

Impact of Firm size on Profitability

(Special reference to listed manufacturing companies in Sri Lanka)

S.P.G.M.Abeyrathna^{*}, A.J.M.Priyadarshana^{**}

Department of Accountancy, Advanced Technological Institute, Kegalle, Sri Lanka
Email: gayan.vcgayya@gmail.com*, madushan.sliate@gmail.com**

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Abstract-This study investigates the impact of firm size on profitability of listed manufacturing companies in Sri Lanka. In this study, 20 manufacturing companies which have been listed in Colombo Stock Exchange (CSE) have been selected as the sample using random sampling method and data have been collected from the annual reports of year 2014 to 2017. Return on Assets and Net Profit have been used as the indicators of firms' profitability. As indicators of firms size Total Assets and Total Sales have been used. Correlation analysis and regression analysis methods have been used as statistical tools and the results showed that firm size has no considerable impact on profitability of the listed manufacturing firms in Sri Lanka.

Index Terms- Firm Size, Profitability, Return on Assets, Total Assets, Total Sales, Net Profits

I.INTRODUCTION

Size of a firm refers to the quantity and array of production capability and potential a firm possesses or the quantity and diversity of services a firm can make available concurrently to its clients and due to the phenomenon of economies of scale (Shaheen et al.,2012). The size of a firm is very essential in today's world because large firms can manufacture items on much lower costs in contrast to smaller firms. So, firm size has become as a popular variable in explaining organizational profitability and a number of studies have investigated the effect of firm size on profitability (Niresh et al.,2014; Wu, 2006; Athanasoglou et al., 2008; Punnose, 2008). But In case of prior studies, some scholars reported positive relationship, others reported negative relationship. It means results of these prior studies have been inconsistent and controversial. So, further updated investigation in this area is vital. Therefore, the main objective of this study is to discover the impact of firm size on profitability of the listed manufacturing firms in Sri Lanka.

II.LITERATURE REVIEW

Most of the studies measuring the influence of firm size on profitability have found results with positive direction between firm size and profitability (Vijayakumar et al.,2010; Serrasqueiro et al.,2008). At the same time some of the studies have concluded that direction between firm size and profitability as a negative one. (Becker et al.,2010).

Niresh et al (2014) have studied the effects of firm size on profitability in listed manufacturing companies in Sri Lanka using the data of years 2008 to 2012 and results of the study showed that there is no indicative relationship between firm size and profitability. Velnampy et al (2010) have investigated the relationship between firm size and profitability of all the branches of Bank of Ceylon and Commercial Bank in Sri Lanka over the period of 10 years from 1997 to 2006.They have observed that there was a positive relationship between firm size and profitability in Commercial Bank, but there was no relationship between firm size and profitability in Bank of Ceylon.

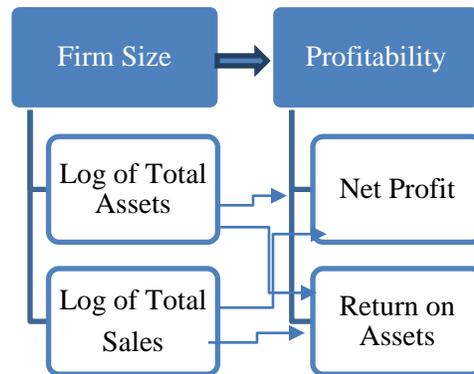
According to these literatures, it is clear that the studies on the impact of firm size on profitability have brought out different results and there is no common agreement on how the firm size is related to firm profitability. The results are not having consistency and therefore more empirical work is required. So, this study has been instigated to the impact of firm size on profitability of the listed manufacturing firms in Sri Lanka.

III.METHODOLOGY

The population of the study comprises the manufacturing companies that are listed in the Colombo Stock Exchange, Sri Lanka. The period of the study covered the years between 2014 and 2017 for the manufacturing firms listed in the Stock Exchange. The sample comprised of 20 randomly selected companies per year, yielding a total of eighty (80) observations for the period under consideration. Secondary data were obtained from the audited annual reports of the relevant years.

Main independent variables of the study are firm size indicators and main dependent variables are profitability indicators. As Niresh et al. (2014) have done, total assets and total sales have been used as firm size indicators whereas net profit ratio and return on assets have been utilized as the measures of firm profitability in this study.

Based on the variables used in the study the conceptual framework can be developed in the following manner.



Furthermore, the following research hypotheses have been formulated in an attempt to provide empirical evidence on the existence of relationship between the variables of the study.

H1	There is a significant relationship between firm size and profitability (Niresh et al., 2014)
H1a	There is a significant relationship between Log of Total Assets and Net profit
H1b	There is a significant relationship between Log of Total Assets and Return on assets
H1c	There is a significant relationship between Log of Total Sales and Net profit
H1d	There is a significant relationship between Log of Total Sales and Net profit

The quantitative research approach was applied to investigate the findings of the research study. Multiple regression and correlation methods have been used in the empirical analysis. The following regression models which have been developed based on the variables used in the study have been tested.

$$ROA = \beta_0 + \beta X_1 + \beta X_2 + \epsilon \text{ -----} \rightarrow \text{Model I}$$

$$NP = \beta_0 + \beta X_1 + \beta X_2 + \epsilon \text{ -----} \rightarrow \text{Model II}$$

Where:

- X1= Asset Turnover.
- X2= Logarithm of Total Assets.
- X3= Logarithm of Total Sales.
- NP= Net Profit.
- ROA = Return on Assets.
- β0= Constant.
- ε= Error term.

IV. DATA ANALYSIS

Pearson correlation analysis have been used by the researchers to determine association of determinants of firm size and determinants profitability.

		Total Assts	Total Sales
Net Profit	Pearson correlation	-0.29	0.304
	Sig. (2-tailed)	0.772	0.002**
	N	80	80
Return on Assets	Pearson correlation	-0.41	0.207
	Sig. (2-tailed)	0.689	0.40
	N	80	80

These results indicate that,

There is no statistically significant relationship between total assets and net profit because significance value (2 tailed) is higher than 0.05. Then H1a should be rejected. But according to Pearson correlation analysis there is a statistical insignificance weak negative relationship (-0.29) between total sales and net profit.

There is no statistically significant relationship between total assets and return on assets because in significance value (2 tailed) is higher than 0.05. Then H1b should be rejected. But according to Pearson correlation analysis there is a statistical insignificance weak negative relationship (-0.41) between total assets and return on assets.

There is a statistically significant relationship between total assets and return on assets because in significance value (2 tailed) is higher than 0.05. Then H1c should be accepted. But according to Pearson correlation analysis there is a statistical insignificance weak positive relationship (0.304) between total sales and net profit.

There is no statistically significant relationship between total assets and return on assets because in significance value (2 tailed) is higher than 0.05. Then H1d should be accepted. But according to Pearson correlation analysis there is a statistical insignificance weak positive relationship (0.207) between total sales and return on assets.

Below table presents the output of regression analysis which has been tested the affection of independent variables towards dependent variables in this study.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.210a	.044	.024	22.61731
2	.041a	.002	-.009	22.99465

According to the results summary of model 01, the R square value is 4.4%. That means affection of total sales and total sales towards ROA is 4.4%. & According to the results summary of model 02, the R square value is 2%. That means affection of total sales and total sales towards ROA is 2%.

V. CONCLUSION

This study examined the effects of firm size on the profitability of the listed manufacturing firms in Sri Lanka. In this study, data of 20 companies which were active in Colombo Stock Exchange (CSE) between the years 2014 to 2017 have been used. Multiple regression and correlation methods have been used in the analysis.

Correlation analysis presence of statistically insignificant association between the indicators of firm size and the measures of firm profitability. H1a, H1b & H1d have to be rejected & just H1c was accepted. Even though there is a significant relationship between total sales and profitability (H1c), the results disclose that no remarkable relationship is found between firm size and profitability of the listed manufacturing firms in Sri Lanka.

Furthermore, in multiple regression analysis R2 values suggest that just 4.4% & 2% of the observed variability in the model I & II were demonstrated by the variations in the independent variables used in the study. Remaining 95.6% & 98% of the variations in the models were related to other variables which were not considered in the models. According to the analyzed data reveals that regression analysis shows the total assets and total sales are not contributed to determine the net profit of the listed manufacturing firms. As well as the total assets and total sales are not contributed to determine the return on assets of the listed manufacturing firms. So, the size indicators are not the determining factors of profitability of listed manufacturing companies in Sri Lanka. So, there may be a number of variables which can have impact on the profitability that need to be studied in future studies.

This research has proved that the size indicators are not the determining factors of profitability of listed manufacturing firms in Sri Lanka. That is other factors are probably found to be better predictors of profitability. Hence, there is an enormous scope for further researches in this area.

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