

“Effect of Leverage (Operating and Financial) on  
Profitability of Chemical Sector of Pakistan”



**By:**

*Name:* Wardah Walid

*Enrolment #:* 01-122141-033

**MBA**

**Supervisor:**

Miss Ammara Mujtaba

Department of Management Sciences

Bahria University Islamabad

2015.

“Effect of Leverage (Operating and Financial) on  
Profitability of Chemical Sector of Pakistan”



**By:**

**Name: Wardah Walid**

**Enrolment #: 01-122141-033**

**MBA**

**Supervisor:**

Miss Ammara Mujtaba

A research project submitted in partial fulfilment of the requirement for  
the degree of MBA

Department of Management Sciences

Bahria Institute of Management and Computer Sciences

Bahria University Islamabad

2015.

## ACKNOWLEDGEMENT

I would like to thank all the people who have contributed in some way to the completion of this thesis. Foremost, I would like to express my sincere appreciation and gratitude to my supervisor, Miss Ammara Mujtaba, for the support, guidance, patience and understanding throughout my thesis. Without her help I would not have been able to produce the quality of work in this study.

Additionally, I would like to thank all the teachers who have helped and guided me throughout this MBA degree and made me capable of accomplishing this task. My sincere thanks to the members of the research cell, who provided us with timely guidance throughout this process. I would also like to express my gratitude towards the administration of Bahria University Islamabad and the Department of Management Sciences, who provided us with a platform for this learning experience.

My special thanks to my parents and friends, who supported and encouraged me throughout this process.

# Abstract

Business is considered an economic engine for any country. It provides goods, services and income to the people and receives resources and revenues from them. This circular flow keeps the economy running and growing. In order to meet its expenses, a business needs investment in different forms. However, an investor will only invest in a business if he can earn good return for his investment with least amount of risk involved. Due to this fact, companies aim to maximize shareholders wealth.

In order to achieve this primary goal, investment and financing decisions play an important role in the profitability of a company. These decisions gives rise to an important financial factor known as leverage. A lot of theoretical work is found which aims to explain the relationship of leverage and profitability. However, this research work does not provide one solution which can be applied to all economies and markets. The empirical research work done on this topic provides multiple examples of the fact, that in different economies and market segments the nature of this relationship is different. This creates a need to analyse this relationship in different environments to determine specific factors which effect it.

This study aims to analyse the effect of leverage on profitability in the chemical sector of Pakistan. This sector has a lot of potential but has not received much attention from the government due to which its growth has remained slow. To determine the effect of leverage in the chemical industry the DOL, DFL and DCL values of 28 chemical companies have been calculated for the years 2007 – 2013. The effect of these factors is analysed by correlation and regression analysis on ROA, ROE and EPS. The results show that operating and combined leverage have positive relationship with the profitability, while the financial leverage has negative relation. However, none of these relationships are statistically significant.

The results conclude that the leverage does not have a significant relationship with the profitability of the chemical industry of Pakistan and it cannot be used as tool to magnify profits. This is due to the high cost of raw materials and poor technology utilized in the industry to produce resource and labor intensive but low value added products. Moreover, chemical sector is still in a growing phase where a lot of companies are still establishing and need time for stable and financially strong operations.

# TABLE OF CONTENTS

<b>CHAPTER</b> .....	<b>1</b>
<b>1 Introduction</b> .....	<b>1</b>
1.1 Background of the Study.....	1
1.2 Industry Analysis: Chemical, Chemical Products and Pharmaceuticals.....	4
1.2.1 Pakistan Chemical Industry .....	6
1.3 Objectives of the Study .....	8
1.4 Research Questions .....	9
1.5 Important Definitions .....	9
1.5.1 Leverage.....	9
1.5.2 Operating Leverage.....	10
1.5.3 Financial Leverage.....	10
1.5.4 Combined Leverage .....	10
1.5.5 Profitability .....	11
1.5.6 Wealth Maximization.....	12
1.6 Structure of the Thesis.....	12
<b>CHAPTER</b> .....	<b>14</b>
<b>2 Literature Review</b> .....	<b>14</b>
2.1 Theoretical Research .....	14
2.2 Empirical Research .....	17
<b>CHAPTER</b> .....	<b>23</b>
<b>3 Theoretical Framework</b> .....	<b>23</b>
3.1 Measurement Variables.....	23
3.1.1 Independent Variables .....	23
3.1.2 Dependent Variables .....	24
3.2 Hypotheses .....	25
3.3 Regression Models .....	25
<b>CHAPTER</b> .....	<b>27</b>
<b>4 Methodology</b> .....	<b>27</b>
4.1 Sources of Data .....	27
4.2 Sampling.....	27
4.3 Tools for Analysis .....	27
<b>CHAPTER</b> .....	<b>29</b>
<b>5 Results and Analysis</b> .....	<b>29</b>
5.1 Overall Industry Analysis.....	29

5.2	Sample Analysis .....	31
5.3	Descriptive Statistics .....	32
5.4	Correlation Analysis.....	34
5.5	Regression Analysis .....	36
5.5.1	ROA with DOL, DFL and DCL .....	37
5.5.2	ROE with DOL, DFL and DCL.....	38
5.5.3	EPS and DOL, DFL and DCL .....	39
5.6	Sub-Sample Analysis .....	39
<b>CHAPTER</b>	<b>.....</b>	<b>43</b>
<b>6</b>	<b>Conclusion and Recommendations .....</b>	<b>43</b>
6.1	Conclusion.....	43
6.1.1	Limitations of the Study.....	44
6.1.2	Future Research Work .....	44
6.2	Recommendations .....	44
<b>7</b>	<b>Bibliography .....</b>	<b>47</b>