

The Capital Structure Impacts on Firms' Performances the Case of Jordanian Insurance Firms

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Abstract

This study seeks to investigate the impact of capital structure on firm performance by analyzing the relationship between the operating performance of Insurance companies listed in the Amman Stock Exchange during the period 2014- 2019, measured by return on asset (ROA) and return on equity (ROE) with short-term debt (STD), long-term debt (LTD) and total debt (TD). To examine the association, across sectional data and pool data analysis were used. The study has shown a positive relationship between short term debt and return on equity and a negative correlation between long term debt and return on investment. Therefore suggesting that Insurance sector utilize more short term debt because of low-interest expenses and most Insurance companies suffer losses because using excessive long term debt and a large amount of financial cost. Thus Insurance companies firms utilize debt, but more portion of financing should be through short term debt (STD) and long-term debt (LTD) in less proportion.

Keywords: Capital Structure, Operation Performance, Insurance sector, Debt.

Introduction

Capital structure had face a heated debate as it crucial one among all the aspects of capital investment decisions since firm's performance is affected by such determined structure. So while deciding which capital structure is optimal proper attention and care must be considered. Capital structure is a critical component of balance sheet indeed; furthermore, capital structure is part of financial structure.

Taylor and Venhorn (1996) stated that "Capital structure is total sum of outstanding long-term securities of both debt and equity (page number). Similarly, Weston and Bingham (1978) referred to capital structure as the lasting funds used by a firm such as preferred stock, long term debt, and net equity. Capital structure is considered as an important decline among the all scholarly topics in fiancé because firms' ability to take into account their stakeholder's needs is highly associated with capital structure. Consistence with the above, Saad (2010) stated that capital structure describes the way the firm finances its assets by equity, debt, and hybrid securities.

For many decades the capital structure had faced a heated debates that, unfortunately, have not reached on valid argument that define a certain proportion of debt and equity in capital structure that increase firm value and performance therefor capital structure is still a complicated arguments. Nevertheless, most of conducting studies and empirical finding, revealed that capital structure decisions have significant impact on firm's value and its performance more than simple importance stated by M&M.

Main active strategies, usually used, by manger to improve firm performance is based on utilization of debt and equity portion in firm capital structure (Gleason *et. al.*2000). Therefore, minimizing the cost of capital (WACC) and achieving the optimal capital structure became the critical decision companies seek. To this end, this research tried to investigate whether capital structure of listed insurance company listed in Amman Stock Exchange (hereinafter, ASE) will affects its profitability.

Jordan as a developing country, ranked as a 68th of largest world economy in terms of absolute dollars. Moreover it has a semi industrialized economy including, phosphates, potash, and their fertilizer industries; tourism; overseas remittances; and foreign aid. Insurance sector play a vital role for the socio-economic development so this is very important.

Due to the Industrial constructions. Insurance sector is at the peak in Jordan economy. There are more than 3,000 are employed in this sector either directly or indirectly and this can be terribly massive contribution by the Insurance sector in providing employment to youth.

Objective of Study

Grounded on previous debate and discussions this study aimed to discuss the following major objectives. First, try to empirically investigate and find evidences whether firms' capital structure decisions affects its profitability. Then tries to estimate the optimal capital structure of insurance entities listed in ASE. Finally, the current study focus on analyzing, if exist, the optimal capital structure trends. Where the independent capital structure variables are:

1. Debt to Equity Ratio = Total Debt / Total Equity.
2. Debt Ratio = Total Liabilities / Total Assets.
3. Short Term Debt to Assets (STDA) = Short Term Debt / Total Assets.
4. Long Term Debt to Assets (LTDA) = Long Term Debt / Total Assets.
5. Earnings per share (EPS).
6. Returned on Assets (ROA).
7. Return on Equity (ROE)

Problem and Question of the Study

As its crucial decision to decide the optimal capital structure of firms, the analyzing of the impact of capital structure decisions on firm's performance and profitability is pertinent because there is no consensus on the optimal capital structure. Hence, this study will investigate to what extent the capital structure decisions have influences over the profitability of insurance firms listed in ASE. To handle this issue this research tries to provides answer to the following question:

1. Is a firm's profitability significantly affected by its capital structure?
2. Is there an optimal capital structure that suit the listed Insurance firms?
3. What is the trend of capital structure being practiced by listed Insurance firms in Jordan?

Theoretical background

The determinants of profitability and theories thereof used in this study are those frequently described in conventional Insurance companies' studies and literature. The profitability determinants were basically divided into two main categories, namely the internal determinants and the external determinants. In order to incorporate the internal and external determinants into a single profitability model, it was necessary to pool cross-section and time-series data. As a result, it was necessary to include dummy variables to take account of inter-firm and inter temporal differences in the intercept. Thus, pooled regression analysis was applied to a linear model to analyze the profitability determinants of Insurance companies.

Financial Performance

A subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. There are many different ways to measure financial performance, but all measures should be taken in aggregation. Line items such as revenue from operations, operating income or cash flow from operations can be used, as well as total unit sales. Furthermore, the analyst or investor may wish to look deeper into financial statements and seek out margin growth rates or any declining debt. The word 'Performance is derived from the word 'parfourmen', which means 'to do', 'to carry out' or 'to render'. It refers the act of performing; execution, accomplishment, fulfillment, etc. In border sense, performance refers to the accomplishment of a given task measured against preset standards of accuracy, completeness, cost, and speed. In other words, it refers to the degree to which an achievement is being or has been accomplished. In the words of Frich Kohlar need page number "The performance is a general term applied to a part or to all the conducts of activities of an organization over a period of time often with reference to past or projected cost efficiency, management responsibility or accountability or the like. Thus, not just the presentation, but the quality of results achieved refers to the performance. Performance is used to indicate firm's success, conditions, and compliance. Financial performance refers to the act of performing financial activity. In broader sense, financial performance refers to the degree to which financial objectives being or has been accomplished. It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.¹

Financial Performance Analysis

In short, the firm itself as well as various interested groups such as managers, shareholders, creditors, tax authorities, and others seeks answers to the following important questions. Firstly, what is the financial position of the firm at a given point of time?. Secondly, how is the Financial Performance of the firm over a given period of time?

These two questions can be answered with the firm's financial analysis help whom extremely involved in using financial statements. A financial statement is an organized collection of data according to logical and Conceptual Framework consistent accounting procedures. Its purpose is to convey an understanding of some financial aspects of a business firm. It may show a position at a moment of time as in the case of a Balance Sheet, or may reveal a series of activities over a given period of time, as in the case of an Income Statement. Thus, the term 'financial statements' generally refers to two basic statements: the Balance Sheet and the Income Statement. The Balance

¹<http://www.investopedia.com/terms/f/financialperformance.asp> (last access 2014)

Sheet shows the financial position (condition) of the firm at a given point of time. It provides a snapshot and may be regarded as a static picture (Need Reference).

Balance sheet is a summary of a firm's financial position on a given date that shows Total assets = Total liabilities + Owner's equity. The income statement (referred to in India as the profit and loss statement) reflects the performance of the firm over a period of time.

Income statement is a summary of a firm's revenues and expenses over a specified period, ending with net income or loss for the period. However, financial statements do not reveal all the information related to the financial operations of a firm, but they furnish some extremely useful information, which highlights two important factors profitability and financial soundness. Thus analysis of financial statements is an important aid to financial performance analysis. Financial performance analysis includes analysis and interpretation of financial statements in such a way that it undertakes full diagnosis of the profitability and financial soundness of the business.

The analysis of financial statements is a process of evaluating the relationship between component parts of financial statements to obtain a better understanding of the firm's position and performance. The financial performance analysis identifies the financial strengths and weaknesses of the firm by properly establishing relationships between the items of the balance sheet and profit and loss account. The first task is to select the information relevant to the decision under consideration from the total information contained in the financial statements. The second is to arrange the information in a way to highlight significant relationships. The final is interpretation and drawing of inferences and conclusions. In short, financial performance analysis is the process of selection, relation, and evaluation.

Areas of Financial Performance Analysis

Financial analysts often assess firm's production and productivity performance, profitability performance, liquidity performance, working capital performance, fixed assets performance, fund flow performance and social performance. However in the present study financial health of GSRTC is measured from the following perspectives:

1. Working capital Analysis
2. Financial structure Analysis
3. Activity Analysis
4. Profitability Analysis

Significance of Financial Performance Analysis

Interest of various related groups is affected by the financial performance of a firm. Therefore, these groups analyze the financial performance of the firm. The type of analysis varies according to the specific interest of the party involved. Trade creditors: interested in the liquidity of the firm (appraisal of firm's liquidity). Bond holders: interested in the cash-flow ability of the firm (appraisal of firm's capital structure, the major sources and uses of funds, profitability over time, and projection of future profitability).

- **Debt Ratio**

A financial ratio that measures the extent of a company's or consumer's leverage. The debt ratio is defined as the ratio of total debt to total assets, expressed in percentage, and can be interpreted as the proportion of a company's assets that are financed by debt.

The higher this ratio, the more leveraged the company and the greater its financial risk. Debt ratios vary widely across industries, with capital-intensive businesses such as utilities and pipelines having much higher debt ratios than other industries like technology. In the consumer lending and mortgage businesses, debt ratio is defined as the ratio of total debt service obligations to gross annual income. For example, if Company XYZ had \$10 million of debt on its balance sheet and \$15 million of assets, then Company XYZ's debt ratio is:

$$\text{Debt Ratio} = \$10,000,000 / \$15,000,000 = 0.67 \text{ or } 67\%$$

This means that for every dollar of Company XYZ assets, Company XYZ had \$0.67 of debt. A ratio above 1.0 indicates that the company has more debt than assets.

Why it Matters: The debt ratio quantifies how leveraged a company is, and a company's degree of leverage is often a measure of risk. When the debt ratio is high, the company has a lot of debt relative to its assets. It is thus carrying a bigger burden in the sense that principal and interest payments take a significant amount of the company's cash flows, and a hiccup in financial performance or a rise in interest rates could result in default.

When the debt ratio is low, principal and interest payments don't command such a large portion of the company's cash flows, and the company is not as sensitive to changes in business or interest rates from this perspective. However, a low debt ratio may also indicate that the company has an opportunity to use leverage as a means of responsibly growing the business that it is not taking advantage of.

A company's debt ratio of a company offers a view at how the company is financed. The company could be financed by primarily debt, primarily equity, or an equal combination of both. If a

company has a high debt ratio (above .5 or 50%) then it is often considered to be "highly leveraged" (which means that most of its assets are financed through debt, not equity). Conversely, if a company has a low debt ratio (below .5 or 50%), this indicates that most of their assets are fully owned (financed through the firm's own equity, not debt). In some instances, a high debt ratio indicates that a business could be in danger if their creditors were to suddenly insist on the repayment of their loans. This is one reason why a lower debt ratio is usually preferable. To find a comfortable debt ratio, companies should compare themselves to their industry average or direct competitors, Mitcalf and Titard (1976).

Literature Review

Theories related to capital structure such as Miller and Modigliani (M&M), Agency Theory, Pecking Order Theory etc. Capital structure theory was initiated by seminal study of Modigliani & Miller (1958). All the theories on capital structure work under different situation and these theories.

Dang *et al.*, (2019) investigate the effects of capital structure on firms' performances of listed firms on food and beverage sector in Vietnam, they used unbalanced panel data to conduct their analysis, the results stated that leverage has strongest impact on firm performance among other variable. Further, debt ratios are significantly and positively affect ROE, EPS but negatively affect ROA.

Oziomobo and Ghazali (2016) investigate the impacts of capital structure non-financial small Nigerian firms' performances, they used Tobin's Q and ROA as a proxy for the firm performance, results of Oziomobo and Ghazali reveals that there is a positive and significant relationship between assets turnover and, tangible and Tobin's Q. also its found out that risk maintains negative and significant relations with Tobin's. This study concluded that firms' age has both a negative and significant relationship with ROA while sales growth has appositve and significant impacts.

Javed *et al.*, (2014) used a sample of 63 Pakistani companies listed on Karachi Stock Exchange, a fixed effects model where used to analyze the relationship between firm performance (ROA, ROE, ROS) and capital expenditure (DTA, EQA, LDA). After conducting a pooled regression their results convey that when return on asset is the dependent variable appositve impact of capital structure on firms' performance were noticed. Furthermore, debt over assets ratio (DTA) showed positive impact when return on equity is the dependent variable while equity over assets ratio (EQA) and long term debts over assets ratio (LDA) revealed a negative impact when return on sales (ROS) was used as dependent variable then DTA and EQA showed negative link to ROS but LDA revealed positive impact over ROS, as noticed the results' direction are mixed regarding the dependent variable used.

In the same line, Saputra *et al.*, (2014) using the financial sector in the Indonesia Stock Exchange (IDX) for the period 2009 to 2013 to examine the effect of capital structure on companies performance. Contrary to Javed *et al.*, (2014), the result shows a negative impacts on capital structure on firms' performance. Hence, this finding is in consistence with the Peaking theory that indicates capital structure has different impacts on each financial sector.

Brain *et al.*, (2014) use a sample of 4029 farms located in New Jersey, where the purchase of developments rights (PDR) were adopted as of other 27th states and this act was founded to preserve the farmland resources. Brain *et al.*, investigate whether the adoption of PDR programme will improve the profitability of the selected farmland. They notice a weak evidence between the profitability and the adoption of preserved programme. The result also conveys that the profitability of farm of residential lifestyle and retirement farms is lower than that observed for that of unpreserved equivalents. In contrast, the results stated that farm with less than \$100 000 annual sales (small farm) that operated by individuals for whom farming is a principal occupation earn \$414 to \$436 more per acre in profit than their observationally equivalent unpreserved counterparts.

Cambra and Melero (2014) investigate to what extent, and under what circumstances, firms' responses to customer obliging will enhance customer profitability. To this end, they build upon the congruence approach and propose a contingency framework in which the effectiveness of three organizational responses to customer complaints (timeliness, compensation and communications) in improving customer profitability is contingent upon the strength of the relationship and the type of failure. The framework is tested empirically in the financial services industry applying latent class techniques to longitudinal data for a sample of complaining customers. The results reveal that: (1) different complaint-handling initiatives affect customer profitability differently for each of the four segments of complaining customers that are obtained; (2) these heterogeneous responses to complaint handling are explained by differences in the orientation of the relationship and in the failure context; and (3) complaint-handling initiatives are more (less) effective at improving customer profitability when the benefits they offer strongly (poorly) match the benefits sought by customers in each segment to recover from the failure. These results contribute to a better theoretical understanding of customers' heterogeneous responses to complaint handling and offer managerial recommendations to allocate marketing resources across alternative complaint-handling strategies to improve profitability.

Jin Xu, 2012 Firms experiencing increases in import competition significantly reduce their leverage ratios by issuing equity and selling assets to repay debt. Using import tariffs and foreign exchange rates as instrumental variables for import penetration, I show that these results are not manifestations of endogenous relations between import competition and leverage. The results are consistent with traditional trade-off models of capital structure that predict a positive relation between book leverage and expected future profitability. Further evidence suggests that import

competition affects leverage through changes in the trade-off between the tax benefits of debt and the costs of financial distress.

Jost and Sascha (2012) the profitable adaptation of the low-cost carrier model to long-haul flight operations is still subject to intensive discussion. We conduct a founded route profitability analysis for operational scenarios of low cost, long-haul services that includes a systematical evaluation of potential revenue sources. Our results suggest that regular low cost, long-haul operations are possible if the traditional full-service carrier product is effectively unbundled and suitable trunk routes can be identified.

Rachel *et al.*, (2008) the extant operations management literature has extensively investigated the associations among quality, customer satisfaction, and firm profitability. However, the influence of employee attributes on these performance dimensions has rarely been examined. In this study we investigate the impact of employee satisfaction on operational performance in high-contact service industries. Based on an empirical study of 206 service shops in Hong Kong, we examined the hypothesized relationships among employee satisfaction, service quality, customer satisfaction, and firm profitability. Using structural equations modeling, we found that employee satisfaction is significantly related to service quality and to customer satisfaction, while the latter in turn influences firm profitability. We also found that firm profitability has a moderate non-recursive effect on employee satisfaction, leading to a “satisfaction–quality–profit cycle”. Our empirical investigation suggests that employee satisfaction is an important consideration for operations managers to boost service quality and customer satisfaction. We provide empirical evidence that employee satisfaction plays a significant role in enhancing the operational performance of organizations in the high-contact service sector.

Pablo (2007). This article presents a game-theoretical model of union organization that highlights the role played by efficiency and asymmetric information as determinants of unionization and questions commonly-held assumptions about the effect of firm profitability on unionization decisions. In the model, employers set wages taking into account the effect of their choices on workers' incentives to unionize. As a result of employers' strategic wage setting, collective bargaining emerges in equilibrium only if it increases surplus or if there is asymmetric information about the consequences of unionization. While unionization is usually assumed to be more likely in more profitable firms, the model shows that the probability of unionization will be higher in firms with lower rents. It also shows that the union wage premium and unionization will tend to be negatively correlated.

Gandomi (2013) Loyalty programs, as a prevalent CRM strategy, aim to enhance customers' loyalty and thereby increase a firm's long-term profitability. Recent analytical and empirical studies demonstrate inconsistent findings on the efficacy of loyalty programs in fulfilling these goals. In this study, an analytical model is developed to analyze the effect of customers' valuation and their post-purchase satisfaction level on a loyalty program's profitability. The results reveal how customers' satisfaction plays a significant role in profitability of loyalty programs. We

consider a profit-maximizing firm selling a good or service through two periods. Valuation is modeled as a deterministic parameter, as well as a stochastic variable with two arbitrary distributions. Depending on the customers' valuation distribution, the model results in either a linear or a nonlinear optimization problem. Optimization problems are solved analytically, in terms of the model parameters. The obtained solutions provide some useful insights into the effects of customers' satisfaction on the profitability of loyalty programs. Specifically, it is shown that depending on the customers' satisfaction level, it may be optimal not to offer a loyalty reward.

Medjoudj *et al.*, (2013) nowadays, the consumer demands for electrical energy are increasingly growing, because this energy is present in all fields of human activity. Any company producing and distributing electric power sets two main objectives, namely: customer satisfaction and profit making. The aim of this paper is to investigate appropriate tools (multi-criteria decision making methods) aiding decision makers to achieve these goals. The criteria adopted revolve around quality of service and include: cost, reliability, availability, maintainability and power quality. However, the alternatives are technical and organizational measures often taken in planning and operation phases of electrical power systems. Three methods are used, namely: the analytic hierarchy process (AHP), the cost benefit analysis (CBA) and the economic criteria inspired from game theory (ECIGT). The first method highlights the impact of the experts' views in the formalism of the final decision of the manager and it is viewed as a transparent decision process. As for the ECIGT, it provides several scenarios to define a strategy according to the decision maker's behavior. One of its important finding resides in the possibility of evaluating the reactions of the customers towards the decisions taken by the system manager. Consequently, it allows the analysis of the enterprise profitability. However, the CBA method is efficiently integrated into these two complex methods decision making. The application developed in this paper shows that RAM (reliability, availability and maintainability) criteria are significant stakes in the performance of a business and are an important asset for new projects justification.

Devon *et al.*, (2012) Marketing academicians and practitioners have over the past decade advocated the implementation of customer equity principles within firms. This article draws on adaptive structuration theory to frame the *faithfulness* of firms to acquiring and maintaining customers according to their profit potential. Using survey data from 158 business units engaged in business-to-business sales, this article examines the motivational effects of market growth rate and customization requirements, and the technology and information integration capabilities of the firm as determinants of firm adherence to treating customers according to their profitability. The study finds that firms are better at maintaining customers according to their profit potential than acquiring customers according to their profit potential. Further, maintenance faithfulness appears to have more ultimate impact on firm performance. The study suggests that pursuing customer profitability has limited effectiveness unless accompanied by a broader range of initiatives aimed at making the firm more customer-focused.

Francis (1999) as marketing activities become more precisely targeted to consumers through direct and interactive forms of communication, customer profitability takes on a central role in the

development of marketing strategies. This paper provides a conceptual and methodological foundation for measuring customer profitability by generalizing approaches to measuring customer lifetime value in direct marketing for broader target marketing applications. Particular emphasis is placed on the precise specification of the inputs into a profitability analysis and the measures of the degree of concentration of profits among customers. An empirical analysis involving the profitability of customers in a business-to-business marketing context is described, along with research propositions for future work on the determinants of customer profitability.

Research Methodology

This study includes all Insurance companies firms listed in Amman Stock Exchange. There were total 21 companies listed under Insurance sector of Jordan in ASE. In this research 16 companies were used. Data from year 2014 to 2019 for six years was collected from financial statement of companies. Companies that are not included in sample because of non- availability of data, newly listed in stock exchange.

This study only works on secondary data which was obtained from different resources. Mainly data collected from cent central bank of Jordan publication for balance sheet analysis of companies listed in Amman stock exchange and data also obtained from the Annual Audited Reports of companies. Data of Return on assets, Return on equity, debt to equity, debt to assets obtained from Bank of Jordan. ICR coverage ratio is calculated using the annual reports of companies. Data was collected from year 2014 to 2019 for 6 years.

Analysis

After collection of the study data, and based upon what we mentioned in the previous chapter, the collected data have been analyzed in order to draw conclusions for the insurance companies listed in Amman stock market. This chapter covers three main topics:

- The first is related to the descriptive analysis of the data.
- The second is meant to verify that no problem exists in the correlation between variables.
- The third deals with the examination of the hypothesis of the study by computing the simple the coefficients of the simple descending form, discussing the results and then the examination of a multiple descending examination.

Prediction Equations Form:

$$y_1 = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + e \quad (1)$$

$$y_2 = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + e \quad (2)$$

$$y_3 = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + e \quad (3)$$

Where:

- (Y1) Related to : ROE
- (Y2) Related to : ROA
- (Y3) Related to : EPS
- (X1) Related to : D.T.E
- (X2) Related to : D.R
- (X3) Related to : D.A.R
- (E) Related to : Error

DESCRIPTIVE ANALYSIS

Table 1.1 Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
Debt to Equity Ratio %	-16.86-	69.93	14.9485	21.36731
Debt Ratio %	-112.86-	116.86	52.3889	20.30807
debt to asset ratio	.00	4.16	.5899	.44340
Return on Equity %	-136.22-	297.65	18.8556	52.16020
Return on Assets %	-123.68-	627.19	6.3976	49.41910
EPS %	-16.86-	60.89	1.8712	8.94306

After reviewing the results of the descriptive analysis based on the above table (1.1) we found the following values:

Correlation between independent variables. Examination for verification that no financial correlation problem exists in the study variables which could reveal the correlation problem.

Table 1.2 Correlations

Items	Debt to Equity Ratio	Debt Ratio	Debt to Asset Ratio
Debt to Equity Ratio	1		
Debt Ratio	.001	1	
debt to asset ratio	-.089	.234**	1

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

Examination to verify that no high correlation problem exists in the study variables. The correlation problem appears when the variables in the descending form are highly correlated, and the correlation problem in the ascending form affects the explanatory variables coefficients, and also results in an unreal rise in the correlation coefficient between the study variables. An indication appears to show that this problem exists if Person coefficient is equal to or is more than 80%.

Table 1.3 Correlation between the study variables

Items	Debt to Equity Ratio %	Debt Ratio %	debt to asset ratio	Return on Equity %	Return on Assets %	EPS %
Debt to Equity Ratio %	1					
Debt Ratio %	.001	1				
debt to asset ratio	-.089	.234**	1			
Return on Equity %	.149*	.076	-.044	1		
Return on Assets %	-.060	.145	.054	-.004	1	
EPS %	.297**	.001	-.004	.171*	-.188*	1

Correlation between the study variables at companies working in the insurance sector listed in Amman stock market, as shown in the table there is no correlation higher than 80% between the study variables which does not show a high correlation problem between the study variables, as the highest correlation ratio was 75.5% between the profit of each share and the revenues on the rights of ownership.

- 1- Debt to Equity Ratio + EPS = (297**) (Strong positive correlation)
- 2- Debt to Assets Ratio +Debt Ratio = (234**) (Strong positive correlation)
- 3- Return On Assets + EPS = (-188*) (Strong inverse relationship)

Examination of the Study Hypothesis

H_1 : The effect of the framework of the capital on the profit measured by the ROE.

For the affirmation and negation of this hypothesis, the branch hypothesis related to each main hypothesis were measured. Following are the results of the hypothesis examination branching out from the main hypothesis, and a discussion of those results. We have depended on the value of sig for acceptance or refusal of the hypothesis. If the value is $\text{sig} < 5\%$ then the hypothesis is accepted. We will also point to the ratio which explains each variable responsible for the secondary variable by depending on the value of the adjusted r - square.

H_{11} Results Describes the Effect of Debt to Equity Ratio on ROE

Sig	t- statistics	Coefficients	Constant B	Debt to Equity Ratio B
0.046	2.852	0.149	13.431	0.363
Adjusted R Square		0.017		
Model F test		4.022		

H_{11} Results shows the analysis results of a simple descending for the independent variable (debt to equity ratio) and its effect on the secondary variable (ROE). After reviewing this table, it appeared that it is the adjusted r square amounting to 0.017 which indicates that ROE is interpreted in this ratio of variation in debt to equity ratio. Results revealed that the value of 0.046 sig is less than 5% which indicates that debt to equity ratio affects roe and consequently, the first subsidiary hypothesis was accepted and in view of the value (coefficients 0.149) a direct relation exists between the secondary variable and the independent variable.

***H*_{1.2} Results Describes the Effect of ROE on Debt Ratio**

Sig	t- statistics	Coefficients	Constant B	Debt Ratio B
0.312	0.803	0.076	8.661	0.195
Adjusted <i>r</i> - Square		0.001		
Model <i>F</i> test		1.028		

***H*_{1.2} Results** show the analysis results of a simple descending for the independent variable (debt ratio) and its effect on the secondary variable (ROE). After reviewing this table, it appeared that it is the adjusted r square amounting to (0.001) which indicates that ROE is interpreted in this ratio of variation in debt to equity ratio. Results revealed that the value of (0.312 sig) is more than 5% which indicates that debt to equity ratio does not effect on the ROE and consequently, the first subsidiary hypothesis was not accepted and in view of the value (coefficients 0.076) a direct relation exists between the secondary variable and the independent variable.

***H*_{1.3} Results Describes the Effect of Debt to Asset Ratio on ROE**

Sig	t- statistics	Coefficients	Constant B	debt to asset ratio B
0.558	3.373	0.044-	21.904	5.167 -
Adjusted <i>r</i> - Square		-0.004		
Model <i>F</i> -test		0.344		

***H*_{1.3} Results** show the analysis results of a simple descending for the independent variable (debt to assets ratio) and its effect on the secondary variable (ROE). After reviewing this table, it appeared that it is the adjusted r square amounting to (-0.004) which indicates that ROE is interpreted in this ratio of variation in debt to equity ratio. Results revealed that the value of (0.558 sig) is more than

5% which indicates that debt to equity ratio does not effect on the ROE and consequently, the first subsidiary hypothesis was not accepted and in view of the value (coefficients -0.044) an inverse relationship exists between the secondary variable and the independent variable.

Effect of (Debt to Equity Ratio & Debt Ratio & debt to asset ratio) on ROE

Results of multiple descending

Model Summary(1.4)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.174 ^a	.030	.014	51.79986

a. Predictors: (Constant), debt to asset ratio , Debt to Equity Ratio %, Debt Ratio %

ANOVA ^{b (1.5)}

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	14755.192	3	4918.397	1.833	.143 ^a
	Residual	472247.649	176	2683.225		
	Total	487002.841	179			

a. Predictors: (Constant), debt to asset ratio , Debt to Equity Ratio %, Debt Ratio %

b. Dependent Variable: Return on Equity %

Coefficients^{a (1.6)}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	5.396	11.484		.470	.639
Debt to Equity Ratio %	.351	.182	.144	1.931	.055
Debt Ratio %	.225	.196	.088	1.147	.253
Debt to Asset Ratio	-6.070-	9.019	-.052-	-.673-	.502

a. Dependent Variable: Return on Equity %

After discussion of the secondary hypothesis, and review of table no. (1.5) where the value of sig (0.143) which is larger than 5%, the main first hypothesis was refused. This means that there is no effect of the frame of the capital on ROE, in addition to the multiple regression results which showed that the r square Coefficient of determination was (0.14). This means that roe is interpreted in this ratio of variation in the frame of the capital, in addition to the existence of a direct relation between the frame of the capital and ROE.

H_{2.1}: The Effect of Debt to Equity Ratio on ROA

Sig	t- statistics	Coefficients	Constant B	Debt to Equity Ratio B
0.425	1.879	-0.060	8.465	-0.138
Adjusted R Square		-0.002		
Model F test		0.638		

Results of $H_{2.1}$ show the analysis results of a simple descending for the independent variable (debt to assets ratio) and its effect on the secondary variable (ROA). After reviewing this table, it appeared that it is the adjusted r square amounting to (-0.002) which indicates that ROA is interpreted in this ratio of variation in debt to equity ratio. Results revealed that the value of (0.425sig) is more than 5% which indicates that debt to equity ratio does not effect on the ROA and consequently, the first subsidiary hypothesis was not accepted and in view of the value (coefficients -0.060) a inverse relationship exists between the secondary variable and the independent variable.

$H_{2.2}$: The Effect of Debt Ratio on ROA

Sig	t- statistics	Coefficients	Constant B	Debt Ratio B
0.062	1.195	0.145	-12.113	0.353
Adjusted R Square		0.016		
Model F test		3.833		

$H_{2.2}$ Results shows the analysis results of a simple descending for the independent variable (debt ratio) and its effect on the secondary variable (ROA). After reviewing this table, it appeared that it is the adjusted r square amounting to (0.016) which indicates that ROA is interpreted in this ratio of variation in debt to equity ratio. Results revealed that the value of (0.062 sig) is more than 5% which indicates that debt to equity ratio does not effect on the ROA and consequently, the first subsidiary hypothesis was not accepted and in view of the value (coefficients 0.145) a direct relation exists between the secondary variable and the independent variable.

$H_{2.3}$: The Effect of Debt to Asset Ratio on ROA (H2.3)

Sig	t- statistics	Coefficients	Constant B	debt to asset ratio B
0.474	0.466	0.054	2.863	2.992
Adjusted R Square		-0.003		
Model F test		0.516		

H_{2.3} Results indicate that the analysis results of a simple descending for the independent variable (debt to assets ratio) and its effect on the secondary variable (ROA). After reviewing this table, it appeared that it is the adjusted r square amounting to (-0.003) which indicates that ROA is interpreted in this ratio of variation in debt to equity ratio. Results revealed that the value of (0.474sig) is more than 5% which indicates that debt to equity ratio does not effect on the ROA and consequently, the first subsidiary hypothesis was not accepted and in view of the value (coefficients 0.054) an inverse relationship exists between the secondary variable and the independent variable

H_{2.4}: The Effect of (Debt to Equity Ratio & Debt Ratio & debt to asset ratio) on ROA Results of multiple descending (Model Summary of H_{2.4})

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.158 ^a	.025	.008	49.21398

a. Predictors: (Constant), debt to asset ratio , Debt to Equity Ratio %, Debt Ratio %

ANOVA ^{b (2.5)}

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	10887.502	3	3629.167	1.498	.217 ^a
Residual	426274.811	176	2422.016		
Total	437162.313	179			

a. Predictors: (Constant), debt to asset ratio , Debt to Equity Ratio %, Debt Ratio %

b. Dependent Variable: Return on Assets %

Coefficients^a (2.6)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-10.652	10.911		-.976	.330
Debt to Equity Ratio %	-.136	.173	-.059	-.784	.434
Debt Ratio %	.345	.186	.142	1.850	.066
debt to asset ratio	1.719	8.569	.015	.201	.841

a. Dependent Variable: Return on Assets %

After discussion of the secondary hypothesis, and review of table no. (1.4) where the value of sig (0.217) which is larger than 5%, the main Second hypothesis was refused. This means that there is no effect of the frame of the capital on ROA, in addition to the multiple regression results which showed that the r square Coefficient of determination was (0.008). This means that ROA is interpreted in this ratio of variation in the frame of the capital, in addition to the existence of a direct relation between the frame of the capital and ROA.

H_{3.1}: The Effect of Debt to Equity Ratio on EPS

Sig	t- statistics	Coefficients	Constant B	Debt to Equity Ratio B
0.001	0.013	0.297	0.010	0.124
Adjusted R Square		0.083		
Model F test		17.273		

H_{3.1} Results show the analysis results of a simple descending for the independent variable (debt to equity ratio) and its effect on the secondary variable (EPS). After reviewing this table, it appeared

that it is the adjusted r square amounting to (0.083) which indicates that EPS is interpreted in this ratio of variation in debt to equity ratio. Results revealed that the value of (0.001 sig) is less than 5% which indicates that debt to equity ratio affects EPS and consequently, the first subsidiary hypothesis was accepted and in view of the value (coefficients 0.297) a direct relation exists between the secondary variable and the independent variable.

H_{3.1}: The Effect of Debt Ratio on EPS

Sig	t- statistics	Coefficients	Constant B	Debt Ratio B
0.984	0.991	0.001	1.837	0.001
Adjusted R Square		-0.006		
Model F test		0.001		

H_{3.1} Results shows the analysis results of a simple descending for the independent variable (debt to assets ratio) and its effect on the secondary variable (EPS). After reviewing this table, it appeared that it is the adjusted r square amounting to (-0.006) which indicates that EPS is interpreted in this ratio of variation in debt to equity ratio. Results revealed that the value of (0.984sig) is more than 5% which indicates that debt to equity ratio does not effect on the EPS and consequently, the first subsidiary hypothesis was not accepted and in view of the value (coefficients 0.001) a inverse relationship exists between the secondary variable and the independent variable.

H_{3.2}: The Effect of debt to asset ratio on EPS

Sig	t- statistics	Coefficients	Constant B	debt to asset ratio B
0.960	1.719	-0.004	1.916	-0.075
Adjusted R Square		0.006		
Model F test		0.002		

H_{2.4} Results shows the analysis results of a simple descending for the independent variable (debt to assets ratio) and its effect on the secondary variable (EPS). After reviewing this table, it appeared that it is the adjusted r square amounting to (-0.006) which indicates that EPS is interpreted in this ratio of variation in debt to equity ratio. Results revealed that the value of (0.960sig) is more than 5% which indicates that debt to equity ratio does not effect on the EPS and consequently, the first subsidiary hypothesis was not accepted and in view of the value (coefficients -0.004) a inverse relationship exists between the secondary variable and the independent variable.

***H_{3.4}*: The Effect of (Debt to Equity Ratio & Debt Ratio & debt to asset ratio) on EPS**

Results of multiple descending (Model Summary of *H_{3.4}*)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.298 ^a	.089	.073	8.60829

a. Predictors: (Constant), debt to asset ratio , Debt to Equity Ratio %, Debt Ratio %

ANOVA ^{b (3.5)}

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	1274.056	3	424.685	5.731	.001 ^a
Residual	13042.057	176	74.103		
Total	14316.113	179			

a. Predictors: (Constant), debt to asset ratio , Debt to Equity Ratio %, Debt Ratio %

b. Dependent Variable: EPS %

Coefficients ^{a (3.6)}

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.298 ^a	.089	.073	8.60829	
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.183-	1.909		-.096-	.924
Debt to Equity Ratio %	.125	.030	.300	4.146	.000
Debt Ratio %	-.002-	.033	-.005-	-.062-	.951
debt to asset ratio	.484	1.499	.024	.323	.747

a. Dependent Variable: EPS %

After discussion of the secondary hypothesis, and review of table no. (1.4) where the value of sig (0.001) which is larger than 5%, the main Second hypothesis was accepted. This means that there is effect of the frame of the capital on EPS, in addition to the multiple regression results which showed that the r square Coefficient of determination was (0.073). This means that EPS is interpreted in this ratio of variation in the frame of the capital, in addition to the existence of a direct relation between the frame of the capital and EPS.

Equivalent linear regression for all variables for third hypothesis:

$$Y = -0.183 + (0.125 * X1) + (-0.002 * X2) + (0.484 * X3) + e$$

Where: Y :EPS; X1 :Debt to Equity Ratio; X2 :Debt Ratio.; X3 :Debt to asset ratio, and e : error

Conclusion

This study examined the relationship between capital structure and profitability Insurance companies listed in Amman Stock Exchange during the 6 year period 2014- 2019. The study has shown positive relation between short term debt and return on equity and negative relationship

between long term debt and return on equity. Therefore suggesting that cement sector utilize more short term debt because of low interest expenses and most of Insurance companies suffer losses because utilizing excessive long term debt and large amount of financial cost. Thus Insurance companies firms utilize debt but more portion of financing should be through short term debt and LDC in less proportion.

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