

**MACROECONOMIC FACTORS INFLUENCING FIRM'S CAPITAL STRUCTURE:
EVIDENCES FROM PAKISTAN AND INDIA**

By

Zia ur Rehman

A thesis

Presented to the Bahria University, Islamabad

In partial fulfilment of the requirements

For the degree of

Doctor of Philosophy

2019

BAHRIA UNIVERSITY, ISLAMABAD

**SUBMISSION FORM OF THESIS FOR HIGHER RESEARCH DEGREE
BAHRIA UNIVERSITY, ISLAMABAD**

Candidate Name: ZIA UR REHMAN

I submit **4 Copies** of thesis for examination for the degree of PhD, Thesis Titled: Macroeconomic factors influencing firm's Capital Structure: Evidences from Pakistan and India

Candidate Signature: _____ Date: _____

Certificate of Principal Supervisor

I **Dr Muhammad Ayub Siddiqui** being the principal Supervisor for the above student, certify that thesis is in a form suitable for examination and that the candidate has pursued his course in accordance with the Rules of the University.

Signature: _____

Date: _____

Recommendation for Examination

I recommend that the thesis be examined.

Principal Supervisor: _____ Date: _____

Co-Supervisor: _____ Date: _____

Not Recommended for Examination

I recommend that the thesis be examined.

Principal Supervisor: _____ Date: _____

Co-Supervisor: _____ Date: _____

Statement by the Head Faculty/Department

I support the submission of the thesis of the above named student for examination under the University Rules for higher degrees.

Signature: _____

Date: _____

APPROVAL SHEET

SUBMISSION OF HIGHER RESEARCH DEGREE THESIS

The following statement is to be signed by the candidates' supervisor(s) and dean/head of faculty/department and must be received by the Director of Examination, prior to the dispatch of the thesis to the approved examiners.

Candidate's Name:

Discipline:

Faculty/Department:

I hereby certify that the above candidate's work, including thesis, has been completed to my satisfaction and that the thesis is in format and of editorial standard recognized by the faculty/department as appropriate for examination.

Signature(s):

Principal Supervisor:

Date:

Co-Supervisor -1:

(if any)

Date:

Co-Supervisor -2:

(if any)

Date:

The undersigned certify that:

1. The candidate presented at a pre-completion seminar, an overview and synthesis of major findings of the thesis and that the research is of a standard and extent, appropriate for submission as a thesis.
2. I have checked the candidate's thesis and its scope, format and editorial standards are recognized by the faculty/department as appropriate.

Signature(s):

Dean/Head of Faculty/Department:

Date:

DECLARATION OF AUTHENTICATION

I certify that the research work presented in this thesis is to the best of my knowledge my own. All sources used and any help received in the preparation of this thesis have been acknowledged. I hereby declare that I have not submitted this material, either in whole or in parts for any other degree at this or any other institution.

Signature:

ACKNOWLEDGEMENTS

First, I would like to express my sincere gratitude to my supervisor Prof Dr. Muahammad Ayub Siddiqui for his continuous support during my PhD. His guidance was extremely valuable during the time of research and thesis writing. I could not have imagined having a better supervisor and mentor for my PhD study than him.

Besides my supervisor, I would like to thank all the internal and external thesis evaluators for their insightful comments and encouragement, but also for the hard question which incited me to widen my research from various perspectives.

My sincere thanks also goes to my teachers Dr. Zahid Mehmood, Dr. R.K Malik, and Dr. Muhammad Ayub Siddiqui for their guidance and support. Without their precious support it would not have been possible to conduct this research.

I am also thankful to Daewoo Pakistan because their late night bus service to Abbottabad was pivotal in my decision to start my PhD from Bahria University and enabled me to travel daily during my coursework without affecting my regular job responsibilities.

Lastly, I would like to thank my parents, wife and kids for their prayers, love and support. Most importantly, I wish to thank my uncle Dr Nasser Ali Khan for his continuous support, guidance and encouragement.

DEDICATION

I would like to dedicate my thesis to my parents, my wife and my kids

Abstract

Capital structure is concerned with the long term financing of the firm and is recognized as an important managerial decision because of its influence on the value and riskiness of the firm. The theory of capital structure came into prominence after the landmark study of Modigliani and Miller in 1958. Since then numerous researches have been carried out to find out whether capital structure matters or not. During this time a number of factors have been identified which could influence firm financing decisions. These factors are categorized into internal factors and external factors. Initially most of the researches have focused on internal factors whereas in recent times we have witnessed the shift in focus from internal factors to external factors. During the last few decades, the macroeconomic environment has change considerably around the globe thus presenting numerous challenges for managers to run businesses successfully. Changes like integration in international financial markets, deregulation, trade liberalization, increased mobility of capital across countries have made national economies vulnerable to real and monetary shocks occurring in the global markets. Changes in macroeconomic environment are a major concern for modern managers because firm's corporate performance is strongly affected by it. Therefore, the purpose of this study is to measure the effect of macroeconomic factors on the capital structure of non-financial firms in India and Pakistan. Panel data regression (fixed effects model) was used to measure the effect of macroeconomic factors on capital structure. Data from 2004-2013 for 929 firms was collected from World Bank database, State Bank of Pakistan database and Money control database. The findings of the study revealed that macroeconomic factors significantly influence capital structure decisions of the firm. The effect of corporate taxes, real interest rates, GDP growth rates on economic leverage is positive whereas exchange rates, public debt and stock market development show a negative effect on with economic leverage. These findings are attributed to the challenging environments of Pakistan and India. Both countries are in the development phase where financial markets are not fully developed and governments' inclination to financing budget deficits through local borrowing leaves very little for the private sector borrowing. Real interest rate, corporate taxes and GDP growth rate

positively influences economic leverage thus showing firm preference for exploiting tax shield advantages. Furthermore, in comparative analysis of Pakistani and Indian firms, it was found that corporate taxes, GDP growth rates and exchange rates are significantly affect economic leverage in Pakistan whereas in India only corporate taxes is significantly influencing capital structures of listed firms. Hence, if governments in both countries provide better and stable monetary and fiscal policies, improve law and order and provide a friendly business environment then firms will greatly benefit by taking long-term financing decisions that will be influential in the growth of firms as well as overall economy. In future similar studies can be conducted involving financial firms as well as other external factors like political, technological factors etc. to measure their impact on firm leverage.

Contents

ACKNOWLEDGEMENTS	v
DEDICATION	vi
Abstract	vii
List of Tables	xii
ABBREVIATIONS	xiii
Chapter 1: Introduction	1
1.1 Back ground and Rationale for Research	3
1.2 Problem Statement	7
1.2.1 Research Objective:	8
1.2.2 Sub Objectives:.....	8
1.2.3 Research Questions:	8
1.3 Uniqueness of the study	9
1.4 Significance of Study	12
1.5 Structure of Thesis	13
Chapter 2: Evolution of Capital Structure Theory and Business Environment of Firm.....	15
2.1 Evolution of Capital Structure Theory.....	15
2.2 Business Environment.....	20
2.3 Importance of Macroeconomic environment for business	21
Chapter 3: Literature Review	24
3.1 Real Interest rates	25
3.2 GDP growth rate (GDPR).....	35
3.3 Corporate Taxes	43
3.4 Exchange rates	52
3.5 Public Debt	57
3.6 Stock Market Development	62
3.7 Conclusion.....	68
Chapter 4: Data and Methodology	71
4.1 Conceptual Framework-Theories of Capital Structure	72
4.1.1 Trade-Off Theory.....	72
4.1.1.1 Empirical Evidence of TOT	74
4.1.2 Pecking Order Theory (POT)	75
4.1.2.1 Empirical evidence of Pecking Order Theory	78
Theoretical Framework.....	79

4.2 Data	80
4.2.1 Transformation of Variables	82
4.2.2 Missing Values.....	83
4.3 Sample.....	85
4.4 Panel Data Regression	87
4.4.1 Fixed Effects Method	88
4.4.2 Random Effects Method	88
4.5 Model	90
4.5.1 Model 1	90
4.5.2 Model 2	90
4.6 Measurement of Variables.....	92
4.6.1 Independent Variables	92
4.6.2 Dependent Variable	94
4.7 Multicollinearity	94
4.8 Panel Unit Root Test	96
4.9 Heteroscedasticity	97
4.9.1 Generalized Least Squares	99
Chapter 5: Data Analysis	101
5.1 Descriptive Statistics	101
5.1.1 Descriptive Statistics of Variables	101
5.1.2 Descriptive statistics – Pakistan	103
5.1.3 Descriptive Statistics – India	104
5.2 Empirical Results: Model 1.....	106
5.3.1 Factors of monetary policy and its influence on firm’s capital structure	108
5.3.2 Factors of Fiscal policy and their effect on the choice of capital structure in Pakistan and India	111
5.3.3 Influence of stock market development and exchange rates on capital structure	113
5.4 Speed of Adjustment	116
5.5 Short-run/Long-run relationship between macroeconomic factors and capital Structure.....	117
5.6 Empirical Results: Model 2.....	118
5.7 Comparative analysis of macroeconomic factors and its impact on firm capital structure in selected sectors of KSE and BSE.....	123
5.7.1 Industrial Sector analysis of KSE, Pakistan	124
5.7.2 Industrial sector Analysis of BSE, India	129

Chapter 6: Conclusion	135
6.1 Summary of main findings:	135
6.2 Recommendations	137
6.3 Limitations of the Study	139
6.4 Policy Implications	139
6.5 Future Research	140
References	142

List of Tables

Table 4.1 Breakdown of selected firms from various industrial sectors.....	87
Table 4.2 Hausman Test.....	89
Table 4.3 Correlation Matrix of variables.....	96
Table 4.4 Variance Inflation Factors of independent variables	97
Table 4.5 Panel root test.....	97
Table 4.6 Treatment for Heteroscedasticity Results before the application of GLS cross-section weights.....	100
Table 4.6 Treatment for Heteroscedasticity Results after the application of GLS cross-section weights.....	100
Table 5.1 Descriptive Statistics (Combine data).....	102
Table 5.2 Descriptive statistics (Pakistan).....	103
Table 5.3 Descriptive Statistics (India).....	105
Table 5.4 Panel Regression Analysis.....	107
Table 5.5 Partial adjustment model for controlling endogeneity.....	107
Table 5.6 Expected and Actual relationship of macroeconomic variables with economic leverage.....	116
Table 5.7 Short-run Long-run relationship between macroeconomic variables and capital Structure.....	117
Table 5.8. Panel Regression results with respect to Pakistan and India.....	119
Table 5.9. Regression Results: Slope Coefficients and Differential Slope Coefficients	119
Table 5.10 Industry-wise influence of macroeconomic variables on capital structure choice of listed firms in KSE, Pakistan.....	127
Table 5.11 Industry-wise influence of macroeconomic variables on capital structure choice of listed firms in BSE, India.....	132

ABBREVIATIONS

BSE	Bombay Stock Exchange
CPI	Consumer Price Index
CT	Corporate taxes
EXG	Exchange rate
GD/PD	Government debt/Public debt
GDP	Gross domestic product
GDPR	GDP growth rate
GLS	Generalize Least Squares
GMM	General Methods of Moments
IPO	Initial Public Offerings
KSE	Karachi Stock Exchange
LSDV	Least Square Dummy Variable
MM	Modigliani and Miller
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
PPP	Purchasing Power Parity
RBI	Reserve Bank of India
RIR	Real interest rate
ROA	Return on Assets
ROE	Return on Equity
SBP	State Bank of Pakistan
SMD	Stock market development
SMEs	Small and medium enterprises
WACC	Weighted average cost of capital