

The Influence of Growth, Asset Tangibility, Cost of Debt, Profitability and Business Risk On Debt Capital

Erika Jimena Arilyn^{1*}, Beny²

¹² Trisakti School of Management, Indonesia

ABSTRACT

Objective – The aims to identify the significant factors that influence a company's decision to use debt capital.

Methodology/Technique – This study uses 5 independent variables namely; firm growth (growth rate in total gross assets), asset tangibility (ratio of net fixed assets to total assets), cost of debt (interest before tax / long term debt), profitability (Earnings Before Interest and Taxes (EBIT) / Total Asset), and business risk (standard deviation of EBIT to total assets). The dependent variable in this study, debt capital, is measured by the ratio of long-term debt to total assets. A purposive sampling method is used to select 11 out of 18 textile and garment companies listed on the Indonesian Stock Exchange between 2014 and 2018 that report their annual financial positions. A quantitative method, panel data analysis technique and SPSS tools were also used in this study.

Findings – The results show that debt capital is influenced by profitability, while the remaining factors do not influence debt capital.

Novelty – This study adds to the existing literature on internal factors, market condition as an external factors, and debt capital in developed countries. The benefit of this study is to explore the potential capabilities of the industry in using its profit to minimize the use of debt as a source of capital to decrease business risk.

Type of Paper: Empirical

Keywords: Profitability; Growth; Cost of Debt; Business Risk; Tangibility; Capital Structure.

Reference to this paper should be made as follows: Ariyln, E., J; Beny; (2019). The Influence of Growth, Asset Tangibility, Cost Of Debt, Profitability and Business Risk On Debt Capital, *Acc. Fin. Review*, 4 (4): 120 – 127 [https://doi.org/10.35609/afr.2019.4.4\(4\)](https://doi.org/10.35609/afr.2019.4.4(4))

JEL Classification: G23, G32.

1. Introduction

Decision making related to the combination of capital structure is a very sensitive issue, because a company should perform well to maximize its value and shareholder's wealth. Therefore, company's factors as an internal factor and market conditions as an external factor should be considered to decide the optimal proportion of capital structure, whether to using debt or equity.

* Paper info: Revised: October 17, 2019

Accepted: December 31, 2019

* Corresponding author: Erika Jimena Arilyn

E-mail: erika@stietrisakti.ac.id

Affiliation: Trisakti School of Management, Indonesia

Many studies investigate the influence of company and market factors on capital structure, however the findings are inconsistent. Different researchers conclude their works on the theories of capital structure from their viewpoint, but those theories are still being discussed. They also differentiate the findings between developing countries to developed countries (Booth et. al., 2001; Öztekin, 2015), the types of debt instruments (Titman & Wessels, 1988), institutional differences (Fan et. al., 2012; Hackbarth & Mauer 2011; Rauh & Sufi 2010), and factors within the organizations such as liquidity, firm size, operating leverage, tangibility, growth, and profitability (Imtiaz et. al., 2016). Other research states that the decision to decrease or increase a percentage of debt depends on investor's acceptance of debt and conditions of the market (Handoo & Sharma, 2014), flexibility desired by the management, and tax implications (Norton, 199; Faulkender & Peterson, 2006). Thus, this research will focus on a company's decision to use debt and identify what factor influences that decision. By using multiple regression analysis, the uniqueness of this research is that its sample is chosen by the government as 1 of 5 mainstay industries that support the Indonesian government in implementing the industrial revolution 4.0. By the result of this study, government and industries can optimize its source of funds to increase their ability to compete in international markets.

This paper is organized in 5 sections. The first section describes the background of the research. Section 2 discusses the capital structure theories from different empirical studies and the formation of the research hypotheses. Section 3 discusses the research methodology and model specification. Section 4 describes the results and provides a discussion of the empirical analysis. Section 5 concludes the research.

1. Literature Review and Research Hypotheses Formation

According to agency theory, reported by Jensen (1976) in Imtiaz et. al. (2016), a finance manager should examine the cost of equity issue and debt issue for capital structure decisions. Managers have a very important role to mix those sources of funds to maintain the performance and sustainability of the company, though they would pursue their personal benefits. Jensen and Meckling in Handoo and Sharma (2014) state that the problems arise from setting the optimal capital structure could be minimize by increasing the amount of debt. A comparison between agency costs and other financing costs determines the decision of optimal capital structure made by external and internal investors (Booth et. al., 2001).

The classic argument of the trade – off theory is based on bankruptcy costs and tax benefits of debt (Öztekin, 2015; Miao, 2005), while according to Miller and Modigliani, a company would choose the optimal portion of debt by equalizing the costs of debt against its benefits. In other words, firms will pursue the optimum proportion of debt even though there are problems related with market factors. A company would borrow money while considering a balance between the tax saving benefits from debt and bankruptcy costs. Research from Booth et. al., (2001) of firms in 10 developing countries concludes that capital structures are determined by costs of business risk, bankruptcy costs, tax rates, types of assets, and profitability.

The pecking order theory, as reported by Myers and Majluf (1984) in Serghiescu and Vaidean (2014), posits that the preference of a firm to finance their financing requirements starts from internal sources by using the retained earnings, then external sources from long-term debt, and finally by using the stock issue. When companies are required depend on its financing to external sources, they likely to choose debt so a company can reduce the impact of asymmetric information (Booth et. al., 2001).

2.1 Growth

According to the pecking order theory, a company would prefer to use internal sources of funds to fulfil its financing requirements, followed by debt, then issuing an equity. The results of research from Imtiaz et. al., (2016) supports this theory; high growth companies tend to use internal funds to finance its needs. However, research by Handoo and Sharma (2014), Rajan and Zingales (1995) and Frank and Goyal (2000) in Abdou et. al., (2012) and Hackbarth and Mauer (2011) concludes that growth has a positive influence on

capital structure. Different results are reported by Booth et. al., (2001) who state that there is a positive influence of growth to capital structure in 8 countries as their samples except for South Korea and Pakistan. Ullah et. al., (2017) summarizes their results and states that there is no influence of a company's growth to capital structure. However, based on pecking order theory, the following hypothesis is proposed:

H1: growth has a negative influence on debt capital.

2.2 Asset Tangibility

One of the important factors of a company's capital structure is asset tangibility which can be used as a collateral for making loans (Titman & Harris in Ullah et. al., 2017). Previously, Handoo and Sharma (2014), Fan et. al., (2012), Öztekin (2015), and Norton (1991) concluded that the similar results with the theory of trade-off which recapitulates the positive influence of tangibility to level of debt. However, Imtiaz et. al., (2016), Ullah et. al., (2017), and Vatavu (2015) obtain opposite results. Booth et. al., (2001) obtained mixed result for this variable; the tangibility of 8 out of 10 samples (Brazil, Mexico, India, South Korea, Malaysia, Pakistan, Turkey and Zimbabwe) have a negative influence on capital structure, while another 2 countries (Thailand and Jordan) have a positive influence on capital structure. Based on the above, the following hypothesis is proposed:

H2: tangibility has a positive influence on debt capital.

2.3 Cost of Debt

Handoo and Sharma (2014) posit that the cost of debt has an influence on a firm's decision to settle its current leverage. The results of that research conclude that there is a negative influence of cost of debt to capital structure, similar to Norton (1991) and Faulkender and Peterson (2006) who conclude that there is a negative relationship between cost of debt and capital structure. Based on the above, the following hypothesis is proposed:

H3: cost of debt has a negative influence on debt capital.

2.4 Profitability

According to the pecking order theory, companies that gain a profit will choose to finance their operational needs through internal funds, thus, the company's debt would decrease as profit increases (Bancel & Mittoo, 2014; Panno, 2003; Jandik & Makhija, 2001 in Abdou et. al., 2012). This is consistent with the conclusions of Abdou et. al. (2012), Handoo and Sharma (2014), Imtiaz et. al. (2016), Alnajjar (2015), Serghiescu and Vaidean (2014), Fan et. al. (2012), Öztekin (2015) and Booth et. al. (2001) who state that profitability has a negative effect on capital structure. However, the opposing view of the trade-off theory states that profitable companies will use more leverage when they have the ability to access debt (Cheng & Shiu, 2007; Miller, 1977; Panno, 2003 in Abdou et. al., 2012). This is consistent with the results of research from Ullah et. al. (2017) and Vatavu (2015) who state that profit has a positive influence on capital structure. Rauh and Sufi (2010) reach different results; there is no influence of profitability to debt capital. Based on the above, the following hypothesis is proposed:

H4: profitability has a negative influence on debt capital.

2.5 Business Risk

This kind of risk defined by the comparison of the standard deviation of a company's earnings with its assets. Vatavu (2015) found that companies will turn to debt when the rate of business risk rises. Booth et. al. (2001) also found that business risk has a positive influence on capital structure in 4 sample countries (Mexico, India, Jordan, and Malaysia), while another 6 countries (Brazil, South Korea, Pakistan, Thailand, Turkey, and Zimbabwe) have the opposite result. Similarly, Alnajjar (2015) also concludes the negative

influence; companies tend to decrease the portion of debt from their capital policy when their earning capacity is uncertain, to prevent bankruptcy risks. Kale et. al. (1991) have a mixed result for this: tax liability has a short position to business risk in the personal option and long position in the corporate option. Based on the above, the following hypothesis is proposed:

H5: business risk has a negative influence on debt capital.

2. Methodology

The sample of this study are textile and garment companies listed on the Indonesian Stock Exchange between 2014 and 2018. This sample was chosen because it is one of the leading industries determined by the government to support the industrial revolution 4.0 program and has the highest export value compared to the other 4 industries in Indonesia, which are the food and beverage, electronic, automotive, and chemical industries. A non-probability sampling method is used to obtain specific financial data based on criteria that has been determined by the researcher (Sekaran & Bougie, 2016). Applying the selected requirement, this study uses 11 companies, 5 years of observation, 6 variables (dependent and independent) and the data is analyzed using multiple regression analysis.

Table 1 summarizes the companies used as the sample.

Table 1. Research Samples

No.	Ticker	Company
1	ARGO	Argo Pantes Tbk
2	CNTB	Century Textile Industry Tbk
3	ERTX	Eratex Djaja Tbk
4	ESTI	Ever Shine Textile Industry Tbk
5	HDTX	Panasia Indo Resources Tbk
6	INDR	Indorama Synthetics Tbk
7	MYTX	Asia Pacific Investama Tbk
8	PBRX	Pan Brothers Tbk
9	POLY	Asia Pacific Fibers Tbk
10	RICY	Ricky Putra Globalindo Tbk
11	SSTM	Sunson Textile Manufacturer Tbk

Source: Created by researcher

The dependent variable in this study is debt capital structure, and the proxy for this variable is the percentage of total assets financed by long-term debt (long term debt / total asset), while the independent variables are asset growth, asset tangibility, cost of debt, profitability, and business risk. The percentage of growth rate in total gross assets is used to measure the growth variable. The ratio of net fixed assets to total assets is used to determine the value of the tangible assets of a company. A comparison of interest before tax to long-term debt is used to measure the cost of debt. A comparison of operating profit (earnings before interest and taxes) to total assets is used to determine profitability. A standard deviation of the annual EBIT based on the current year and the preceding 2 years divided by mean annual EBIT over 3 years is used to measure business risk (Handoo & Sharma, 2014).

The equation for the model can be expressed as follows:

$$LTDR = \beta_0 + \beta_1 Grow + \beta_2 Tan + \beta_3 COD + \beta_4 PROF + \beta_5 STD_EBIT + \varepsilon \quad (1)$$

The model framework for this study is shown in Figure 2.1 below, based on previous research and the above theoretical review.

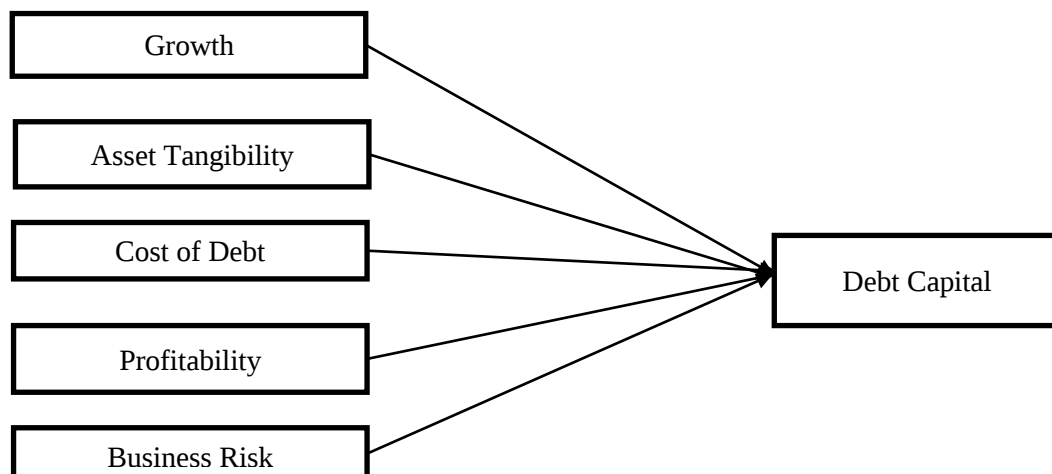


Figure 2.1 Research Model

4. Results and Discussion

The following table shows the statistics of the descriptive sample.

Table 2. Descriptive Statistics

	LTDR	GROW	TAN	COD	PROF	STD_EBIT
N	55	55	55	55	55	55
Missing	0	0	0	0	0	0
Mean	4.599091	.027175	.557177	1.627994	-.027053	2.58E8
Std. Deviation	35.299180	.2574622	.2042390	10.806068	.0949247	2.860E8
Minimum	-110.1300	-.8545	.2132	.0028	-.4588	21410
Maximum	234.0000	1.1353	.9386	80.2855	.1311	1067561668

Source: SPSS 16 Processing Result

The hypothesis results can be seen in the following table:

Table 3. Hypothesis Results

Model	Unstandardized Coefficients		t	Sig.
	B	Std. Error		

(Constant)	-12.307	16.122	-.763	.449
GROW	-29.437	17.910	-1.644	.107
TAN	10.800	24.881	.434	.666
COD	-.075	.370	-.203	.840
PROF	-162.867	54.820	-2.971	.005
STD_EBIT	2.868E-8	.000	1.813	.076

Dependent variable: LTDR

Source: SPSS 16 Processing Result

Based on the above table, the regression equation of this study is as follows:

$$\text{LTDR} = -12.307 - 29.437 \text{ Growth} + 10.800 \text{ Asset Tangibility} - 0.075 \text{ Cost of Debt} - 162.867 \text{ Profitability} + 2.868\text{E-}8 \text{ Business Risk} + \varepsilon$$

From the above research model results, we found that profitability negatively influences debt capital, which is in line with previous research by Abdou et. al. (2012), Handoo and Sharma (2014), Imtiaz et. al. (2016), Alnajjar (2015), Serghiescu and Vaidean (2014), Fan et. al. (2012), Öztekin (2015), and Booth et. al. (2001) that applied the pecking order theory which prefers to use retained earnings rather than debt. This result is contrary with Ullah et. al. (2017) and Vatavu (2015) who conclude that profitability has a positive influence on debt capital. The findings are also inconsistent with the results of Rauh and Sufi (2010) who stated the profitability has an insignificant influence on debt capital. Growth, asset tangibility, cost of debt, and business risk altogether do not influence debt capital. This is contrary to previous research by Imtiaz et. al. (2016) that identified that growth has a negative influence on debt capital. The findings are also inconsistent with the results by Handoo and Sharma (2014), Rajan and Zingales (1995) and Frank and Goyal (2000) in Abdou et. al. (2012) and Hackbarth and Mauer (2011) and Ullah et. al. (2012), who conclude that growth has a positive influence on capital structure.

Further, the results of asset tangibility is different with the result by Handoo and Sharma (2014), Fan et. al. (2012), Öztekin (2015), and Norton (1991) who stated asset tangibility has a positive influence on debt capital. The findings are also inconsistent with Imtiaz et. al. (2016), Ullah et. al. (2017), and Vatavu (2015) who state that asset tangibility has a negative influence on debt capital. The findings are also contradictory to those of Booth et. al. (2001) who achieved mixed results for this variable. Although this industry has relatively small assets, they do obtain support from government to increase their product volume to fulfil domestic needs and to export to various countries.

The results of cost of debt is different with the previous result conducted by Norton (1991) and Faulkender and Peterson (2006) that identified a negative relationship between cost of debt and debt capital. Banks give a special loan interest rate for this industry so companies within this industry can have backup funding when they need additional capital. The results of business risk in this study are also inconsistent with the results of Vatavu (2015) who concludes that business risk has a positive influence on debt capital, and Alnajjar (2015) who states that business risk has a negative influence on debt capital. The findings are also inconsistent with the results of Booth et. al. (2001) and Kale et. al. (1991) who obtained mixed result of this variable. These companies can adjust their production needs without having to worry about their funding.

The results of this study indicate that growth, asset tangibility, cost of debt, and business risk are not important explanatory variables of debt capital in Indonesian textile and garment companies. However, this industry contributes 7% to Indonesia's gross domestic product, 15% for exports, and 20% for human capital. The government chose this industry as 1 of 5 big industries in Indonesia to support the government's goal to

become the top 10 of the world economic power, doubled in the productivity, cost ratio, and increased net exports to 10% of GDP by 2030. This industry consistently increases their ability to build upstream capabilities in high, quality materials, improve the cost competitiveness through increased labor productivity and effective industrial zoning, develop their ability to be a leader in functional clothing production and innovation, and increase the economic scale to fulfil the demand from both domestic and export markets.

5. Conclusion

This study has shown that the industry does follow the rule of the pecking order. They prefer to use their profits for funding rather than external sources from debt and equity, to minimize business risk. They also have a privilege from government to expand their businesses to support government's goal, including a special rate of import tax for raw materials, incentives for companies to increase their infrastructure, providing the National Industrial Information System to facilitate data integration within the industry, support of vocational education to improve the skills of supporting workers in each industry, speed up the application of Internet of Things (IoT), and other activities to support those 5 industries. The findings of research by Leary and Robert (2014) can be considered for future studies that peer companies could mimic each other to decide the model of their capital structure.

Due to the lack of data and information of some variables in this study that were not accessible, limited variables and a limited number of companies were used in this study meaning that the results are not able to represent the entire industry in Indonesia. Future research should expand the data and use more variables to broaden the outcome of the research, such as managerial ownership, institutional ownership, equity capital, working capital, total asset turnover and firm age. Other specific industries or companies that are also supported by the government to implement the industrial revolution 4.0 could also be examined, such as the automotive and component, food and beverage, electronic, and chemical industries.

References

- Abdou, H. A., Kuzmic, A., Pointon, J., & Lister, R. J. (2012). Determinants of capital structure in the UK retail industry: A comparison of multiple regression and generalized regression neural network. *Intelligent Systems in Accounting, Finance and Management*, 19(3), 151-169. <https://doi.org/10.1002/isaf.1330>
- Alnajjar, M. I. (2015). Business Risk Impact on Capital Structure: A Case of Jordan Industrial Sector. *Global Journal of Management and Business Research*. <https://journalofbusiness.org/index.php/GJMBR/article/view/1651>
- Booth, L., Aivazian, V., Demircug-Kunt, A., & Maksimovic, V. (2001). Capital structures in developing countries. *The journal of finance*, 56(1), 87-130. <https://doi.org/10.1111/0022-1082.00320>
- Fan, J. P., Titman, S., & Twite, G. (2012). An international comparison of capital structure and debt maturity choices. *Journal of Financial and quantitative Analysis*, 47(1), 23-56. doi:10.1017/S0022109011000597
- Faulkender, M., & Petersen, M. A. (2006). Does the source of capital affect capital structure?. *The Review of Financial Studies*, 19(1), 45-79. <https://doi.org/10.1093/rfs/hhj003>
- Hackbarth, D., & Mauer, D. C. (2012). Optimal priority structure, capital structure, and investment. *The Review of Financial Studies*, 25(3), 747-796. <https://doi.org/10.1093/rfs/hhr129>
- Handoo, A., & Sharma, K. (2014). A study on determinants of capital structure in India. *IIMB Management review*, 26(3), 170-182. <https://doi.org/10.1016/j.iimb.2014.07.009>
- Imtiaz, F., Mahmud, K., & Mallik, A. (2016). Determinants of capital structure and testing of applicable theories: Evidence from pharmaceutical firms of Bangladesh. *International Journal of Economics and Finance*, 8(3), 23-32. doi:10.5539/ijef.v8n3p23
- Kale, J. R., Noe, T. H., & Ramirez, G. G. (1991). The effect of business risk on corporate capital structure: Theory and evidence. *The journal of finance*, 46(5), 1693-1715. <https://doi.org/10.1111/j.1540-6261.1991.tb04640.x>
- Leary KT, Roberts MR (2014) Do Peer Firms Influence Corporate Financial Policy? *The Journal of Finance* 69(1):139–178. doi:10.1111/jofi.12094
- Miao, J. (2005). Optimal capital structure and industry dynamics. *The Journal of finance*, 60(6), 2621-2659. <https://doi.org/10.1111/j.1540-6261.2005.00812.x>

- Norton, E. (1991). Factors affecting capital structure decisions. *Financial Review*, 26(3), 431-446. <https://doi.org/10.1111/j.1540-6288.1991.tb00389.x>
- Öztekin, Ö. (2015). Capital structure decisions around the world: which factors are reliably important?. *Journal of Financial and Quantitative Analysis*, 50(3), 301-323 DOI: <https://doi.org/10.1017/S0022109014000660>
- Rauh, J. D., & Sufi, A. (2010). Capital structure and debt structure. *The Review of Financial Studies*, 23(12), 4242-4280. <https://doi.org/10.1093/rfs/hhq095>
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons. [https://books.google.com.pk/books?hl=en&lr=&id=Ko6bCgAAQBAJ&oi=fnd&pg=PA19&dq=Sekaran+U,+Bougie+R+\(2016\)+Research+Methods+for+Business:+a+skill+building+approach.+Chichester:+John+Wiley+%26+Sons+Ltd.&ots=2B5LU-LYoS&sig=DQTydrREFQCIxnQX_gALlfBJV54&redir_esc=y#v=onepage&q&f=false](https://books.google.com.pk/books?hl=en&lr=&id=Ko6bCgAAQBAJ&oi=fnd&pg=PA19&dq=Sekaran+U,+Bougie+R+(2016)+Research+Methods+for+Business:+a+skill+building+approach.+Chichester:+John+Wiley+%26+Sons+Ltd.&ots=2B5LU-LYoS&sig=DQTydrREFQCIxnQX_gALlfBJV54&redir_esc=y#v=onepage&q&f=false)
- Serghiescu, L., & Vaidean, V. L. (2014). Determinant factors of the capital structure of a firm-an empirical analysis. *Procedia Economics and Finance*, 15(14), 1447-1457. <https://core.ac.uk/download/pdf/82709375.pdf>
- Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. *The Journal of finance*, 43(1), 1-19. <https://doi.org/10.1111/j.1540-6261.1988.tb02585.x>
- Ullah, G. M., Uddin, M., Abdullah, M., & Islam, M. D. (2017). Determinants of Capital Structure and Its Impact on the Debt Maturity of the Textile Industry of Bangladesh. *Journal of Business and Economic Development*, 2(1), 31-37. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2903763
- Vătavu, S. (2015). The impact of capital structure on financial performance in Romanian listed companies. *Procedia Economics and Finance*, 32, 1314-1322. [https://doi.org/10.1016/S2212-5671\(15\)01508-7](https://doi.org/10.1016/S2212-5671(15)01508-7)