



EFFECT OF FIRM SIZE ON FINANCIAL LEVERAGE

A.M.C Hashini¹, P.Ayanthi Madumali²

A.M.C Hashini¹

*Temporary Assistant Lecturer
Department of Accounting and Finance
University of Ruhuna, Matara,
Sri Lanka.
E-mail: chiranjaha@gmail.com*

P.Ayanthi Madumali²

*Assistant Lecturer
Department of Business and Management Studies
Eastern University, Sri Lanka
E-mail: ayanthimadhumali@gmail.com*

KeyWords

Debt ratio, Financial leverage, Firm size

ABSTRACT

Making decisions on financial leverage is important in small, medium or large organizations. Thus, Firm size is a most crucial determinant when discussed on financial policies. Each firm is using financial leverage on different level which may be high or low level. Every firm is giving attentions that how to manage financial leverage according to their firm size. Thus, financial leverage is influencing to the success or bankruptcy of the companies. In generally larger firms have higher debt ratio, more profitable and less volatile. Therefore, larger firms are showing favorable situation and positive link of firm size on leverage and they are leading differentiate of market and less fail their stability in the market than small firms.

The purpose of this study, investigate the effect of firm size on financial leverage. The firm size is the independent variable and financial leverage is the dependent variable. Total assets and Sales Volume used to measure size of the firm and total debt ratio used to measure financial leverage in this study. Obviously, the present study investigates that are there any linkage between firm size and financial leverage and also there check whether firm size has any effect on the financial leverage. The technique of regression analysis and descriptive statistic model is used for data analysis which it is required to examine the relationship between firm size and financial leverage. There are appropriated 10 listed manufacturing companies at Colombo Stock Exchange of Sri Lanka as sample over the period of 2012 to 2016 and this research used Quantitative approach. It used secondary data from annual reports.

According to previous studies most researchers indicated that positive relationship between firm size and financial leverage. As well some researchers have illustrated negative relationship. According to this study investigate Sales Volume is a positively correlate and significantly affect with Debt ratio in evaluating listed manufacturing companies at CSE in Sri Lanka. In addition to their attained that Total Assets has negatively relation with Debt ratio but it is insignificant level

INTRODUCTION

Today in the sophisticated competitive world when decision making related to the firm finance which more businesses are trying to refer how to manage their financing and many of companies more effort to enhance firm value. In here financial leverage is a most important role in the corporate finance to decision making about business operations in the firm. According to that Firms can optimize their financial or capital structure through achieving high stock market value. Financing of companies are requiring debt and equity capital for growing up their financial combinations. According to that those are creating optimal capital structure by considering firm size of the firm. The business operating and financial environment perceives which firm size as very crucial role in decision making of the firm financing. The firm size is larger impact for the financial leverage in today's global economy.

Financial leverage is very important item in the firm's financial affairs and it considers about debt equity and other financial securities. It provides lot of funds to firms and positive related with in the business sector in developing countries. According to Sajedeh (2013), he explained that financial leverage can be measured through out of earnings before interest and also it can be consider difference of earning per share as equal. Financial leverage refers to Company use debt and equity as fixed income securities. In order to most of firms used financial leverage as main element of the capital structure which to optimum wealth of shareholders'. But, there may be increased bankruptcy of the firms if they not concern about leverage in fairly. However financial leverage operates as a control for management in the firms and sometimes avoids financial risk also it used to achieve profits for firm and shareholders.(Qadar, Anjum, Shahid, & Sonia, n.d). As well as, financial leverage has been used as a technique to help of borrowed money to purchase assets.

Firm size viewed as a significant factor that can affect the firm's relation with its external business environment. It is determining various type of relationship in operating environment. The influence of firm size is a most popular side in financing of the organizations and it measures from firm's total assets, number of employees, total turnover etc. In the corporate environment have more important role regarding the firm size because larger organizations have large capacity to affect their stakeholders. Then, it can get an idea about larger firms have higher debt ratios. According to Fadjat (2013) as stated by Yunita (2010) explained the large firms have ability increase the firm value because they have lot of necessary resources and they have more information regarding all related things. As stated literature, larger firms have been achieved more profits, earnings and law volatile and they expected higher leverage ratios due to larger firms have less risk and bankruptcy cost. In order to small firms are providing innovative ideas in the business. The competitiveness of large and small firms can influence to their capital structure decisions in the dynamic environment. Large firms able to reduce their business cost by issuing long term debt under the favorable debt interest rate. Furthermore, some researchers have been considered various theories regarding the leverage and there can identify main two theories of trade off and pecking order theories. They are very important to financial decision making when explain the company debt.

When survey regarding manufacturing field, it is more important to Sri Lankan economy because that process consisting from raw materials to output for the consumers. According to Vijayarajam and Anandasayanan (2015), they described that "Like other industrial activity manufacturing creates revenues for employment, helps to boost agriculture, helps to diversify the economy and serves as a viable means of foreign exchange earnings for the country. In addition this sector also helps to minimize the risk of overdependence on foreign trade or imported goods .manufacturing remains one of the most powerful engine for economic growth. Manufacturing becomes the main means for developing countries to benefit from globalization and bridge the income gap with the industrialized world".

Research Problem

According to Rehman (2013), he revealed that borrowed money can be measured that how organizations used debt and equity for their assets. He identified it as financial leverage. All firm necessary to identify regarding financial leverage. The leverage is very important to decision making for managers of the company. In order to, several researchers have been found out different studies related with financial leverage. Some researchers agreed to positive leverage performance and some are described about negative debt influence. The Modigliani and Miller (1958) theory considered capital structure did not correlated with firm value. But another researcher revealed similarly trade off theory which financial leverage has a positive correlation with firm profitability Mayer (1984). But they have not been considered about effect of firm size on financial leverage. And also, the study of Dr. Muhammad, Umar, and Dr. Waheed (2016) as stated by Abor (2010), showed negative relationship of short term debt and long term debt with firm profitability and revealed leverage effect related for only SMEs in Ghana and South Africa. In here, they have been excepted larger firms and they only concerned about leverage with profitability. But they must be concerned that how firm size effect on leverage.

However the researches of the Sri Lankan context do not concern about this condition. As well as several researches also examined related firm size and leverage which they did not used proper measurements to determine related firm size and financial leverage. Hence so many limited the research of the Firm size and leverage even though other countries and pervious researches had been often based on the financial and service sector in the collected data and they had many irrelevant measurement. In fact, In the Sri Lanka so many limited attention about related Firm size and financial leverage on listed manufacturing companies and there are lack

of knowledge on this situation because lack of studies. As a result of examined past researches which this study aims to investigate “are there any correlation between firm size and financial leverage in listed manufacturing companies in Sri Lanka context and this study require to solve this problem. According to firm size, firms can identified their financial leverage level and they can manage capital structure in properly if they have proper awareness regarding this. According to past researchers, financial leverage has various correlations with firm size. Thus, this question finds out a solution.

METHODOLOGY

This study use data from annual reports of respective companies in five year. According to that, researcher used secondary data from 2011/12 to 2015/16 financial period in listed manufacturing firm sat CSE in Sri Lanka. As well as, this study use scholarly articles from academic journals, internet search and related books. In fact, CSE has 295 listed companies and it consisting 20 business sectors. According to that, all listed manufacturing companies can be identified as population via ten companies used as sample of the present study. This research related with quantitative approach for moreover understanding. There are using SPSS software for analyze data and descriptive statistics, correlation statistics and linear regression used as statistical tools and technique to find out the pressure of firm size on financial leverage.

Hypothesis

In fact, hypothesis used to build formal logic and it helps to predict any correlation between two or more variables. Therefore, hypothesis consist research hypothesis and null hypothesis. According to that null hypothesis or statistical hypothesis is representing that there are no relationship between related variables. On the other hand, research hypothesis or alternative hypothesis indicates any relationship between variables. As a result of, conceptual framework provide a base to create following hypothesis. It also supports to get understand relationship between Firm size and financial leverage in listed manufacturing companies in CSE of Sri Lanka. Therefore this study builds two hypotheses as following.

- H1: There are positive Relationship between Firm size and financial leverage
- H0: There is Negative Relationship between Firm size and financial leverage

RESULTS AND DISCUSSION

Table 1: Descriptive data analysis result of the key variable

| N | Minimum | Maximum | Mean | SD: deviation |
|----|---------|---------|--------|------------------|
| SV | 50 | 8.021 | 9.545 | 8.96984 384917 |
| TA | 50 | 8.273 | 10.153 | 9.10723 .467442 |
| DR | 50 | .0516 | .7229 | .399025 .1513517 |

Under the results of the descriptive statistics which it is indicating minimum value, maximum value , mean and standard deviation of this study used of dependent and independent variables. According to that, all mean values represent positive value in here and it provides important values for this study. In particularly, mean value of the total debt of this study which it was represented about 39.9%. As a result of there not represent higher debt level of the listed manufacturing companies in CSE at that period. Consequently, there had minimum debt ratio 5.16% and it was a reason for law remarkable leverage level of the listed manufacturing companies and it can says which all companies used debt of the companies in fairly. And also they have not more debt issued in their companies. However, there was about 72.29% as maximum debt ratio and it represented about 15.13% as standard deviation from the mean value of this study. It shows law deviate of the debt of the listed manufacturing companies.

In addition, mean value of the log of total assets represented 910%. The minimum and maximum values of the log of the total assets were

827% and 1015% in respectively. That result depicted, total assets acquired more impact in here and all listed manufacturing companies of this study same level of total assets in their companies. As well as standard deviation indicated about 46.74% of assets from the mean value of this study. When consider about log of sales volume, its mean value has acquired 896.9%. Log of sales volume minimum and maximum values are 802.1% and 954.5 in respectively. According to result, preview which all companies have more sales volume. As well as there shows 38.49% standard deviation of the log of sales volume of this study and it says law deviation value in here. According to these results illustrates that there was not higher leverage level of the listed manufacturing companies in CSE from 2012 to 2016 period.

Correlation Analysis

Table 2: Correlation analysis result between firm size and financial leverage

| | | DR | TA | SV |
|-----------|---------------------|----|------|------|
| DR | Pearson correlation | 1 | .442 | .598 |
| | Sig. (2-tailed) | | .001 | .000 |
| TA | Pearson correlation | | 1 | .810 |
| | Sig. 2-tailed) | | | .000 |
| SV | Pearson correlation | | | 1 |
| | Sig. (2-tailed) | | | |

** Correlation is significant at the 0.01 level (2-tailed)

N= 50

Source: SPSS

Under the 2 table, it is representing explanatory variables according to Pearson matrix. Consequently, total assets and sales volume are independent variable and dependent variable considered as a debt ratio of this study. According to that above results indicates debt ratio has .442 and .598 positive values with the Total assets and sales volume in respectively. As a result of table 4.2 review moderate positive correlations between Total Assets (TA) and Debt Ratio (DR). And also sales volume and debt ratio also indicates positive relationship. Correlation matrix shows, it is significant at 0.01 (2-tailed). Therefore, correlation matrix is less than 0.01.

Finally, firm size has impact on financial leverage and Pearson correlation helped to identify degree of correlation between variables in here. Hence researcher investigated that independent variable of TA and SV positively effect on dependent variable of DR. It indicates size of the firm as small medium and large impact for determine leverage level of the each companies. Finally in here Hypothesis 1 can be accepted. It says that there was a positive relationship between firm size and financial leverage. And also its mean null hypothesis rejected because significant and positively relation of firm size and financial leverage.

Regression Analysis

According to that, this study used linear regression tool as follow to analysis data and used three tables to analysis linear regression results such as model summary, ANOVA and coefficient tables.

As a result of, above key variables creates formula as follow.

$$FL = f(FS)$$

FL = Financial leverage

FS = firm size

According to all above consideration, linear regression model will be built as following.

$$DR = \alpha + \beta_1 TA + \beta_2 SV + \epsilon \dots \dots \dots \text{Model 1}$$

Table 3: Regression model

| Model | | | | |
|---|--------|----------|------|--|
| R=.603, R ² = .363, F= 13.403 , p=.000 | | | | |
| | B | t -value | sig | |
| Constant | -1.699 | -4.131 | .000 | |
| TA | -.041 | -.632 | .530 | |
| SV | .275 | 3.523 | .001 | |

a. Dependent Variable: DR

According to table 4.3, it is indicating level of statistically significant and their regression coefficient in the model 1 and it shows values are $F=13.403$, $p<.000$ of DR.

Conclusion

There interpret results according to DR which it is considering as dependent variable and TA and SV consider as independent variables of this study. When consider result of fourth chapter, it illustrated that independent variables were positively and negatively correlate with dependent variable. In fact firm size has positive linkage for the financial leverage which it is representing through the SV and DR. its mean, not only the firms are more actively for enhance their sales but also they try to use debt financing in more effectively. On the other hand when decreased total sales of the firms they implicate that debts are more costly and more distress for their financing. Moreover, firm size effect on the financial leverage at the 1% level. But in contrast, TA insignificant with DR because its p value was more than significant levels this study results. And also its preview negative relationship between TA and DR due to their Beta value is negative. As result of this study, firm size has effect on financial leverage at significant level in overall (0.01). There are accepted H1 Hypothesis which there are positive significant relationship between firm size and financial leverage. At the same time, TA not significant level and it is not impact for the financial leverage in more strongly.

According to entire results, firm size was influenced for financial leverage in listed manufacturing companies at CSE in Sri Lanka. The listed manufacturing companies increased their Sales volume. Then they can achieve more debt for their financing operations. In order to they consider sales volume in the companies as crucial factor for balancing debt financing. But in contrast, Total assets are negatively effect on Debt ratio. As seem as in that situation, debts consider as more poorly consideration in financing. Assets structure tends to enhance their assets and reduce their debt in the firms.

Finally, in the coefficient results illustrated 36.3% which variability of dependent variable was explicated through the independent variables in this study by regression model. Therefore, this study finding are explored that moderate effect in observing the relationship between firm size and financial leverage in listed manufacturing companies at CSE in Sri Lanka.

References

1. A.Ajanthan. (2013). Determinants of Capital Structure: Evidence from Hotel and Restaurant Companies in Sri Lanka. *International Journal of Scientific and Research Publications, Volume 3*.
2. Abel, E. E. (2008). Firm Size and Corporate Financial Leverage Choice in a Developing Economy: Evidence from Nigeria. *The Journal of Risk Finance*, 351-364.
3. Acheampong, P. (2014). The Effect of Financial Leverage and Market Size on Stock Returns on the Ghana Stock Exchange: Evidence from Selected Stocks in the Manufacturing Sector. *International Journal of Financial Research, vol:5, No 1*, 125-134.
4. Agha, J., Saif, -. u.-R. K., & Norkhairul, H. B. (2014). Determinants of Capital Structure and Human Capital. *researchGate*, 114-123.
5. Alexander, K., & Ilya, A. S. (2005). Firm Size and Capital Structure. *working paper, London Business School, Graduate School of Business*
6. *Stanford University*.
7. Degryse, H., Goeij, P., Kappert, P. (2010). The impact of firm and industry characteristics on small firms capital structure. *Small Bus Econ, No. 38*
8. pp 431-447.
9. Delcoure, N. (2007). The determinants of capital structure in transitional economies. *International Review of Economics & Finance, 16(3)*, pp. 400-415.
10. Dittmar, A. (2004). Capital Structure in Spin-offs. *journal of Business*, 9-43.
11. Dr. Muhammad, A. J. Q., Umar, F., & Dr. Waheed, A. (2016). Firm Size as Moderator to Leverage-Performance Relation: An Emerging Market Review. *Journal of Poverty, Investment and Development, Vol.23, 2016*, 55-62.
12. Dwi, K., & Marisa, M. (2016). The Effect of Leverage and Firm Size to Profitability of Public Manufacturing Companies in Indonesia. *International Journal of Economics and Financial Issues, 6(2)(ISSN: 2146-4138)*, 409-413.

13. Ebrahim, H., & Tilehnoei, M. H. (2016). Impact of Firm Size on Leverage. *INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH*, 5(5), 99-101.
14. Erdinc, K., Serkan, Y. K., Ömer, I., & Yıldırım, B. O. (2011). Firm Size and Capital Structure Decisions: Evidence From Turkish Lodging Companies. *International Journal of Economics and Financial Issues*, Vol. 1, No. 1, pp. 1-11.
15. Ezeoha, A. E. (2008). Firm size and corporate financial-leverage choice in a developing economy: Evidence from Nigeria. *The Journal of Risk Finance*, 9(4), 351-364.
16. Fadjar, O. P. S. (2013). The Effect of Good Corporate Governance mechanism, Leverage & Firm size on Firm Value. *GSTF Journal on Business Review (GBR)*, Vol.2 No.4,, 137-142.
17. Fattouh, B., Scaramozzino, P., & Harris, L. (2002). Non-linearity in the determinants of capital structure: evidence from UK firms. www.economia.uniroma2.it.
18. Frank, M., & Goyal, V. K. (2009). Capital Structure Decisions: Which Factors are Reliably Important? *Financial Management*, Vol. 38(No. 1), pp. 1-37.
19. González, V. M., & González, F. (2012). Firm size and capital structure: Evidence using dynamic panel data. *Applied Economics*, 44 (36), 4745–4754.
20. Graham, J. R., & Harvey, C. R. (2002). "How do CFOs make capital budgeting and capital structure decision". *Journal of Applied Corporate Finance*, 15.no 1, 8-23.
21. Hosein, J., Panahian, H., & Mehryar, J. (2014). Assessment of the Relation between financial leverage, firm's size and stability of the profit of companies registered in Tehran stock market. *Asian Journal of Research in Banking and Finance*, Vol. 4, No. 4(ISSN 2249-7323), pp. 120-127.
22. Huang, S. G. H., & Song, F. M. (2002). "The determinants of capital structure: evidences from China. working paper, School of Economics and Finance and Centre for China Financial Research.
23. Li, Z. (2005). The SME promotion policies in china, in private sector development and poverty reduction from developing countries. *working paper of University of Oviedo Spain*(No. 20.).
24. Martina, H. (n.d). THE EFFECT OF FIRM SIZE ON SME'S CAPITAL STRUCTURE. *Croatian Academy of Sciences and Arts*
25. *Institute for Scientific research and Artistic Work in Osijek*, pp.315-324.
26. Modigliani, F., & Miller, H. M. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, 97-261.
27. Moses, O. G., & KARANJA, J. (2014). Effect of Financial Leverage on Financial Performance of Deposit Taking Savings and Credit Co-operative in Kenya. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, Vol. 4 (2), pp. 176–184.
28. Myers, S. (1984). The capital structure puzzle. *Journal of Finance*, 575-592.
29. Myers S.C, & Majluf, N. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*(13), 187-221.
30. Nikolaos, D., Eriotis, N., Eleni, T., & Dimitrios, V. (2014). Capital structure and size: new evidence across the broad spectrum of SMEs. *Managerial Finance*, Vol. 40 (Iss 12), pp.1207 - 1222.
31. Onofrei, M., Tudose, M., Durdureanu, C., & Anton, S. G. (2015). Determinant factors of Firm Leverage: An empirical Anlysis as Iasi Country Level. *Procedia Economics and Finanace*, 460-466.
32. Pandey, M. (2004). Capital structure, profitability and market structure: evidence from Malaysia. *Asia Pacific Journal of Economics and Business*, Vol. 8 (No. 2).
33. Qadar, B. B., Anjum, I., Shahid, J. K., & Sonia, S. (n.d). Impact of Firm Size, Asset Tangibility and Retained Earnings on Financial Leverage: Evidence from Auto Sector, Pakistan. *Abasyn Journal of Social Sciences*, Vol: 8 (Issue: 1).
34. Qadar et al. (n.d). Impact of Firm Size, Asset Tangibility and Retained Earnings on Financial Leverage: Evidence from Auto Sector, Pakistan. *Abasyn Journal of Social Sciences*, Vol: 8(Issue: 1), 143-155.
35. Raza, M. W. (2013). Affect of Financial Leverage on Firm Performance. *Munich Personal RePEc Archive*.
36. Rehman, U. (2013). Relationship between Financial Leverage and Financial Performance: Empirical Evidence of Listed Sugar Companies of Pakistan. *Double Blind Peer Reviewed International Research Journal*.
37. Sajedeh, H. (2013). Evaluating the Relationship between Firm Characteristics and Financial leverage. *Journal of Novel Applied Sciences*, 2-2S/978-981.
38. Samarakoon, L. P. (2009). The capital structure on Sri Lankan companies *Sri Lanakan Journal of Management*, Vol.4.
39. San, O. T., & Heng, T. B. (2011). Capital Structure and Corporate Performance of Malaysian Construction Sector. *International Journal of Humanaties and Social Science*.
40. Shaw, K. W. (2003). Corporate disclosure quality, earnings smoothing, and earnings' timeliness. *Journal of Business Research*, 56 12, 1043-1050.
41. Upneja, A., & Dalbor, M. (2001). The Choice Of Long-Term Debt In The US. Lodging Industry. <http://hotel.unlv.edu/research/hlt/pdf/articles/longTermDebt.pdf>.
42. Victor, M. G. (n.d). Firm size and capital structure: Evidence using dynamic panel data. *working paper of University of Oviedo Spain*.

43. Vijeyaratnam, H., & Anandasayanan, S. (2015). The Determinants of Leverage of Sri Lankan Manufacturing Companies Listed on Colombo Stock Exchange. *Research Journal of Finance and Accounting, Vol.6, No.5*(ISSN 2222-1697), 189- 195.
44. Vithessonthi, C., & Tongurai, J. (2015). The effect of firm size on the leverage–performance relationship during the financial crisis of 2007–2009. *Journal of multinational Financial Management, 29* , 1-9.

© GSJ