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## Financial Leverage, International Orientation, And Firm Performance

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### ABSTRACT

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This paper re-examines the effect of leverage on firm performance by looking at the moderating effect of international orientation. This study uses data of manufacturing 93 firms listed in the Indonesian Stock Exchange over the period of 2011 – 2014 resulting in 372 observations. Results show that financial leverage has negative and significant effect on firm performance. Second, international orientation does not significantly moderate the relationship between financial leverage and performance. The more internationally oriented the firms; it does not imply that the effect of leverage on performance should be stronger.

### INTRODUCTION

The global economic crisis triggered by the European crisis has impacted all countries around the world including Indonesia. It has caused the Indonesia financial markets in an irregularly fluctuate situation. Therefore, the financial markets have to change their strategy in order to adapt to the current market situation. Each company must develop their respective strategies to maintain business sustainability.

Managing the financial structure should be conducted properly and regularly. Financial managers have a responsibility to allocate the financial resources of the company optimally and efficiently. Simply put, they decide the amount of capital

investment from certain assets or businesses and the strategy which will provide the highest return/profit. On the other side, managers also have to manage the asset financing or the capital structure of firms. Optimal capital structure should be pursued to improve company efficiency and competitiveness which eventually will increase the firm value.

This will encourage managers to improve the productivity of firms in order to maintain their revenue and profit. The activities related to the firm's efforts in maximizing profits in the midst of global economic competition are very tight. Moreover, to survive in such tough period, firms have to carefully decide and implement their policies. Therefore it is necessary for managers to make appropriate decisions especially regarding to the capital structure of financial assets.

Capital structure reflects the funding strategy, or whether the firms use more equity or debt to run the business. Then, it is important to carefully set the level of financial leverage, the extent to which firms use debt in their capital structure. On the one hand, some might argue that more leveraged firms would be more valued in the market and have better performance. On the other side, the excessive debt could make a firms is riskier to be invested into, particularly regarded to its default risk. Hence, managers are expected to make a right decision about the capital structure which in its turn will provide maximum income for the company.

Nowadays, firms have changed their activities mainly due to the presence of international trade. It has forced them to make a change in some activities. In addition to improve the productivity, firms must also consider the market for their products which should be produced for the international markets. In fact, however, there are many constraints to resources, knowledge, human resources, and other factors. If the international activity can work appropriately in terms of overcoming these constraints then the firms will get a larger profit.

The company involvement in international activities may affect the relationship between leverage and firm performance. Firms that engage in the international activities such as import and export will have different structure in the relation between leverage and performance than firms that are not engaged in international activities (Vithessonthi and Tongurai, 2015).

The international activities have also encouraged a firm to learn new technology and explore more knowledge for their operations. Therefore, managers need to develop and assure effective learning for firms to expand internationally (Zahra et al., 2000). Furthermore, with a respect to firm performance, the international firms tend to have a better investment opportunity than the domestic firms. Thus, for the international firms, the increase in leverage is associated with better performance while for the domestic firms; the increase in leverage is not associated with better performance (Vithessonthi and Tongurai, 2015).

Therefore, this research is aimed at investigating the differences between domestically and internationally oriented firms especially in the effect of leverage on their firm performance. Arguably, the inconclusive findings in the link between leverage and performance are due to there are some contingency factors such as international orientation. The international activities involvement is expected to strengthen the positive effect of leverage on firm performance. This research is a replication of the study by Vithessonthi and Tongurai (2015).

## **LITERATURE REVIEW**

### **Financial Leverage and Firm Performance**

Financial Leverage is the degree of debt in the capital structure. On the other word, Financial Leverage shows the proportion of the use of debt to finance assets. When leverage increases, it will become a higher financial risk.

Margaritis and Psillaki (2010) find that leverage has a positive effect on firm performance. Several studies have also documented the positive relation between leverage and firm value (Ahn et al., 2005). If the return on assets is higher than the debt, the use of debt is advantageous and the return results on capital with the use of debt will also be improved. However, the use of debt is like the double-edged sword, on the one hand, it increases the return of shareholders when the company earned higher operating income. But, if the company earned lower operating income then it decreased the return of shareholders. According to Margaritis and Psillaki (2010), leverage will posed a negative effect on performance in very high leveraged firms as they have a higher probability of default and face financial constraints.

Leverage is also defined as a measure of the amount of assets financed by debt. It is found that firms with increased leverage ratios tend to have less investment in the future (Cai and Zhang, 2011). Therefore, firms with excessive leverage have higher possibility of getting less profitable (Coricelli et al., 2012). According to Giroud et al. (2012), therefore, a firm should reduce the leverage ratio to have a better firm performance.

Park and Jang (2013) find that leverage has a positive influence on firm performance, but this is not a causal relationship. Antoniou et al. (2008) find that leverage ratio is not related to an increase in firm profitability, growth, and share price performance. These empirical findings show that the effect of leverage on firm performance and firm value remain inconclusive. Supposedly, there are some contingency factors that moderate the link between these two variables.

The firm performance could reflect a firm's financial condition. It shows whether the financial condition is good or bad in a particular period. Financial performance is a measure set by shareholders to evaluate the management. The firm performance can be seen from the accounting measures provided in the financial statement. In addition, the firm performance can also be seen from how the market appreciates firm financial performance which is reflected by the value of the firms in the market.

In this study, firm performance is measured using accounting performance. Maury (2006) measures the firm performance using Return on Asset (ROA) as a proxy of accounting performance. Similarly, research of King, et al. (2008), Tsao and Lien (2013) also measures the firm's performance based on accounting performance by using ROA.

### **International orientation**

In the international business literature, the process of increasing the involvement of enterprises in the international markets is known as internationalization. The growth is a required condition for internationalization (Goerzen & Beamish, 2005). The benefit of internationalization for the firms is they will have an opportunity to gain higher foreign assets (Buch et al., 2013). When firms become internationalized, they can take advantage of new business opportunities (Brock et al., 2006). However, it implies that those involved in the international competition need more funding to finance their

expansion which in turn have an effect on their capital structure. Park et al. (2013) reveal that the leverage levels of multinational corporations have similar or higher than those of domestic corporations. Desai et al. (2004) argue that internationally oriented firms have significant advantages than domestic-oriented firms. As a result, their internal capital markets has the flexibility to make changes, while domestic-oriented are constrained by local environments. In contrast, Brock et al. (2006) find that internationalization does not relate to leverage and performance. The reason is the firms has difficulty in finding a foreign market, it might be due to the culture, language, regulation, and lack of knowledge. In this research, it is argued that international orientation of firms could be considered to be a moderating factor. Vithessonthi and Tongurai (2015) conclude that the effect of leverage on performance is negative for domestic-oriented firms and positive for internationally oriented firms. Arguably, internationally oriented firms tend to have more resources, knowledge, and capabilities than domestic-oriented firms.

## **RESEARCH METHODS**

### **Variables**

#### **Firm Performance**

The dependent variable in this study is the firm performance to measure how well firm can use their investment to generate income. This research uses Return on Assets (ROA) which is calculated as follows:

$$ROA = \frac{Net\ Income}{Average\ Total\ Assets}$$

#### **Financial Leverage**

Leverage is the main explanatory variable which is measured as follows:

$$LEV = \frac{Total\ Liabilities}{Total\ Assets}$$

#### **International Orientation**

The moderating variable in this study is the level of international orientation which can be defined as engagement in internationally-related activities such as performing import and export activities. A dummy variable taking a value of 1 for those with an international orientation and 0 otherwise is employed.

#### **Control Variables**

According to the study by Vithessonthi and Tongurai (2015), I include some control variables. First, a dummy for foreign-owned firms (FOE) is included (FOE, 1 = FOE, 0 = otherwise). Second, the age of the firm (AGE) is accounted. It is presented in the natural logarithm. Third, the size of firms which is calculated as the natural logarithm of total assets is included to control for the performance difference between large and small firms (SIZE). Lastly, a vector of industry dummies (IND) taken into account.

**Data and Sample**

The population cope of this study is all manufacturing firms listed in the Indonesian Stock Exchange (IDX) over the period of 2011 - 2014. There are some criteria to be included in the sample. First, financial information is available during the period of study. Second, I follow the work of Vithessonthi and Tongurai (2015) by excluding those with the ratio of total liabilities to total assets more than one.

Financial data are obtained from firms' financial statements which can be downloaded at the [www.idx.co.id](http://www.idx.co.id). In addition, data on international orientation (export and import activities) are collected from annual reports of firms.

**Empirical Model**

To estimate the empirical model, I employ the ordinary least square (OLS) method to. Ordinary least square or linear least square is a method for estimating linear regression models, with the purpose to minimize the differences between independent variable and dependent variable.

$$ROA_{i,t} = \beta_0 + \beta_1 LEV_{i,t} + \beta_2 FOE_{i,t} + \beta_3 AGE_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 IND_{i,t} + \varepsilon_{i,t} \dots\dots\dots 1$$

$$ROA_{i,t} = \beta_0 + \beta_1 LEV_{i,t} \times INTER_{i,t} + \beta_2 LEV_{i,t} + \beta_3 FOE_{i,t} + \beta_4 AGE_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 IND_{i,t} + \varepsilon_{i,t} \dots\dots\dots 2$$

Variable definitions

- AGE = natural logarithm of the number of years since the establishment of firm *i* in year *t*.
- DSIZE = a binary variable, one for a firm with the value of total assets larger than the median value and zero otherwise.
- FOE = a dummy variable of foreign-owned firms.
- IND = a set of industry dummy variables.
- INTER = a binary variable, one for the international firm (i.e. firms involved in import and export activities).
- LEV = a firm's financial leverage measured as the ratio of total liabilities to total assets for firm *i* in year *t*.
- SIZE = a firm's size measured as the natural logarithm of total assets for firm *i* in year *t*.

**RESULTS AND DISCUSSION**

This study uses secondary data obtained from the financial statements and annual reports which are published by IDX. The population is all manufacturing firms listed on the IDX over the period of 2011 - 2014. Samples are selected using purposive sampling technique.

There are some criteria that a firm could be included in the sample. First, financial information is available during the period of study. Second, following the work of Vithessonthi and Tongurai (2015), those with a ratio of total liabilities to total assets more than one should be excluded.

Based on the criteria, the total number of manufacturing firms is 144; however, only 93 firms meet the sample criteria. This study uses the data for the period of 2011-

2014. Finally, the number of observations (firm/year) is 372 observations. The empirical models are estimated using linear Least Squares method employing Eviews 8 for Windows program.

**Table 1 Descriptive Statistics**

	Mean	Median	Max	Min	Std.Dev	Obs
LEV	0.452125	0.458121	1.136271	0.026016	0.203287	372
ROA	0.099945	0.075817	0.884856	-0.548779	0.131109	372
INTER	0.537634	1	1	0	0.499253	372
FOE	0.591398	1	1	0	0.492238	372
AGE	3.558897	3.583519	4.430817	2.639057	0.383841	372
SIZE	27.96604	27.77673	33.09498	23.08250	1.613912	372
BASICIND	0.430108	0	1	0	0.495758	372
CONS	0.354839	0	1	0	0.479109	372

**Table 2 Correlation Matrix**

	LEV	ROA	INTER	FOE	AGE	SIZE
LEV	1					
ROA	-0.279276	1				
INTER	-0.018096	-0.029660	1			
FOE	0.065951	-0.055228	0.018870	1		
AGE	-0.33346	0.426469	0.020650	-0.106589	1	
SIZE	0.128817	0.273661	0.312693	-0.188791	0.358018	1

Table 3 shows the regression results of model 1. It provides evidence that financial leverage (LEV) has a negative and significant effect on firm performance (ROA) at 1% significance level. Therefore, financial leverage has a negative effect on firm performance. It is contrary to our hypothesis which postulates positive relation between financial leverage and firm performance.

Table 4 (Model 2) exhibits that international orientation (INTER) does not significantly moderate the effect of financial leverage on firm performance. It is shown by coefficient of the interaction variable between leverage and international orientation (LEV\*INTER) which is not significant.

The results show that financial leverage has a negative effect of firm performance. Firms with a higher ratio of debt have a lower performance than firms with smaller portion of debt in their capital structure. Our hypothesis is not supported in this particular issue. However, as there is a competing and inconclusive finding in the link between firm leverage and performance, these results support the findings of study conducted by Coricelli et al. (2012). They reveal that leverage has a higher risk which tends to worse the performance. There's another study that provides evidence that leverage ratio do not contribute to firm profitability, growth, and share price performance (Antoniou et al., 2008). Giroud et al. (2012) have also found that a firm with lower leverage proportion will have a better firm performance.

**Table 3 Regression Results**

Variables	Model 1	Model 2
C	-0.720767*** (0.0000)	-0.772930*** (0.0000)
LEVERAGE	-0.173961*** (0.0000)	-0.158308*** (0.0000)
LEV*INTER		-0.040695 (0.0933)
FOE	0.002683 (0.8270)	0.005087 (0.6478)
AGE	0.120714*** (0.0000)	0.119635*** (0.0000)
SIZE	0.015537*** (0.0001)	0.017588*** (0.0000)
BASIC IND	0.031904** (0.0456)	0.033285** (0.0369)
CONSUMER	0.056240*** (0.0005)	0.054411*** (0.0007)
<b>Adjusted R-squared</b>	0.305513	0.309009
<b>F-statistic</b>	19.13413	17.59102
<b>Prob(F-statistic)</b>	0.00000	0.00000

\*\*\* indicate significant in 1%  
\*\* indicate significant in 5%  
\* indicate significant in 10%

The result of moderating effect of international orientation on the relationship between financial leverage and firm performance is not significant. It means that the effect of leverage on performance is not determined by the orientation of firms whether they are more internationally oriented or less internationally oriented. This result is not consistent with the finding of Vithessonthi and Tongurai (2015). They argue that the effect of financial leverage on firm performance is stronger for firms more engage in international activities. Vithessonthi and Tongurai (2015) explain that firms with international orientation have chances to explore more resources, knowledge, and their capability to confront the international market. Therefore, they need more sources of financing. Subsequently, it is expected that firms with more international orientation could strengthen the relation between financial leverage and firm performance.

The reason why this study finds no significant effect of international orientation in the context of Indonesia is probably because more of Indonesian firms that engaged in international activities prefer internal equity rather than having bank loans or issuing corporate bond. Therefore, small portion of international activities are funded by debt which is in turn increases the importance of financial leverage.

## CONCLUSION

This study is focused to examine the effect of financial leverage on performance and the moderating effect of international orientation on the relationship between financial leverage and firm performance. This study uses the data of 93 manufacturing

firms listed in IDX out of 144 firms over the period of 2011-2014 periods. This research is a replication of the study by Vithessonthi and Tongurai (2015). According to the regression results, some concluding remarks could be provided. First, financial leverage has negative and significant effect on firm performance. The higher the use of debt in the capital structure, the lower the firms performance firms. Second, international orientation does not significantly moderate the relationship between financial leverage and performance. The more internationally oriented the firms; it does not imply that the effect of leverage on performance should be stronger. Third, there is no difference in the performance between foreign-owned firms and domestic firms. Foreign-owned firms also do not necessarily have a higher probability to engage in the international markets. Fourth, mature firms have a higher performance than young firms which may be driven by market power that they already have. It leads them to be much more profitable than young firms. Lastly, large firms are found to be more profitable than small firms because they may already achieve economies of scopes and economies of scale that enable them to be more efficient in allocating resources

However, some limitations are acknowledged. First, due to the short period of this study, only relatively small number of observations can be performed. Second, this research only focused on manufacturing firms. Looking at different types of firms may provide a better picture on the effect of financial leverage on performance and the moderating role of international orientation. A substantial portion of non-manufacturing Indonesian firms have also engaged in international markets. Third, relatively few variables have been included in the model as control variables.

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