

**CAUSE-EFFECT RELATIONSHIP BETWEEN
GROWTH AND PROFITABILITY: EVIDENCE
FROM MANUFACTURING COMPANIES
LISTED IN COLOMBO STOCK EXCHANGE**

^{1*}R. A. A. Sanjaya

Department of Finance and Accountancy, Faculty of Business
Studies, Vavuniya Campus of the University of Jaffna
amal.sanjaya@gmail.com

²N. K. Jayasiri

Department of Accounting, Faculty of Management and
Finance, University of Colombo
nuradhikj@dac.cmb.ac.lk

ABSTRACT

Study to identify the Cause-effect Relationship between Growth and Profitability conducted for twenty listed manufacturing companies in Colombo Stock Exchange of Sri Lanka, for five years of time period (2009/10 to 2013/14). Independent variable of Growth measured by SGR and AGR while dependent variable of Profitability measured by NPR and ROA. E-views statistical package was used for analysis based on significant value of t-test, Coefficient of Co-relation from Panel Regression model and Descriptive statistics. Research objectives of the study are, to empirically test the relationship between firm's growth and profitability, as measured by ROA and Net profit, to find out the effect of Sales growth on ROA and Net profit, and to examine the effect of Assets growth on the ROA and Net profit. According to the findings of the research analyze, first and third objectives achieved by the researcher. Study indicates that both Lag models of Pooled Regression and Random Effect model show that Sales Growth has not any significant relationship on Net Profit and Return on Assets, therefore one of the Growth measurements of Sales Growth did not show any relationship on Profitability as measured by Net Profit and Return on Assets. But,

Assets Growth has positive significant relationship on Net Profit and Return on Assets therefore, other Growth measurement of Assets Growth show Positive significant relationship on Profitability as measured by Net Profit and Return on Assets. Therefore, researcher can say, Independent variable of Firms' Growth is positively impact on the dependent variable of Firms' Profitability when the firms' Growth measured by the Assets Growth.

Keywords: *growth, manufacturing companies and profitability*

INTRODUCTION

Organizations have different mission and objectives which predominantly can be observed in their strategies. Some of the major aims are size, growth and profitability. There is a long debate that which factor either size or growth becomes the major source of increase in profitability. Lots of researches have been done to conclude this debate. As far as growth is concerned it is very critical factor for the success of the business, more over it also become the source of evolution and development of a country's economy (Asimakopoulos, Samitas and Papadogonas, 2009).

Increase in growth requires a formal behavior of employees and the employer at the workplace, and this behavior takes a long time to achieve. It requires the elimination of informal relationship that also reduces the profitability of the firm. According to another point of view, employees are motivated to achieve growth for their future benefits associated with profitability and growth of the firm. The dedication of employees improves their performance resulting in higher growth and profitability (Serrasqueiro, 2009).

This study attempts to identify the cause-effect relationship between growth and profitability of listed manufacturing companies in Sri Lanka. For this purpose, data was collected from the annual reports of selected manufacturing companies; twenty companies were selected from list of Colombo Stock

Exchange, and secondary data of annual reports use for this research.

Growth is a gradual process and in the context of the firm, it can be defined as an increase in the sales of company, expansion of business through acquisition or merger, growth of the profits, product development, and diversification and also an increase in the number of employees of the firm. There are many methods to measure growth of firm such as sales growth, assets growth etc... Current year sales minus prior year sales and the whole divided by prior year sales is sales growth that used by many studies to measure the growth rate. This is also called growth in sales. Many studies have chosen sales growth because it is easy to calculate. Change in demand of product or service of the company also changes the sales of that company, and demand is the predictor of growth (Vijayakumar and Devi, 2011).

Profitability is one of the main subjects of concern in this study. It can be defined as the earning of the firm or consistency of cash inflows of the firm. It is influenced by a number of factors such as firm size, exports of the firm, reliance on debt, age of the firm, fixed asset growth and sales growth. There are many methods to measure profitability such as return on assets (ROA), return on equity (ROE), Net profit and return on sales (ROS). The present researcher is using return on assets and Net profit measures in this study. Return on assets is the measure of how well a company uses its assets to generate profit. Return on assets gives a long-term view of the performance of the firm (Vijayakumar& Devi, 2011).

The relationship between growth and profitability is needed to be identified for measure the effect on each other of variables of this study, such as relationship between growth and profitability as measured by return on assets from assets growth and net profit from sales growth. The industry factors, economic conditions and competition have great influence on growth and

profitability.

Research problem

Studying of relationships among growth and profitability track out company to right direction for profit oriented to company with understanding of contributions of profitability on growth or with growth. Firm's growth clearly can understand from sales growth, profit growth and assets growth with understanding of profitability by return on assets, return on equity and net profit.

To be successful and remain in business, both profitability and growth are important and necessary for a company to survive and remain attractive to investors and analysts. Profitability is, of course, critical to a company's long-term survivability.

A company's net profit is the revenue after all the expenses related to the manufacture, production and selling of products are deducted. Profit is "money in the bank." It goes directly to the owners of a company or to shareholders, or it is reinvested in the company. Profit, for any company, is the primary goal, and with a company that does not initially have investors or financing, profit may be the corporation's only capital. Without sufficient capital or the financial resources used to sustain and run a company, business failure is imminent. The bottom line is that no business can survive for a significant amount of time without making a profit. That being the case, the measurement of a company's profitability, both current and future, is critical in the evaluation of the company.

Though present profitability of a company may be good, opportunities for growth should always be explored, since this offers opportunities for greater overall profitability and keeps or moves the corporation into the line of sight

of analysts and potential or current investors. Knowing the present condition of any company is essential to creating a successful growth strategy. If a company has too many weak areas, such as performance, sales or marketability, a premature attempt at growth can ultimately collapse the business. Then understanding of the relationship among growth and profitability helps to strategic planning for overall company with orientation of firm's survival. Profitability and growth go hand in hand in regard to business success. Profit is keys to basic financial survival as a corporate entity, while growth is key to profit and long-term success.

Relationship between growth and profitability is needed to be identified by considering of the industry factors, economic conditions and competition because those factors have great influence on growth and profitability. Growth and profitability are closely related to the firm size, which is an important indicator of both of them. Companies need to create a balance between growth and profitability in order to work efficiently and also for the progress of the stakeholders. The study intends to find out: Is there any relationship between growth and profitability? There is lack of studies have been conducted to find the real agreement on how the growth is related to firm profitability. Then the researcher going to finds out those relationships through this research while filling of this research gap.

Objectives of the study

This research intends to identify the relationship between growth and profitability in listed manufacturing firms in Sri Lanka. Return on Assets (ROA), Net profit, Assets growth and Sales growth will be used to empirically test the relationship between firms' growth and profitability.

The major objectives of this study are,

- to empirically test the relationship between firm's growth and profitability, as measured by ROA and Net profit.

- to find out the effect of Sales growth on the ROA and Net profit.
- to examine the effect of Assets growth on the ROA and Net profit.

Research questions

Research question of the study says the direct find outs of the study, then researcher have to correctly short out the research question according to research problem.

This research raises the following research questions:

1. Is the Sales growth effect to firm's Profitability?
2. Is the Assets growth effect to firm's Profitability?

LITERATURE REVIEW

When organizations do not diversify and reduce margins to earn the profit from existing market then growth achieved may has a negative relationship with profitability (Glancy, 1998). Statistical properties of growth and profit are totally changed from each other, the consistency is found in profit rates, and they show positive correlation (Mueller, 1977 & Dosi, 2005). According to Geroski and Mazzucato (2002) the profit and the growth are in harmony with each other.

Fitzsimmons, Stephen and Douglas (2005) referred Sexton (2000) as when a company grows at a constant rate, which is also called sustainable growth rate, and then the growth is correlated to the profit of the firm. The high growth does not always mean that company is performing well, similarly the low growth also does not mean that the company is performing poorly (Chandler & Baucus, 1996). High-growth firms that have achieved substantial market share may be able to generate economies of scale or first mover advantages that will eventually result in profitability (Lee, Smith, Grimm, & Schomburg, 2000).

Organizational growth has been a focus in the literature with many researchers

associating growth with entrepreneurship (Davidsson, 2002).

Gartner (1990) identified growth as a major component of entrepreneurship, with growth being one of eight themes associated with the entrepreneurship concept, but growth as a measure of firm performance has had mixed results in the literature. Delmar (2003) suggest that one possible reason for this is that researchers use different measures of growth and that growth itself is heterogeneous in nature.

The use of growth as a measure of firm performance is generally based on the belief that growth is a precursor to the attainment of sustainable competitive advantages and profitability (Markman, 2002). In addition, larger firms have higher rates of survival (Aldrich 1986), and may have the benefits of associated economies of scale. The alternative view is that fast growing firms may encounter difficulties associated with growth that leads to reduced profitability and perhaps financial difficulty. Overall, it is difficult to imagine sustained growth without profitability. Without funding growth through retained earnings, the firm must rely on additional debt or equity finance.

The relationship between growth and profitability is therefore an important consideration and to date there has been little agreement on the relationship between these two measures.

Mosselman, Frederiks and Meijaard (2002) observed that only sixteen percentage of the small business owners in the Netherlands aim to grow. Small firms rapidly grow than large firms, the reason behind is that small firms struggle to achieve economies of scale (Kumar, 1985; Evans, 1987; Hall, 1987; Dunne & Hughes, 1994; Mata &Protugal, 1994; Wanger, 1994; Baldwin, 1995). Small firms grow rapidly than the large firms while the firms that have gained economies of scale cannot grow further, due to the reduction

of cost up to a minimum level.

William John (2004) pointed out the statement from Trau (1996), Sutton (1997), and Hart (2000) the theoretical and empirical literature on firm growth, in the early empirical literature, a number of manufacturing studies find either no relationship or a positive relationship between firm sizes and growth rates.

Cowling (2004) investigated this relationship between growth and profitability and found little evidence of the growth versus profit trade-off, he suggested that there is potential for a cumulative type effect whereby profits engender growth and growth engenders future profit that allows some firms to continually face increasing returns to scale.

The study on the small and medium size Australian firms defined that growth rates are highly volatile over time and the relationship with profitability is not always clear, one aim of this study was to determine if firms intentionally traded off profits for growth or whether there was evidence of growth enabling profits. The research utilizes data from the Business Longitudinal Survey by the Australian Bureau of statistics over the period of 1994-95 through to 1997-98. Using a regression equation with lagged profit and growth variables, they found no evidence of a relationship between growth and profitability, for that study researchers used 2330 numbers of Australian small and medium firms as large sample (Fitzsimmons et al, 2005).

Another study of Velnampy and Nimalathan (2007) indicated that sales are positively associated with profitability ratios except Return on equity, and numbers of depositors are negatively correlated to the profitability ratios except Return on equity, likewise, number of advances is also negatively correlated to the Return on investment and Return on average assets.

A firm's growth opportunities are highly related to its current organizational production activities (Coad, 2009). Path-dependency is thus an important theme of firm growth (Coad, 2009). The other researchers argue that profitability of the firm has a positive effect on the growth (Goddard, 2004; Coad, 2007, 2009). Bottazzi (2001) used productivity as a measure of profit rate and argued that profit is not related to growth. Reid (1995) found that profitability is negatively affected by growth. Hoy (1992) reported that firm profitability is negatively correlated with the increase in growth. Agency theory defines, when the managers have internal finance, they can invest it in less profitable projects or even in the projects of negative net present value due to their personal interest, so the profitability of the firm is declined (Soininen, Martikainen, Puumalainen & Kylaheiko, 2011).

Jang and Park (2011) worked to find out relationship between firm profitability and growth, they argued that increasing profit also increases growth, but the profitability is impeded by an increase in growth.

According to Markman and Gartner (2002) there is no relationship between growth and profitability. Roper (1999) and Gschwandtner (2005) found no relationship between these two terms. Serrasqueiro (2009) worked on the Portuguese companies and found a positive relationship between profitability and growth, the small firms usually rely on internal finance for the expansion of their business and avoid the external financing, and this creates a positive relationship between growth and profitability.

Velampy and Nimalathasan (2010) examined the effects of the firm size on profitability of Bank of Ceylon and Commercial Bank of Ceylon Ltd. Correlation analysis shows that, there was great effect firm size on profitability Commercial Bank of Ceylon Ltd, but there was no effect between firm size and profitability and there was no any relationship between firm size and

profitability of Bank of Ceylon. This study used data of variables of sales, number of branches, number of depositors and number of advances for operationalized to firm size and net profit ratio, operating profit ratio, return on investment, return on equity, return on average assets and return to average shareholders for operationalized to profitability on period of 1997 to 2007.

RESEARCH METHODOLOGY

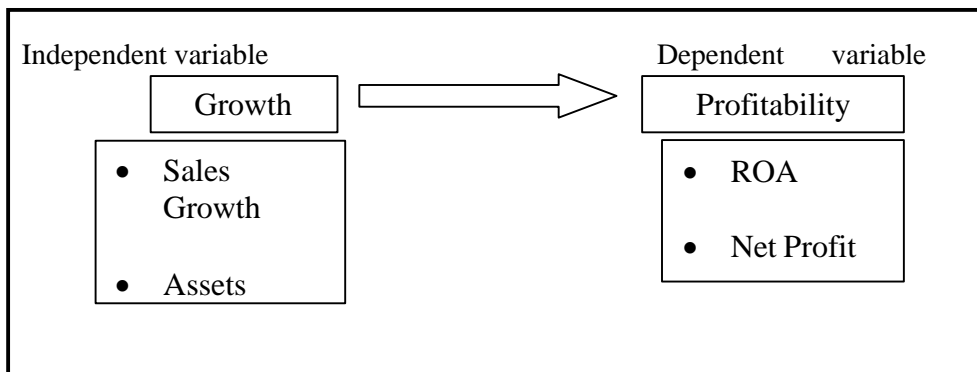
Frame for drawing sample included those manufacturing companies having at least five (5) years of annual reports at website of Colombo Stock Exchange in Sri Lanka. Twenty (20) companies were selected with five (5) years data sample from 2009/10 to 2013/14 as balanced panel data sample. Here secondary data were used for the study and data were collected from annual reports as Quantitative methods approach. With quantitative data, the task of the test of research hypotheses can be done through the E-views Statistical Package. The method of Descriptive statistics with Pearson Coefficient of Correlation and Lag Regression were incorporated to analyze the data. Researcher has constructed Panel Regression model to study the effect of exploratory variables, if there is a serial correlation problem researcher will be used Lag Regression model to skips that serial correlation problem. Equation of Lag Regression model is;

$$\text{Model 1: } \text{NPR}_{it} = \beta_0 + (\beta_1 * \text{SGR}_{it}) + (\beta_2 * \text{AGR}_{it}) + \text{NPR}_{it-1} + e$$

$$\text{Model 2: } \text{ROA}_{it} = \beta_0 + (\beta_1 * \text{SGR}_{it}) + (\beta_2 * \text{AGR}_{it}) + \text{ROA}_{it-1} + e$$

Conceptual Framework

Figure.1: Conceptual Framework



Source: Researcher's construction based on literature review

It is vital to present a framework for a research and also useful to get the idea behind this research. Through conceptualization, one may identify the relationship between variables that are taken into consideration. Based on the research hypotheses, growth as the independent variable, where the profitability as dependent variable, sales growth and assets growth consider for determine the firm's growth and return on assets (ROA) and net profit taken to determine for firm's profitability. To illustrate the relationship between those, following conceptual model was developed.

Hypotheses

The researcher formulates the following four hypotheses for this study.

H₁: There is a significant relationship between Sales Growth and ROA.

H₂: There is a significant relationship between Sales Growth and Net Profit.

H₃: Assets Growth exhibit significant relationship with ROA.

H₄: Assets Growth exhibit significant relationship with Net Profit.

Sampling

The listed manufacturing companies at Colombo Stock Exchange in Sri Lanka consider as the population for this study for the purpose of measuring the

relationship between growth and profitability. Twenty companies were selected as the sample out of thirty-nine listed companies.

Twenty manufacturing companies were selected on the basis of availability of information for the period of study under review; companies which have full data for the whole study period of 2010 -2014 and in their operation are included in the population. Here the size of the sample is 20 (n = 20).

Operationalization

Operationalization of research explains the indicators of variables which related to key concepts. In this study growth and profitability are the key concepts and sales growth rate, assets growth rate, return on assets and net profit ratio are measurements of this study. Key concepts and variables used in the conceptual framework are operationalized as follows.

Table 1: Key concepts and variables

Concept	Variable	Indicator
Growth	Sales Growth Rate	$\frac{(\text{Current year Sales} - \text{Last year Sales}) * 100}{\text{Last year Sales}}$
	Assets Growth Rate	$\frac{(\text{Current year Assets} - \text{Last year Assets}) * 100}{\text{Last year Assets}}$
Profitability	Return on Assets	$\frac{\text{Net Income}}{\text{Total Average Assets}}$

	Net Profit Ratio	$\frac{\text{Net Profit} * 100}{\text{Sales}}$
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Source: Researcher's construction based on literature review

DATA ANALYSIS

Researcher is using E-views statistical package for analyze quantitative data of present study to achieve the research objectives. E-views offer academic researchers, corporations, government agencies, and students access to powerful statistical, forecasting, and modeling tools through an innovative, easy-to-use object-oriented interface.

Descriptive Statistics

Analysis of descriptive statistics is the first stage of the data analyzes section of present study like as most studies. Under the analysis of descriptive statistics shows the statistical data for minimum value, maximum value, mean and standard deviation to describe the variables of NPR, ROA, AGR and SGR.

Table 2: Descriptive Statistics data analysis for selected listed manufacturing companies in period from 2009/10 to 2013/14

Variables	Observations	Minimum	Maximum	Mean	Std. Deviation
NPR (%)	100	-112.56	112.75	6.6185	24.04205
ROA (:)	100	-0.24	0.44	0.0483	0.09186
AGR (%)	100	-29.16	139.36	10.8119	21.87077
SGR (%)	100	-94.49	756.44	17.2443	81.95780

Source: Data analysis results from e-views statistical package

Minimum value of NPR, ROA, AGR and SGR is -112.56%, -0.24:1 of total

average assets, -29.16% and -94.49% in respectively. Maximum value of NPR and ROA is 112.75% and 0.44:1 of total average assets in respectively as well as maximum value of AGR and SGR is 139.36% and 756.44% in respectively. Further above table shows mean and standard deviation for all variables. Mean of NPR become to 6.62% and mean of ROA become to 0.04:1 of total average assets, as percentage it is 4% and it is not demonstrated remarkable financial performance, because normally financially sound companies shows average ROA in between 15% - 20%. Mean of AGR and SGR is 10.81% and 17.24% in respectively. Standard deviation of NPR, ROA, AGR and SGR is 24.04%, 0.09:1 of total average assets, 21.87% and 81.96% in respectively.

Panel Regression and Pearson Coefficient of Correlation Analysis

Table 3: Summary of results from Pooled and Random Effect Models

Results of Panel Data – Panel Regression Analysis				
Description	Pooled Regression Model (With one period of Lag)		Random Effect Model (With one period of Lag)	
	NPR	ROA	NPR	ROA
Dependent Variables				
Constant (C, β_0)	4.255321* [1.84**], [0.070***]	0.022675 [2.15], [0.035]	4.255321 [2.05], [0.043]	0.022675 [2.24], [0.028]
SGR	-0.028506 [- 1.09],[0.278]	-0.000137 [- 1.28],[0.203]	-0.028506 [- 1.22],[0.227]	-0.000137 [- 1.34],[0.185]
AGR	0.198887 [2.09],[0.040]	0.000708 [1.70],[0.198887 [2.33],[0.000708 [1.77],[

]	0.094]	0.023]	0.081]
R- squared (R ²)	0.206	0.234	-	-
Adjusted R ²	0.175	0.204	-	-
F statistics	6.585	7.729	-	-
Prob.(F-statistic)	0.001	0.000	-	-

*Coefficient of Co-relation, **t-statistic, ***Significant value (Prob.)

Source: Data analysis results from e-views statistical package

Researcher found the figures of correlation (β) and probability of t-test (P value) from Pooled Regression model and Random Effect Model under the Lag Method-Panel Regression model. According to the statistical analysis from E-views Statistical Package, table 3 can be abstracted for present to research findings. Table 3 shows the significant and coefficient statistic for two sub methods of Pooled Regression and Random Effect models. According to the Pooled Regression model SGR shows -0.028506 of coefficient and 0.278 of P value on NPR, which shows SGR is insignificant on NPR without correlation. Therefore, researcher expressed that Sales Growth hasn't any significant relationship on Net Profit.

In the same model SGR shows -0.000137 of coefficient and 0.203 of P value on ROA, which shows SGR is insignificant on ROA without correlation. Therefore, researcher expressed that Sales Growth hasn't any significant relationship on ROA.

On the other hand, Pooled Regression model shows that AGR has 0.198887 of coefficient and 0.040 of P value on NPR, which shows AGR is significant at

5% of significance level on NPR with weekly and positive correlation. Therefore, researcher expressed that Assets Growth has positive significant relationship on Net Profit. In the same model AGR has 0.000708 of coefficient and 0.094 of P value on ROA, which shows AGR is significant at 10% of significance level on ROA with weekly and positive correlation. Therefore, researcher expressed that Assets Growth has positive and marginal significant relationship on ROA.

According to the Random Effect model of above table SGR shows -0.028506 of coefficient and 0.227 of P value on NPR, which shows SGR is insignificant on NPR without correlation.

Therefore, researcher expressed that Sales Growth hasn't any significant relationship on Net Profit. In the same model SGR shows -0.000137 of coefficient and 0.185 of P value on ROA, which shows SGR is insignificant on ROA without correlation. Therefore, researcher expressed that Sales Growth hasn't any significant relationship on ROA.

On the other hand Random Effect model shows that AGR has 0.198887 of coefficient and 0.023 of P value on NPR, which shows AGR is significant at 5% of significance level on NPR with weekly and positive correlation. Therefore, researcher expressed that Assets Growth has positive significant relationship on Net Profit. In the same model AGR has 0.000708 of coefficient and 0.081 of P value on ROA, which shows AGR is significant at 10% of significance level on ROA with weekly and positive correlation. Therefore, researcher expressed that Assets Growth has positive significant relationship on ROA.

Lag Regression Model

Under this part of analysis researcher going to point out the built up models of Lag Regression at research methodology based on above two part of analysis

of effect of Growth on Profitability, as measured by NPR and ROA. That built up models are;

Model 1:
$$\text{NPR}_{it} = \beta_0 + (\beta_1 * \text{SGR}_{it}) + (\beta_2 * \text{AGR}_{it}) + \text{NPR}_{it-1} + e$$

Above table shows statistical data for one dependent variable of NPR under the Lag model for Pooled Regression model, researcher is using that statistics data for point out the model 1 of Lag regression. According to the table 3 value of the coefficient of determination factor (R^2) is 0.206 at 5% of significance level. That result implied that 20.6% of the total variance in NPR could be explained by the independent variables, it is shows 20.6% of the independent variable (Growth) impact on the dependent variable (Measurement of NPR). The value of R^2 range normally at percentage of 0 to 100 therefore according R^2 value of NPR remaining 79.4% of the variability was not explained, here R^2 value is 20.6% normally that is lower than the 50% therefore there is an impact of independent variable on dependent variable which was significant at 5% level. Further, probability of F statistics is 0.001 that was lower than 0.05, that means by model was significant. Adjusted R^2 value (0.175) is always bit lower than the R^2 value (0.206), because it reflects the number of variables as it relates to data.

Model 2:
$$\text{ROA}_{it} = \beta_0 + (\beta_1 * \text{SGR}_{it}) + (\beta_2 * \text{AGR}_{it}) + \text{ROA}_{it-1} + e$$

Above table shows statistical data for other dependent variable of ROA under the Lag model for Pooled Regression model, researcher is using that statistics data for point out the model 2 of Lag regression. According to the table 3 value of the coefficient of determination factor (R^2) is 0.234 at 10% of significance level.

That result implied that 23.4% of the total variance in ROA could be explained by the independent variables, it is shows 23.4% of the independent variable (Growth) impact on the dependent variable (Measurement of ROA).

The value of R^2 range normally at percentage of 0 to 100 therefore according R^2 value of NPR remaining 76.6% of the variability was not explained, here R^2 value is 23.4% normally that is lower than the 50% therefore there is an impact of independent variable on dependent variable which was significant at 10% level. Further, probability of F statistics is 0.000 that was lower than 0.05, that means by model was significant. Adjusted R^2 value (0.204) is always bit lower than the R^2 value (0.234), because it reflects the number of variables as it relates to data.

Hypotheses Testing

The prior built up hypotheses of followings will be tested based on the e-views analysis results of Pearson coefficient of correlation and probability of t-test for growth and profitability as measured by SGR,AGR, NPR and ROA in respectively.

Testing of research hypotheses conduct based on the results of Pooled Regression model and Random Effect model under the Panel Regression model of Panel Data analysis.

H_1 : There is a significant relationship between Sales Growth and ROA.

Table 4: Results from Pooled Regression model (Lag) on ROA

Description	Coefficient	Std. Error	t test	P value
Constant	0.022675	0.010571	2.15	0.035
SGR	-0.000137	0.000107	-1.28	0.203

Source: Data analysis results from e-views statistical package

According to the Lag model of Pooled Regression SGR indicate weekly and negative correlation, but P value of SGR is shows as 0.203 therefore that P value insignificant because $P > 0.05$. Therefore, there is no any significant relationship between sales growth and ROA that is mean by the H_1 will be rejected.

According to the Lag model of Random Effect also shows weekly and negative correlation on SGR, but same as above model P value is higher than the 0.05, therefore value of probability is insignificant with P value of 0.185. Therefore, this model also indicates that there is no any significant relationship between sales growth and ROA. Because of that also H_1 will be rejected. According to the both models H_1 rejected.

Table 5: Results from Random Effect model (Lag) on ROA

Description	Coefficient	Std. Error	t test	P value
Constant	0.022675	0.010143	2.24	0.028
SGR	-0.000137	0.000102	-1.34	0.185

Source: Data analysis results from e-views statistical package

H_2 : There is a significant relationship between Sales Growth and Net Profit.

Table 6: Results from Pooled Regression model (Lag) on NPR

Description	Coefficient	Std. Error	t test	P value
Constant	4.255321	2.311040	1.84	0.070
SGR	-0.028506	0.026103	-1.09	0.278

Source: Data analysis results from e-views statistical package

Table of 6 shows the results of Pooled Regression model for indicate the impact of SGR on NPR. According to that table SGR shows the negative and weekly correlation on NPR, but P value of SGR is 0.278 it is insignificant on NPR. Therefore, there is no any significant relationship between sales growth and net profit. Hypotheses of H_2 will be rejected.

Table 7: Results from Random Effect model (Lag) on NPR

Description	Coefficient	Std. Error	t test	P value
Constant	4.255321	2.071409	2.05	0.043
SGR	-0.028506	0.023396	-1.22	0.227

Source: Data analysis results from e-views statistical package

Table of 7 shows the results of Random Effect model for indicate the impact of SGR on NPR. According to that table SGR shows the negative and weekly correlation on NPR, but P value of SGR is 0.227 it is insignificant on NPR. Therefore there is no any significant relationship between sales growth and net profit. Hypotheses of H_2 will be rejected. According to the both models H_2 rejected.

H_3 : Assets Growth exhibit significant relationship with ROA.

Table 8: Results from Pooled Regression model (Lag) on ROA

Description	Coefficient	Std. Error	t test	P value
Constant	0.022675	0.010571	2.15	0.035
AGR	0.000708	0.000417	1.70	0.094

Source: Data analysis results from e-views statistical package

According to the Lag Pooled Regression model above table shows that AGR have Positive and weekly correlation on ROA, as well as AGR have significant P value on ROA at 10% of significance level. Then assets growth positively related with ROA. Therefore assets growth exhibit significant relationship with ROA. H_3 will be accepted.

According to the Lag Random Effect model above table shows that AGR have Positive and weekly correlation on ROA, as well as AGR have significant P value on ROA at 10% of significance level. Then assets growth positively related with ROA. Therefore assets growth exhibit significant relationship

with ROA. H₃ will be accepted. According to the both models H₃ accepted.

Table 9: Results from Random Effect model (Lag) on ROA

Description	Coefficient	Std. Error	t test	P value
Constant	0.022675	0.010143	2.24	0.028
AGR	0.000708	0.000400	1.77	0.081

Source: Data analysis results from e-views statistical package

H₄ : Assets Growth exhibit significant relationship with Net Profit

Table 10: Results from Pooled Regression model (Lag) on NPR

Description	Coefficient	Std. Error	t test	P value
Constant	4.255321	2.311040	1.84	0.070
AGR	0.198887	0.095260	2.09	0.040

Source: Data analysis results from e-views statistical package

P value of AGR under the Pooled Regression model is 0.040. $P < 0.05$, then P value is significant at 5% of significance level, as well as AGR shows positive and weekly correlation on NPR. Then assets growth positively related with net profit. Therefore assets growth exhibit significant relationship with net profit. H₄ will be accepted.

Table 11: Results from Random Effect model (Lag) on NPR

Description	Coefficient	Std. Error	t test	P value
Constant	4.255321	2.071409	2.05	0.043
AGR	0.198887	0.085383	2.33	0.023

Source: Data analysis results from e-views statistical package

P value of AGR under the Random Effect model is 0.023. $P < 0.05$, then P value is significant at 5% of significance level, as well as AGR shows positive and weekly correlation on NPR. Then assets growth positively related with net profit. Therefore assets growth exhibit significant relationship with net profit.

H₄ will be accepted. According to both models H₄ accepted.

The above testing of research hypotheses conducted for prior built up four hypotheses in order to achieve the research objectives. According to the above test H₁ and H₂ rejected, as well as H₃ and H₄ accepted.

CONCLUSION AND RECOMMENDATION

First research objective can be achieved when the Growth of firm measured by the Assets Growth, because Assets Growth indicates positive significant relationship on Profitability. Second research objective cannot be achieved, because Sales Growth didn't indicates any effect on Profitability, but third research objective can be achieved when the Growth of firm measured by the Assets Growth, because Assets Growth indicates positive significant relationship on Profitability.

According to the findings of the present study, the both models of Pooled Regression and Random Effect models show that Sales Growth didn't show any significant relationship on Net Profit and Return on Assets, therefore one of the Growth measurements of Sales Growth did not show any relationship on Profitability as measured by Net Profit and Return on Assets. But, Assets Growth has positive significant relationship on Net Profit and Return on Assets therefore other Growth measurement of Assets Growth show Positive significant relationship on Profitability as measured by Net Profit and Return on Assets. Therefore researcher can say, Independent variable of firms' Growth is positively impact on the dependent variable of firms' Profitability when the firms' Growth measured by the Assets Growth.

According to the present study Assets Growth indicates more sensitivity on Profitability as positive significant relationship, therefore manufacturing companies of Sri Lanka can achieve the higher profitability by given more

consideration on growth of assets in their companies. Manufacturing companies are the one of the major part of the economy of Sri Lanka, therefore profitability of the manufacturing companies highly influence on the economic growth and gross domestic product (GDP). On the other hand, that manufacturing companies included exporting activities with their operations (e.g. Blue Diamonds Jewellery Worldwide PLC, Dipped Products PLC, and Richard Pieris Exports PLC etc.) Therefore, manufacturing companies of Sri Lanka positively impact on foreign exchange and growth of the economy. Then researcher further suggests to, achieve the survival of those manufacturing companies and contribute to economy of Sri Lanka by considering on growth of assets for profitability.

Further studies can be done with various samples of manufacturing companies or other section of companies through time period more than five years for differ findings from present study, on the other hand future studies can be done with using of more independent and dependent variables which related to growth and profitability, such as total average assets, return on equity and return on average total assets etc.

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