



## THE DETERMINANTS OF CAPITAL STRUCTURE AND FIRM PERFORMANCE

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### Info Article

*History Article:*

Received April 2019

Approved May 2019

Published June 2019

### Keywords:

**Firm performance, sales growth, firm size, gender diversity of board directors, capital structure**

### Abstract

This study aims to examine the influence of financial and nonfinancial factors affecting the firm performance with capital structure as intervening in manufacturing companies that are listed on the Stock Exchange in 2013-2017. The sample used in this study is manufacturing companies that consist in Indonesian Stock Exchange through 2013-2017. The method of data collection uses the documentation method from secondary data in the form of annual reports that have been published on the IDX. The data analysis method used is using multiple regression method and the Sobel test. Financial and nonfinancial factors like sales growth, firm size, board gender diversity, and capital structure influencing firm performance are 92%. This research found that sales growth gives a positive effect on firm performance. While the firm size and board of gender diversity have a negative effect on firm performance.

## INTRODUCTION

Firm performance is an illustration of the results achieved by the company in line with the goals set for the implementation of operational activity

Vany, (2018). Therefore, the company's vision and mission are very vital because it becomes a firm performance benchmark. Manufacturing performance has a massive influence on state revenues such as Gross Domestic Product (GDP), which gives up to 20% to the country. It has still not attained the target of Indonesia who wants to become a developed country, which must at least get 40% of the GDP in manufacturing contribution. However, Indonesia's highest contribution has only reached 28% of GDP (Hartanto, 2014). This rate is far from the target. In addition, this rate only lasted one period, in 2010, and then has been decreased until 2017 ([www.bps.go.id](http://www.bps.go.id), 2018). Various government policies such as the ease of

licensing, creating a conducive investment climate and ease of doing business have not been able to improve the performance of the manufacturing industry.

The issue of performance decrease in manufacturing companies in Indonesia cannot be separated from the company's operations. Manufacturing companies that operate by converting raw goods into finished or semi-finished goods which are supported by tools, factories, machines, and vehicles have a significant effect on achieving. Therefore, the Management must pay attention to the invested-fund in fixed assets, as well as in other investment sectors. Thus, the operations of the company can go on, and firm performance has no obstacles (Harjito & Martono, 2007). Those factors like the financial and non-financial can influence firm performance such as capital structure, sales growth, company size, good governance, and board of directors (Corbin, 1999; Dawar, 2014). Economic factors

in this research relate to the company activities such as corporate funding, increase in company sales, and company size as measured by company assets.

The success of the company to achieve the goals is inseparable from non-financial factor, so this research has a gender diversification of the board of directors as decision makers and has a significant influence on the company's success. The existence of a capital market ease the company gain a fund, but it could be more complicated because of the separation of management between owner and manager, causing conflict between the owner as a principal and the manager as an agent (Jensen & Meckling, 1976). According to Darmadi (2011), agency conflict can reduce company performance that can be solved through the diversity of directors a kind of age, education, and gender.

The research about firm performance is defined by Roden & Lewellen, (1995), Shyu, (2013) and Dawar, (2014); stated that sale improvement could reduce the company's debt thus the firm performance would be better. However, Tifow & Sayilir (2015) has a different result who mentions that the sale improvement would not affect firm performance. Sari & Usman (2014) and William & Sanjaya (2017) claims that the bigger company size would make better the firm performance. Shyu's (2013) shows that the bigger company size will reduce firm performance. (2015) stated that the more diversified in the composition of the board of directors would make better performance. The argument is contrary to the research conducted by Mirza et al. (2018), which argues that high gender diversification on the board of directors will have a negative influence on firm performance. Rahmah (2016) states that capital structure has a negative effect on firm performance, while Shyu (2013) and Shintya et al. (2017) argue that the capital structure has a positive influence on firm performance.

Puspita (2016) says that factors which influence capital structure are company size, sales growth, and profitability. Thus financial and non-financial factors that affect firm performance can also affect capital structure. The higher sales growth and size of the company provides a more excellent opportunity for the company to get a fund from stock and debt. Sales growth provides an option for companies to use the private fund. In addition, positive sales growth is an indication that the company has excellent performance. If the company becomes large, so the requirement of the fund is also more substantial. Due to there are demands to fulfill consumer desires and to be

able to compete in the industry (Naray & Maneke, 2015).

Based on previous studies are given inconsistent results, the researcher is interested in re-testing financial factors and non-financial factors on the firm performance with capital structures as intervening.

Based on previous studies are given inconsistent results, the researcher is interested in re-testing financial factors and non-financial factors on the firm performance with capital structures as intervening. The purpose of this study analyzes the effect of sales growth, firm size, gender diversification of the board of directors on the firm performance with the capital structure as an intervening variable.

This research is based on agency theory, pecking order theory, and trade-off theory. Based on agency theory that explains the relationship between agents and principals (Jensen & Meckling, 1976), firm performance may seem different because of the differences information between both parties (information asymmetry). Management as the subject who manages the company has more information about the financial position and results of operations of the entity than the owner or shareholder, so that management can take opportunistic actions to make the firm performance look better through a capital structure strategy. Shareholders, as the owner of the company desire to get big profit with minimum risk, while managers desire to get large intensive from the owner as payoff their services (Masripah et. al., 2015).

In the context of agency theory, financial and non-financial factors can encourage firm performance. Companies with an enjoyable activity of work create a better corporate image among investors. Non-financial factor such as social responsibility, firm age, good governance, gender diversifications of the board of directors can also affect firm performance. (Corbin, 1999; Dawar, 2014). If the company gives excellent feedback to the society and is supported by experiences and excellent human resources, therefore the firm performance always runs optimally.

Pecking Order Theory explains that companies with high profitability actually have low debt levels because companies with high profitability have an internal source of funds abundantly. This issue describes that companies which have optimal performance more utilize an internal source of funds to their companies than increase debt (Myers, 1984). Increasing debt in the current period could be decreased by management through some ways which are changing the sour-

ce of funds and increasing interest expenses with the aim of reducing net income and earnings per share.

According to Modigliani & Miller (1963), the existence of corporate debt can give tax benefits. Progressive tax rates affect the company profit higher. It causes a higher amount of tax that must be paid. As a result, debt requires the company to pay interest expense every period. Interest expense is one of the subtraction items for taxable income. If the interest expense higher, so the taxable income (PKP) becomes lower. In case, the amount of income has a function as tax payment lower, so the amount of tax payment will lower. Thus, the net income of the company will increase. On the contrary, the company not to do fund on debt, the company does not have the interest expense that uses as a tax shield. This causes companies to pay more the tax expense in the high total. As a result, it will reduce the company's revenue significantly (Rosalinawati, 2015). According to Yulianto et al., (2018), management must determine its safe point or use an optimal debt based on levels of 30% -50% of the company's capital structure. This is very useful to avoid the bankruptcy of companies because of debt factors.

Companies that have rapid growth must have a strong capital structure to meet consumer demand and run the company's operations (Khoiruddin & Wijayanto, 2017). In the pecking order theory, the internal source of funds still lacks to fulfill the firm capital needs, using debt as one of the fund sources is the next choice, such as publishing the obligation. It happens because the improvement cost for the sale of stock is higher than the publishing cost for debt security or obligation (Fuad, 2015).

Sales Growth is the measurement of the amount of the company's income per share or earnings per share. A company that has a rapid growth industry must provide sufficient capital to fund the firm operations to maintain business existence. Based on the definition above, it can conclude that Growth is a change in sales that consists of either increases or decreases had been around the company for one period (one year) (Naray & Mananeke, 2015).

A company with higher income require a great choice of private funds as the responsibility configuration that consists of interest or liability which beyond the base payments when the company uses the external of funds. Sales Growth facilitates companies to get loans or external funds through obligation. It caused by sales growth is a positive indicator of the company's growth that

able to refund loan (Kesuma, 2015). Thus, the first hypothesis in this study is:

H1: Sales growth has a negative effect on capital structure.

Firm size is one of the variables that affect the company's capital structure. In taking an investment decision, an investor assumes that a large company is relatively stable so that it can produce higher profits than a relatively small company (Ayu et al., 2016). According to Naray & Mananeke (2015), firm size can influence capital structure because the company which grows larger, so the company needs more funds as well. This case makes the company search external funds when the inner side unable to fulfill the funds that are needed by the company.

Pecking Order Theory explains that a company which needs external funds to fulfill its operations, so the company will focus on funds the bond payable rather than adding new owners or shareholders (Myers, 1984). larger-sized companies have easier access both from bank loans and publish of bond payable. Large companies have a more exceptional ability to win industry competition so that they are more stable, while smaller companies often get uncertainty because smaller companies react faster to any sudden changes. Therefore, companies must be careful of any changes; every decision taken under any circumstances will affect the benefits to be obtained (Ardiansari & Saputra, 2015). Thus the second hypothesis in this study is:

H2: Firm size has a positive effect on capital structure.

The relationship of gender diversifications in facing each problem and risk to the company's capital structure has been studied in economics and psychology literature. At present, the existence of executive female in companies increases significantly (Oktaviani, 2017). Rovers (2013) states that a company cannot run well without the existence of a woman worker. At least in the company, there is a proportion of women to get a different perspective on a problem. The diverse leadership and broader knowledge contribute positively to firm performance (Khoiruddin, M., & Wijayanto, A. (2017).

Alves et al. (2015) and Emoni et al. (2017) found that there was a relationship between gender diversification in companies towards the capital structure. The more diverse the company's leadership also makes the decision-making more diverse. The company success not be separated from every decision that is taken by the company's

executives includes the decisions about funds or the arrangement of an effective capital structure to run the company's operations. Therefore, the third hypothesis in this study is:

H3: Gender diversification of the board of directors has a negative effect on capital structure.

Sales growth is an essential criterion for assessing firm performance and the main factor to determine the capital structure (Andrayani & Surya, 2013). The size of the company's sales in influencing firm performance is still unusual to study, consider that to know the company has good reputed create profits as a measure of firm performance assessment. Therefore, the sales that are the results of the company can be used as a measure to assess firm performance (Khaira, 2011). In addition, this variable is also still rarely used in previous literature. Sales growth in this study is used to see how much the result of the company's sales.

Pecking Order Theory states that a company will choose company funds from the smallest risk at first, debt or obligation and then issue new securities (Myers, 1984). Thus, the manager as management, will take advantage of the profit from sales as funds of the company to improve operationally and do their duties, both investment and expansion in fixed assets and other financial assets.

In the agency, the theory explains that each individual effort to improve welfare and tends to prioritize their own self-interests. Principals or shareholders want the maximum profit with the minimum risk of their investment. While the manager as an agent wants high compensation for his best performance to the owner (Jensen & Meckling, 1976). In pecking order theory, it is explained that companies tend to make hierarchies for each company's capital structure start from the lowest risk like the private funds. In this case, an increase in sales allows the company to get increased profits. This increase provides an opportunity for companies to use company funds from internal to minimize risks and can improve firm performance with the addition of funds from private companies. Thus the fourth hypothesis in this study is:

H4: Sales growth has a positive effect on firm performance.

The firm size explains that the size of a company based on its size and can be seen from the type of business, activity, or operation carried out by the company. Companies that have large

size tend to have significant assets. If the size of the company is more abundant, so that the total asset, performance, capital structure, and sales growth also larger. The large firm size also makes it easier to obtain external funds (Fuad, 2015).

Large companies have greater financial strength in supporting firm performance. However, the company is faced with a more significant problem of agency. According to Raharja (2012), a large company will get the most attention from society. It makes the company must be careful in taking the company's operations. It means that in relation to the firm performance, the size of the company has an influence on the magnitude of the company's operations that have an impact on firm performance. Thus the fifth hypothesis in this study is:

H5: Firm size has a positive effect on firm performance.

Some studies show that most strategic positions in the company are occupied by men rather than women. Khaw et al. (2016) showed that 39.17% of the board of directors consisting of all men and the proportion of women on the board of directors were only 10.5%. This shows that the level of gender diversifications of the board of directors is still low. Gender diversifications can improve firm performance, which means that the more diversified the board of directors, the managerial capabilities of the company will be better and can have a positive influence on firm performance.

Superior firm performance is a form of responsibility management to shareholders. Exactly, it will get a good appreciation from the principal, so that in the context of agency theory, gender diversification can reduce agency conflicts through improving firm performance through the presence of various management perspectives. A company that has high managerial capabilities, it will be able to manage the company very well (Lestari & Slamet, 2018). Thus the sixth hypothesis in the research is:

H6: Gender diversification of the board of directors has a positive effect on firm performance.

Capital structure is a comparison of loan funds by companies to other parties which are considered as debt to the capital they own (Lisdiyani, 2017). Some studies show that there is an increase in debt as an external monitoring mechanism for agency problems (Yulianto, 2013), another opinion says that an increase in debt in a company's capital structure will redu-



ce a firm performance (Dawar, 2014 & Rahmah, 2016). This shows that the more significant the proportion of corporate debt in its capital structure, the higher the burden and commitment to repayment. The possibility of bankruptcy because of the inability of the company to pay interest and principal loans (Rosalinawati, 2015).

According to Listiyani (2017), companies with significant internal funds will use internal funds in their capital structure. It is in line with the pecking order theory that the company will use private funds with the smallest risk, debt, and issue new securities. In addition, the sharing of profits must pay attention to the composition of the capital structure first so that the company does not bear too much debt (Khoiruddin & Faizati, 2014). Thus, using private funds will improve firm performance because the company is not bound by the obligation to pay interest and bills for debt. Thus the seventh hypothesis in this study is:

H7: Capital structure has a negative effect on firm performance.

Shyu (2013) said that sales growth, capital structure, and firm size influence the company's performance. While Naray & Mananeke (2015) argues that large companies need funds beyond the private funds to improve firm performance so that sales growth can affect firm performance and also affect the company's capital structure.

The size of the sales produced by the company becomes a measure to assess firm performance. Company revenue can be an internal funds option to operate or improve firm performance, both conducting reinvestment, and expansion. Therefore, researchers want to test whether there is an indirect influence on sales growth on firm performance through capital structure. The eighth hypothesis in this study is:

H8: Capital structure is able to mediate the influence of sales growth on firm performance.

Company size can affect firm performance and capital structure (Hafiz Siddik, Chabachib, & Id, 2017). The size of the company has a tremendous influence on the performance of the company. When large companies have higher targets, companies need significant funds. The need for these funds to improve company performance will change the proportion of funds or the company's capital structure (Fuad, 2015).

Large companies make it possible to have a choice of internal and external capital that is easier because it has strong investor confidence and external parties. The more natural the company gets funding, the firm performance will be

better. Therefore, the authors have the notion that the size of the company influences the performance of companies that are intervened by the capital structure. The ninth hypothesis in this study is:

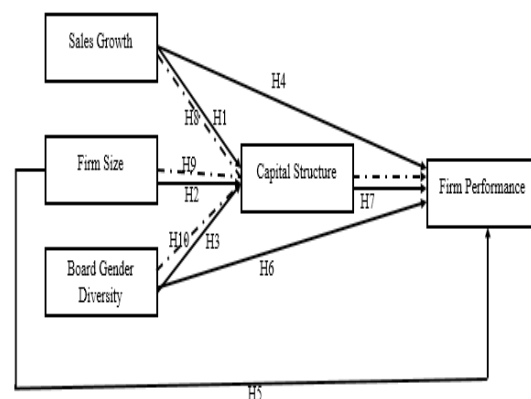
H9: Capital structure is able to mediate the influence of firm size on firm performance.

that gender diversification or the proportion of women in the board of directors had an effect on company performance and Alves et al. (2015) also found that the presence of women in companies can influence the company's capital structure. the diversification of the board of directors in a company was able to provide excellent performance for the company.

Directors as company executives have authority in every step that will be taken by the company, including in the proportion of company capital and every decision that will affect the company's performance. So that the more diverse board of directors allows the results of decisions that are diverse both in the composition of the proportion of effective capital structure and every decision to improve firm performance. Thus, the diversification of the board of directors can affect the firm performance that is intervened by the capital structure. The tenth hypothesis in this study is:

H10: Capital structure is able to mediate the influence of the gender diversification of the board of directors on firm performance.

Based on the explanation above, a frame of thought in Figure 1 can be described.



**Figure 1.** Research Model

Source : Darmadi (2011) dan Dawar (2014)

## METHOD

This study is quantitative research which uses secondary data. The data used in the study

is the annual report of a manufacturing company. The data used in the study is the annual report of a manufacturing company obtained from the official website of the Indonesia Stock Exchange, [www.idx.co.id](http://www.idx.co.id). The study population consisted of 167 manufacturing companies listed on the Indonesia stock exchange in 2013-2017. The sample in this study was selected using a purposive sampling method so that 95 companies were selected for 5 years, with 475 units of analysis. The sample selection criteria in this study are presented in table 1.

**Table 1.** The criteria of sample selection

No	Explanation	Company	Year	Total
1	The manufacturing company that listed on the Indonesia stock exchange	167	5	835
2	The manufacturing company that both is not listed on the Indonesia stock exchange and issued a financial statement successively on BEI for 2013-2017	(50)	5	(240)
3	The manufacturing company which provides a financial statement in currency except for rupiah.	(22)	5	(110)
<b>Jumlah Unit Analisis</b>		<b>95</b>	<b>5</b>	<b>475</b>

This study uses 1 (one) dependent variable which is a firm performance, 1 (one) intervening variable which is capital structure and 3 (three) independent variables which are presumably can provide significant influences such as sales growth, firm size, and gender diversification of the board of directors.

**Table 2.** Definitions of Operational Variables

No	Variable	Measurement
1	Firm Performance	$ROA = (\text{Net Profits}) / (\text{Total Assets}) \times 100\%$
2	Sales Growth	$\text{Sales Growth} = (T.\text{Sales} - T.\text{Sales } t-1) / (T.\text{Sales } t-1)$
3	Firm Size	$\text{Size} = \ln \text{Total Assets}$

No	Variable	Measurement
4	Gender Diversity	Blau Index $= 1 - \sum_{i=0}^n (P_i)^2$
5	Capital Structure	$DER = (\text{Total Debt}) / (\text{Total Equity}) \times 100$

Data is collected using by library study methods and documentation obtained from the official website of the Indonesia Stock Exchange [www.idx.co.id](http://www.idx.co.id). Hypothesis testing is held using panel data regression analysis with EViews 9 data processing application and single test. The research can be formulated as follows in the model:

$$DER = \alpha + \beta_1 \text{GROWTH} + \beta_2 \text{SIZE} + \beta_3 \text{GDIV} + \varepsilon_1$$

Where :

DER = Capital Structure

$\alpha$  = Constant

GROWTH = Sales Growth

SIZE = Firm Size

GDIV = Gender Diversity

$\varepsilon_1$  = Variance Capital structure that is not explained by exogenous variables (sales growth, firm size, and gender diversity of the board of directors).

$$ROA = \alpha + \beta_1 \text{GROWTH} + \beta_2 \text{SIZE} + \beta_3 \text{GDIV} + \beta_4 \text{DER} + \varepsilon_1$$

Dimana :

ROA = Firm Performance

$\alpha$  = Constant

GROWTH = Sales Growth

SIZE = Firm Size

GDIV = Gender Diversity

DER = Capital Structure

$\varepsilon_1$  = Variance Firm Performance that is not explained by exogenous variables (sales growth, firm size, gender diversity, and capital structure).

## RESULT AND DISCUSSION

This study uses statistic descriptive analysis to describe each variable individually with results that can be seen in table 3.

**Table 3.** Descriptive Statistic

Variabel	Mean	Median	Maksimum	Minimum	St. Dev
n = 475					
Firm Performance	0.0483	0.0335	0.7484	-0.5485	0.1208
Capital Structure	8.2704	0.9000	1763.7900	-21.2300	102.1510
Sales Growth	0.2166	0.0639	44.2311	-0.9539	2.1107
Firm Size	14.4432	14.2008	19.5047	10.5987	1.6056
Gender Diversity	0.1625	0.0000	0.5000	0.0000	0.1969

Based on table 3 can be seen from the number of observations (N) of 475, which obtained an average value (mean) of firm performance of 0.0483. It means the average of net income produced by manufacturing companies is 4.83% of the total assets that the company had

Table 3 shows the mean value in the capital structure of 8.27 which means the comparison of the use both of debt and equity in the company's capital structure of 8.27: 1 or the use of debt in the capital structure is greater than equity.

In table 3, it showed that the average value of sales growth is 0.22, meaning that the manufacturing company has an average sales growth of 22%. Based on the results of the statistical test in table 3, the average value of the firm size is 14.44. It means that the manufacturing company has an average firm size of 14.44.

Gender diversification that is measured by *Blau diversity index* with values ranges in 0 to 0.5. Based on the results of the descriptive statistics in table 4, the minimum value shows the number 0.0000, which means there is no gender diversification in the composition of the board of directors. The mean (diversified) gender diversification of the board of directors is 0.1625 while the standard deviation is 0.197, meaning that the gender diversification of the board of directors has values ranging from 0.1634 minus 0.197 to 0.1634 plus 0.197. The data distribution of gender diversification variables has a relatively high variation, which is indicated by a higher standard deviation compared to the average value.

**Table 4.** Regression Model I

Variable	Coefisien	Std. Error	t-statistic	Prob.
C	1.93566	0.11795	16.41040	0.00000
Growth	-0.01563	0.01888	-0.82780	0.40830
Size	-0.00469	0.00769	-0.60969	0.54240
GDIV	-1.00160	0.25557	-3.91906	0.00010
adjusted R Square	0.95470			

**Table 5.** Regression Model II

Variable	Koefisien	Std. Error	t-statistic	Prob.
C	0.60180	0.07441	8.08738	0.00000
Growth	0.00558	0.00230	2.42868	0.01560
Size	-0.03775	0.00514	-7.34970	0.00000
GDIV	-0.02598	0.00986	-2.63390	0.00880
DER	0.000147	0.0002	0.67937	0.4973
Adjusted R Square	0.92080			

Based on the *chow* test and *hausman* test, the fixed effect model was chosen as the best testing technique to estimate the model in this study. The classic assumption test that held concludes that there is no infringement of the normality assumption and multicollinearity on the research model so that it is proper to test hypotheses on the research model. The estimation results of panel data regression models using the fixed effect model are as follows:

$$DER = 1,9357 - 0,0156 \text{ GROWTH} - 0,0047 \text{ SIZE} - 1,0016 \text{ GDIV}$$

The constant value of 1.9357 has meaning when the independent variable such sales growth (GROWTH), firm size (SIZE), and gender diversification of the board of directors (GDIV) are worth 0 (zero) or constant, so the capital structure value is 1.9357. The sales growth variable (GROWTH) has a regression coefficient -0.0156 with a negative sign, meaning that sales growth has a negative effect on the capital structure. When sales growth has increased by 1 (one) unit, it will reduce the capital structure by 0.0156 units. The firm size variable (SIZE) has a regression coefficient -0.0047 with a negative sign, meaning that the firm size has a negative effect on the capital structure. When the size of a company increases by 1 (one) unit, it will reduce the capital structure by 0.0047. The gender diversification

variable of the board of directors has a regression coefficient  $-1.0016$  with a negative sign, meaning that the gender diversification of the board of directors negatively affects the capital structure. When gender diversification of the board of directors experiences an increase of 1 (one) unit, it will reduce the capital structure by 1.0016. The gender diversification variable of the board of directors has a regression coefficient  $-1.0016$  with a negative sign, meaning that the gender diversification of the board of directors negatively affects the capital structure. When gender diversification of the board of directors experiences an increase of 1 (one) unit, it reduces the capital structure by 1.0016.

$$\text{ROA} = 0,6018 + 0,0056 \text{ GROWTH} - 0,0378 \text{ SIZE} - 0,0260 \text{ GDIV} + 0,0001 \text{ DER}$$

The constant value of 0.6018 has meaning when the independent variables such sales growth (GROWTH), firm size (SIZE), gender diversification of the board of directors (GDIV) and capital structure (DER) are 0 (zero) or constant, the value of company performance is 0.6018. The sales growth variable (GROWTH) has a regression coefficient of 0.0056 with a positive sign, meaning that sales growth has a positive effect on firm performance. When the sales growth increased by 1 (one) unit, it increases the firm performance by 0.0056 units. The firm size variable (SIZE) has a regression coefficient  $-0.0378$  with a negative sign, meaning that the firm size has a negative effect on firm performance.

When the size of a company increases by 1 (one) unit, it reduces the capital structure by 0.0378. The gender diversification variable of the board of directors has a regression coefficient  $-0.0260$  with a negative sign, meaning that the gender diversification has a negative effect on firm performance. When gender diversification of the board of directors experiences an increase of 1 (one) unit, it reduces the firm performance of 0.026. Capital structure variables have a regression coefficient of 0,0001 with a positive sign, meaning that the capital structure has a positive effect on firm performance. When the capital structure increases 1 (one) unit, it increases the firm performance of 0,0001.

**Table 6.** Sobel Test

Variable	Direct Cor	Intervening	t-statistic
GROWTH	0.0056	0.0056	-0.3787
SIZE	-0.0378	-0.0377	-0.30215
GDIV	-0.026	-0.02612	-0.6388

The table value is 1.648, so the capital structure is not able to mediate the variables of sales growth, company size, and gender diversification of the board of directors on company performance. The results of hypothesis testing are presented in table 7.

**Table 7.** The Results of Hypothesis Test

No	Hypothesis	Explanation	Prob	Result
1	H1	Sales growth has a negative effect on capital structure.	0.4083	Rejected
2	H2	Firm size has a positive effect on capital structure.	0.5424	Rejected
3	H3	Gender diversification of the board of directors has a negative effect on capital structure.	0.0001	Accepted
4	H4	Sales growth has a positive effect on firm performance.	0.0156	Accepted
5	H5	Firm size has a positive effect on firm performance.	0.0000	Rejected
6	H6	Gender diversification of the board of directors has a positive effect on firm performance.	0.0088	Rejected
7	H7	Capital structure has a negative effect on firm performance.	0.4973	Rejected
8	H8	Capital structure is able to mediate the influence of sales growth on firm performance.	0.6689	Rejected
9	H9	Capital structure is able to mediate the influence of firm size on firm performance.	0.6989	Rejected
10	H10	Capital structure is able to mediate the influence of the gender diversification of the board of directors on firm performance.	0.6199	Rejected



### The effect of sales growth on Capital Structure

Sales growth is the change in sales that happen in the company both increase and decrease. (Naray & Mananeke, 2015). Sales growth has a negative effect on the capital structure but is not significant. It happens because sales are the factor that strongly influenced by consumer interest. Manufacturing companies are identical to process the raw materials into finished or semi-finished products that both resell to other producers and directly to consumers. It causes sales growth, which tends to fluctuate every year and varies in each company.

The results of this study mean the sales growth is not the main reason for manufacturing companies to use private funds in the company's capital structure. The results of this study are not suitable with the pecking order theory, which states that companies will tend to choose private funds to fulfill the necessity of capital in the company. If the income of the company is higher, it increases the opportunity for companies to use private funds as a choice of corporate funding. In addition, sales growth used to measure income per share that obtained.

The results of this study support the research conducted by Ridhloah (2010); Ghazouani, (2013) and Tamonsang & Arochman (2015) who found sales growth did not affect the capital structure and not in line with Nugroho (2014) research which said that sales growth had a positive effect on capital structure. Empirically, this study cannot prove that companies with high sales growth have a negative effect on the use of debt in the capital structure significantly so that the pecking order theory has implications for the low of the use debt in the capital structure is not acceptable.

The effect of firm size on capital structure

The second hypothesis in this study examines the effect of firm size on capital structure. The results showed that the firm size has a negative relationship but there is no significant effect on capital structure, so the second hypothesis in this study which states that firm size negatively affects the capital structure rejected.

The results of this study have no related to the trade-off theory and the pecking order theory. The trade-off theory states that debt financing up the optimum point will increase the company profit because it gives benefit from tax savings. Companies with large scale relatively have the ability to obtain profits stable than small companies. It affects the company's capital structure. If the company becomes more substantial, so the company needs enormous debt fund. Thus, large-scale companies quickly increase their debt level

to get an optimal capital structure. In another hand, the pecking order theory states that companies prefer the private funds which have a smaller risk by making a hierarchy of capital structures.

The results of this study are in line with the research conducted by Olokoyo (2013), Prabansari & Kusuma (2005) and Lestari & Sampurno (2017) which give an argument that firm size does not affect the company's capital structure. Whereas research conducted by Ridhloah (2010); Ayu et al. (2016), Iswarini & Ardiansari (2018) and Hafiz et al. (2017) prove that the firm size has a significant positive effect on capital structure. According to Naray & Mananeke (2015), large companies tend to need more funds to improve company operations. The difference in the results of this study is thought to be due to differences in objects, periods, and measurements of company size in this study.

The effect of gender diversity of the board directors on capital structure

Gender Diversification (diversity) of the board of directors is a gender distribution contained in the composition of the board of directors which is marked by the presence of men and women who occupy the board of directors in the company (Amri, 2017). Gender diversification of the board of directors has a significant negative effect on capital structure. The third hypothesis in this study was accepted because if the gender of the board of directors composition more heterogeneous, it can transfer the knowledge among the councils which the board of directors either men or women have significant differences both in skills, accuracy, understanding, emotional, and other. Therefore, in making decisions that are genuinely sourced from thoughts and consideration result based on various perspectives will get the quality of decisions better.

Gender diversification in the board of directors allows the managerial skills improvement which they had so they can get the best decisions concerned with the effective arrangement of capital structures (Alves et al., 2015) and Emoni et al., (2017). This study supports the research conducted by Okiro et al. (2015) and Alves et al., (2015) which state that gender diversification of the board of directors has implications for the capital structure to be chosen. This different perspective is used to prioritize equity funds higher than debt.

The effect of sales growth on firm performance

Sales growth is an essential criterion for assessing firm performance through profits as the assessment of firm performance (Andrayani

& Surya, 2013; Indriani & Widyarti, 2013). The fifth hypothesis in this study was accepted because the company with higher sales growth allows it has choices to improve firm performance by making operational improvement from the total profits earned, increasing capital structure from the internal side, reducing external fund to reduce risk, and other so that in the decision making from the financial side, the company has many alternatives to improve firm performance.

In the context of pecking order theory, managers as management will utilize profits or sales profits with lower risk considerations in order to improve firm operational and do another task such as reinvestment to increase profits. The company tends to choose the lowest risk first to get the highest profit. Due to the better sales growth can increase investors confidence because they believe the company can maintain the firm performance.

This research supports the research conducted by Ermanda & Purnamawati (2017), Shyu (2013), and Setyawan & Susilowaty (2018) which states that sales growth has a significant positive effect on firm performance. The company with high sales growth can do operational activities optimally and estimate how much net income they will earn so that an evaluation can be carried out immediately aimed at improving firm performance (Shintya et al., 2017). Thus the assumption of a pecking order theory that has implications for the firm performance is getting better due to acceptable sales growth.

The effect of firm size on firm performance

The firm size indicates that a large number of assets shows the company abilities to obtain higher profits by manage assets optimally (Sari & Usman, 2014). The results showed that firm size has a significant negative effect on firm performance, so the sixth hypothesis in this study rejected. Companies which have substantial assets give influence on product results and other production factors, in other words, large companies will have better firm performance (Dawar, 2014). The use of substantial assets certainly will be followed by increasing high both productivity and depreciation expense so that when the assets increment is not followed by the sales increment significantly, it will impact on firm performance decreasing.

The results of this study no related with agency theory which states that there is a motivation to use the sizeable external fund in order to achieve optimal firm performance and reduce conflicts with the owners because private fund allows the owner increasingly and the agency

conflict will increase. In addition, the larger firm size has a significant opportunity to obtain funds more efficiently in order to improve firm performance (Fuad, 2015). The negative relationship between firm size and firm performance caused by changes in the number of assets of a manufacturing company increases every year and fluctuating firm performance.

The results of this study are in line with the research conducted by Shyu (2013), and Wayan & Sukmayanti (2019) states that firm size has a significant negative effect on firm performance. According to Wayan & Sukmayanti (2019), it happens because not all large companies have excellent firm performance whereas small companies have low firm performance. It relates to management abilities to manage a set that had to achieve firm performance optimally. On the contrary, the results of research conducted by Miswanto et al. (2017) and Iswarini & Ardiansari (2018) states that firm size has a positive effect on firm performance. While the research conducted by Khaira (2011), Lestari & Sampurno, (2017), and Putra & Badjra (2015) describes that firm size has no effect on firm performance.

The effect of gender diversity of board directors on firm performance

Gender diversification of the board of directors has a significant negative effect on firm performance. The results of this study are not in line with agency theory states that management tends to improve firm performance in order to obtain high compensation. If firm performance becomes higher, so the management will get higher compensation. The gender diversification of the board of directors can reduce agency conflicts because the diversified board of directors can improve firm performance through diverse capabilities and perspectives. The cause of the negative relationship both diversification of gender and firm performance is the board of director position minim to change or rotation. As a result, companies have focused on the composition of either all men or women. They assume that carrying out their duties and maintaining firm performance. The diversification composition of the board of directors shows the ability and perspective of problem diversities. However, the results of this study prove that most manufacturing companies have low gender diversification with stable firm performance.

The results of this study are in line with the research conducted by Darmadi (2011) and Mirza et al. (2018) which argues that gender diversification of the board of directors has a significant negative effect on firm performance. According

to Mirza et al. (2018), it happens because women tend more emotional, ambitious, avoid risk, and lack experience in the industry world. As a result, many companies still use all men in the composition of directors. In another side, the results of research conducted by Bart & McQueen (2013) shows that gender diversification of the board of directors has a positive effect on firm performance. While the results of research conducted by Astuti (2017) and Sari & Usman (2014) prove that gender diversification of the board of directors has no effect on firm performance.

The effect of capital structure on firm performance

Capital structure is an illustration of the proportion of debt and equity used to run the company's operations (Listiyani, 2017). The results of this study indicate that the capital structure has no significant positive effect on firm performance. The results of this study are not in line with the pecking order theory, which states that companies prefer funding based on the risk hierarchy of the smallest in order to improve firm performance and agency theory where owners prefer the maximum possible profit with low risk, one of which avoids debt profits obtained by the owner (Masripah et al., 2015).

Companies with high capital structure show the operational company also needs high capital and debt in capital structure is large, so interest expense also becomes large, which can decrease firm performance. The opposite condition occurs in companies that have a low debt capital structure tend to focus on increasing profits as much as possible to fulfill the owner's rights. This research is in line with the research conducted by Shyu (2013), Gustina & Wijayanto (2015), Nisasmara & Musdholifah (2018) and Kennedy et al. (2013) which argues that the capital structure has a positive effect on firm performance. When the company was a deficit, the company prefers funded by debt rather than issue new shares. It means that issuing shares are not the priority of the company (Febriana & Yulianto, 2017).

This result is different from the research conducted by Dawar (2014), Olokoyo (2013), and Tifow & Sayilir (2015), the three studies succeeded in proving that the capital structure had a negative and significant effect on company performance. The results of this study support the research of Okiro et al. (2015), and Khaira (2011) found that the capital structure did not influence firm performance.

The effect of sales growth on firm performance with capital structure as intervening.

Based on the results of the path analysis

test show that the direct effect that includes sales growth variables on firm performance through the capital structure of 0.0056 and the indirect effect of -0.0000023. Based on the result, it can describe that the direct effect between sales growth on firm performance is stronger than the influence of sales growth on firm performance through capital structure. This result can be observed from the higher value of direct effect so that the capital structure is not effective an intervening variable.

Moreover, the results of path analysis seen from the *Sobel* test calculation shows that the  $t_{count}$  of -0.3787 and  $t_{table}$  of 1.648 according to the significance level of 5%, which means the  $t_{count} < t_{table}$ . These results indicate that the capital structure variable does not succeed in mediating between sales growth and firm performance, meaning that sales growth has no significant effect on firm performance through the capital structure as an intervening variable so that the eighth hypothesis rejected. This shows that the higher the company's sales growth causes the company must pay a higher tax expense. It affects reducing corporate profits. Decreasing corporate profits will force companies to use an external fund, which reduces firm performance as a result of the increase of debt and interest expense.

The effect of firm size on firm performance with capital structure as intervening

The large company has more financial strength to support firm performance but also faced more significant agency problems. The large company quickly gets the attention of the community so that they must be careful in running company operational. Due to errors may occur in the company will impact on firm performance and corporate image (Raharja, 2012). The firm size gives benefit to the company. This benefit gives a significant opportunity for the company to improve firm operational and performance (Fuad, 2015).

Based on the results of path analysis, this states that the direct effect variable firm size on firm performance through the capital structure of -0.0377 and the indirect effect of -0.000007. These results stated that the direct effect between firm sizes on firm performance is not stronger than the influence of firm size on firm performance through capital structure. These results show that more indirect effect value so that the capital structure effective as an intervening variable.

Based on the results of the path analysis test, the value of the direct effect of firm size variables on company performance through the capital structure is -0.0377 and indirect effects of

-0.000007. These results can be stated that the direct influence between company size on company performance is not stronger than the influence of firm size on company performance through capital structure. This can be seen from the more excellent value of indirect influence so that the adequate capital structure of its role as an intervening variable.

In addition, the results of path analysis seen from the Sobel test calculation shows the results of  $t_{\text{count}}$  of -0.3022 and  $t_{\text{table}}$  of 1.648 according to the significance level of 5% which means the value of  $t_{\text{count}} < t_{\text{table}}$ . These results indicate that the capital structure variable does not succeed in mediating between firm size and company performance, meaning that firm size has no significant effect on firm performance on the capital structure as an intervening variable so that the ninth hypothesis rejected. This state that the higher of firm size so firm performance is lower, although it supported by the higher capital structure of the company.

The effect of gender diversity of board directors on firm performance with capital structure as intervening

Gender diversification of the board of directors is a gender difference in the composition of the company's board of directors, which is marked by the presence of men and women. The board of directors who are gender diversified are considered to have more managerial skills when faced with a problem (Robinson & Dechant, 2011). The better managerial capabilities in managing the company will have a positive effect on firm performance. Based on agency theory, the management tends to prefer private fund rather than the external fund in order to minimize the risk. Gender diversification gives a different perspective and more diverse ideas, so deciding the risky thing becomes the last choice.

Based on the results of path analysis test, this shows that the direct effect of the gender diversification variable of the board of directors on firm performance through the capital structure of -0.026 and the indirect effect of -0.00015. These results stated that the direct effect between the gender diversification of the board of directors on firm performance is not stronger than the influence of the gender diversification of the board of directors on the firm performance through the capital structure. The results show that more indirect effect value so that the capital structure is not as effective as an intervening variable.

Based on the results of path analysis test, this shows that the direct effect of the gender diversification variable of the board of directors on

firm performance through the capital structure of -0.026 and the indirect effect of -0.00015. These results stated that the direct effect between the gender diversification of the board of directors on firm performance is not stronger than the influence of the gender diversification of the board of directors on the firm performance through the capital structure. The results show that more indirect effect value so that the capital structure is not as effective as an intervening variable.

In addition, the results of path analysis seen from the Sobel test calculation shows that the  $t_{\text{count}}$  of -0.6388 and the  $t_{\text{table}}$  of 1.648 according to the significance level of 5%, which means the  $t_{\text{count}} < t_{\text{table}}$ . These results indicate that the capital structure variable does not succeed in mediating between the gender diversification of the board of directors and firm performance meaning that the gender diversification of the board of directors has no significant effect on firm performance through the capital structure as an intervening variable so that the tenth hypothesis rejected. This states that the higher gender diversification the board of directors so the lower the firm performance, although it supported by the higher capital structure of the company.

## CONCLUSION AND RECOMMENDATION

The results of this study indicate that companies with high sales growth and low firm size do not become a measure of changing internal and internal fund because both of these variables do not affect the capital structure of manufacturing companies in Indonesia. The higher the gender diversification of the board of directors, the lower the capital structure's decision on debt because of the ability and managerial viewpoint, the higher the ability to improve the analysis of funding decisions through funding activities by optimizing internal funds.

Sales growth has a positive influence on firm performance. The higher sales growth, so the company's profits will higher. As a result, it improves firm performance. Firm size and gender diversification of the board of directors negatively influence on firm performance. The capital structure variable does not succeed in mediating the indirect effect between sales growth, firm size, and gender diversification of the board of directors on firm performance. This shows that the support of capital structure as a mediator does not effect on firm performance.

The limitation of this research is the use of OLS models, and Sobel tests to interpret the results of panel data tests and whether or not the-



re is an indirect influence. Future studies are expected to be able to use SEM testing models that can provide different research results

The suggestions from this research are management should utilize other investments which improve the performance of manufacturing companies. These results indicate the composition of the board of directors that more heterogeneous makes the firm performance decrease. Therefore, companies should pay attention to the gender composition of the board of directors in the company because there is a balanced composition of men and women on the board of directors. This caused by the higher of agency conflict that occurs between the board of directors. This study only measures the diversification of the board of directors through a gender perspective. Future research expected to use other diversity measurements such as education, experience, and age that assume can influence every company decision-making that effect on firm performance. This study only looks at the performance of manufacturing companies after a decline in the value of purchases in the company. Future research expected to examine the performance of manufacturing companies in a more extended period when the company was at the highest of performance percentage up to the latest period because of assumed will occur the difference result of smooth, firm performance obtained.

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