



Company Size and Growth on Profitability: A Comparative Study in 5 ASEAN Countries

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Abstract

Objective –This study investigates the correlation between a firm's size and its growth with respect to profitability. It subsequently incorporates various firm-specific variables, including leverage and asset tangibility, as well as macroeconomic indicators.

Design/Methodology –Employing a quantitative research approach, this study utilizes annual data spanning the years 2017 to 2021. The research focuses on listed companies within the ASEAN region, namely Indonesia, the Philippines, Malaysia, Vietnam, and Singapore. The primary data sources comprise the Bloomberg and COMPUSTAT Global databases. Using the fixed effect model, the study includes a total of 145 listed companies, resulting in 725 firm-year observations.

Results –This study found that there is evidence of an insignificant negative relationship between size and profitability, while the relationship between growth and profitability is found to be positive and significant. This suggests that the phenomenon of economies of scale is still in place, but in the long run it might be replaced by the diseconomies of scale.

Research limitations/implications – The study contributes to a nuanced understanding of relationships between variables within each country. However, the study does not use all companies from each respective country.

Novelty/Originality –This study employs a unique methodology by drawing samples from five distinct ASEAN countries. It conducts an integrated analysis encompassing both a collective examination and individual assessments of these countries. By adopting such a comprehensive strategy, this research aims to provide a more holistic perspective on the intricate relationships under investigation.

Keywords: Company's size, company's growth, profitability, stock exchange

1. Introduction

This research was conducted to answer two traditional questions related to business and industrial economics: first, what is the relationship between company size and profitability? And second, what is the relationship between company growth and profitability? There is an economic theory that states that in a perfectly competitive market, the level of profitability among companies tends to be the same (Hall & Weiss, 1967). This means that no matter the size of the company, its profitability level will be indifferent from small companies. However, when market conditions are not perfect, the size of the company becomes an important factor that can affect profitability. Following this, there is another economic theory that also acknowledges that the economies of scale factor can affect profitability (Alexander, 1949; Hall & Weiss, 1967; Stekler, 1964). For example, Baumol (1960) hypothesizes that company size has a positive relationship with profitability. Baumol argues, "up to a certain point, an increase in capital will not only increase the profitability of the company but also

provide an advantage over other competitors in imperfect market conditions, which will increase long-term investment income per dollar.” Following this, Baumol (1960) also states that larger companies are more likely to take advantage of investment opportunities, unlike smaller companies that cannot take advantage of these opportunities because they do not have enough capital. Large companies also have an advantage over small companies because they can have more product line varieties, which provides advantages in terms of size and variability. This indicates that larger companies are in a more advantageous position because they can take advantage of the economies of scale effect in the manufacturing, marketing, and supervision processes in increasing capital both through debt issuance and equity sales. The positive relationship is also supported by others such as Sritharan V (2015) and McGee (2015). Both Sritharan V (2015) and McGee (2015) believe that bigger size companies will have an advantage in economies of scale that can help reducing cost, to achieve better profitability. However, research by Amato & Amato (2004) found that company size does not affect profitability. There are also others like Goddard et al. (2006) and Akram et al. (2021) which found a negative relationship between company size and company profitability.

Not only company size, but the relationship between a company’s growth to its profitability is also yet to be proven. Studies in the past have found different relationships between a company’s growth and its profitability. For example, Yadav et al. (2020) research states that company growth has a negative relationship with profitability. In addition, there are other researchers that suggest growth will eventually result in efficiency, indicating a negative effect on profitability (J. A. Goddard et al., 2004; Jang & Park, 2011; Marris, 1964). According to them, as a company grows, there will eventually be diseconomies of scale effect that will negatively affect profitability. Furthermore, there is an argument that large companies cannot take advantage of opportunities that are intended for small companies as well as small companies can. Therefore, it can be said that company growth will have a negative relationship with company profitability. However, there are also studies that have found a positive relationship between company growth and profitability (Alchian, 1950; Basu & Budhiraja, 2020; Cowling, 2004; Mendelson, 2000). This positive impact is followed by the argument that if a company has good growth, the company will also experience an increase in investment, which will result in increased profitability. Not only investment, but growth will also trigger efficiencies that’ll help with operational cost, which in the end will boost profitability. However, there is also research by Markman et al. (2002) that did not find a relationship between company growth and profitability.

The complexities of the relationship between company size, growth, and profitability have spawned a variety of viewpoints in past study, prompting additional investigation. Not limited to size and growth, the influence of other variables such as a company’s leverage, asset tangibility, macroeconomic conditions, and stock market development to profitability is yet to be found. The unclear relationship between these factors to profitability makes the topic interesting to explore. This study will provide several contributions to the existing literature. First, it will analyze the relationship between company size and growth and profitability. Moreover, inclusion of other company’s variable along with macroeconomic conditions and stock market development will provide more contribution as to the findings of multi factors influencing profitability. The study will use panel data that also includes other financial variables and macroeconomic indicators that can affect profitability. This study will examine the relationship between these variables in companies in five ASEAN countries including Indonesia, Singapore, Malaysia, the Philippines, and Vietnam from 2017 to 2021. In addition to looking at the overall relationship between these variables, this study will also show and compare the relationship per variable in each sample country. Overall, this study will help uncover the relationship between company size, growth, and profitability while also considering other financial factors and macroeconomic

conditions overall, and in each country. The rest of this paper will be presented as follows: Section two reviews literature that are used to explain the relationship between the variables. Section three explains more on the research method. Section four discusses results and findings, and section five concludes the study.

2. Literature Review, Theoretical Framework, and Hypothesis Development

This study uses both grand theory and supporting theory. While the grand theory is used for explaining the relationship between firm size and growth to profitability, the supporting theory will mainly be used to help explain the relationship between the available variables to profitability. Below, each theory will be discussed and classified:

2.1 Economies of Scale Theory

The Economies of Scale theory in this study acts as the grand theory that helps explain both the relationship between company size and company profitability, and the relationship between company growth to profitability. Economies of scale is a phenomenon that happens when there's a reduction in cost per unit when there's an increase in quantity of production (McGee, 2015). This theory was developed by Adam Smith and explains that production activities and production costs have a negative relationship. As production quantity increases, costs per unit will decrease due to efficiency within the company. Economies of scale could not only occur in production but also in purchasing. Companies that make large-scale purchases experience economies of scale because as the quantity of purchases increases, the average cost per product decreases (McGee, 2015). Generally, economies of scale occur more frequently in companies that focus on cost leadership strategy, which is a strategy aimed at reducing average costs. Large-sized companies have sufficient capital to achieve economies of scale (Sritharan, 2015).

2.2 Diseconomies of Scale Theory

The phenomenon of economy of scale cannot occur indefinitely, and there is a phenomenon called diseconomies of scale. Diseconomies of scale is the opposite of economies of scale, it's a phenomenon where costs increase with each additional unit of production. Diseconomies of scale occur when a company grows too large, and this excessive size no longer provides efficiency but instead leads to negative factors that increase costs. According to Prieto (2021), there are many factors that can cause diseconomies of scale, such as low communication levels, overall increased fixed costs, inefficient management levels, and excessive size growth. This theory acts as a supporting theory that will help explain the relationship between firm size and growth to profitability.

2.3 Experience Effect Theory

The concept of the experience effect was first introduced by BCG (Boston Consulting Group) in 1970, stating that a company gains more experience when it produces a particular product in large quantities. When applied to the operational side of a company, it means that when a company has produced a product extensively and gained more experience, the operational department can have a cost advantage compared to those without experience (Amit, 1986). The additional advantage that can improve operational efficiency is derived from the experience gained by employees while performing their tasks. This makes established companies can leverage their experience to achieve better operational efficiency and gain a cost advantage over other companies (Steffens et al., 2009). The experience effect theory acts as a supporting theory that is used to explain the relationship between firm growth to profitability.

2.4 *First Mover Advantage Theory*

The theory of first mover advantage was developed by Marvin B. Lieberman and David B. Montgomery in 1988. There are three factors that can give a company a first mover advantage: technological advantage, ownership of rare assets, and buyer switching costs (Lieberman & Montgomery, 1988). Having a technological advantage can help a company gain an edge in terms of operational efficiency or advantages on the research and development division's discoveries. Ownership of assets can assist a company in gaining an advantage, especially if the assets are scarce. These assets not only help the company in terms of resources but also influence the company's products to become unique and have a competitive advantage over competitors. The first mover advantage can also come in the form of industry switching costs. Companies that enter a new industry will generally have low switching costs, while late entrants will have higher switching costs due to investments and other expenses such as software costs and higher training expenses (Lieberman & Montgomery, 1988). This theory acts as a supporting theory that explains the relationship between firm growth to profitability.

2.5 *Kaldor – Verdoorn Theory*

The Kaldor-Verdoorn theory is an economic theory that discusses the phenomenon of economies of scale in production, which is caused by increased demand and the use of technology (Basu & Budhiraja, 2020). This theory believes that there is a strong correlation between productivity and output. The higher the productivity of a company, the higher the output it produces. Following the theory, this will later affect the company's profitability in a positive way. The Kaldor – Verdoorn theory acts as a supporting theory to explain the relationship between firm growth and profitability.

2.6 *Manager Growth – Maximization Hypothesis*

Marris (1964) hypothesized that a manager would prefer to focus on achieving growth rather than profits. Marris (1964) argued that companies prefer to maximize their growth rate rather than profitability because an increase in the growth rate would benefit managers. Increased growth in a company brings advantages to managers, such as higher salaries and better job stability. Based on Marris's (1964), it is concluded that growth can be achieved through exploiting good growth opportunities. However, after reaching a certain point, to achieve further growth, a company must sacrifice profitability because the growth opportunities pursued are not proportional. This phenomenon is referred to as the profits-growth trade-off (Model et al., 1986). This theory acts as a supporting theory to explain the relationship between firm growth to profitability.

2.7 *Financial Constraint Hypothesis*

The presence of the financial constraint hypothesis is a topic that discusses the existence of financial limitations on corporate investments (Chichti et al., 2011). This theory argues that companies with financial constraints will limit the amount of investment in available opportunities. Financial constraints can come in the form of liquidity constraints and limitations on access to liquidity or loans. Due to these liquidity constraints, companies will not achieve maximum growth, and their performance will be inferior to their competitors. In addition to underperforming compared to competitors, the failure to capitalize on existing company growth due to financial limitations can also have a negative impact on profitability. This theory acts as a supporting theory to explain the relationship between firm growth to profitability.

2.8 *Hypothesis Development*

2.8.1 *Company's Size to Profitability Hypothesis*

According to the researchers' assumptions, the size of a company influences the dependent variable of the study, which is the profitability of the company. Previous

studies examining the relationship between company size and profitability have found different results, with different arguments. Referring to the theory of perfect competition, in a competitive market, all companies are expected to have similar profitability, so company size would not have an impact on profitability (Hall & Weiss, 1967). However, according to the economies of scale theory, company size does affect profitability (Hall & Weiss, 1967; Stekler, 1964). The economies of scale theory itself believes that there is a phenomenon of cost reduction with increasing production. There are various factors that can cause a company to experience economies of scale, and one of them is company size. A large company can make larger purchases and obtain lower prices (McGee, 2015). Additionally, larger companies tend to have more capital, which makes it easier for them to achieve economies of scale through operational efficiency (Sritharan, 2015).

However, according to the diseconomies of scale theory, a large company may experience a decline in profitability (Lazăr, 2016). Diseconomies of scale occurs when a company becomes too large and fails to achieve efficiency, resulting in inefficiencies that lead to a decline in profitability. As company size grows, there is an increase in the level of hierarchy within the organization, making the organizational structure more complex. This can incur additional costs for vertical and horizontal coordination among managers (Suriawinata & Nurmalita, 2022; Williamson, 1975). Failures resulting from complex management bureaucracy can lead to diseconomies of scale, which have a negative impact on profitability (Canbäck et al., 2006).

Based on the literature, the proposed hypothesis is thus:

H1A = Company's size has a significant effect to a company's profitability in 5 ASEAN countries in the year 2017 – 2021

2.8.2 *Company's Growth to Profitability Hypothesis*

Based on the researchers' assumptions, company growth can influence the dependent variable of the study, which is profitability. Previous studies examining the relationship between company growth and profitability have found varying results. There is an argument by Alchian (1950) who believes that company growth has a positive impact on profitability. This positive relationship is based on the idea that company growth brings efficiency, which in turn increases profitability. Not only Alchian (1950), but this line of thinking is also supported by the Kaldor-Verdoorn theory. The Kaldor-Verdoorn theory believes that company growth leads to the effectiveness of resources, resulting in an increase in profitability (Basu & Budhiraja, 2020). Also, by having the presence of a phenomenon such as economies of scale, experience effect, and first-mover advantages can also have a positive impact on the relationship between company growth and profitability (Steffens et al., 2009). Ultimately, in line with the economies of scale theory, provided that a company's size remains within a suitable level, growth is expected to give a favorable outcome to profitability which will be driven by cost reduction (McGee, 2015). These phenomena make the operational activities of the company better and more effective, thus having a positive impact on profitability when there's growth.

However, if a company lacks sufficient capital, it will not be able to utilize its growth effectively (Jang & Park, 2011). This argument is supported by the existence of the financial constraint hypothesis. Furthermore, according to the managerial growth-maximization hypothesis, company growth can also have a negative impact on profitability (Marris, 1964). In the growth-maximization hypothesis, company managers have a target to achieve company growth, even if it means sacrificing profitability. An example of increased company growth accompanied by a decline in profitability is efforts to increase sales by increasing costs such as marketing expenses. Drastic increases in marketing expenses can boost sales, but profitability may decline because the increase in costs outweighs the increase in revenue. Additionally, rapid company growth can also have a negative impact on profitability (J. A. Goddard et al., 2004). Rapid company growth is accompanied by an increase in the complexity of the

company's structure, which can be due to factors such as increased management structure, increased use of technology, etc. If the increased complexity of the company's structure is not properly managed, it can lead to a decrease in profitability.

Based on the literature, the proposed hypothesis is thus:

H1B = Company's growth has a significant effect on company's profitability in 5 ASEAN countries in the year 2017 – 2021

3. Research Method

3.1 Population and Samples

The population for this study includes every listed firm on the Indonesia Stock Exchange, Singapore Stock Exchange, Philippine Stock Exchange, Bursa Malaysia, and Vietnam Stock Exchange. With the population used, the study aims to examine and compare the relationship between company size and growth to profitability, alongside other variables all together, but also individually per country. The sample data used in the study did not use every possible firm that is listed on the exchange, but selected companies that's taken from the index with the largest market capitalization are used. For each country, companies in LQ45 index for Indonesia, SG STI index for Singapore, PH PSEI30 for Philippines, FBM KLCI index for Malaysia, and the VN30 index for Vietnam are taken. The sample data period is taken from 2017 – 2021, with a total of 145 firms, resulting in a total sample data of 725 firm year observations. There are 2 reasons as to why the sample data period is taken from 2017 – 2021. The first reason is that this study wanted to catch on to the most recent trend on the relationship of the variables. The second one, since the study uses the sample of companies from the index with the largest market capitalization (top 30/45 from each country), the company list within the index can change from year to year. To minimize the change in sample and to have enough sample, the author choses to have a timeframe of 5 years. The financial variables data are obtained from COMPUSTAT Global database. The following are the data of the research sample:

Table 1.
Total sample
data

Country	Firm Year Observation	Total Firm	Percentage to Total Sample
Indonesia (LQ45)	215	43	29.6%
Singapore (SG STI)	130	26	17.9%
Filipina (PH PSEI 30)	140	28	19.3%
Malaysia (FBM KLCI)	135	27	18.6%
Vietnam (VN 30)	105	21	14.5%
Total	725	145	100%

3.2 Operational Definitions and Variable Measurement

3.2.1 Profitability

The dependent variable used in the study is a company's profitability, which will be represented using the ROA (Return on Asset) ratio. ROA is a ratio that divides a company's net income by its total assets. This ratio reflects the company's effectiveness in using its assets to generate profit. The data on ROA is obtained from the COMPUSTAT Global database.

$$ROA = \frac{Net\ Income}{Total\ Asset} \times 100\%$$

Description:

ROA : Return on Asset ratio
Net Income : Net income of the company
Total Asset : Total asset of the company

3.2.2 Company Size – Total Asset

Total assets can be used as a proxy for a company's size because it considers all of a company resources, including resources funded by debt and equity (Dang & Li Richard, 2015).

3.2.3 Company Growth – Asset Growth

In the study, 2 proxies will be used to indicate the level of a company's growth, with one being asset growth, while the other being sales growth. Gruenwald (2015) believes that one of the most common used proxies for a company's growth is sales growth, and others like Yadav et al. (2022) uses asset growth.

$$\text{Asset Growth} = \frac{\text{Total Asest } N}{\text{Total Asest } N - 1} - 1 \quad | \quad \text{Sales Growth} = \frac{\text{Total Sales } N}{\text{Total Sales } N - 1} - 1$$

Description:

Asset Growth	= Asset growth level of the company
Total Asset N	= total asset at year N of the company
Total Asset N-1	= total asset at 1 year before N
Sales Growth	= Sales growth level of the company
Total Sales N	= Total sales at year N of the company
Total Sales N – 1	= total sales at 1 year before N

3.2.4 Company Leverage

Leverage, as presented by the debt-to-equity ratio, represents the level of debt a company has in relation to its equity. A high level of debt directly provides additional funds for the company, and if managed well, it can enhance the company's profitability (Kartikasari & Merianti, 2016). Referring to the Modigliani-Miller theory (1963), a high level of debt can provide tax incentives for the company, thereby increasing profitability. However, excessive debt can also have a negative impact on profitability due to interest and principal payments that the company must bear (J. Goddard et al., 2006; Hall & Weiss, 1967).

$$DER = \frac{\text{Debt}}{\text{Equity}} \times 100\%$$

Description:

DER	= Debt to Equity Ratio of the company
Debt	= Interest bearing debt of the company
Equity	= Equity level of the company

3.2.5 Company Tangibility

The level of asset tangibility reflects the degree of physical assets a company possesses compared to its total assets. A high level of asset tangibility can be used by the company as collateral when issuing debt to obtain lower interest rates, and this can have a positive impact on profitability (Köksal et al., 2013). However, a high level of asset tangibility can also result in a low level of innovation within the company (Yadav et al., 2022).

$$TANG = \frac{\text{Tangible Asset}}{\text{Total Asset}} \times 100\%$$

Description:

TANG	= Company's asset tangibility level
Tangible Asset	= Amount of tangible assets of the company
Total Asset	= Amount of total assets of the company

3.2.6 Company MCR (Market Capitalization Ratio)

MCR (Market Capitalization Ratio) depicts the level of a company's market capitalization compared to the country's GDP. MCR can serve as a reference for measuring a company's size in relation to the GDP. A high MCR level can indicate that the company can engage in effective capital distribution and risk diversification activities, which in turn can enhance the company's profitability (Agarwal & Mohtadi, 2004).

$$MCR = \frac{\text{Market Cap}}{\text{GDP}} \times 100\%$$

Description:

MCR = Market Capitalization Ratio
 Market Cap = Company's stock market capitalization
 PDB = Company's country GDP

3.2.7 Nation's GDP Growth

GDP growth represents the economic growth of a country. Poor GDP growth can have a negative impact on the purchasing power of society, leading to low profitability for companies (Dewi et al., 2019). Conversely, strong GDP growth will stimulate purchasing power among the public, which will enhance company profitability.

$$GDPG = \frac{\text{GDP } N}{\text{GDP } N - 1} - 1$$

Description:

GDPG = Country's GDP Growth level
 GDP N = Country's GDP level at year N
 GDP N - 1 = Country's GDP level at 1 year before N

3.3 Model

Hypothesis testing in this study was carried out using multiple linear regression tests, with the following model:

$$3.4 \quad PROFITA = \beta_0 + \beta_1 SIZE_{i,t} + \beta_2 GASSET_{i,t} + \beta_3 GSALES_{i,t} + \beta_4 LVG_{i,t} + \beta_5 TANG_{i,t} + \beta_6 MCR_{i,t} + \beta_7 GDPG_{i,t} + \varepsilon$$

Description:

β_0 = Constanta
 β_i = Regression Coefficient
 Size = Company Size
 GAsset = Asset Growth
 GSales = Sales Growth
 LVG = Company's leverage
 TANG = Company's asset tangibility
 MCR = Company's Market Capitalization Ratio
 GDPG = Country's GDP Growth
 E = Error term

4. Results and Discussion

4.1 Descriptive Statistic

The results of the descriptive statistical data for each variable taken from the sample data of 5 countries are presented in the following table:

	ROA	TA	GAsset	GSales	LVG	TANG	MCR	GDP G
Mean	4.94	93,144,238	0.11	0.08	0.75	0.28	0.02	0.03
Median	3.70	506,500	0.07	0.05	0.54	0.25	0.01	0.05
Max	66.87	1,760,000,000	5.57	3.45	9.00	0.99	0.16	0.08
Min	-39.53	1,193	-0.63	-0.70	-6.51	0.00	0.00	-0.10
STD Dev	5.99	276,000,000	0.27	0.28	0.89	0.24	0.02	0.04
Skewness	2.62	4	11.80	4.01	2.49	0.70	2.70	-1.62

Table 2.
Descriptive
statistic result

Based on the results of the descriptive statistics table, the average ROA of the companies in the 5 ASEAN countries is 4.943. The sample ROA has a median value of 3.7, which is not significantly different from the mean value, but has maximum and minimum values that differ significantly from the mean value. The maximum value of ROA is 66.87 and the minimum value is -39.53. In this study, the researcher did not remove outlier data from each variable to maintain the originality of the data. With a positive skewness (2.615), this indicates that the ROA data for the issuers in the study are mostly above the mean. The dispersion of the ROA data is quite large, as can be seen from the standard deviation of 5.99. The positive skewness value on ROA indicates that most of the ROA data is above the mean.

For Total Assets (TA) data, it has an average value of 93 million dollars, with a median of 506 thousand dollars. The large standard deviation value of the Total Assets data (276 million dollars) indicates that the Total Assets has a large data disparity. The main cause of the large data disparity is due to the different sizes of companies in the 5 countries in the sample. The positive skewness of Total Assets data means that most Total Assets data is above the mean.

The Asset Growth (GAsset) variable has an average data of 0.11 with a median of 0.07. The standard deviation of AG is 0.27, which means that the AG data does not have a large data disparity. The positive skewness of AG data indicates that most GAsset data is above the mean.

The Sales Growth (GSales) variable has an average of 0.08 with a median of 0.05. The standard deviation is found to be at 0.28 which indicates that the data of sales growth doesn't have a large data disparity. Growth Sales data also showed a positive skewness which means that most of GSales data is above the mean.

The Debt-to-Equity Ratio (DER) variable has an average data of 0.75. The standard deviation of DER is 0.89, which means that the DER data does not have a large data disparity. The skewness of DER data is 2.49, indicating that most DER data is above the mean.

The level of asset tangibility (TANG) variable has an average of 0.28. The standard deviation of TANG data is 0.24, which means that the TANG data does not have a large data disparity. The skewness of TANG data is 0.70, indicating that most TANG data is above the mean.

The Market Capitalization Ratio (MCR) variable has an average of 0.02. The standard deviation of MCR data is 0.02, indicating that the data distribution is not too large. The positive skewness of 2.70 also indicates that most MCR data is above the mean.

The GDP Growth (GDP-G) variable has an average of 0.03. The standard deviation of GDP-G is 0.04, indicating that the GDP-G data does not have a large data disparity. However, the negative skewness of 1.62 indicates that most GDP-G data is below the mean. The cause of this negative skewness may be due to the COVID-19 conditions that occurred from 2019-2021, which caused an economic slowdown.

4.2 Regression Test and Hypothesis Test

This study used data from 145 companies obtained from 5 ASEAN countries, namely Indonesia, Philippines, Malaysia, Vietnam, and Singapore. The sample companies were taken from those who're listed on the stock exchange, and those who're in the index with the largest market capitalization in each country over a period of 5 years (2017-2021). For each country, companies in LQ45 index for Indonesia, SG STI index for Singapore, PH PSEI30 for Philippines, FBM KLCI index for Malaysia, and the VN30 index for Vietnam are taken to be the sample data for the study. Regression analysis was conducted to examine the relationship between each independent variable (company size and company growth) and control variables (leverage, asset tangibility level, MCR, GDP Growth) on the dependent variable (company profitability). The study was conducted by performing an F-test and T-test for hypothesis testing. The F-test was conducted to test the relationship between the variables altogether on the dependent variable, and the T-test was conducted to test the partial relationship between each independent variable and the dependent variable. The coefficient of determination (R-Square) test explains the magnitude of the influence of the independent variable on the dependent variable. Based on the coefficient of determination test, the R-Square value in the model with all 5 countries was 91.66%. This R-Square value indicates that 91.66% of the profitability of the sample companies is influenced by company size, company growth, leverage, asset tangibility level, MCR ratio, and GDP growth collectively.

Table 3.
F-test results

Countries	F	Sig.
5 countries	53.75	0.000*
Indonesia (LQ45)	106.416	0.000*
Singapore (SG STI)	2.885	0.011**
Philippines (PH PSEI 30)	40.595	0.000*
Malaysia (FBM KLCI)	6.111	0.000*
Vietnam (VN 30)	9.679	0.000*

4.3 F-test Result

The F-test was conducted to determine whether the independent variables have a simultaneous effect on the dependent variable. The results of the F-test for each country can be seen in Table 3. From Table 3, the significance values of each F-test for each country are smaller than α (0.05). Therefore, the F-test proves that each independent variable (company size and company growth) and control variables (leverage, asset tangibility level, MCR, GDP growth) in the model collectively influence the independent variable (profitability) altogether.

Countries	Variable	Coef. B	Std. Error	T-stat	Sig.
5 countries	TA	-9.49E-10	7.21E-10	-1.31	0.1886
	GAsset	0.737	0.083	8.799	0.0000***
	GSales	1.095	0.210	5.200	0.0000***
	DER	0.735	0.234	3.134	0.0018***
	TANG	-11.92	2.185	-5.456	0.0000***
	MCR	52.238	8.670	6.024	0.0000***
	GDP-G	10.560	1.039	10.163	0.0000***
Indonesia	TA	-2.11E-09	9.88E-10	-2.13	0.0342**
	GAsset	3.273	0.944	3.465	0.0007***
	GSales	1.028	0.392	2.620	0.0096***
	DER	1.629	0.540	3.016	0.0030***
	TANG	-2.612	2.511	-1.040	0.2997
	MCR	210.190	76.923	2.732	0.0070***
	GDP-G	22.350	3.239	6.898	0.0000***

Philippines	TA	7.38E-07	9.13E-07	0.808	0.4208
	GAsset	0.203	0.194	1.050	0.2958
	GSales	2.225	0.435	5.106	0.0000***
	DER	-0.815	0.559	-1.457	0.1479
	TANG	-3.024	0.723	-4.179	0.0001***
	MCR	61.067	25.175	2.425	0.0170**
	GDP-G	9.705	1.166	8.317	0.0000***
Malaysia	TA	-1.43E-07	1.79E-06	-0.079	0.9365
	GAsset	3.637	2.458	1.479	0.1421
	GSales	2.478	1.018	2.433	0.0167**
	DER	-1.029	0.296	-3.477	0.0007***
	TANG	-21.419	5.619	-3.811	0.0002***
	MCR	-5.946	12.229	-0.486	0.6279
	GDP-G	3.030	1.478	2.048	0.0431**
Vietnam	TA	-2.13E-09	1.69E-09	-1.260	0.2113
	GAsset	1.205	0.406	2.966	0.0040***
	GSales	0.245	0.254	0.964	0.3378
	DER	-0.500	0.369	-1.355	0.1792
	TANG	14.923	4.809	3.103	0.0027***
	MCR	106.374	38.628	2.753	0.0073***
	GDP-G	33.835	8.597	3.935	0.0002***
Singapore	TA	-7.23E-06	2.05E-06	-3.531	0.0006***
	GAsset	0.476	0.331	1.436	0.1542
	GSales	0.542	0.291	1.859	0.0659*
	DER	-1.343	0.301	-4.454	0.0000***
	TANG	4.811	1.909	2.519	0.0134**
	MCR	-1.085	5.828	-0.186	0.8526
	GDP-G	-0.060	0.514	-0.118	0.9061

4.4 Discussion

4.4.1 Company's Size and Growth to Company's Profitability

The first hypothesis of this research is firm size influences firm profitability (H1a). Based on the results of the T-test, firm size is found to have an insignificant negative influence on all 5 countries all together. When examined individually, firm size has a significant negative influence only on Indonesia and Singapore, but does not have a significant influence on the Philippines Malaysia, and Vietnam. Looking at the regression beta value for total assets, firm size has a negative effect on profitability across all countries, and a negative effect on profitability on all countries individually with the exception of Philippines. The finding of a significant negative relationship between firm size and profitability is consistent with previous studies (Akram et al., 2021; Kartikasari & Merianti, 2016; Lazăr, 2016) This negative relationship can be explained by the diseconomies of scale theory. The diseconomies of scale theory implies that when a size of a company gets too big, it'll breed inefficiency instead and will cause a decrease in profitability. The only exception is the Philippines, which shows a positive effect even though the effect is not significant.

The second hypothesis of this research is that firm growth influences firm profitability (H2a). For the first growth proxy using asset growth, it is found that asset growth has a significant positive effect on all 5 countries altogether with a significant level of 0.0000. When examined individually, only companies in Indonesia and Vietnam experience the phenomenon where asset growth has a significant and positive relationship to a company's profitability. Meanwhile, companies in Philippines,

Malaysia, and Singapore are found to have an effect relationship between asset growth and profitability, but the effect is not significant. The significant positive effect found in this study is consistent with previous findings (Alchian, 1950; Basu & Budhiraja, 2020; Cowling, 2004; Mendelson, 2000), but differs from the study by Jang & Park (2011). The positive relationship between firm growth and profitability can occur because when a company has good growth, it will have better access to investment and efficiency, which will also increase profitability (Cowling, 2004). The positive relationship can also be explained by the Kaldor-Verdoorn theory, as the theory implies that growth in a company will increase productivity (Basu & Budhiraja, 2020), which will result in an increase on profitability.

The second proxy of the company's growth, using sales growth, shows similar results. It is found that sales growth has a significant positive effect on all 5 countries altogether with a significant level of 0.0000. But different from asset growth, when examined individually, sales growth has a positive and significant effect in 4 countries, which are Indonesia, Philippines, Malaysia, and Singapore, and having a non-significant positive effect on Vietnam. The more positive significant results found when using sales growth as a proxy for a company's growth is a sign that in these 5 countries, the better variable to be used as a company's growth is the sales growth.

The T-test suggests that firm size has a non-significant negative effect on profitability, while firm growth has a significant positive effect on profitability on 5 countries altogether. This finding can be explained by the economies of scale theory. Firm growth will increase profitability due to increased investment and efficiency, but in the long run, the company will reach the point of diseconomies of scale. This condition will be reached when the company becomes too large and experience diss efficiency, which will cause a decrease in profitability in the long run.

4.4.2 Leverage to Company's Profitability

For the first variable control, it is thought that leverage has a significant effect to a company's profitability. Based on the results of the T-test, leverage is found to have a positive and significant influence on a company's profitability in all 5 countries altogether, and in Indonesia individually. For countries such as Malaysia and Singapore, leverage is found to have a significant negative relationship. Leverage is found to have a non-significant negative relationship in Philippines and Vietnam. The positive significant relationship found between these 2 variables is align with the research of Kartikasari & Merianti (2016). Their findings were supported by the argument that the management of a company will be able to use its debt effectively for productivity, which will ultimately have a positive impact on profitability. This relationship can also be explained by the M&M theory (Modigliani & Miller, 1963) which implies that the level of debt will cause the company to have interest payments that must be paid, and this will reduce the amount of taxes that the company must pay. The reduction in tax will result in higher profitability for the company. The negative significant relationship found in Philippines and Vietnam can be explained by the argument that companies with excessively high levels of debt have a large burden of interest and principal payments, which ultimately lead to a decrease in profitability (J. Goddard et al., 2006; Hall & Weiss, 1967). When comparing each country individually based on the results, it is found that companies in Indonesia tend to be able to use its debt more effectively when compared to countries such as Philippines, Malaysia, Vietnam, and Singapore.

4.4.3 Asset Tangibility to Company's Profitability

The fourth finding, it is found that the level of asset tangibility influences the profitability of the company. There's a significant and negative relationship effect found from the sample of 5 countries altogether, and individually in Malaysia and Philippines. In Vietnam and Singapore, it is found that asset tangibility to have a significant negative

effect to a company's profitability, and in Indonesia it is found that asset tangibility has a non-significant effect. The positive significant relationship between asset tangibility and profitability which is found in all 5 countries altogether, Malaysia, and Philippines can be explained by the argument of the company being able to take full advantage of the physical nature of assets that can easily be used as collateral when issuing debt (Köksal et al., 2013) This will enable companies to easily access low-interest debt, eventually leading to an increase in profitability. The significant negative relationship found in Vietnam and Singapore can be explained by Bhutta & Hasan's argument (2013), which states that companies with high levels of asset tangibility have little long-term research and development, followed with slow investment activities.

4.4.4 *Market Capitalization Ratio to Company's Profitability*

For MCR (Market Capitalization Ratio), it is found that MCR to have a positive significant relationship in all 5 countries altogether, and in Indonesia, Philippines, and Vietnam. The MCR level can be used to observe the company's development from the stock market perspective. The higher the MCR level, the company is considered to have good capital and risk diversification, thus investors appreciate the company (Agarwal & Mohtadi, 2004). Despite finding a positive and significant relationship, the results in Malaysia and Singapore differs with MCR having a non – significant effect to a company's profitability.

4.4.5 *Market Capitalization Ratio to Company's Profitability*

The final finding of the study is to find the relationship between a country's GDP Growth to a company's profitability. Based on the T-test, it is found that GDP growth to have a positive significant effect to all 5 countries altogether, followed by Indonesia, Philippines, Malaysia, and Vietnam individually, with Singapore being the only exception where GDP growth having a non – significant negative relationship. Although in Singapore the relationship is found to be non – significant, the rest of the findings is consistent with the findings of Dewi et al. (2019). The positive relationship is supported by the argument that when GDP increases, consumer spending also increases, which in turn leads to an increase in company profitability, as companies also experience an increase in sales.

5. **Conclusion**

The main objective of this study was to examine the relationship between firm size, firm growth, and other variables such as leverage, asset tangibility, and macroeconomic factors on firm profitability using fixed effect regression on a sample of companies from Indonesia, the Philippines, Malaysia, Vietnam, and Singapore from 2017 to 2021. The study found that firm size does not influence a company's profitability altogether, but only in Indonesia and Singapore. Although firm size does not influence the others, firm growth is found to be positive significant in all 5 countries altogether, and individually. These results strongly suggest that at the time of writing, most companies are experiencing the phenomenon of economies of scale, where growth will have a positive effect on profitability. But in the long run, the efficiency will reduce and as size grows it'll breed dis efficiency instead. As for the control variables, results vary with some countries having a positive effect while the others having a negative effect individually.

One limitation of this study is that the sample data only included companies in the largest market capitalization index for each country and did not use data from all companies on the exchanges of these five countries. Therefore, future research could use data from all companies in these five countries' exchanges to gain a clearer understanding of the relationships between variables. Additionally, this study did not include moderating variables such as ownership structure, which may influence the relationships between the dependent and independent variables.

References

- Agarwal, S., & Mohtadi, H. (2004). Financial markets and the financing choice of firms: Evidence from developing countries. *Global Finance Journal*, 15(1), 57–70. <https://doi.org/10.1016/j.gfj.2003.10.004>
- Akram, T., Farooq, M. U., Akram, H., Ahad, A., & Numan, M. (2021). The Impact of Firm Size on Profitability-A Study on the Top 10 Cement Companies of Pakistan. *Ekonomi Dan Bisnis*, 6(1).
- Alchian, A. A. (1950). Uncertainty, Evolution, and Economic Theory. *Journal of Political Economy*, 58(3), 211–221. <https://doi.org/10.1086/256940>
- Alexander, S. S. (1949). The Effect of Size of Manufacturing Corporation on the Distribution of the Rate of Return. *The Review of Economics and Statistics*, 31(3), 229. <https://doi.org/10.2307/1927749>
- Amato, L. H., & Amato, C. H. (2004). Firm size, strategic advantage, and profit rates in US retailing. *Journal of Retailing and Consumer Services*, 11(3), 181–193. [https://doi.org/10.1016/S0969-6989\(03\)00036-5](https://doi.org/10.1016/S0969-6989(03)00036-5)
- Amit, R. (1986). Cost Leadership Strategy and Experience Curves. *Strategic Management Journal*, 7(3), 281–292. <http://www.jstor.org/stable/2486078>
- Basu, D., & Budhiraja, M. (2020). *What to Make of the Kaldor-Verdoorn Law?* <https://doi.org/10.7275/17572406>
- Baumol. (1960). William J. Baumol: Business Behavior, Value and Growth. The Macmillan Company, New York, 1959, 159 sider. *Ledelse and Erhvervsøkonomi*, 24.
- Canbäck, S., Samouel, P., & Price, D. (2006). DO DISECONOMIES OF SCALE IMPACT FIRM SIZE AND PERFORMANCE? A THEORETICAL AND EMPIRICAL OVERVIEW. In *Journal of Managerial Economics* (Vol. 4, Issue 1). <http://ssrn.com/abstract=1267964> Electronic copy available at: <http://ssrn.com/abstract=1267964> Electronic copy available at: <http://ssrn.com/abstract=1267964> Electronic copy available at: <http://ssrn.com/abstract=1267964>
- Chichti, J., Mansour, W., & Chichti, J. E. (2011). *Financing constraints theory: a narrative approach*. <https://www.researchgate.net/publication/327860222>
- Cowling, M. (2004). The Growth: Profit Nexus. *Small Business Economics*, 22(1), 1–9. <http://www.jstor.org/stable/40229306>
- Dang, C., & Li Richard, F. (2015). *Measuring Firm Size in Empirical Corporate Finance*.
- Dewi, V. I., Tan, C., & Soei, L. (2019). THE IMPACT OF MACROECONOMIC FACTORS ON FIRMS' PROFITABILITY (EVIDENCE FROM FAST MOVING CONSUMER GOOD FIRMS LISTED ON INDONESIAN STOCK EXCHANGE). In *Academy of Accounting and Financial Studies Journal* (Vol. 23, Issue 1). www.business.hsbc.co.id,
- Goddard, J. A., Molyneux, P., & Wilson, J. O. S. (2004). Dynamics of Growth and Profitability in Banking. *Journal of Money, Credit, and Banking*, 36(6), 1069–1090. <https://doi.org/10.1353/mcb.2005.0015>
- Goddard, J., Mcmillan, D., & Wilson, J. (2006). Do firm sizes and profit rates converge? Evidence on Gibrat's Law and the persistence of profits in the long run. *Applied Economics*, 38, 267–278. <https://doi.org/10.1080/00036840500367955>
- Gruenwald, R. K. (2015). Measuring growth of the firm: Theoretical considerations. In *Przedsiębiorczość Międzynarodowa* (Vol. 1, Issue 2).
- Hall, M., & Weiss, L. (1967). Firm Size and Profitability. *The Review of Economics and Statistics*, 49(3), 319. <https://doi.org/10.2307/1926642>
- Jang, S. (Shawn), & Park, K. (2011). Inter-relationship between firm growth and profitability. *International Journal of Hospitality Management*, 30(4), 1027–1035. <https://doi.org/10.1016/j.ijhm.2011.03.009>
- Kartikasari, D., & Merianti, M. (2016). International Journal of Economics and Financial Issues The Effect of Leverage and Firm Size to Profitability of Public

- Manufacturing Companies in Indonesia. *International Journal of Economics and Financial Issues* |, 6(2), 409–413. <http://www.econjournals.com>
- Köksal, B., Orman, C., & Oduncu, A. (2013). *Munich Personal RePEc Archive Determinants of Capital Structure: Evidence from a Major Emerging Market Economy Determinants of Capital Structure: Evidence from a Major Emerging Market Economy*.
- Lazăr, S. (2016). Determinants of Firm Performance: Evidence from Romanian Listed Companies. *Review of Economic and Business Studies*, 9(1), 53–69. <https://doi.org/10.1515/rebs-2016-0025>
- Lieberman, M. B., & Montgomery, D. B. (1988). FIRST-MOVER ADVANTAGES 7 \. In *Strategic Management Journal* (Vol. 9).
- Markman, G. D., & Gartner, W. B. (2002). Is Extraordinary Growth Profitable? A Study of Inc. 500 High-Growth Companies. *Entrepreneurship Theory and Practice*, 27(1), 65–75. <https://doi.org/10.1111/1540-8520.t01-2-00004>
- Marris, R. (1964). *The Economic Theory of 'Managerial' Capitalism*. Palgrave Macmillan UK. <https://doi.org/10.1007/978-1-349-81732-0>
- McGee, J. (2015). Economies of Scale. In *Wiley Encyclopedia of Management* (pp. 1–6). John Wiley & Sons, Ltd. <https://doi.org/10.1002/9781118785317.weom120226>
- Mendelson, H. (2000). Organizational Architecture and Success in the Information Technology Industry. *Management Science*, 46(4), 513–529. <https://doi.org/10.1287/mnsc.46.4.513.12060>
- Model, M., Cubbin, J., & Leech, D. (1986). Growth versus Profit-Maximization: A Simultaneous-Equations Approach to Testing the. In *Source: Managerial and Decision Economics* (Vol. 7, Issue 2).
- Modigliani, F., & Miller, M. H. (1963). Corporate Income Taxes and the Cost of Capital: A Correction. *The American Economic Review*, 53(3), 433–443. <http://www.jstor.org/stable/1809167>
- Prieto, R. (2021). *Diseconomies of Scale Community Resilience View project National Academy of Construction Executive Insights View project Diseconomies of Scale Key Points*. <https://www.researchgate.net/publication/350328538>
- Sritharan, V. (2015). Does firm size influence on firm's Profitability? Evidence from listed firms of Sri Lankan Hotels and Travels sector. In *Research Journal of Finance and Accounting www.iiste.org ISSN* (Vol. 6, Issue 6). Online. www.iiste.org
- Steffens, P., Davidsson, P., & Fitzsimmons, J. (2009). Performance Configurations over Time: Implications for Growth- and Profit-Oriented Strategies. *Entrepreneurship Theory and Practice*, 33(1), 125–148. <https://doi.org/10.1111/j.1540-6520.2008.00283.x>
- Stekler, H. O. (1964). The Variability of Profitability with Size of Firm, 1947–1958. *Journal of the American Statistical Association*, 59(308), 1183–1193. <https://doi.org/10.1080/01621459.1964.10480759>
- Suriawinata, I. S., & Nurmalita, D. M. (2022). OWNERSHIP STRUCTURE, FIRM VALUE AND THE MODERATING EFFECTS OF FIRM SIZE: EMPIRICAL EVIDENCE FROM INDONESIAN CONSUMER GOODS INDUSTRY. *Jurnal Manajemen Dan Kewirausahaan*, 24(1), 91–104. <https://doi.org/10.9744/jmk.24.1.91-104>
- Tariq Bhutta, N., & Hasan, A. (2013). Impact of Firm Specific Factors on Profitability of Firms in Food Sector. *Open Journal of Accounting*, 02(02), 19–25. <https://doi.org/10.4236/ojacct.2013.22005>
- Yadav, I. S., Pahi, D., & Gangakhedkar, R. (2022). The nexus between firm size, growth and profitability: new panel data evidence from Asia–Pacific markets. *European Journal of Management and Business Economics*, 31(1), 115–140. <https://doi.org/10.1108/EJMBE-03-2021-0077>

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VOL. 6(2)

Yadav, I. S., Pahi, D., & Goyari, P. (2020). The size and growth of firms: new evidence on law of proportionate effect from Asia. *Journal of Asia Business Studies*, 14(1), 91–108. <https://doi.org/10.1108/JABS-12-2018-0348>