significant Difference
ROE	147	195	Reject H_4	Significant Difference
Debt to asset	219	195	Accept H_5	No Significant Difference
Current ratio	297	195	Accept H_6	No Significant Difference
Quick ratio	208	195	Accept H_7	No Significant Difference

Hypothesis Test: Financial Performance 1 year before and 3 years after the Acquisitions

Table 9.Hypothesis Test - 1 Year Before and 3 Years After the Acquisitions

Financial ratios	Test Statistics	Critical Value	Result	Conclusion
EBITDA margin	207	195	Accept H_1	No Significant Difference
Net margin	213	195	Accept H_2	No Significant Difference
ROA	175	195	Reject H_3	Significant Difference
ROE	194	195	Reject H_4	Significant Difference
Debt to asset	205	195	Accept H_5	No Significant Difference
Current ratio	261	195	Accept H_6	No Significant Difference
Quick ratio	148	195	Reject H_7	Significant Difference

Based on the above hypothesis tests, there are significant differences between ROA and ROE of the Selected Acquiring Companies before and after the Acquisitions.

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Hypothesis tests for EBITDA margin, net margin, debt to asset ratio, and current ratio tend to show there is no significant difference before and after the Acquisitions as

a. the hypothesis tests for those financial ratios show that three (3) years after acquisitions, there is no significant difference as compared to one (1) year before acquisitions; and
b. the hypothesis tests for each of those financial ratios show that at least two (2) of three (3) hypothesis tests (i.e. the hypothesis tests for financial ratios one (1) year before vs one (1) year after acquisitions, one (1) year before vs two (2) years after acquisitions, and one (1) year before vs three (3) years after acquisitions) result in no significant difference.

Hypothesis tests for quick ratio results in no significant difference for one (1) year after vs one (1) year before acquisitions and two (2) years after vs one (1) year before acquisitions, while significant difference for three (3) years after vs one (1) year after acquisitions.

The above hypothesis tests show some consistent results to J Research, GP Research, MEC Research, F Research, LH Research, RN Research, ND Research.

CONCLUSION AND LIMITATION

Conclusion

Based on the descriptive statistics set out in previous section, the profitability of the Selected Acquiring Companies decreased from 1 year until 3 years upon the Acquisitions as compared to 1 year prior to the Acquisitions. The decrease in profitability upon the Acquisitions was driven by the following:

a. industry wide issues such as fluctuation in commodity price due, overcapacity in an industry, and slower demand growth in the industry compared to pre-acquisitions; and
b. company specific issues such as no synergy was realized post-acquisitions, the acquired company remained in development stage or had not commenced operations and thus had not generated any revenue and profit, operational costs increased greater than revenues, and increase in interest expense due to higher financial leverage post-acquisitions, which is consistent to the observation based on the descriptive statistics in previous section.

The financial leverage of the Selected Acquiring Companies increased post-acquisitions (indicating higher credit risk) as the acquisition utilized additional loan or the financial leverage of the acquired companies is higher than that of the Selected Acquiring Companies.

In term of liquidity of the Selected Acquiring Companies, generally it improved due to increase in inventory however, if inventory is excluded and taking into account only

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more liquid assets such as cash, account receivables and marketable securities, the descriptive statistics indicate that the liquidity decreased post-acquisitions.

Based on the hypothesis tests, only post-acquisition ROA and ROE of the Selected Acquiring Companies are significantly different from the same ratios before the Acquisitions while, other financial ratios three years upon the Acquisitions are not significantly different from the same ratios one year before the Acquisitions.

With reference to the above observations, this research suggests the following recommendations:

a. strategic investors must prepare a clear integration plan, strategy, and risk mitigation plan to generate synergy post acquisitions, and develop ability to execute the plan and strategy to realize the synergy post acquisitions;
b. financial investors with controlling interest, prior to the acquisitions, must obtain clear understanding on the management who operates the target companies, potential synergy and how the synergy could be generated and prepare risk mitigation plan as well as gain / execute the control over the process of generating the potential synergy;
c. non-controlling interest financial investors must obtain sufficient understanding on the potential acquisition motive, potential synergy, and financial implications on the acquiring company (consolidated basis) post the acquisition, and prepare risk mitigation plan prior investing in the acquiring company; and
d. in addition to that, a further research on the return on investment ("ROI") of the acquisitions may be required to understand annual investment return and the trend over five to ten years post acquisitions, and research on the internal rate of return could also provide an observation as to whether the acquisition resulted in reasonable return to the acquiring companies. These researches may require management interview on the acquiring companies and analysis on stand-alone financial statements of the acquired companies.

Limitation

Due to non-existence of required data or limited access to non-public information, there are some limitations in this research:

a. This research does not provide comparison between total cost of acquisitions, capital structure of the acquisitions, and total benefit generated from the acquisitions as such information are very challenging to obtain; and
b. This research also does not include the estimation of internal rate of return ("IRR") of the acquisitions and provide any view on whether the unlevered and levered IRR are reasonable as compared to weighted average cost of capital and cost of equity, respectively

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