Research Journal of Finance and Accounting
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)
Vol.4, No.15, 2013

Determinant Capital Structure and Profitability Impact (Study of Listed Company in Indonesian Stock Exchange)

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Abstract
Profit is primary factor to be achieved by every companies. To achieve this profit, companies must empower all of its resources optimally. The problem arise when the resource is insufficient, and companies decide to obtain debt with consideration of profitability and risk of bankruptcy. This research using debt equity and debt asset ratio as indicators for capital structure, where growth, size, tangibility and degree of operating leverage as its determinant. For profitability, this research using return on asset and return on equity. Samples of research are 247 companies in period 2009 to 2011. With path analysis, this research finds that size negative significant to DAR, DOL negative significant to DER, DAR negative significant to ROA, and DER negative significant to ROE.
Keywords : determinant capital structure, profitability

1. Research Background.

Why debt? Debt often graced in financial statement of each company, particularly in capital structure. Issues of debt emergence always been in debate in context of Trade Off Theory and Pecking Order Theory. Is debt is a coincidence or is it very important factor needed by company for financing its investments in order to achieve profit? What is the main reason for emergence of debt to each company?

Profit represent primary factor which always wish to be achieved by every companies. To achieve this profit, companies must empower all of its resources optimally. The main resources is its own capital which is invested in company's assets, such as current assets, fixed assets, and other assets. The problem arise when the resource (in this case is capital itself), is insufficient for making investments in company's assets, it make debt is one alternative fund for financing investments aimed at achieving the desired profit. When a policy decided to acquire the debt, then lender would review the ability of companies to make a profit, so the ability to make a profit or profitability is a key factor for the companies to obtain debt. But, when the debt were obtained, the capital structure were changed, and would impact the profitability related to its risk of bankruptcy, so this make consideration of capital structure are very important.

Most industries in Indonesia which are examine in this study, were used because these industries have a significant role in the growth of the national economy. These industries divided into subsector which are agriculture, mining, basic industry, chemicals, automotive, parts, textile, garment, footwear, cable, electronics, consumer goods industry, infrastructure, utilities, transportation, trade, services, and investment.

2. Literatures Review.

2.1. Capital Structure.

Ong (2011), stated that capital structure is essential on how a firm finances its overall operations and growth by using different sources of funds. While Khalid (2012), stated that leverage viewed as a result of events that determines companies' source of financing to run the business. Leverage refers to the extent to which firms make use of their money borrowings (debts financing) to increase profitability and is measured by total liabilities to equity. Firms that borrow large sums of money during a business recession are more likely to default to pay off their debts as they mature; they will end up with high leverage and are more likely end up with a potential risk of bankruptcy. On the contrary, the lower the firm's borrowings, the lower the leverage, and the risk of bankruptcy will eventually be lower which signifies that business will continue operating.

2.2. Trade Off Theory.

Following statements of Yue (2011), that bankruptcy cost is the cost of debt. It incurs with the perceived probability that the firm cannot deal with its debt obligations is greater than zero. Risky firms have higher bankruptcy costs, thus risky firms borrow less.

Moreover, Cuong (2012), state that the trade-off theory predicts that safe firms, firms with more tangible assets and more taxable income to shield should have high debt ratios, firms with more size and more liquidity should have high debt ratios. While risky firms, firms with more intangible assets that the value will disappear in case of liquidation, ought to rely more on equity financing. In terms of profitability, trade-off theory predicts that more profitable firms should mean more debt-serving capacity and more taxable income to shield; therefore a higher debt ratio will be anticipated. Under trade-off theory, the firms with high growth opportunities should

borrow less because it is more likely to lose value in financial distress. Furthermore, Mohamad and Abdullah (2012), stated that Trade off theory implies that leverage has positive relationship with profitability as contrary to the pecking order theory. Trade off theory considers the cost of bankruptcy associated with the debt financing and the benefit of tax advantage. Trade-off theory asserts that a company may set a target debt to company value, and gradually moves towards it. According to this theory, the increase in debt level will increase the cost of bankruptcy, financial distress and agency, hence decrease the value of the company. Thus, a company needs to find equilibrium where the level of debt would be able to offset its costs (such as tax advantages of the debts) with the costs of possible financial distress. According to this theory, companies with high growth have more risk and higher financial distress costs, thus growth have an inverse relationship with debt level. However, if a company has higher level of fixed assets to serve as collateral for debt financing, it will give easier access for the company to obtain debt, thus give a positive relationship between asset tangibility and debt level.

Nadaraja, et al. (2011), stated that pecking order theory suggest that management would prefer equity financing in favor of debt financing in view of information asymmetry condition and benefit of reduced transactions costs. Based on this theory, highly profitable firms will tend to use internal funding, whereas firms with low profitability tend to use external financing. In the context of internal finance, the theory indicated internal fund such as retained earnings is preferred and as for external financing, debt is chosen over equity. Also, if a firm use of external financing would indicate that the firm is not profitable, its stock price may be adversely affected. This related to information asymmetric where the managers usually have more information on the firm. Therefore, they would issue new shares when it is believed that the stock price is fairly or overly priced only.

2.3. Pecking Order Theory.

According to Ullah (2012), pecking order theory reports when the profit is increased, firms go for internal financing. According to pecking order theory, initially profits or retained earnings are utilized for investment and then later on they are incorporated in the capital structure. In short, profitable firms imply less debt in their capital structure. This statement supported by Yue (2011), which said that firms with higher profitability depend more on internal funds while less depend on debt capital.

Also, Cuong (2012) stated, that pecking order theory suggests the negative relationship between size and leverage. Informational asymmetries problem is expected to be lower for large firms, thus large firms should be more capable of issuing informational sensitive securities such as equity. Pecking order theory indicates a negative relationship between profitability and debt. Profitable firms prefer internal funds rather than external due to asymmetric information or transaction costs.

2.4. Empirical Evidences.

2.4.1.Determinant of Debt Equity Ratio or Debt Asset Ratio.

Ullah (2012), found that size has significant relationship to debt equity ratio. This findings has same results with Homaifar (1994), that firm size and future growth opportunities appear to be important determinants of the capital structure. But Khalid (2012), found in all industries tangibility, size and growth have no relationship with debt equity ratio, while in services sector, tangibility and growth is very important factors to their leverage. Similar with industrial sector tangibility and liquidity is very important factors to leverage. Shamshur (2010), found that size and tangibility have a significant relationship with debt to equity ratio.

Cuong (2012), found that companies with less debt and more debt have significant relationship with size, but insignificant if all companies combined. While Shah (2007), found that tangibility and growth have significant relationship with leverage, but insignificant for its size. But Yousefi (2012), found that return on asset and debt asset ratio have variation results, there is positive or negative relationship. Ebadi (2011), found that tangibility has a significant positive impact on debt ratio in line with both Pecking Order theory and Trade-off theory. Growth and debt have a positive significant correlation in line with pecking order theory and contrary to trade off theory.

Lim (2012), found that size, growth, and tangibility have not significant relationship with debt asset ratio. More explanations by Alaghi (2012), that in finance, the term leverage arises often. Both investors and companies employ leverage to generate greater returns on their assets. However, using leverage does not guarantee success, and the possibility of excessive losses is greatly enhanced in highly leveraged positions. For companies, there are two types of leverage that can be used: operating leverage and financial leverage. Operating leverage relates to the result of different combinations of fixed costs and variable costs. Specifically, the ratio of fixed and variable costs that a company uses determines the amount of operating leverage employed. A company with a greater ratio of fixed to variable costs is said to be using more operating leverage. If a company's variable costs are higher than its fixed costs, the company is said to be using less operating leverage. The way that a business makes sales is also a factor in how much leverage it employs. A firm with few sales and high margins is said to be highly leveraged. On the other hand, a firm with a high volume of sales and lower margins is said to be less leveraged Financial leverage arises when a firm decides to finance a majority of its assets by taking on debt.

Firms do this when they are unable to raise enough capital by issuing shares in the market to meet their business needs. When a firm takes on debt, it becomes a liability on which it must pay interest. A company will only take on significant amounts of debt when it believes that return on assets (ROA) will be higher than the interest on the loan. A firm that operates with both high operating and financial leverage makes for a risky investment. A high operating leverage means that a firm is making few sales but with high margins. This can pose significant risks if a firm incorrectly forecasts future sales. If a future sales forecast is slightly higher than what actually occurs, this could lead to a huge difference between actual and budgeted cash flow, which will greatly affect a firm's future operating ability. The biggest risk that arises from high financial leverage occurs when a company's ROA does not exceed the interest on the loan, which greatly diminishes a company's return on equity and profitability.

Kale (1991) and Ullah (2012), stated that business risk is one of the primary determinants of a firm's capital structure, because existence of debt in the capital structure increases the probability of bankruptcy, and firms with more variable cash flows, that is, higher business risk, have a higher probability of bankruptcy for a given level of debt. This statement was supported by Cuong (2012), that, business risk or volatility in earnings is also a determinant of capital structure. Moreover, Cuong (2012), said that, almost all empirical studies show that firms with high volatility in earnings face a higher risk that earnings level drops below the debt service commitment. This may force firms to arrange funds at high cost to pay the debt or go to bankruptcy in an extreme case. This indicates that firms with high earnings volatility will borrow least and prefer equity to debt when facing external financing choices. By this statements, operating leverage was chosen, following Chowdhury (2010), that, business risk is represented by operating leverage, and according to Lev (1974), that, in general, the higher the operating leverage, the higher the earnings volatility with respect to demand fluctuations. Bodie (2009), stated that firms with greater amounts of variable as opposed to fixed costs will be less sensitive to business conditions. This is because in economic downturns, these firms can reduce costs as output falls in response to falling sales. Profits for firms with high fixed costs will swing more widely with sales because costs do not move to offset revenue variability. Firms with high fixed costs are said to have high operating leverage, because small swings in business conditions can have large impacts on profitability. Furthermore, degree of operating leverage greater than 1 indicates some operating leverage, means, if operating leverage is change then profit will change in the same direction, means, degree of operating leverage increases with a firm's exposure to fixed costs.

2.4.2.Relationship of Debt Ratio with Return on Asset or Return on Equity.

Ong (2011), found that no relationship between debt asset or debt equity ratio to return on asset. Ahmad (2012), found that only short term debt and total debt have significant relationship with ROA while ROE has significant on each of debt level. This findings has similiar results with Ching et al. (2011), found that debt asset ratio effected to return on assets. And supported by Mohamad et. al. (2012), found that debt equity ratio negatively related with return on equity (ROE) but negatively insignificant association with return on asset (ROA). This indicates that any increase in ROE can be explained by a reduction in debt equity ratio but not for ROA. The regression results for debt asset ratio having negative association with ROE and ROA. This implies that the increase or decrease of debt level will significantly affect the firm's performance, which means that reducing the debt level will significantly increase ROE and ROA.

But, Ong (2011), found that no relationship between debt asset or debt equity ratio to return on equity. This findings supported by Shubita (2012), that there is significantly negative regression coefficient for total debt implies that an increase in the debt position is associated with a decrease in profitability: thus, the higher the debt, the lower the profitability. While Javed & Akhtar (2012), shows a positive relationship between the Leverage, financial performance and Growth, Size, of the companies.

3. Research Method.

3.1. Data.

This research based on data from Indonesian Stock Exchange for period of 2009 to 2011, in sector of agriculture, mining, basic industry, chemicals, automotive, parts, textile, garment, footwear, cable, electronics, consumer goods industry, infrastructure, utilities, transportation, trade, services, and investment, where 247 companies was chosen for samples with categories :

Agriculture	12
Mining	21
Basic Industry and Chemicals	49
Miscellaneous Industry (such as automotive, components, textile, garments, footwear, cable, electronics)	38
Consumer Goods Industry	29
Infrastructure, Utilities & Transportation	23
Trade, Services & Investment	75

3.2. Method of Analysis & Variables.

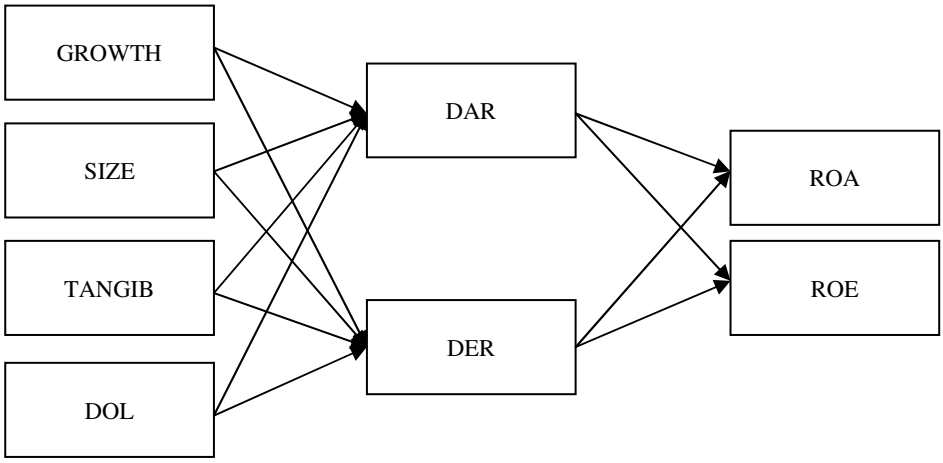
Method of analysis of this research is using path analysis with trimming model and variables which used in this research described as follows :

1. Variables as indicators of capital structure :
   - Debt Equity Ratio (DER) is calculated by total debt divided by total equity.
   - Debt Assets Ratio (DAR) is calculated by total debt divided by total assets.
2. Variables as indicators of determinant of capital structure :
   - Growth (GROWTH) is calculated by percentage change in total assets.
   - Size (SIZE) is calculated by log natural of total assets.
   - Tangibility (TANGIB) is calculated by fixed assets divided by total assets.
   - Business risk represented by Degree of Operating Leverage (DOL) is calculated by percentage change in Earnings Before Interest and Tax (EBIT) divided by percentage change in sales revenue.
3. Variables as indicators of profitability :
   - Return on Assets (ROA) is calculated by EBIT divided by total assets.
   - Return on Equity (ROE) is calculated by net profit divided by total equity.

3.3. Hypothesis and Model.

The hypothesis of this research stated as follows :

H1 : GROWTH, SIZE, TANGIB, and DOL has relationship with DAR.
H2 : GROWTH, SIZE, TANGIB, and DOL has relationship with DER.
H3 : DAR and DER has relationship with ROA.
H4 : DAR and DER has relationship with ROE.

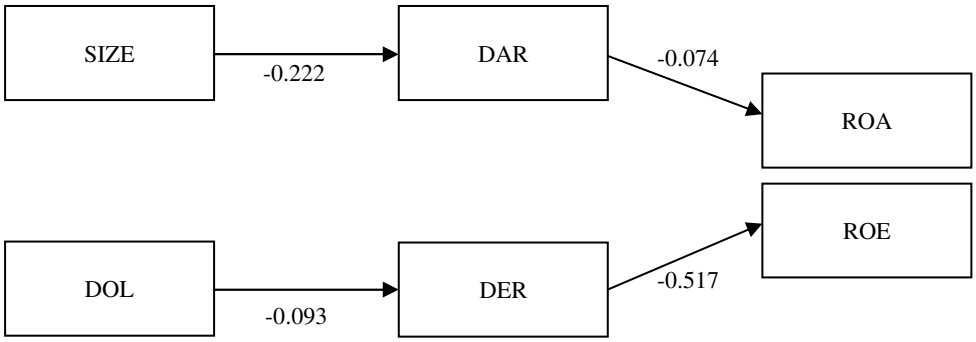


For testing of hypothesis, the equations has been developed as follows :

DAR = α + βGROWTH + βSIZE + βTANGIB + βDOL + Є
DER = α + βGROWTH + βSIZE + βTANGIB + βDOL + Є
ROA = α + βDAR + βDER + Є
ROE = α + βDAR + βDER + Є

4. Results and Discussion.

With SPSS (Appendix 1), the regression was conducted and obtained standardized coefficient for the path analysis. And by trimming model, the result shows as follow :



The result shows that only size had negative significant relationship with debt asset ratio, while growth, tangibility and degree of operating leverage was insignificant. And only degree of operating leverage had negative significant relationship with debt equity ratio, while growth, size, and tangibility was insignificant. Moreover, debt asset ratio had negative significant relationship with return on asset, and debt equity ratio had negative relationship with return on equity.

This results have implications that if size of companies are increasing then it would decrease debt asset ratio, because when debt asset ratio increase, it would decrease return on asset. This findings shows, that in Indonesia, firms with larger size indicated carefully obtain long term debt as their second funding or leverage proportionally after using their internal funding which is retained earnings. It means, although companies obtain large amount of debt but it cannot cross the line of the optimum debt or the profit will be decline. In this case, it could equalized that basically companies in Indonesia had low (or more exact is optimum) leverage because they depend on their internal fund for making investment in their assets.

Furthermore, for debt equity ratio, it implies that if degree of operating leverage of companies are increasing then it would decrease debt equity ratio, because when debt equity ratio increase, it would decrease return on equity. This is means that business risk for in this case represented by degree of operating leverage is very important factor for determinant capital structure related to companies bankruptcy and its impact to wealth of shareholders.

5. Conclusion.

As a whole, the research conclude, that large companies depend their funding from internal, which is make them have more stable cash flow, and beside that, the consideration of business risk is very important so they keep the capital structure in optimum debt that make them have low probability of bankruptcy. By this findings, it could be said that, the sample companies in Indonesia specially listed in Indonesia Stock Exchange tend to have careful behavior for obtaining debt and have application of pecking order theory.

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Appendix 1

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.795	1.482		-.537	.592
	growth	.035	.039	.033	.914	.361
	size	.175	.106	.061	1.646	.100
	tangib	-.336	.859	-.014	-.391	.696
	dol	-.001	.000	-.093	-2.534	.011

a. Dependent Variable: der

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.352	.131		10.289	.000
	growth	-.001	.003	-.006	-.161	.872
	size	-.058	.009	-.222	-6.119	.000
	tangib	.114	.076	.054	1.494	.136
	dol	-4.6E-005	.000	-.039	-1.095	.274

a. Dependent Variable: dar

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.098	.013		7.379	.000
	der	-.001	.002	-.012	-.336	.737
	dar	-.034	.017	-.074	-2.020	.044

a. Dependent Variable: roa

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.387	.090		4.317	.000
	der	-.169	.010	-.517	-16.407	.000
	dar	.002	.114	.000	.016	.987

a. Dependent Variable: roe

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