

## EFFECT OF CAPITAL STRUCTURE ON FINANCIAL PERFORMANCE OF FIRMS LISTED ON THE RWANDA STOCK EXCHANGE

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### ABSTRACT

This study sought to appraise the effect of capital structure on financial performance of firms listed on RSE. Both primary and secondary data were used by the study. The study adopted descriptive research design and the population was all the six companies listed in the Rwanda Stock Exchange (RSE). A census survey was conducted on all the six listed firms and purposive sampling technique was used to sample the respondents to participate in the study. Data was analyzed using descriptive statistics, correlation analysis and regression analysis using SPSS version 20. The study findings indicated that capital structure is negatively associated with ROA. Furthermore, capital structure is negatively associated with ROE. The regression results indicated that the relationship between capital structure and both ROA and ROE is negative and significant, Based on the study findings, the study concluded that, the association between capital structures and both ROA and ROE is negative and capital structure explains a larger change in ROA than in ROE. Furthermore, the relationship between capital structure and both ROA and ROE is negative and significant. Generally, the study concluded that capital structure is negatively and significantly related to financial performance of firms listed at the RSE. The study recommends that firms listed at the RSE should improve their capital structure and implement strategies that lead to a reduction in liquidity ratio as it leads to improved financial performance. The firms should keep its leverage level under control and have clear working capital management guidelines to avoid bankruptcy

**Keywords:** Capital structure, financial performance, Rwanda stock exchange, ROA, ROE.

### INTRODUCTION

#### Background and Research Gap

Financial aspect is a concern over the world. Panu, Andrew & Erik (2006) and Goergen (1999) argue that there is a relationship between corporate governance, ownership and financial performance. Furthermore, Sandra & Samuel (1999) indicated that there is a positive association between financial performance and Corporate Social Performance supporting the theory that slack resource availability and Corporate Social Performance are positively related. According to the scholars, corporate social performance is also positively associated with future financial performance, supporting the theory that good management and Corporate Social Performance are positively related.

The Corporate sector growth is essential to economic development. And the corporate finance pattern of the company is vital importance for the financial wellbeing of companies in any sector. Corporate finance decisions affect the various areas of the corporate management, which determine the wealth of investors. Public sector of Sri Lankan corporate finance decisions accomplishments affects not only the financial soundness of the concerned Private

Equity but also the financial health of the nation as a whole, while these are essentially public investment decisions of the government and a number of Sri Lankan Government agencies are involved in this process (Sritharan, 2014). In Ghana, studies have been done on how dividend policy affects financial performance of the firm on Ghana Stock Exchange. Samuel & Edward (2010) examined the relationship between dividend policy and financial performance of banks in Ghana. The study used panel data constructed from the financial statements of 16 commercial banks in Ghana for a period of 5 years, from 1999-2003. The result was in tandem with earlier studies that dividend policy had an effect on firm value.

Rwanda is member of East African Community and has trade relationship with free commerce, property and personnel movement with the members. Whatever happens to one as far as development is concerned usually affect the other. They are more or less partners and progress rather than competitors in business. Development programs in the communities' countries often follow the same pattern eg. 2020 development in Rwanda and 2030 program in Kenya. Even the program initiative and content are similar. Like many of their policies, constitution and institution including financial system.

A Financial market is where securities are bought and sold at prices governed by the forces of demand and supply. Stock exchanges impose stringent rules, listing requirements, and statutory requirements that are binding on all listed and trading parties. In Kenya, There are more than 50 businesses and companies listed in the Nairobi Stock Exchange, including Sasini Tea and Coffee Ltd., Kenya Airways, Jubilee Insurance, Kenya Commercial Bank Ltd., and Ken Gen Ltd. Most of the businesses in the exchange are in the financial or industrial sectors, though agriculture and other commercial services are also represented. Also listed are treasury bonds issued by the Government of Kenya. Occasionally, there are also privately issued corporate bonds as well. Trading takes place 5 days a week (Monday to Friday) but only between the hours of 10am and 12 noon. (Wikipedia 11/11/2014)

### **Problem Statement**

Capital market consists of market for medium and long term funds. This is typicized by stock exchange like Rwanda stock Exchange. This is the trading floor for company securities and it is divided into two. Market for initial securities called primary market and market for traded securities called secondary market. In essence the market is where shares are issued and traded among investors. The government of Rwanda has a goal to develop the economy by 2020 therefore it has to encourage participation and growth of the stock market, thereby facilitating the growth, flow, and regulation of the stock market. The government ensures that investors are protected, it also advises and guides companies seeking capital and provide an important infrastructure and conducive environment for business development.

Despite the government efforts, the capital market is not growing at the pace expected. Should the slow development of the stock market persist then the growth and development target for the year 2020 may be difficult to achieve. Need therefore arose to identify, appreciate and work assiduously on the factors that determine financial performance of firms listed on the Rwanda Stock exchange.

Studies conducted to examine the factors affecting financial performance of listed firms have mostly looked at the variables used in the current study in isolation of each other thus creating a conceptual research gap. No study has combined capital structure, dividend policy, corporate governance and timely rendition of information to investigate financial

performance of listed firms. For example, a study was conducted by Nikolaus (2015) to examine the determinants of firm performance of Indonesian and Dutch firms over the period of 2009-2013. The study however focused in Netherlands. Kungu, Ayako and Githui (2015) conducted a study to analyze the factors affecting the performance of 41 non-financial companies listed on the Nairobi Securities Exchange (NSE) using panel data over the period 2003 to 2013. The study however used panel data and looked at Nairobi securities exchange. A study was conducted by Vintila and Nenu (2015) to analyse the determinants of corporate financial performance of Bucharest Stock Exchange Listed Companies and it presented a contextual research gap because it was conducted in Bucharest. Furthermore, Mwangi and Murigu (2015) conducted a study to establish the factors that affect the profitability of general insurers in Kenya and the study presented a contextual research gap since it focused on insurance. Mwangi, Muathe and Koimbei (2014) also investigated the relationship between capital structure and financial performance of non-financial companies listed in the Nairobi Securities Exchange (NSE). The study however used only one variable which is Capital structure. Another study was conducted by Vincent (2011) to investigate the effects of ownership structure on performance of listed companies in Kenya but it only focused on corporate governance. A study by Uwalomwa, Jimoh and Anijesushola (2012) investigated the relationship between the financial performance and dividend payout among listed firms' in Nigeria while focusing on dividend policy only. Velnampy and Vickneswaran (2014) on the other hand examined the significant impact of capital structure (CS) and liquidity position (LP) on profitability of listed telecommunication firms in Colombo Stock Exchange (CSE). The study also focused on capital structure and liquidity position only. It is due to these conceptual research gaps that the current study combined the variables and also adds another variable which is timely rendition of information beyond statutory time so as to obtain a more comprehensive analysis of determinants of financial performance of listed firms. The study also aimed to fill the contextual gaps arising as a result of different scopes under which the reviewed studies were conducted since they were not conducted in Rwanda nor focused on the firms listed on the Rwanda stock exchange. The current study hence sought to assess determinants of financial performance of firms listed on the Rwanda Stock Exchange.

Many determinants influence the financial performance of firms listed on Rwanda Stock Exchange. These include: capital structure, dividend policy, corporate governance, timely rendition of information others are: function leverage, hedging, financial risk, risk tolerance, risk evasion, financial literacy, liquidity, ability to invest, etc. However for the purpose of this study, the study focused on the first determinants because it is assumed that in Rwanda they seem to play high role in financial performance. The study hence established the effect of capital structure, on financial performance of firms listed on the Rwanda Stock Exchange.

### **Study Objectives**

The general objective of this study was to assess the effect of capital structure on financial performance of firms listed on the Rwanda Stock Exchange

### **RESEARCH METHODOLOGY**

The research design adopted for the study was descriptive survey design. The target population for this study was the firms listed at Rwanda Stock Exchange (RSE) as at the year 2014. By the end of the year 2014, there were 6 firms listed at the Rwanda stock exchange. A multi stage sampling approach was used where sampling was done at the unit of analysis level and at the respondent's level. The unit of analysis was the firms listed at the Rwanda

stock Exchange. At this level, all the 6 firms were used in the study. This is a census approach. Sampling was also done at the respondent's level. The respondents were management staff from the Operations, Finance and Accounts departments. The study purposively sampled 4 staff members from each department totaling the sample size to 72 management staff from all the listed firms. The choice of the departments was because they are departments mostly concerned with dividends and capital. The study used both primary and secondary data. Primary data was obtained from questionnaires. The study obtained primary data on dividend policy, capital structure, corporate governance and timely rendition of information. Secondary data on capital structure (Leverage) ,ROA and ROE was collected from annual reports and financial statements of the firms. A linear regression model was used to link the independent variable to the dependent variable as follows:

$$Y = \beta_0 + \beta_1 X_1 + e$$

Where:

Y= Financial performance

X<sub>1</sub>= Capital structure

β<sub>0</sub> = constant

β<sub>1</sub> = are regression coefficients to be estimated

e = stochastic term

## FINDINGS AND DISCUSSION

### Response Rate

The number of questionnaires that were administered was 72. A total of 70 questionnaires were properly filled and returned. The results for the response rate are as presented in Table 4.1.

**Table 1: Response Rate**

<b>Response</b>	<b>Frequency</b>	<b>Percent</b>
Returned	70	97.2%
Unreturned	2	2.8%
<b>Total</b>	<b>72</b>	<b>100%</b>

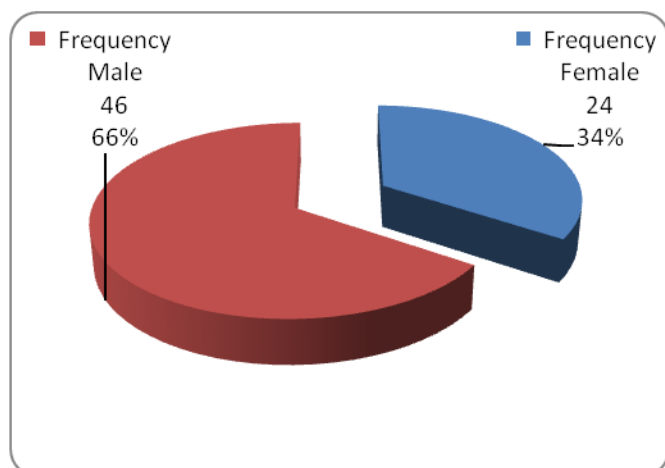
The results in Table 1 indicated an overall successful response rate of 97.2%. According to Mugenda and Mugenda (2003) and also Kothari (2004) a response rate of above 50% is adequate for a descriptive study. Babbie (2004) also asserted that return rates of above 50% are acceptable to analyze and publish, 60% is good, 70% is very good while above 80% is excellent. Based on these assertions from renowned scholars, 97.2% response rate is very good for the study.

### Demographic Characteristics

This section consists of information that describes basic characteristics of the respondents such as gender of the respondent, age, level of education and work experience.

#### Gender of the respondents

The respondents were asked to indicate their gender. The results are presented in Figure 1.

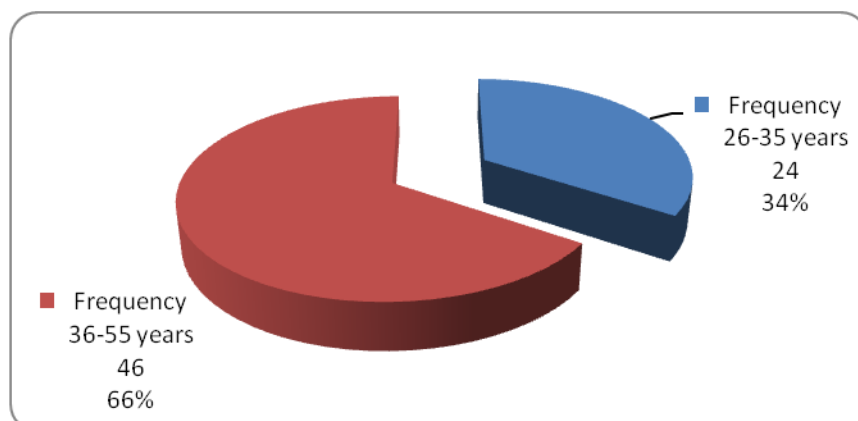


**Figure 1: Gender**

Results in Figure 1 indicate that majority of the respondents, 66%, indicated that they were males while only 34% were females. This implies that male employees still dominate in these firms listed under Rwanda stock exchange.

### Age

Respondents were also asked to indicate their age brackets. The results are presented in Figure 2.

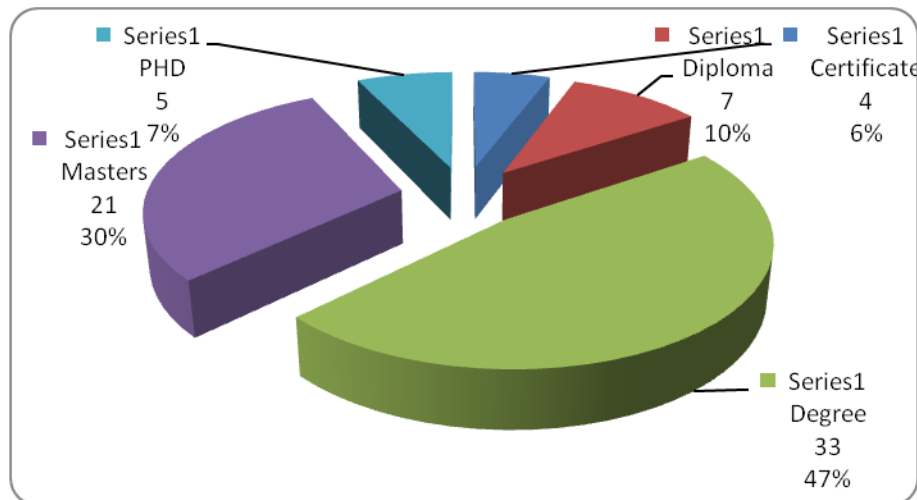


**Figure 2: Age Bracket**

The results in Figure 2 reveals that majority, (66%), of the respondents were between the ages 36-55years old while 34% were in the age bracket 26-35years.

### Level of Education

Respondents were asked to indicate their level of education. The results are presented in Figure 3.

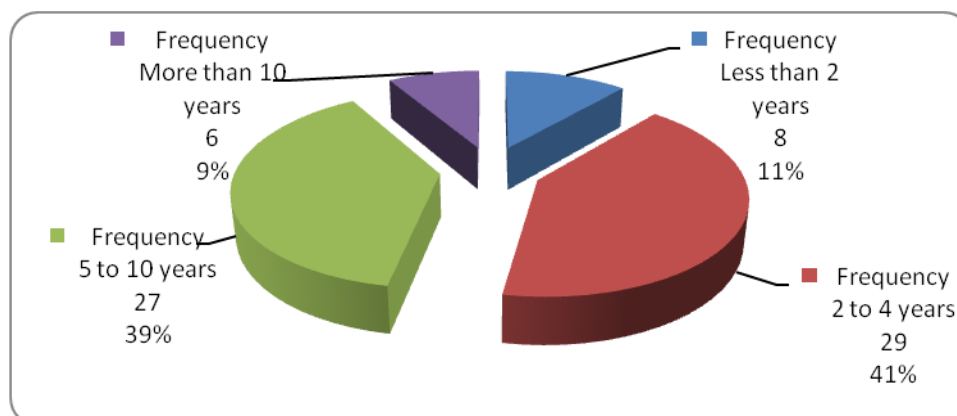


**Figure 3: Level of education**

The study findings indicate that majority, forty seven percent (47%) , of the respondents had Bachelor's Degree, 30% of the respondents had Master's Degree. Another 10% had Diploma, 7% had PhD,6% had certificate.

### Work Experience

The respondents were asked to indicate the duration they have worked in the firms. The results are presented in Figure 4.



**Figure 4: Work experience**

The results in Figure 4 indicates that majority of the respondents who were 41% had worked in these firms for duration 2 to 4years, 39% had worked for 5-10 years, 11%had worked for duration of less than 2 years while only 9% had worked in these firms for more 10 years. This implies that majority of the respondents had not worked in the organization for a long period.

### Correlation Analysis

The study sought to establish the association among the study variables. The results are as presented in Table 2.

**Table 2: Correlation Analysis**

		Capital structure	ROA	ROE
Capital structure	Pearson Correlation	1	-.430**	-.308*
	Sig. (2-tailed)		0.002	0.033
	N	48	48	48
ROA	Pearson Correlation	-.430**	1	.775**
	Sig. (2-tailed)	0.002		0
	N	48	48	48
ROE	Pearson Correlation	-.308*	.775**	1
	Sig. (2-tailed)	0.033	0	
	N	48	48	48

The results in Table 2 indicate that capital structure is negatively associated with ROA. The results further indicate that the association between capital structures with ROA is significant at 5% level of significance. The implication of the results is that an increase in capital structure is associated with a decrease in ROA. Furthermore, the findings reveal that capital structure is negatively associated with ROE. The results further indicate that the association between capital structure and ROE is significant at 5% level of significance. The implication of the results is that an increase in capital structure is associated with a decrease in ROE. The findings are also consistent with the findings of a study by Mwangi, Muathe and Koimbei (2014) which revealed that financial leverage had a statistically significant negative association with performance as measured by return on assets (ROA) and return on equity (ROE). However, the findings disagree with the findings by Velnampy & Vickneswaran, (2014) which indicated that the correlation results confirmed that there is no significant relationship between listed telecommunication firms' capital structure, liquidity position and profitability.

### Descriptive statistics

The respondents were asked to rate various statements on dividend policy on a likert scale of 1 to 5. The statements were based on a likert scale ranging from strongly disagree rated as 1, disagree rated as 2, neutral rated as 3, agree rated as 4 and strongly agree rated as 5. The results are presented in Table 3.

**Table 3: Attributes of Capital Structure**

	1	2	3	4	5	Mean	Std Dev
The company relies on loan in order to run	27.10%	11.40%	22.90%	21.40%	17.10%	2.90	1.46
The company has a huge burden of current liabilities as compared to current assets	28.60%	24.30%	17.10%	17.10%	12.90%	2.61	1.40
The burden of cost of equity is more than the burden of cost of debentures on Profit and loss account	18.60%	18.60%	22.90%	21.40%	18.60%	3.03	1.38



The company keeps its leverage level under control						3.83	1.12
	7.10%	5.70%	11.40%	48.60%	27.10%		
There are clear working capital management guidelines by the company to avoid bankruptcy	4.30%	4.30%	7.10%	48.60%	35.70%	4.07	1.00
<b>Average</b>						<b>3.29</b>	<b>1.27</b>

The study sought to determine the effect of capital structure on firm’s performance. Twenty eight point five percent (28.5% of the respondents disagreed to the statement that the company relies on loan in order to run with another 38.5% agreeing. On the question of whether the company has a huge burden of current liabilities as compared to current assets, majority 52.9% agreed. On the statement whether the burden of cost of equity is more than the burden of cost of debentures on Profit and loss account, 40% agreed to the statement. Whether the company keeps its leverage level under control, majority 75.7% agreed with this statement. Further when the respondents were asked whether there are clear working capital management guidelines by the company to avoid bankruptcy, majority 84.3% agreed with the statement. On a five point scale, the average mean of the responses was 3.29 which means that majority of the respondents were agreeing to the statements in the questionnaire. The standard deviation was 1.27 meaning that the responses were clustered around the mean response.

### Trend Analysis of Capital Structure

The study also sought to establish the trends of capital structure measured in terms of liquidity ratio. The results are as presented in Figure 5.

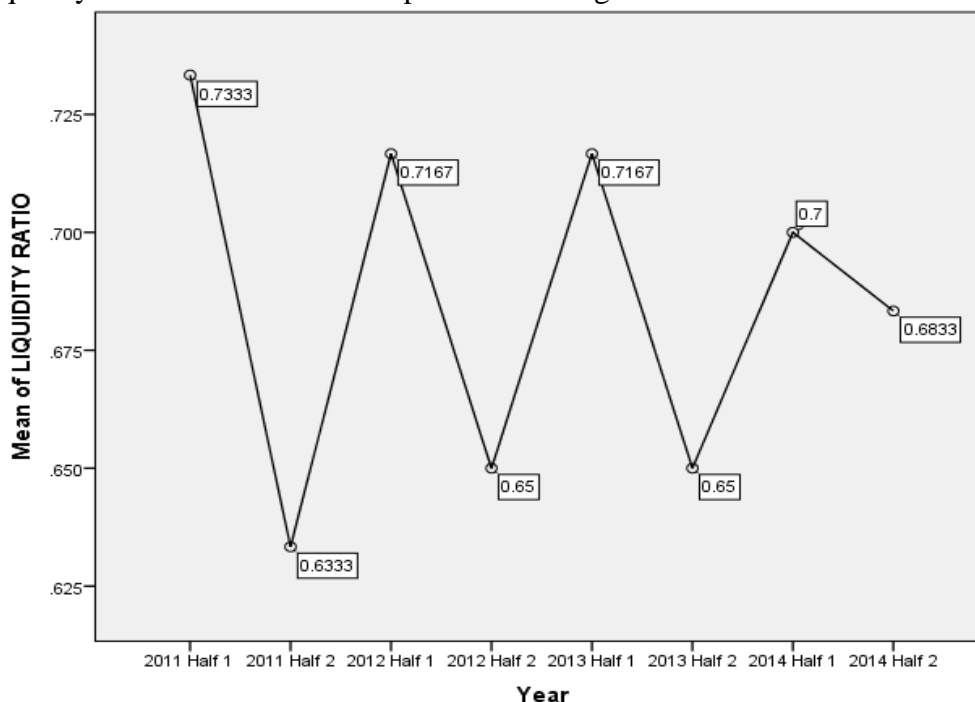


Figure 5: Trend Analysis Capital structure



The study findings on Figure 4.6 indicates that the liquidity ratio, which captured capital structure, had unsteady trends between the first half of the study period to the end of the year 2014. The highest value of liquidity ratio was 0.733 while the lowest was 0.633 recorded in the same year 2011.

### Relationship between Capital structure and financial performance

The study sought to establish the relationship between capital structure and financial performance of firms listed on the Rwanda Stock Exchange. The measures of financial performance were ROA and ROE. The results for Model Summary are as presented in Table 4.

**Table 4: Capital Structure and Financial Performance (Model Summary)**

	ROA	ROE
R	-.430a	-.308a
R Square	0.185	0.095
Adjusted R Square	0.167	0.075
Std. Error of the Estimate	0.134548	0.435455

The results in Table 4 indicate that the association between capital structure and both ROA and ROE was negative as indicated by and R of -0.430 and -0.308 respectively. This implies that an increase in capital structure, measured as liquidity ratio, is associated with a decrease in financial performance of the firms listed at the RSE.

Furthermore, the results indicate that 18.5% and 9.5% of the changes in ROA and ROE respectively is explained by capital structure as indicated by R square of 0.185 and 0.095 respectively. The findings imply that capital structure explains a larger change in ROA than in ROE. The fitness of the models was also established and the results are as presented in Table 5.

**Table 5: Capital Structure and Financial Performance (Model Fitness)**

	ROA	ROE
F	4.813	10.446
Sig.	.033b	.002b

The study findings indicated in Table 5 reveal that the F statistic of both the regression model of capital structure and ROA as well as ROE of 4.813 and 10.446 respectively was significant at 5% level of significance which means that the two regression models fit well. Furthermore, the study established the coefficients of the regression between capital structure and financial performance. The results are as presented in Table 6.

**Table 6: Capital structure and Financial Performance (Regression Coefficients)**

		B	Std. Error	Beta	t	Sig.
ROA	(Constant)	0.336	0.065		5.129	0.000
	Capital Structure	-0.295	0.091	-0.43	-3.232	0.002
ROE	(Constant)	0.645	0.212		3.048	0.004
	Capital structure	-0.647	0.295	-0.308	-2.194	0.033

## Models

ROA = 0.336 - 0.295 Capital Structure

ROE = 0.645 - 0.647 Capital Structure

The results in Table 6 indicate that the relationship between capital structure and both ROA and ROE is negative as shown by a beta coefficient of -0.295 and -0.647 respectively. Furthermore, the relationships are significant at 5% level of significance as indicated by significance levels of 0.002 and 0.004 respectively. The study findings imply that a unit increase in capital structure will lead to 0.295 and 0.647 units decrease in ROA and ROE respectively. These study findings not consistent with the findings of Velnampy&Vickneswaran, (2014) which revealed that there is no significant impact of capital structure and liquidity position on the profitability.

## Hypothesis Testing

The study sought to test the null hypothesis that capital structure does not affect financial performance of firms listed on the Rwanda Stock Exchange. The hypothesis was tested based on the results of an ordinary least square regression model of dividend policy and ROA. A level of significance less than 0.05 leads to the null hypothesis being rejected while a significance level above 0.05 leads to the null hypothesis not being rejected. The findings in Table 4.11 indicates a level of significance of 0.002 which leads to the rejection of the null hypothesis hence capital structure affects the financial performance of firms listed on the Rwanda Stock Exchange.

## CONCLUSION

Based on the study findings, the study concluded that the association between capital structures and both ROA and ROE is negative and capital structure explains a larger change in ROA than in ROE. Furthermore, the relationship between capital structure and both ROA and ROE is negative and significant. Generally, the study concluded that capital structure is negatively and significantly related to financial performance of firms listed at the RSE.

## RECOMMENDATIONS

The study recommends that firms listed at the RSE should improve their capital structure and implement strategies that lead to a reduction in liquidity ratio as it leads to improved financial performance. The firms should keep its leverage level under control and have clear working capital management guidelines to avoid bankruptcy

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