ATLANTIS PRESS

Advances in Economics, Business and Management Research, volume 100

International Conference of Organizational Innovation (ICOI 2019)

ANALYSIS CAPITAL STRUCTURE ON INDONESIA STOCK EXCHANGE

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Abstract—Capital structure is a mix of funding composition in a company, which will have an impact on the cost of capital and company value. This research was conducted to analyze the effect of asset structure, profitability, firm size, business risk and asset growth on capital structure in the mining, agriculture and Food & Beverage sectors. The sampling method used purposive sampling, obtained 14 samples of mining companies, 9 samples of agricultural companies and 11 samples of Food & Beverage during the period 2010-2014. The results of the study show that in the mining sector asset structure, profitability and business risk affect the capital structure, while the size of the company and the growth of the company do not. In the agricultural sector capital structure is influenced by asset structure, profitability, company size, business risk and company growth. In the F & B sector, asset structure, profitability and business risk affect the capital structure, while the size of the company and the growth of the company do not.

Keywords—Capital Sructure, Mining Sector, Agriculture Sector, Food & Beverage Sector

I. INTRODUCTION

Basically the capital structure policy involves a trade-off between the risks borne by shareholders and the rate of return expected by shareholders. The importance of funding decisions in a company, requires company management to find out what factors need to be considered in making a funding decision, this is done to facilitate company managers in making funding decisions, whether to make external funding through a debt loan or issue new shares as an alternative. The factors that influence the decisions of the company's capital structure include: sales stability, asset structure, operating leverage, level of sales, profitability, taxes, controls, management attitudes, attitudes of lenders and rating agencies, market conditions, the company's internal conditions and financial flexibility. In several studies that discussed the factors that influenced the previous capital structure there were inconsistencies in the results of the study. According to Joni & Lina (2010) and Glenn et al. (2011) the structure of assets is stated to have a positive influence on capital structure. While Malemilpla et al. (2017), Seftianne and Ruth (2011), Li and Islam (2009) did not find the effect of asset structure on capital structure. Frank and Goyal (2003), Tong and Green (2004), Wibowo and Ekaningrum (2002), Pangeran (2004) found results that profitability had a negative effect on the debt ratio, while Joni and Lina (2010), Glenn et al. (2011) also examined the effect of business risk, firm size and company growth on debt levels. Research on capital structure continues to develop by also considering management factors, industrial dynamics, capital market conditions, the economy, government regulations and social trends. The Mining Sector is one of the industries experiencing funding problems related to fluctuations in the global economy. The mining sector has several risks such as market risk associated with changes in selling prices in the domestic market and foreign markets and financial risks related to funds invested in the previous exploration and exploitation stage which is very high (migasreview.com). The financial crisis that occurred in 2008 has caused inflation to hit several mining export destination countries such as India, China and Europe which have resulted in a drastic decline in mining exports. As a result of these conditions experienced a decline in profits of up to 60%, due to an increase in operating costs (www.vibiznews.com). The impact of this crisis on each sector will differ according to the target market and the basic resources underlying the sector as well as the agricultural sector.

The agricultural sector is a sector that has a lower risk, because some risks to mining do not occur in the agricultural sector. The agricultural sector is oriented towards the domestic market, in addition to other distinguishing characteristics, for example, it shows how the company funds its investment sources. In mining companies the value of the debt equity ratio (DER) is greater than the DER value of agricultural sector companies. This means that mining companies use more external funding sources in the form of debt compared to agricultural companies. In addition, according to the Central Bureau of Statistics (BPS) there are differences in the improvement of different business conditions.

The food and beverage (F&B) sector is a food and beverage sector which contributes up to 34.95% in 2017 (https//bisnis.tempo.com). This sector experienced sustained growth because the number of middle class population increased rapidly as users of food and beverage products. The market in the F & B sector includes exports and exports to several countries including Japan, the Chinese People's Republic and

Europe. Theoretically the high rate of return from Return on assets (ROA) in the mining sector in 2013 was also followed by an increase in company leverage. The fact is that it is necessary to examine what factors actually affect the company's capital structure in two sectors, namely mining and agriculture. Therefore the purpose of the study is to analyze the effect of asset structure, profitability, firm size, business risk and asset growth on capital structure decisions in mining and agricultural sector companies.

II. LITERATURE REVIEW AND HYPOTHESIS

Debt costs arise because companies use funds from loans. The amount of the company's debt costs is calculated based on the interest rate that must be paid to creditors (Sjahrial, 2007: 223). If the cost of debt is greater than the ability to obtain profits on assets, then the addition of debt in the capital structure of the company will bring an unfavorable effect to the profits for the owner (equity) because it will lead to greater financial obligations for the company, and vice versa (Moeljadi, 2006: 275) The higher the cost of debt, the greater the probability of decreasing the company's income. This results in the possibility of financial difficulties that will be faced by the company even greater. Therefore, companies that have high debt costs tend to reduce the proportion of their debt burden. Decreasing the debt ratio has consequences for companies to use greater equity financing.

A. The Effect of Assets Structure on Capital Structure

Most companies in their capital industries are embedded in fixed assets that will fulfill funds from permanent funds sourced from equity or debt. Balance theory states that companies in choosing funding sources are based on targeted capital structure or optimal capital structure. Therefore the company will do consciously to maintain an optimal capital structure that can maximize the value of the company. The concept of conservative financial structure states that the amount of own capital should at least be able to close the same as fixed assets and other assets that are permanent. Companies with the majority of their activities consisting of current assets that are fixed will fulfill debt. Joni and Lina (2010), Glenn et al. (2011) found evidence that the higher the profitability ratio, the lower the debt level. Based on these thoughts. Based on these thoughts the research hypothesis is proposed as follows:

H1: Asset structure negatively affects on the debt level of equity

B. The Effect of Profitability on Capital Structure

Profitability can be interpreted as net income from a series of decisions and operational decisions of the company (Moeljadi, 2006: 73). Companies generally like the income they receive to be used as the main source for financing investments according to the pecking order theory. The pecking order theory (POT) states that companies prefer internal funding through retained earnings then from external sources through debt and finally from equity. Internal fund sources from retained earnings or remaining profits which are part of the remaining profits not shared with shareholders will be reinvested into the company at the level of the required profit. Prince Research (2004), Tong and Green (2004), and Siregar (2005), Joni and Lina (2010), Glenn et al. (2011) found evidence that the higher the profitability ratio, the lower the debt level. Based on these thoughts the research hypothesis is proposed as follows:

H2: profitability negatively affects on the debt level of equity

C. The Effect of Size on Capital Structure

Company size is an indicator that shows the company's financial strength. The larger the size of the company, the greater the tendency to use external funds. This is also because large companies have funding needs and one alternative is to use external funds. Large companies can access the capital market and have more flexibility and ability to obtain funds, this is also because large companies can provide guarantees for repayment of accounts receivable rather than small companies (size effect). Research by Joni and Lina (2010), Glenn et al. (2011) found that the larger the size of the company the higher the debt ratio. Based on these thoughts the research hypothesis is proposed as follows:

H3: the size of the company has a positive effect on the level of debt on equity

D. The Effect of Business Risk on Capital Structure

Business risk is the risk caused due to uncertainty of cash flow from investments that will be faced if the company does not use debt (Brigham and Daves, 2006: 489). According to Keown et. al. (2000,475): Variability of EBIT is influenced by income stability and stability of costs. In companies that have a relatively stable level of price stability, the sales revenue will be stable so that the business risks faced are lower. Cost stability is related to valuation relative to the input of price components and labor costs. As for the predictable and stable input of price components, the lower the business risk of the company (Sundjaja and Berlin, 2003). The business risks of each industry will be different, as is the case between companies in the industry. Companies that have high business risks tend to use smaller debt levels than companies with low business risk. This is because the higher the business risk, the more likely financial distress faced by the company. This is in accordance with the trade-off theory which explains that the higher the likelihood of financial distress, the company will bear the higher cost of bankruptcy (Indrajaya et al., 2011).The study of Bayless and Diltz (1994), Wibowo and Ekaningrum

(2002), Joni and Lina (2010), Glenn (2011), Seftianne and Ruth (2011) found that the higher the company's business risk the lower the company's debt. However Prince (2004) did not influence it. Based on these thoughts the research hypothesis is proposed as follows:

H4: business risk has a negative effect on the level of debt on equity

E. The Effect of Assets Growth on Capital Structure

The company's growth is measured by the increase in assets, namely the amount of funds allocated by the company to its assets. The growth of the company will require the company to finance its investment so that it can also be used as an indicator for the company's development in the future (Moeljadi, 2006: 274). Companies with high growth rates must have sufficient capital to pay for the company. Pecking Order theory states that companies prefer internal funding through retained earnings then from external sources through debt and finally from equity. Therefore, if it is assumed that the company's assets experience growth, while other factors are considered constant, the increase in assets will cause additional debt. The research of Joni and Lina's (2010), Glenn et al. (2011) found that companies that have high asset growth, the greater the debt level. Based on these thoughts the research hypothesis is proposed as follows:

H5: company growth has a positive effect on the level of debt on equity

III. RESEARCH METHODS

A. Research Population and Samples

The population of this research is all mining and agricultural sector and Food & Beverage companies listed on the Indonesia Stock Exchange during the period 2011-2014. The sample selection method uses purposive sampling with the criteria that the company does not have a negative total equity and profit balance in each sector, and the company uses debt funds because debt is one of the factors forming the capital structure. There are 14 mining companies, 9 samples of agricultural companies, and Food & Beverage that met the selection criteria, that is, the company does not have a negative total equity balance. All data were collected from the Indonesian Stock Exchange (www.idx.co.id). Variables and their measurement are presented in Table 1.

TABLE 1. THE MEASUREMENT OF RESEARCH VARIABLES

Variable	Symbols	Measurement
The capital structure	DER	Total debt to total equity
The Assets structure	AST	the fixed assets to total assets
Profitability	PROFIT	earning after tax to total assets
Company size	Ln. SIZE	natural logarithm of total assets
Business Risk	RISK	The standard deviation of EBIT for sales over the last three years
Asset growth	GROWTH	increase or decrease in total assets from the previous year (t-1) compared to the current year (t)

IV. RESULTS AND DISCUSSION

A. Deskriptive Statistic

TABLE 2. THE MEASUREMENT OF RESEARCH VARIABLES DER, AST AND PRFT

RASIO	DER				AST				PRFT			
	Minning	Agn	F & Bv	Whole	Minning	Agri	F & Bv	Whole	Minning	Agri	F & Bv	Whole
Min	0.21	0.13	-0.82	-0.83	0.210	0.130	-0.820	0.020	0.010	0.010	0.050	0.010
Max	5.26	2.72	1.91	5.26	5.260	2.720	1.910	2.200	0.950	0.340	2.230	2.230
Mean	1.32	0.838	0.71	0.96	1.320	0.838	0.710	0.456	0.180	0.150	0.340	0.240
Stddev	1.09	0.642	0.53	0.84	1.090	0.642	0.530	0.317	0.170	0.090	0.390	0.280

Note: DER = debt equity ratio, AST = Assets structure, PROFIT = profit ratio

In Table 2. it is known that the mining sector uses more debt than equity. For asset structure ratios with an overall sample average of 46%, while in the mining sector the average is 30%, agriculture sector 26% and food and beverage sector 72%. This shows that in the food and beverage sector the value of assets remains very high compared to the other two sectors, namely mining and agriculture. The average profitability of assets as a whole is 24%, in the mining sector the average is 18%, agriculture is 15%, while food and beverage averages 34%. It appears that in the food and beverage sector the average has the ability to get higher profits from the other two sectors.

TABLE 3. THE MEASUREMENT OF RESEARCH VARIABLES SIZE. BRISK AND GROWTH

RASIO	Ln. SIZE				BRSIK				GROWTH			
	Minning	**Agri**	**F & Bv**	**Whole**	**Minning**	**Agri**	**F & Bv**	**Whole**	**Minning**	**Agri**	**F & Bv**	**Whole**
Min	21.150	22.830	25.560	21.150	0.010	0.010	0.020	0.010	-0.160	-0.150	-0.320	-0.320
Max	27.180	25.740	31.390	31.390	0.460	0.310	0.440	0.460	1.380	2.650	1.070	2.650
Mean	24.540	24.200	28.070	25.850	0.110	0.070	0.130	0.109	0.270	0.290	0.230	0.250
Std dev	1.685	0.795	1.550	2.315	0.090	0.050	0.100	0.080	0.380	0.460	0.270	0.370

Note: Ln Size =Company size, BRISK= Business Risk, GROWTH=Assets growth

In Table 3 shows that the assets of the food and beverage sector are on average the highest of the two other sectors, namely mining and agriculture. The highest spread is in the food and beverage sector and the lowest is in the mining sector. The overall business risk

is lower than the risk of the food and beverage business, after that the mining sector and the last is the agricultural sector. This shows that the food and beverage sector has a higher risk than the other two sectors. Results of multiple regression analysis on mining, agricultural sectors and food and beverage are presented at Table 4.

TABLE 4. POOLING DATA REGRESSION OF CAPITAL STRUCTURE

All Sector		Sector		
		Minning	Agriculture	Food & Beverage
Constant	1.847	1.604	4.699	0.876
	(2.302***)	(1,459)	(2.318**)	(0.566)
AST	-0.364	-0.838	2.631	0.771
	(-1.463	(-1.957*)	(1.800*)	(-1.972*)
PRFT	-0.603	-2.430	-3.709	-0.729
	(-2.111**)	(-3.141***)	(-4.087***)	(-1.972*)
LnSize	-0.024	0.043	-0.252	-0.031
	(-0.735)	(0.656)	(-1.724*)	(-0.595)
BRISK	-2.251	-2.611	-3.809	2.833
	(-1.973*)	(-1.654*)	(-2.139**)	(1.800*)
Growth	0.277	0.289	0.386	0.128
	(1.528)	(0.806)	(1.958*)	(0.513)
F Statistic	3.587***	3.482*	4.993***	1.479
Adjusted R2	0.079	0.187	0.363	0.039

Note: *significant at ∝=10%,**significant at ∝=5%,***significant at ∝=1%
T- value are given in parenties

B. *Mining Sector*

The test results show that the capital structure in the mining sector is influenced by the structure of assets, profitability and business risk. Whereas company size and company growth have no effect. Negative direction indicates that the larger the structure of a company's fixed assets, the lower the level of the company's debt or the greater the use of its own capital. This shows that in the mining sector there is a tendency that management is careful in owing because high debt will result in a higher interest burden. Profitability has a negative effect on capital structure, meaning that companies that have high profitability will use these benefits to fund funding needs so that the need for external funds through debt is lower. Business risk with a proxy for EBIT fluctuations is higher, the lower the level of debt used. This shows that mining companies with fluctuating EBIT will use equity funding sources that do not contain fixed interest costs. If it is associated with the condition of the mining sector, this sector has high uncertainty, is full of risks, and requires large costs at the exploration and construction phase, resulting in banks or creditors being very careful in giving debt to companies. While company size and company growth have no effect on the size of the debt level.

C. *Agriculture sector*

In the agricultural sector capital structure is influenced by the structure of asset profitability, firm size, business risk and company growth. The influence of positive asset structure shows that companies that have high assets, the higher the use of debt. This is because agricultural companies tend to need low funds and have a relatively short production turnover so it does not require a long time compared to mining companies. Profitability has a negative effect on capital structure shows. This means that companies that have high profitability will use these benefits to fund funding needs so that the need for funds from outside or through debt is getting lower. The size of the company has a negative effect indicating that in this sector the larger the company the lower the level of debt, this condition indicates that large companies have been able to overcome the funding so that they use lower debt and vice versa. Business risk with a proxy for EBIT fluctuations is higher, the lower the level of debt used. This shows that mining companies with fluctuating EBIT will prefer equity funding sources that do not contain fixed interest costs. The company's growth has a positive effect on capital structure decisions indicating that if the assets of an agricultural company experience growth, the leverage level of the company also increases. This is because the rapid growth of assets due to relatively short production turnover in agricultural companies will require companies to provide funds from debt.

D. *Food and Beverage sector*

In the F & B sector the structure of profitability assets and business risk affects the capital structure, while the size of the company and the growth of the company do not affect. The positive asset structure influences shows that companies that have high assets continue to use higher debt. This shows that fixed assets can be funded from debt. In the F & B sector, fixed assets when viewed from the average are lower than the mining and agricultural sectors, so that they become lighter even though they are financed by debt, because the burden is not as high as the other two sectors. Profitability influencing negatively the capital structure shows that companies that have high profitability will use less debt. The negative influence of this profitability ratio is in line with the agriculture and mining sectors. This condition shows the effectiveness of pecking order theory (POT) which states that companies prefer internal funding from sources of retained earnings, but if it is not sufficient, the company uses external funding sources from debt (Prince, 2004; Tong and Green, 2004; Siregar, 2005; Trisna, 2010; Joni and Lina, 2010; Glenn et al., 2011). Business risk positively influences the capital structure, meaning that the more EBIT fluctuations are, the higher the company's debt ratio. This shows that mining companies that have fluctuating EBIT will prefer debt funding sources that contain fixed interest costs. If seen from the condition, this sector does have a higher average risk than the other two sectors, but the F & B sector also has a higher capacity than the other two sectors, namely agriculture and mining. Higher employment results in the F & B sector

favoring sources of debt funding despite having higher EBIT fluctuations. These findings are incompatible with Bayless and Diltz (1994), Wibowo and Ekaningrum (2002), Joni and Lina (2010), Glenn et al. (2011), and Seftianne and Ruth (2011).

V. CONCLUSION

The capital structure policy is consistently influenced by the level of ability to obtain business profits and risks faced by the mining sector, agricultural sector and Food & beverage. There is a tradeoff between the burden of using debt that causes risk, but the ability to earn profits can be a motivation for the company to owe. The asset structure factor is also an element of the company in making a capital structure policy even though in each sector the way to influence it can be positive and negative. In the agricultural sector and the F & B asset structure has a positive effect, while the mining sector has a negative effect. Specifically in the sector, it shows that the size of the company is the basis for the company to owe, as well as the growth of the company.

REFERENCES

[1] Bayless, E.M. dan Diltz D.J. 1994. Sekurities Offerings and Capital Structure Theory, Journal of Bussiness Finance & Accounting, Vol 21: 77- 91

[2] Brigham, F and Houston, JF. 2006.The Basics of Financial Management. 10th edition, translated by Ali Akbar Yulianto. Jakarta: Salemba Four. Brigham and Houston, pp. 42

[3] Frank, M.Z. and Goyal, V.K. 2003. Testing the Pecking Order Theory of Capital Structure. Journal of Financial Economic, Vol 67 : 217-248

[4] Glenn, I., Herlina, dan Setiadi, R. 2011. Effect of Structure Assets, Company Size, Growth Rate, Profitability and Business Risk Of Capital Structure: Empirical Study on the Mining sector companies are listing on the Indonesia Stock Exchange Period 2004-2007. Scientific Journal of Accounting, 6 years 2nd September to December, 2011.

[5] https//bisnis.tempo.com. The Food and Beverage Industry is a Leading Sector at 2018

[6] https://www.migasreview.com. Achievement in 2017 and Outlook on The Mineral and Coal Sub Sector.

[7] Joni and Lina. 2010. Factors Affecting Capital Structure. Journal of Business and Accounting, Vo. 12. No.2:81-96.

[8] Kayhan, A. dan Titman, S. 2007. Firms' Histories and Their Capital Structures. Journal of Economic, Vol 83 : 1-32

[9] Keown, A.J., Scott D.F., Martin, J.D, and Petty, J.W. 2000. Basic Financial Management Seventh Edition. Prentice Hall International Inc. New Jersey

[10] Li, L. and Islam, S.Z. 2009. Firm and Industry specific, determinants of Capital Structure: Evidence from the Australia market. International Review of Economics and Finance, Vol. 59 : 425-437

[11] Malemilola, B.T., Arifin, A.N.B., Saini,W.N.M., Azman, N.Md. 2017. Does Top Manager's experience affect firm's capital Structure?. Research in Informational Business and Finance. Vol 45: 488-498

[12] Pangeran P. 2004. Selection between Equity and Debt Securities Offering: An Empirical Test of Pecking Order Theory and Balance Theory. Manajemen dan Usahawan Indonesia, No 4 :l 27-36

[13] Ross, S.A. 1977. The Determinant of Financial Structure. The Incentive Signaling Approach, Bell Journal of Economics, 8 : 23-40

[14] Seftianne and Ruth H. 2011. Factors Affecting Capital Structure At Public Company Manufacturing Sector. Journal of Business and Accounting, Vol 13, No.1: 39-56.

[15] Siregar, B. 2005. Relationship between Dividend, Financial Leverage and Investment, Journal of Management and Accounting, Vol XVI (3) : 219-229

[16] Stained, W and Nirmala, D.A.J. 2012. Factors Affecting the Capital Structure Manufacturing Companies Go Public in Indonesia Stock Exchange Period 2005-2010. Journal of Accounting, Vol.1 No.1, ISSN: 2301-9328.

[17] Tong, G. and Green, J.C. 2004. Pecking Order or Tradeoff Hypothesis ? Evidence of the Capital Structure of Chines Companies, Working Paper of Southborough University.

[18] Wibowo, A.J.,dan Erkaningrum,F.I. 2002. Studi Keterkaitan Antara Dividend Payout Ratio, Financial Leverage dan Investasi Dalam Pengujian Hipotesis Pecking Order. Jurnal Ekonomi dan Bisnis Indonesia, Vol 17 (4): 24-35

[19] www.idx.co.id. Indonesia Stock Exchange

[20] www.vibiznews.com/ekonomi-business. Asian Markets are Positively Dominant, The Chinese market weaked