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## **Impact of Capital Structure on firm performance in Pakistan**

Waqar Hassan

Review committee member for ICCTSAI researcher's hub  
Lecturer Barani Institute of Science JV of Arid Agriculture University Rawalpindi

Saad Naseer

Research scholar  
Member of Association of Accounting Technicians UK

Abdul Rehman

Research scholar  
University of Agriculture Faisalabad sub campus Burewala

Abeer Tahir

Research scholar  
LSAF University of Lahore, Lahore

### **ABSTRACT**

Capital structure is considered to be imperative in controlling decision that are taken by higher authorities in organization to sustain for long time. It has direct and indirect relationship to raise the value of firm that changed with cost of capital. There are different dynamics that modifying the structure of capital (i.e. Taxes, economy, communal, macroeconomic, legal and managerial) that optimized the level of capital and its growth in firms. It plays the imperative role in organizations and there are many theories that contend the specific task about capital structure. It describes the best and optimum level of financial activities to reach at their best level. This paper will use regression and correlation analysis to find out the answers of research questions and objective. This paper uses the secondary source of data from annual reports of selected countries. Oil price data has been taken from World Bank website. Secondary source of data means that the data which is already used for any other purpose.

Results showed that Performance has significant relationship with tangibility, Firm's size, and Long-term loan on the basis of regression results, same like these results show positive correlation,



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depending correlations results between tangibility and Performance, there is negative relationship. Both measures show significant results of study. The relationship between the characteristics of capital structure and of the company and the observed debt ratio is examined by the most fundamental literature on capital structures. The most powerful discovery from this research line is that increasingly natural capitalists are attempting to use more debt and corporate finances more efficiently with high tangibility ratios.

**Key Words:** Capital Structure, Performance, size of firm, current ratio and long-term loan

## **INTRODUCTION:**

Capital structure is important part of business that contend the organizational strategy about debts and equity to organized and maintained. There are different resources used by the organization in present world, that intend to raise their funds with long term bonds, payable notes and equity stock. Capital structure is considered to be imperative in controlling decision that are taken by higher authorities in organization to sustain for long time. It has direct and indirect relationship to raise the value of firm that changed with cost of capital. There are different dynamics that modifying the structure of capital (i.e. Taxes, economy, communal, macroeconomic, legal and managerial) that optimized the level of capital and its growth in firms. It plays the imperative role in organizations and there are many theories that contend the specific task about capital structure. It describes the best and optimum level of financial activities to reach at their best level (Saeedi and Mahmoodi 2011).

The organizational strategy to manage their debts and equity is organized with ability to manage the operations with different resources to enhance capital. There are different sources of debt and equity raising, debt can be raised through issuing long term bonds, notes payable and equity raise by common stock, preferred stock and retain earnings. Capital Structure is the most important and crucial decision taken by higher authorities for long term sustainability. It has direct impact on the firm value due to change in the cost of capital. The cost of capital varies as modifying the variables of taxes, economy, communal, macroeconomic, legal and managerial.



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Different level of debt and equity or other financial sources include TFCS (Salim and Yadav 2012), Bank loans, shares, lease finance give optimal capital structure. The Capital Structure assessment is the most important decision among all other decisions fall in corporate finance. The optimal capital structure has been assuring by the financial managers which will keep the cost of capital at lower level and it can maximize shareholders value through high return on shares.

Capital structure keeps an eye on the cost of capital and change the structure to achieve targeted cost of capital. It describes the mixture of equity and debt level in firm and also deals what type of securities company should possess which can give the best and optimal level of capital structure to firm. On contrary situations, capital structure includes share issuance, private investment, bank debt, business debts, leasing contracts, tax debt, retirement debt, deferred compensation for executives and employees, deposits, product related-debt and other probable debt. Capital structure decision has been the most important decision has been taken by the finance expertise in corporate sector organization. The performances of the organizations lead with working and influencing dynamics of capital structure that has been employed in businesses (Taani 2013, Le and Phan 2017). The various activities in organizations are controlled with decisions and decision are made from current record of financial circle. To meet the goals and objectives, businesses contended their financial assets within a set of combination that rounded in between available resources.

In Pakistan, the organizations constitute their financial decision as core element to define the concept of company capital structure. There are many organizations (public and private) either working on small scale/ medium scale or large scale, the capital structure relates to the way that companies finance their assets it is inadequate only to include long term debt and equity in the capital structure. The choice for optimum capital structure will ultimately relate to company preferences, as well as the nature of the asset being financed. With conspiracy the working structure of organization in Pakistan, they are normally the companies that have two choices, either to finance the assets from internal source that is termed as retained earnings or from external source



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that splits into debt and equity (Taani 2013). No one exactly can say this can be the best optimal targeting debt and equity ratio it depends on the situation and available resources to a firm.

### **Literature Review:**

Jones and Kabul (1996) were among the first economists studying oil-stock relationships. They employed the standard cash-flow/dividend valuation model by (Hasan, Ahsan et al. 2014) to investigate the linkage between oil and stock markets of four advanced economies: United States (US), Canada, Japan and United Kingdom (UK), they contend that the stock markets of US and Canadian rationally reflected the impact of oil price shocks on current and expected future cash flows. The results are not significant for Japan and UK. Lescaroux & Mignon, (2008) investigated the relationship between oil price and stock returns on three oil importing countries: Turkey, Tunisia and Jordan. These countries are presumed to have more energy intensive than many advanced economies and thus expected to be more exposed to higher oil prices. Results, however, reveal an insignificant effect of oil price changes on stock market returns. Huang et al. (1996); in contrast, Sandusky (1999); Using a VAR model, Papapetrou (2001) shows a significant negative relationship between oil price changes and stock markets in Greece. Papapetrou (2001) applied a VAR approach to examine the dynamic relationship among oil prices, real stock market returns. Basher and Sandusky (2006); Driesprong, Backus, Crucini, & Bernanke (2008); Lescaroux and Mignon (2008) have studied the relationships between oil and stock market returns for a large panel of developed and emerging countries. Driesprong et al. (2007); Sandusky (2006); Nunda and Gaff (2008); Miller and Mouse (2009) Empirical evidence provided by Rodriguez and Sanchez (2004); Tamaki (2002); Lardil and Mignon (2008); Iwayemi (2011); Masulis (1996); El-Sharif (2005) examined the links between oil price changes and stock returns in the UK oil and gas sector. Hon-ra (2002) showed evidence of nonlinear causal effect of oil future prices on international stock markets. Kalian and Park (2008); Yellow and Goo (2007); Mignon and Pinot (2007); Zaouali (2007); Chen et al. (2006); Beach (2008); Kaneko and Lee (2005); Ravichandran and Alkhathlan (2010); implement bootstrap panel co integration techniques and Seemingly Unrelated regression



(SUR) methods to investigate the existence of a long-run relationship capital structure determinants. Jimenez-Rodriguez and Sanchez (2004); Tamaki (2002); Lardil and Mignon (2008); Iwayemi (2011); Huang, Masulis, and Stoll (1996); Sandusky (1999); Kabul and Siphon (1990) and Sandusky (1999) state a negative effect of oil-price volatility on stock market returns. Hong (2002); Sandusky (2001); Goninan (2007); Zhu (2007) also provided statistical support for a number of hypotheses, such as oil prices positively associate with stock market returns. Furthermore, Wei (2003); Kaliaan (2009); Kaliaan and Park (2008); Huang and Goo (2007) used univariate and multivariate GARCH to examine capital structure determinants (Taani 2013, Chadha and Sharma 2015, Faccio and Xu 2015, Gharaibeh 2015, Onaolapo, Kajola et al. 2015, Zerriaa and Noubigh 2015, Chaklader and Chawla 2016, Güner 2016, Barth, Cahan et al. 2017, Burki 2017, Detthamrong, Chancharat et al. 2017, Farrukh and Asad 2017, Guahk 2017, Yildirim, Masih et al. 2018, Özcan 2019, Simatupang, Purwanti et al. 2019).

Specifications regarding the environment of Pakistan, different methods were taken up to the mind. There were lot of assumptions regarding different techniques, but Aryan and Aryan (2010); Park and Ratty (2008); Nunda and Hammoudeh (2007); Park and Ratty (2008); Paver et al (2008); Ayadi, Chattered and Obi (2000); CongLa (2008); Sandusky (2008) and Papapetrou (2001) analysis techniques it is founded that correlation and regression are the best techniques to find out the results in the scenario of south Asia region.

### **Problem Statement:**

Oil and Gas sectors are predominant industries of Pakistan that are controlled and operated by government of Pakistan. As being the involvement of government, these sectors are contempt to give valued performance by economics and by operations to meet the core objective. in the field research, there had been very less worked directed the field of O&G for their capital decisions which centralize the attention towards undermine performance evaluation. By looking in Pakistan had conducted the research to understand capital structure, but it has limited observation in his research that rounded in between capital structure theories. The determinants and influencing determinants are still under research, so this research is an effort towards understanding the



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determinants of capital structure for Oil and Gas sectors of Pakistan. On contrary, this research considered only the Stock Market listed companies.

### **Research Objectives and Questions:**

There are many questions are emerging that constrained to the respective field of research when it is the matter of Oil and Gas companies. The research analyst even has also been studying the respective field for more than 40 years to understand the optimum capital structure determinant for performance elevations. In Pakistan, there were several studies were being examined and conducted about Oil and Gas sectors for their financial aspects that studied within contact of theories implied over it. But the respective research study is rounded among the Oil and Gas sectors of Pakistan to understand their financial decisions, organizational performances as well as their capital structure and its modification. Through the empirical studies conducted on the topic it has been established that a number of company characteristics consistently influence company capital structure. However, the cross-country studies have revealed that institutional differences across companies have an impact of capital structure choices as well. Differences in the development of financial markets along with the preferred external financing sources have been shown to influences the capital structure choices of companies. US and UK companies rely heavily on bond and equity markets for their external financing (Margaritis and Psillaki 2007), where Danish companies rely on bank financing. These differences suggest that determinants of capital structure may change across countries, and as no study on Danish companies' capital structure has taken place, an analysis of the determinants of capital structure in Danish companies provides a gap in the existing literature and provides the overall research aim. However, the research study involves the following research objectives and research questions.

### **Objectives:**

The following are the research objectives of this study:

- The main objective of this study is to determine capital structure factors of high growth firms in Oil and Gas sector of Pakistan.



- To find out effect of tangibility, earning volatility, non-debt tax shield, Liquidity, firm Firm's size, Performance and growth on capital structure of the listed companies in Karachi Stock Exchange of oil and gas sector.
- To determinant the relationship of dependent and independent variables and how significantly these factors effect while determining Capital Structure which play key role in making organization strategies

### **Research Questions:**

The following are the research questions of this study:

1. What is the most influencing dynamic of capital structure for oil sector and gas sector in Pakistan?
2. How capital structure decision are affected with economic circumstance?

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### **Research Methodology**

As we have discussed literature review from different articles to find out the results of our study regarding the relationship between crude oil prices and stock market returns. We will discuss the empirical finding and results of the study. It also provides proves for results. On the basis of previous discussion, all obtained knowledge and practical implication has been applied in this study. To provide the prospective results, different writers have discussed the impact of crude oil prices on stock market returns. Different international and Pakistani writers used different research tools and techniques to study the relationship and interdependency of different dependent and independent variables.

### **Research Design**

This research work is designed in such a way that it helps to understand that does Oil Price Transmit to Emerging Stock Returns. It will be a quantitative research based on secondary data.



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We will use statistical tools for research results. Statistical Tools will be correlation analysis and linear regression analysis on different variables (Detthamrong, Chancharat et al. 2017). The study area of this research work is China, India and Pakistan where companies listed under stock exchange will be studied.

### **Secondary source of Data**

This paper uses the secondary source of data from annual reports of selected countries. Oil price data has been taken from World Bank website. Secondary source of data means that the data which is already used for any other purpose. On the other hand, there is nothing regarding the data collection that has been collected from survey technique or questionnaire. The whole research based on the secondary source of data. Chadha and Sharma (2015) used secondary source of data to analyses that Oil Price Transmit to Emerging Stock Returns.

### **Research tools**

Statistical Tools will be correlation analysis, linear regression analysis and durbin Watson test. Many researchers used different analysis techniques to find out the answers of their research, specifications regarding the environment of south Asia, different methods were taken up to the mind, there were lot of assumptions regarding different techniques.

### **Analysis**

It has discussed the approach to find out the results of our study regarding determinants of capital structure. It has discussed the empirical finding and results of the study and also provides proves for results. On the basis of previous discussion, all obtained knowledge and practical implication has been applied in the analysis (Hull and Dawar 2014). To provide the prospective results, different writers have discussed the determinants of capital structure. Different international and Pakistani writers used different research tools and techniques to study the relationship and interdependency of different dependent and independent variables.

### **Correlation output**

Correlation Analysis: Ordinary

Date: 10/06/18 Time: 09:25





Sample: 2006 2017

Included observations: 204

**Correlation**

**Probability**

	Performance				
	CR	Long term loan	Performance_	Firm's size	Tangibility
CR	1.00				
Long term loan	0.32	1.00			
Performance_	0.14	0.32	1.00		
Firm's size	0.99	0.32	0.86	1.00	
Tangibility	0.98	0.33	-0.72	0.99	1.00

Analyzing the correlation results, it seems that there is positive and negative correlation between selected variables, first there is observation upon the Performance. There is positive correlation between (Firm's size, Long term loan) and Performance, resulting figure for Firm's size of firm and Performance is 0.86, Long term loan and Performance is 0.32, results show positive correlation, depending upon resultant figure of -0.72 between tangibility and Performance, there is negative relationship. Rejecting relationship of credit ratio and Performance.



Analyzing this value, we can say that there is positive relationship to the extent of strong positive, depending on this value one can conclude that there is relationship exists. As a result, we can say that increase in tangibility would increase the Performance of Pakistani companies.

Observing the relationship between Performance and tangibility, there is negative correlation among the variable, depending upon this resultant figure of approximately -0.72 of Pakistani companies. Here we can say that there is significant relationship between variables. Probability value of this results are also less than 0.05 of acceptance level (near to zero).

The relationship between credit ratio and Performance is insignificant as probability value is not on acceptance level and relationship value is 0.14 that show that relationship is insignificant. On the other hand, relationship between **Firm's size** and Performance is same significant as other variables as its probability value is on acceptance level and correlation value is 0.86.

<b>Relationship (correlation)</b>	<b>Probability value</b>	<b>Accepted/Rejected</b>
Performance and Tangibility	0.04	Accepted
Performance and Firm's size	0.22	Accepted
Performance and Long term loan	0.02	Accepted
Performance and CR	0.00	Rejected

**Regression Analysis:**

A statistical measure that attempts to determine the strength of the relationship between one dependent variable (usually denoted by Y) and a series of other changing variables (known as independent variables). I used Liner regression equation in this research.

Dependent Variable: Performance\_

Method: Panel Least Squares

Date: 10/06/18 Time: 04:31

Sample: 2006 2017



Periods included: 12

Cross-sections included: 17

Total panel (balanced) observations: 204

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.4225	0.1097	-3.8502	0.0002
CR	-0.1559	0.2536	-0.6148	0.5393
Long term loan	0.1607	0.0610	2.6340	0.0091
Firm's size	3.1842	0.2923	10.892	0.0000
Tangibility	-2.2122	0.2684	-8.2412	0.0000
R-squared	0.7283	Mean dependent var	2.0148	
Adjusted R-squared	0.6248	S.D. dependent var	2.0576	
S.E. of regression	0.8610	Akaike info criterion	2.5628	
Sum squared resid	147.53	Schwarz criterion	2.6441	
Log likelihood	-256.41	Hannan-Quinn criter.	2.5957	
F-statistic	240.06	Durbin-Watson stat	1.7978	
Prob(F-statistic)	0.0000			

### Interpreting the Regression results

A value of +1.00 implies that the relationship between variables X (Firm's size, Tangibility, Long term loan and CR) and Y (Performance) is perfectly linear, with all data points lying on a line for which Y changes and X also changes. Conversely, a negative value of implies that all data points lie on a line for which Y decreases as X increases (Özcan 2019).

A statistical measure that attempts to determine the strength of the relationship between one dependent variable, Performance (usually denoted by Y) and a series of other changing variables here Firm's size, Tangibility, Long term loan and CR (known as independent variables).



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## R-squared

R-squared is a statistical measure of how close the data are to the fitted regression line. It is also known as the coefficient of determination, or the coefficient of multiple determinations for multiple regressions.

The definition of R-squared is fairly straight-forward; it is the percentage of the response variable variation that is explained by a linear model. Or:

$$R\text{-squared} = \text{Explained variation} / \text{Total variation}$$

R-squared is always between 0 and 100%:

- 0% indicates that the model explains none of the variability of the response data around its mean.
- 100% indicates that the model explains all the variability of the response data around its mean.

Here, the value of R square is 0.54 means 54% variation is explained

In general, the higher the R-squared, the better the model fits your data. However, there are important conditions for this guideline that I'll talk about both in this post and my next post.

## Interpreting Adjusted R Square

If the adjusted R Square value is much lower than the R Square value, it is an indication that our regression equation may be *over-fitted* to the sample, and of limited generalizing. The value of R Square and Adjusted R Square are 72% and 62%, it means explained variations are more than 85%, it is not good to have the values of R square less than 60%. This also tells that how much output variable's variance is explained by the input variable's variance. The adjusted R square explains the accuracy of regression equation.

## Interpretation of P-Values in Linear Regression Analysis

The p-value for each term tests the null hypothesis that the coefficient is equal to zero (no effect). A low p-value ( $< 0.05$ ) indicates that you can reject the null hypothesis. In other words, a predictor that has a low p-value is likely to be a meaningful addition to your model because changes in the predictor's value are related to changes in the response variable.

Conversely, a larger (insignificant) p-value suggests that changes in the predictor are not associated with changes in the response.



Here P value of intercept is 0% which is less than 5%. It indicates that it is statistically significant if less than 5%.

### **Coefficients**

Positive values of coefficients show that the relationship between variables are positive and negative values of coefficients show that relationship between variables is also negative.

### **Durbin Watson test**

This value should be near 2.00, here the value of Durbin Watson stat is 1.79 that shows that results are accurate and there is no autocorrelation between variables.

<b>Relationship (Regression)</b>	<b>Probability value</b>	<b>Accepted/Rejected</b>
Model	0.00	Accepted
Performance and Tangibility	0.00	Accepted
Performance and Firm's size	0.00	Accepted
Performance and Long term loan	0.00	Accepted
Performance and CR	0.53	Rejected

### **Conclusions**

The relationship between the characteristics of capital structure and of the company and the observed debt ratio is examined by the most fundamental literature on capital structures. The most powerful discovery from this research line is that increasingly natural capitalists are attempting to use more debt and corporate finances more efficiently with high tangibility ratios. Literary reviews show that these results generally agree with the idea that debt ratios vary in different ways depending on debt and debt fund benefits.

Many researchers used different analysis techniques to find out the answers of their research, specifications regarding the environment of South Asia. Different methods were taken up to the mind. This paper will use regression and correlation analysis to find out the answers of research questions and objective.



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All tools of analysis have same results, first regression analysis should have showed that there is positive relationship among the variables; correlation analysis should have showed that there is positive correlation among the variables and these variables move towards the same direction, there direction may be positive or negative (Nenu, Vintilă et al. 2018).

The relationship between the characteristics of capital structure and of the company and the observed debt ratio is examined by the most fundamental literature on capital structures. The most powerful discovery from this research line is that increasingly natural capitalists are attempting to use more debt and corporate finances more efficiently with high tangibility ratios. Results showed that performance has significant relationship with tangibility, Firm's size, and Long-term loan on the basis of regression results, same like these results show positive correlation, depending correlations results between tangibility and Performance, there is negative relationship. Both measures show significant results of study.

### **Recommendations**

- Based on this research companies in Pakistan likely to use debt financing for achieving optimal capital structure and to obtain tax benefits.
- Capital structure decisions of the company exceed more than one variable; these findings show that theory of capital structure is relatively dominant in Pakistani scenario.
- Research work on large sample Firm's size increased the importance of oil, gas or coal as consistent energy demands in Pakistan.
- Each capital structure operates on the basis of its assumptions and, besides that, but this research on real data increased the importance of research work in all sectors of economy.
- Research could be conducted on small samples of sectors like oil, gas or coal as this research consist of whole energy sector in Pakistan.
- Future research should comprise the market Long term loan measures and other set of explanatory variables (such as cash-flow based indicators) and should be based on a larger and comprehensive database (public and private companies).



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