

# Factors that Affect the Debt Ratio of Internationalized Nonfinancial Firms

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**ABSTRACT:** This study aims to examine the influence of firm-related factors on the debt ratio as well as the influence of firm-related factors on the non-financial firms listed on the Indonesia Stock Exchange (IDX) over the 2013-2017 period. These factors, including internationalization, firm size, profitability, and tangibility, were tested their relationship with a debt ratio of firms by using the Fixed Effects Model data. The results showed that profitability and tangibility are positively related to debt ratio, while internationalization and firm size are negatively related to debt ratio. The findings are related to the trade-off theory and pecking-order theory.

*Keywords:* capital structure, internationalization, debt ratio

## 1 INTRODUCTION

The business world conditions in the current era of globalization have caused business competition to become very tight; therefore, many firms are required to internationalize (Allen & Raynor 2004 in Chuan 2013). Internationalization is the interaction of international business transactions among countries in the form of exports or foreign direct investment. (Dunning & Lundan 2008). The ASEAN Economic Community (AEC) in early 2016 eased local companies in the Asian region to be more internationalized (ASEAN Economic Community 2015).

With internationalization, firm managers are warrier in choosing the appropriate capital structure for their firm, because the financial leverage is one of the essential factors that will have an impact on firm performance (Chuan 2013). The choice of the right capital structure factor will result in better firm profits. According to Booth et al. (2001) and Ooi (1999), profitability, tangibility, firm growth, and firm size are important determinants of capital structure. The purpose of internationalization is to create new markets, large economies of scale by selling products to new customers, reduce risk by investing in other countries with less risk, and gain new technological knowledge. Therefore, internationalization is one of the strategic variables to maximize firm performance.

Chuan (2013) proved that internationalization and firm growth have a significant negative effect on the firm's debt ratios, while profitability has an insignificant negative effect on the firm's debt ratios while firm size and tangibility have a significant positive effect on the firm's debt ratios.

Gonenc & Haan (2014) showed that profitability has a significant negative effect on the firm's debt ratios, while internationalization, firm size, and tangibility have a significant positive effect on the firm's debt ratios.

Tsai (2013) in Chuan (2013) concluded that internationalization has no significant negative effect on the firm's debt ratios, firm size has a significant negative effect on the firm's debt ratios, while credit ratings have a significant positive effect on the firm's debt ratios.

The purpose of this study is to examine the influence of firm-related factors (internationalization, firm size, firm growth, profitability, and tangibility) on the debt ratio as well as the influence of corporate factors in the non-financial firms listed in IDX over the 2013-2017 period.

Chuan (2013) stated that international firms have higher profitability than domestic firms. This is because, through internationalization, the firms can sell their products to new markets that are more profitable for the firms to increase the firm's profitability. Firms with higher profitability can generate more in-

ternal funds to finance their activities. Therefore, this is in line with the Pecking-Order theory that international firms tend to use internal funds to fund their activities rather than debt and issuance of new equity.

H1: Internationalization has a negative effect on the debt ratio.

Albaity (2013) stated that the larger the firm size, the smaller the risk of bankruptcy of the company would be. Firms with larger size have a better ability to meet their obligations than firms with smaller size. Therefore, firms with larger size use much debt and increase company leverage. This is in accordance with the trade-off theory.

H2: Firm size has a positive effect on the debt ratio.

Chuan (2013) explained that international firms diversify their income, thereby reducing the risk of bankruptcy and the volatility of income. Sheikh and Wang (2015) found that profitable companies are easier to produce internal funds in the form of retained earnings used for funding so that profitable companies will use less debt. This causes the firm's debt ratio to fall.

H3: Profitability has a negative effect on the debt ratio.

Suto (2003) and Chakraborty (2010) concluded that tangibility has a positive effect on the long-term debt ratio of firms as having more tangible assets will ease the firms to issue bonds or get loans from banks. This is because these tangible assets can serve as collateral for debt; therefore, reducing the risk of creditors. This is in line with the trade-off theory.

H4: Tangibility has a positive effect on the debt ratio.

## 2 RESEARCH METHODS

This research is basic research to test the hypotheses that have been made previously regarding the relationship among internationalization, firm size, profitability, and reliability of debt-ratio on non-financial firms listed on IDX over the 2013-2017 period. The dependent variable used was the debt ratio, while the independent variable used was internationalization, firm size, profitability, and tangibility.

The debt ratio is a financial ratio that measures the level of corporate leverage. It is defined as a total-long-term ratio and short-term debt to total assets, expressed as decimals or percentages. Interna-

tionalization is a level of interaction among countries that can be used to assess the performance of non-financial sector firms and is measured by the FSTS calculation (Chuan 2013). Firm size is the size of the company to determine the size of the agency costs or the size of the distribution of dividends. Profitability is a ratio that compares net income with total assets in the fiscal year in non-financial sector companies listed on IDX over the 2013-2017 period. Tangibility is a tangible asset. Tangible assets are often also called fixed assets (for example, machinery, buildings, land, and buildings).

The data used in this study were secondary data obtained from IDX ([www.idx.com](http://www.idx.com)) and ([www.idnfinancial.com](http://www.idnfinancial.com)) in the form of 2013-2017 financial statements. The target population in this study were all non-financial firms listed on IDX over the 2013-2017 period. The following criteria determined the sample: (1) Registered in the non-financial sector and has complete financial information over the 2013-2017 period, (2) Data on export/foreign sales financing is available in total sales over the 2013-2017 period, (3) Data is available for all variables needed over the 2013-2017 period.

This study used pooled data or panel data processing methods to determine the effect of independent variables on the dependent variable. Multiple regression was used to test the influence of independent variables on the dependent variable. Chow test was carried out to determine the use of the PLS or fixed-effect method. Hausman test was done to see whether the model follows the random effect model or the fixed effect model.

This study used the method of processing multiple linear regression data to determine the effect of independent variables on the dependent variable, with the following equation:

$$DER_{it} = \alpha + \beta_1 INTL_{it} + \beta_2 SIZE_{it} + \beta_3 PROFIT_{it} + \beta_4 TANG_{it} + \varepsilon \quad (1)$$

Where:

$DER_{it}$  = Debt Ratio of business entity  $i$  in period  $t$ ;  $\alpha$  = Constant coefficient;  $\beta$  = Regression coefficient;  $INTL_{it}$  = Internationalization of business entity  $i$  in period  $t$ ;  $SIZE_{it}$  = Size of business entity  $i$  in period  $t$ ;  $PROFIT_{it}$  = Profitability of business entity  $i$  in period  $t$ ;  $TANG_{it}$  = Tangible assets of business entity  $i$  in period  $t$ ; and  $\varepsilon$  = error.

### 3 RESULTS AND DISCUSSIONS

The objects used in this study were 48 non-financial sector firms listed on IDX over the 2013-2017 period. Based on the Chow test, the probability value for the cross-section  $F = 0.00$ , which means less than 0.05; therefore, the fixed-effect model is better than the common effect/PLS model. Hausman test result of the cross-section probability value is 0.7119. A fixed cross-section value of 0.0000 is less than 0.05 so that the fixed effect model is better than the random effect model. Here are the results of the T-Test.

Table 1. T-Test Results

Variable	Coef	Prob.	Remarks
C	4.018	0.00***	
INTL	-0.136	0.00***	H1 Accepted
FS	-0.106	0.00***	H2 Rejected
PROF	2.663	0.00***	H3 Rejected
TAN_ASSET	0.582	0.00***	H4 Accepted
R-square	0.960		
Adjusted R-square	0.949		
F-stat	89.121		
Prob	0.00***		

\* significant at  $\alpha = 10\%$ , \*\* significant at  $\alpha = 5\%$ , \*\*\* significant at  $\alpha = 1\%$ .

Table 1 shows all the independent variables are significant at  $\alpha = 1\%$  of the dependent variable. H1 and H4 are accepted, while H2 and H3 are rejected.

H1 is accepted, meaning that the internationalization has a significant negative effect on the debt ratio. This is consistent with the study of Chuan (2013), which stated that international firms have higher profitability than domestic firms. Through internationalization, the firms can sell their products to new markets that are more profitable for the firms so as to increase the firm's profitability. Therefore, international firms tend to use internal funds to finance their activities rather than debt and issuance of new equity, so that the firm's debt will decrease.

While H2 of firm size has a positive effect on the debt ratio is rejected. The results showed that firm size actually has a significant negative effect on the debt ratio. This is contrary to Albaity (2013) that said firms with larger size tend to use more debt and increase the firm's leverage. On the other hand, the results showed that large firm size could attract investors to invest the money as capital so that the use of debt for capital is reduced.

H3 of profitability has a negative effect on the debt ratio is rejected. The results showed that profitability actually has a significant positive effect on the debt ratio. The results of the study are not consistent with Chuan (2013) and Sheikh and Wang (2015). High company profitability enables higher

future investment opportunities. The more the investment opportunities, the higher the companies need costs by utilizing debt (Yarram & Dollery 2015).

The results of the study showed that H4 is accepted, meaning that tangibility has a significant positive effect on the debt ratio. It is in line with Suto (2003) and Chakraborty (2010) that concluded tangibility has a positive effect on the long-term debt ratio of firms as having more tangible assets will ease the firms to issue bonds or get loans from banks. This is because these tangible assets can serve as collateral for debt; therefore, reducing the risk of creditors.

The F-test also showed that internationalization, firm size, profitability, and tangible assets influence the debt ratio. Moreover, adjusted R-squared also showed that the debt ratio could be explained by all independent variables of 94.9%.

### 4 CONCLUSION

The results showed that H1 and H4 were accepted while H2 and H3 were rejected. Internationalization had a significant negative effect on the debt ratio. Likewise, tangible assets had a significant positive effect on the debt ratio. While firm size had a significant negative effect on debt ratio and profitability had a significant positive effect on the debt ratio.

The firms' internationalization can open opportunities for the firms to sell their products to new, more profitable markets. This will increase the firms' profitability. Firms with higher profitability are able to generate more internal funds to finance their activities. Therefore, firms that carry out internationalization tend to use internal funds to finance their activities rather than debt and issuance of new equity.

Firms with large size tend to have a lower ratio. This is due to firms with large size are more likely to use retained earnings to finance their current or future projects because large firms have many retained profits from their business.

Firms with high profitability tend to have a higher debt ratio. That is because of the high profitability of the firms enables higher future investment opportunities, which makes them need more funding. In addition to using internal funding, firms need external funding, especially debt, which makes the firms' debt ratio to increase.

The higher the firm's tangibility, the higher the firm's debt ratio will be. This is due to the increasing number of firm assets will increase the firm's debt to finance the firm's assets.

## REFERENCES

- Albaity, M. 2013. Internationalization and capital structure: evidence from Malaysian manufacturing firms. *Asian Journal of Finance and Accounting* 5(2): 329-342.
- Booth, A.A., Aivazian, V., Demirguc-Kunt, A., & Maksimovic, V. 2001. Capital Structure in Developing Countries. *Journal of Finance* 56(1): 87-130.
- Chuan, A.H. 2013. Internationalization and Capital structure : Evidence from Malaysian Manufacturing Firms. *International Journal of Economics and Financial Issues* 5(1): 158-171.
- Dunning, J.H., Lundan S.M. 2008. *Multinational enterprises and the Global Economy*. Norhampton: EE Publishing Ltd.
- Sheikh, N.A. & Wang, Z.J. 2015. Determinants of capital structure: An empirical study of firms in manufacturing industry of Pakistan. *Managerial Finance* 37(2): 117-133.
- Gonenc, H., & Haan, D.J. 2014. Firm Internationalization and Capital Structure in Developing Countries: The Role of Financial Development. *Emerging Markets Finance and Trade* 50(2): 169-189.
- Suto, M. 2003. Capital Structure and Investment Behavior of Malaysian Firms in the 1990s: A Study of Corporate Governance Before The Crisis. *International Corporate Governance Review* 11(1): 25-39.
- Yarram, S.R., & Dollery, B. 2015. Corporate Governance and Financial Policies. *Managerial Finance* 41(3): 67-285.