The Impact of Firms' Size, Leverage and Auditor Type on Firm Performance: Evidence From Sri Lanka

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ABSTRACT

The aim of this study is to give an insight regarding the factors that may affect the firm performance. In particular, this study examines the relationship between firm performance and several firm level variables namely firm size, leverage and auditor type. These firm level variables are chosen for the study since they are considered as agency cost variables and a number of previous studies in other countries have found that there is significant positive/negative relationship between these variables and the firm performance. The sample of this study consists of 157 companies listed on Colombo Stock Exchange during the period of 2009-2014. The firm performance was measured in term of return on assets and return on equity. The statistical relationship between firm performance and firm level variables was measured using Robust Least squares model. The results of the regression analysis revealed that the firm performance is significantly affected by all three variables firm size, leverage and auditor type. Moreover, the explanatory power of both models are highly indicating that the ability of the proposed variables (firm size, leverage and auditor type) in explaining the expected effect on firm performance.

KEYWORDS: *Firm Size, Leverage, Auditor Type, Firm Performance*

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1. Introduction

Performance of firms is of vital for investors, stakeholders and economy by large. For investors, the return on their investments is highly valuable, and a well performing business can bring high and long-term returns for their investors. Furthermore, financial profitability of a firm will boost the income of its employees, bring better quality products for its customers, and have better environment friendly production units. Also, more profits mean more future investments, which will generate employment opportunities and enhance the income of people. Many empirical works have attempted to study the determinants of firm performance. Indeed, the empiricalresults in this context are various. Sri Lanka, as an emerging country, there is increasing awareness with the global economy which, consequently, are aiming in enhancing companies' values in the Sri Lankan market place. Subsequently, after these recent developments, Sri Lanka is found to be a profitable business environment for local, regional, and foreign investors. So, there has been a surge of interest in Sri Lanka about the firm performance issues. But several studies have been conducted in different contexts other than Sri Lanka. So, in particular, little is known and many questions remain unanswered about the performance in Sri Lankan companies.Yet, to the best of the researchers' knowledge, no empirical evidence exists that allows conclusive determinations to be made of how companies incorporating in Sri Lanka perform. "Management theories" based on western firms may be unsuitable and irrelevant to countries like Sri Lanka and, consequently, previous studies'findings might not be applicable in the context of Sri Lanka. Therefore, the objective of this study is to provide empirically evidence on the determinants influencing companies' performance inSri Lankan listed companies on Colombo stock exchange. The remainder of the paper is organized as follows. Section 2 discusses theliterature review and the hypotheses development. Section 3 describes the research methodology. The resultsand discussions have been highlighted in section 4. The final section provides conclusions and implications.

2. Literature Review and Hypotheses Development

2.1 Firm Size

Pervan M and Visic J (2012) revealed that firm size has a significant positive (although weak) influence on firm profitability. And also, MesutDoğan(2013) found a positive relation between size indicators and profitability of firms. According to the Abbasi A and Malik Q.A. (2015)the evaluation of the firm performance for entrepreneurial and small and medium enterprises is a complex process.They revealed that firm size has moderating inspiration between independent variable (Firm growth) and dependent variable (Firm performance) is accepted.Yana Safarova(2010) reported a strong positive relationship firm size and firm performance. In addition to that he had reported that the Size was represented by Market Capitalization and larger companies performed better in the New Zealand financial market. Ben Said Hatem(2014) found a positive and statistically significant effect of size on firm performance in Switzerland and Sweden. This result indicates that a large firm size leads to favorable growth opportunities, which will positively affect firm performance. Based on 60 non-financial companies listed in Karachchi Stock Exchange in Pakistan Mirza1 S A and J Attiya (2013) found that Firm size positively impacts its performance. According to Bashir Z etal (2013) Firms with larger size have more capacity to increase their production, more resources to enhance their sales which ultimately increase their performance. Firm can increase their size by either increasing their production capacity or through efficient utilization of resources which decreases cost and increases their revenue which ultimately increases their performance. Furthermore, they revealed that there is significant positive relationship between firm size and performance.

H1: Ceteris paribus, there is a positive association between firm size and firm performance.

2.2 Leverage

MesutDogan(2013) found leverage rate has a negative relation with return on assets. In the same way Yana Safarova(2010) found leverage to be negatively associated with the Return on assets metric of operating performance.Bashir Z *etal* (2013) indicated that short term leverage is insignificant showing negative relationship with firm's performance in the food sector of Pakistan. According to the Al-Jafari M K &Al Samman H (2015) the financial leverage variables show a negative relationship with profitability. In the same way Raza M W(2013) documented that there is a negative relationship between performance and leverage. Long term debt is more expensive due to certain direct and indirect costs. Therefore, employing high level of debt results low profitability. Furthermore, Mule R K and Mukras M S(2015) revealed that financial leverage is an important negative predictor of financial performance measured in terms of ROA.Laurent Weill (2000) found the relationship between leverage and corporate performance

based on companies from several countries (France, Germany and Italy), found mixed evidence depending on the country: while significantly negative in Italy, the relationship between leverage and corporateperformance is significantly positive in France and Germany. MykhailoIavorskyi (2013) found that relationship between the leverage and firm performance is actually negative based on the sample of 16.5 thousand Ukrainian firms over 2001-2010.

H2: Ceteris paribus, there is a negative association between leverage and firm performance.

2.3 External Auditor

Al-Mamun A *etal* (2014) found that audit committee independence is positively associated with firm performance. They further revealed that external auditors play the role of giving independent opinions on financial statements of firms; if the financial statements are prepared with due care in order to avoid any material bias or misstatements.But in contrast Mohammad Jaser (2014)revealed that there is no significant positive relationship between auditor type and firm performance. Jensen M C and Meckling H W (1976) explained that there is a relationship between auditor type and firm performance.

H3: Ceteris paribus, there is a positive association between auditor type and firm performance.

3. Methodology

3.1 Populations and Sample

The population of this study is all the companies listed on CSE as on the 01st of July 2014. There are 292 companies listed on CSE representing 20 business sectors. However, the final sample of the study consists of 157 companies. Following is the sampling procedures of the study. First, all the companies listed under Banking, Finance and Insurance industry sector were excluded, since the regulatory and enforcement mechanisms for these companies are far different from that of for other companies. Thus, the determinants of financial performance of these firms may be differ from the determinants of financial performance of other firms. Consequently, the result may be deteriorated if these firms are included in the sample. Second, the companies with non-March financial year ending were excluded from the sample. The reason for this is the companies with December financial year ending (non-March) have not prepared their financial statements for the year of 2014 at the time of this study is conducted. Third, companies quoted on or after 31st March 2010 were excluded due to the sample period of the study spans from financial year 2009/2010 to 2013/2014. Finally, several companies were excluded from the final sample due to insufficient of data available over the sample period.

3.2 Data

The data collected for this study covers the time period from 2009 to 2014. The names of all the companies listed on the CSE, along with their quoted date, industry sector and market capitalization were obtained from the CSE website. Annual reports and stock market data for these firms were also obtained from the CSE. All accounting data such as Turnover, Net profit, Total assets, Total Liabilities, Auditor type, no. of Ordinary shares and Book value of equity were collected manually referring annual reports of each companies for the five years. This ended up with 785 firms-year observations (157 firms into five years).

3.3 Research Models

As previously mentioned, the main objective of this study is to investigate the determinants of financial performance of Sri Lankan Firms. In line with previous studies, the firm's size, auditor type and leverage are used as predictive determinants of financial performance. The financial performance of the firms was measured in term of return on assets (ROA) and return on equity (ROE). Therefore, this study uses multivariate analysis based on following econometric model.

$$ROA_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 LEV_{it} + \alpha_3 AUD_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots(1)$$

$$ROE_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 LEV_{it} + \alpha_3 AUD_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots(2)$$

ROA = Return on Assets

ROE = Return on Equity

SIZE = Natural logarithm of book value of total assets at the end of the financial year

LEV = Total liabilities scaled by end of year book value of equity at the end of the financial year

AUD = Indicator variable is set to one if the firm's auditor is PricewaterhouseCoopers, KPMG and Ernst

      & Young and zero otherwise

ε = Error Term

The relationship between dependent variables (ROA, ROE) and independent variables (SIZE, LEV, AUD) is determined using multiple regression analysis. Multiple regression model is applied since the dependent variables are continuous nature. For multivariate analysis, Robust Least Squares regression model is estimated using Eviews 8.1 statistical software as this model is less sensitive to outliers.

4. Data Analysis and Results

4.1 Descriptive Statistics

Table 4.1 Summary of Descriptive Statistics

	ROA	ROE	SIZE	LEV	ADU
Mean	0.066	0.824	9.396	0.811	0.777
Median	0.054	0.116	9.430	0.576	1.000
Maximum	1.929	272.177	11.306	25.386	1.000
Minimum	-0.610	-20.154	6.869	-120.280	0.000
Std. Dev.	0.133	10.024	0.738	4.993	0.416
Skewness	8.015	25.548	-0.388	-18.061	-1.331
Kurtosis	109.396	686.964	3.580	446.368	2.772
Jarque-Bera	378672.4	15386612	30.747	6472342.	233.606
Probability	0.000	0.0000	0.000	0.000	0.000
Sum	51.847	647.138	7376.189	637.320	610.000
Sum Sq. Dev.	13.905	78790.03	427.183	19551.07	135.987
Observations	785	785	785	785	785

Table 4.1 presents summary statistics of all dependent and independent variables for the pooled sample over the period of 2009-2014. Return on assets (ROA) as measured earnings before tax and interest divided by total assets at the end of the financial year ranges between -0.610 to 1.929 with the mean value of 0.066 and median of 0.054. Standard deviation appears to be rather large 0.133, implying there are a lot of companies that fall outside of the mean value, and who are not performed well. Return on equity (ROE) is measured net profit available for Ordinary Shareholders divided by year end total equity. The minimum and maximum values for ROE are -20.154 and 272.177 having huge deviation from mean value of 0.824. The standard deviation of ROE is also large 10.024, laying lot of companies outside the mean value. Size is ranges between 6.869 and 11.306 since diversity of companies was covered by the sample. The mean value of size is 9.396 and standard deviation is 0.738 indicating most of the are cluster around mean. Auditor type (AUD) takes the mean value of 0.777 showing that the majority of the companies are audited by big four audit firms.

4.2 Spearman Rank Order Correlation

Table 4.2 Correlation Matrix- Pooled Sample

	ROE	ROA	SIZE	LEV	ADU
ROE	1.000	0.010	0.013	0.034	0.027
ROA	0.010	1.000	0.061	-0.036	0.048

SIZE	0.013	0.061	1.000	0.001	0.330
LEV	0.034	-0.036	0.001	1.000	-0.010
ADU	0.027	0.048	0.330	-0.010	1.000

All dependent and independent variables violate the normality assumption and therefore Spearman Rank Order Correlation test was used to measure the bivariate relationship between variables. The result of the above test is shown in the table 4.2. As per the table, none of the independent variable (SIZE, LEV, AUD) is significantly correlated either with ROE are ROA. The SIZE is positively correlated with all the variables indicating that the larger the firm size is, the higher firm performance, higher leverage and more likely to hire big four auditors. Moreover, the results suggest that there is a significant negative association between auditor type (AUD) and leverage indicating that the higher the debts, the more likely the firm chooses a local audit firm. With respect to the correlation among variables, the correlation matrix confirms that no multi-collinearityexists between the variables as none of the variables correlates above 0.80 or 0.90 all variables have a correlation of less than 0.330.

4.3 Multivariate Analysis

The Robust Least Square regression is used to analyze the relationship between independent variables (SIZE, LEV, AUD) and dependent variables (ROA, ROE). The regression results of the model 01 and 02 are shown in table 4.3 and 4.4 respectively.

Table 4.3 The results of the regression model 1

$ROA_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 LEV_{it} + \alpha_3 AUD_{it} + \varepsilon_{it}$

Dependent Variable: ROA
Method: Robust Least Squares
Sample: 1 785
Included observations: 785

Variable	Coefficient	Std. Error	z-Statistic	Prob.
SIZE	0.009	0.003	2.498	0.012
LEV	-0.005	0.000	-10.722	0.000
ADU	0.017	0.006	2.685	0.007
C	-0.047	0.034	-1.399	0.161

	Robust Statistics			
R-squared	0.061	Adjusted R-squared		0.058
Scale	0.054	Deviance		0.002
Rn-squared statistic	135.633	Prob(Rn-squared stat.)		0.000

According to the Table 4.3, the coefficient of determination (R^2) for ROA is equal to 6.1 per cent and the adjusted $R^2$is equal to 5.8 per cent which is quite low level relationship between predictive determinants of financial performance and financial performance of the firms.According to the Table 4.3, the coefficient of determination (R^2) for ROA is equal to 6.1 per cent and the adjusted $R^2$is equal to 5.8 per cent which is quite low level relationship between predictive determinants of financial performance and financial performance of the firms. This means that 6.1 per cent variation of financial performance in term of return on assets (ROA) is explained by firm size, leverage and auditor type. This can be attributed to the limited number of the independent variables included into the model. Similarly, the association between financial performance in term of return on equity (ROE) and predictive determinants (SIZE, LEV, AUD) is very low having the coefficient of determination (R^2) equal to 6.0 per cent and the adjusted $R^2$is equal to 5.6 per cent. The table 4.3 and 4.4 also depicts that the ROA and ROE models are statistically significant where the Rn-squared statistic for ROA model is equal to 135.633 and for ROE model is equal to 58.77 with a p-value < 0.001.

Table 4.4 The results of the regression model 2

$ROE_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 LEV_{it} + \alpha_3 AUD_{it} + \varepsilon_{it}$				
Dependent Variable: ROE Method: Robust Least Squares Sample: 1 785 Included observations: 785				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
SIZE	0.028	0.005	5.130	0.000
LEV	0.002	0.000	3.716	0.000
ADU	0.023	0.009	2.391	0.016
C	-0.203	0.050	-4.031	0.000
Robust Statistics				
R-squared	0.060	Adjusted R-squared		0.056
Scale	0.113	Deviance		0.012
Rn-squared statistic	58.771	Prob(Rn-squared stat.)		0.000

Firm Leverage has a significant negative effect on firm performance measured in term of ROA with the beta coefficient of -0.005 and p-value <0.001 indicating that higher the firm leverage is, lower the firm performance. This result support for hypothesis 2. This result is also consistent with the finding of the studies conducted by MesutDogan (2013), Yana Safarova (2010), Al-Jafari M K & Al Samman H (2015), Mule R K and Mukras M S (2015), MykhailoIavorskyi (2013). Inconsistent with the results of the model 1, the model 2 results indicate that there is significant positive relationship between firm leverage and firm performance measured in term of ROE having a beta coefficient of 0.002 and p-value <0.00. consequently, this results do not support for the hypothesis 2.

Consistent with the prediction, the firm size has significant positive effect on firm performance under model 1 and 2 accepting hypotheses 1. Model 2 results indicate that there is a strong positive association between firm size and firm performance (ROE) with the beta coefficient of 0.028 and p-value <0.001. Based on the results of model 1 and 2 the hypothesis 3 can be accepted since there is significant positive relationship between auditor type (AUD) and firm performance (ROA, ROE). The beta coefficients for ROA and ROE are 0.017 and 0.023 respectively. Both coefficients are significant at 95 per cent confidence level.

5 Conclusion

The main objective of this study is to identify the determinants of financial performance of companies listed in Colombo Stock Exchange in Sri Lanka. Several predictive determinants of financial performance such as size, leverage and auditor type regress with firm performance, using two proxies of ROA and ROE.A sample of 157 firms listed on Colombo Stock Exchange for the periods expanding from 2009 to 2014 is used. Using the Multiple regression, this study finds a significant negative association between firm leverage and firm performance (ROA) at a 1 per cent significant level. Moreover, a significant association between size and auditor type with firm performance is also found in this study. These results contribute to the literature drawing empirical evidenced from Sri Lankan context.Somewhat surprisingly, model 1 and 2 explanatory power is insignificant indicating to the inability of the proposed variables (firm size, leverage and auditor type) in explaining the expected effect on firm performance (ROA, ROE).

This study has its own limitation and this has to be considered in interpreting the results and can be addressed in future research. First, this study is limited to non financial companies in Sri Lanka. Thus, the generalization of the results to other sector and to other countries may be limited since the significant difference in institutional setting. Second, the results suggest that the selected determinants of financial performance have low level effect on firms' financial performance indicating that there are some other variables which explained the variation of financial performance.

References

Abdullah Al-Mamun*, Q. R. (2014). Relationship between Audit Committee Characteristics, External Auditors and Economic Value Added (Eva) of Public Listed Firms in Malaysia . Corporate Ownership & Control / Volume 12, Issue 1, 2014, Continued - 9 .

Atif Abbasi, Q. A. (2015). Firms' Size Moderating Financial Performance in Growing Firms: An Empirical Evidence from Pakistan. International Journal of Economics and Financial Issues ISSN: 2146-4138 available at http: www.econjournals.com.

Doğan, M. (2013). Does Firm Size Affect The Firm Profitability? Evidence from Turkey . Research Journal of Finance and Accounting www.iiste.org ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) Vol.4, No.4, .

Hatem, B. S. (2014). Determinants of Firm Performance: A Comparison of European Countries . International Journal of Economics and Finance; Vol. 6, No. 10; 2014 ISSN 1916-971X E-ISSN 1916-9728 .

Iavorskyi, M. (2013). The Impact of Capital Structure on Firm Performance: Evidence from Ukraine. Kyiv School of Economics .

Jaser"Qasim, A. ". (2014). The Impact of Corporate Governance on Firm Performance: Evidence from the UAE. European Journal of Business and Management www.iiste.org ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online) Vol.6, No.22, .

Javed, S. A. (2013). Determinants of Financial Performance of a Firm: Case of Pakistani Stock Market. Journal of Economics and International Finance,Vol. 5(2), pp. 43-52, May, 2013 DOI: 10.5897/JEIF12.043 ISSN 2006-9812 ©2013 Academic Journals .

Maja Pervan, J. V. (2013). Influence of Firm Size on Its Business Success. Croatian Operational Research Review (CRORR), Vol. 3, .

Michael C. Jensen, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure . Journal of Financial Economics, October, 1976, V. 3, No. 4, pp. 305-360 .

Prof Madya Dr. Ayoib B Che AhmadAlzharani, A. M. (2011). An Empirical Investigation of Factors Associated with Firm Performance: Evidence from Kingdom of Saudi Arabia . 2011 International Conference on E-business, Management and Economics IPEDR Vol.25 (2011) (2011)IACSIT Press, Singapore .

Raza, M. W. (2013). Affectof financial Leverage on firm Performance. Empirical evidence from Karachi Stock Exchange.

Robert Kisavi Mule, P. M. (2015). Financial Everage and Performance of Listed Firms in A Frontier Market: Panel Evidence from Kenya. European Scientific Journal March 2015 edition vol.11, No.7 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431 .

Safarova, Y. (2010). Factors that Determine Firm Performance of New Zealand Listed Companies . School of Business .

Samman, M. K.-J. (2015). Determinants of Profitability: Evidence from Industrial Companies Listed on Muscat Securities Market . Review of European Studies; Vol. 7, No. 11; 2015 ISSN 1918-7173 E-ISSN 1918-7181 Published by Canadian Center of Science and Education .

Zahid Bashir, A. A. (2013). Empirical Investigation of the Factors Affecting Firm's Performance: a Study Based on Food Sector of Pakistan. International SAMANM Journal of Finance and Accounting ,ISSN 2308-2356 .