

**RELATIONSHIP BETWEEN THE FINANCIAL LEVERAGE AND OPERATING  
LEVERAGE OF LISTED COMPANIES IN SRI LANKA**



**By**

**RANJITH SIRISENAGE WATHSALA MADHUSHANI JAYALATH**

**REG. NUMBER: EU/IS/2015/COM/36**

**INDEX NUMBER: COM 1916**



**A Project Report Submitted to the Faculty of Commerce and Management, Eastern  
University, Sri Lanka as a partial fulfillment of the requirement of the Degree of  
Bachelor of Commerce Honors in Accounting and Finance**

**Department of Commerce**

**Faculty of Commerce and Management**

**Eastern University, Sri Lanka**

**2020**

**PROCESSED  
MAIN LIBRARY, EUSL**

## ABSTRACT

In present era competitive world having business is very important to identify relationship between operating and financial leverage. Because of Should a business increase or reduce the number of units it is producing, should it rely more or less heavily on borrowed money, the answer depends upon how a change would affect risk and return. Operating leverage is the name given to the impact on operating income of a change in the level of output. Financial leverage is the name given to the impact on returns of a change in the extent to which the firm's assets are financed with borrowed money.

Financial leverage plays an important role to make a control over the financial statement of the organization. Operating leverage represents an important decision variable at all stages of product manufacturing and sales. Secondary data collection method was used in this research. From 2015 to 2019 was gathered for the analysis from the annual reports of twenty (20) listed companies on the Colombo Stock Exchange. Measures of operating leverage were examined and related to proxies for efficient financial management by listed companies. There were 286 listed companies on Colombo Stock Exchange and 20 companies were selected as sample using random sampling method.

Further collected data were analyzed by using the STATA-15 package for interpreting and obtaining conclusion. The main objective of this study is determining the relationship between financial leverage and operating leverage of listed companies in Sri Lanka. The overall research findings indicate that there is a significant negative relationship between financial leverage and operating leverage. Findings of this research help to make effective decision of related parties.

**Keywords:** - Financial Leverage (FL), Operating Leverage (OPL), Debt Equity Leverage (DEL), Debt Total Assets Leverage (DTAL), Debt Service Leverage (DSL)

# CONTENTS

<b>ACNOWLEDGEMENT</b> .....	<b>i</b>
<b>ABSTRACT</b> .....	<b>ii</b>
<b>LIST OF TABLES</b> .....	<b>i</b>
<b>LIST OF FIGURES</b> .....	<b>ii</b>
<b>ABBREVIATIONS</b> .....	<b>iii</b>
<b>CHAPTER ONE</b> .....	<b>1</b>
<b>INTRODUCTION</b> .....	<b>1</b>
1.1 BACKGROUND OF THE STUDY .....	1
1.2 PROBLEM STATEMENT .....	4
1.3 RESEARCH QUESTIONS .....	5
1.4 OBJECTIVES OF THE STUDY .....	5
1.5 SIGNIFICANCE OF THE RESEARCH.....	5
1.6 SCOPE OF THE RESEARCH .....	6
<b>CHAPTER TWO</b> .....	<b>1</b>
<b>LITERATURE REVIEW</b> .....	<b>1</b>
2.1 INTRODUCTION .....	1
2.2 CONCEPT OF FINANCIAL LEVERAGE.....	1
2.2.1 Debt Capital .....	3
2.2.2 Equity Capital .....	5
2.3 FINANCIAL LEVERAGE AND RATIO .....	6
2.3.1 Debt to Equity Leverage .....	7
2.3.2 Debt Total Assets leverage .....	8
2.3.3 Interest Coverage Ratio.....	9
2.4 CONCEPT OF OPERATING LEVERAGE.....	9
2.4.1 Operating Leverage and Variable Costs .....	11
2.4.2 Operating Leverage and Fixed Costs .....	11
2.5 HIGH AND LOW OPERATING LEVERAGE .....	12
2.5.1 High Operating Leverage.....	12
2.5.2. Low Operating Leverage .....	12
2.6 THEORIES RELATING TO FINANCIAL LEVERAGE AND OPERATING LEVERAGE .....	12
2.6.1 FINANCIAL LEVERAGE .....	12

2.6.1.1 Trade-Off Theory .....	12
2.6.1.2 Pecking Order Theory .....	14
2.6.1.3 Agency Theory .....	16
2.6.1.4 Life Stage Theory .....	18
2.6.1.5 Information Asymmetry Theory .....	18
2.6.2 OPERATING LEVERAGE .....	19
2.6.2.1 Contribution Margin .....	19
2.6.2.2 Break-Even Point .....	20
2.6.2.3 Bottom Line .....	20
2.7 EMPIRICAL REVIEW .....	21
2.8 CHAPTER SUMMARY .....	23
<b>CHAPTER THREE .....</b>	<b>24</b>
<b>CONCEPTUALIZATION AND OPERATIONALIZATION .....</b>	<b>24</b>
3.1 INTRODUCTION .....	24
3.2 CONCEPTUALIZATION .....	24
3.3 VARIABLES RELEVANT TO CONCEPTUAL MODEL .....	25
3.3.1 Financial Leverage .....	26
3.3.2 Operating Leverage .....	28
3.4 RESEARCH HYPOTHESES .....	29
3.5 OPERATIONALIZATION .....	29
3.6 CHAPTER SUMMARY .....	31
<b>CHAPTER FOUR .....</b>	<b>32</b>
<b>METHODOLOGY .....</b>	<b>32</b>
4.1 INTRODUCTION .....	32
4.2 STUDY SETTINGS, DESIGN .....	33
4.2.1 Study Setting .....	33
4.2.2 Study Design .....	33
4.3 STUDY POPULATION AND SAMPLE .....	33
4.3.1 Population .....	33
4.3.2 Sampling .....	33
4.4 DATA COLLECTION .....	35
4.4.1 Method of Data Collection .....	35
4.5 METHOD OF DATA PRESENTATION .....	36

4.6 METHOD OF DATA ANALYSIS AND EVALUATION .....	36
4.6.1 Panel Data Analysis .....	36
4.6.2 Unit root test .....	36
4.6.3 Diagnostic Test .....	37
4.7 MULTIPLE REGRESSION ANALYSIS .....	39
4.7.1 Hausman test .....	39
4.8 DESCRIPTIVE ANALYSIS .....	43
4.9 LINEAR CORRELATION ANALYSIS .....	43
4.10 HYPOTHESIS TESTING .....	44
4.11 CHAPTER SUMMARY .....	45
<b>CHAPTER FIVE .....</b>	<b>46</b>
<b>DATA PRESENTATION AND ANALYSIS .....</b>	<b>46</b>
5.1 INTRODUCTION .....	46
5.2 DATA PRESENTATION .....	46
5.3 DATA ANALYSIS .....	46
5.3.1 Descriptive Statistics .....	46
5.3.2 Diagnostic Test .....	53
5.3.2.1 Normality Test .....	53
5.3.2.2 Heteroscedasticity Test .....	54
5.3.2.3 Multicollinearity Test .....	54
5.3.2.4 Autocorrelation Test .....	55
5.4 CORRELATION ANALYSIS .....	55
5.4.1 The Relationship Between Debt Equity Leverage and Operating Leverage .....	56
5.4.2 The Relationship Between Debt Total Assets Leverage and Operating Leverage .....	57
5.4.3 The Relationship Between Debt Service Leverage and Operating Leverage .....	58
5.5 MULTIPLE REGRESSION ANALYSIS .....	58
5.5.1 Fixed Effect Model .....	59
5.5.2 Random Effects Model .....	59
5.5.3 Hausman Test .....	60
5.6 TESTING HYPOTHESIS .....	61
5.7 CHAPTER SUMMARY .....	63
<b>CHAPTER SIX .....</b>	<b>64</b>
<b>FINDINGS AND DISCUSSION .....</b>	<b>64</b>

6.1 INTRODUCTION .....	64
6.2 DISCUSSION OF RESERCH FINDINGS .....	64
6.2.1 Discussion of Univariate Analysis.....	64
6.2.1.1 Discussion of Financial Leverage Ratios Upon Descriptive Statistics .....	64
6.2.1.1.1 Financial Leverage Level of Company Based on Debt Equity Leverage .....	64
6.2.1.1.2 Financial Leverage Level of Company Based On Debt Total Assets Leverage .....	65
6.2.1.1.3 Financial Leverage Level of Company Based on Debt Total Assets Leverage .....	65
6.2.1.2 Discussion of Operating Leverage Ratios Upon Descriptive Statistics .....	66
6.2.2 Discussion On Bivariate Analysis Through Correlation.....	66
6.2.2 1 Relationship Between Debt Equity Leverage and Operating Leverage.....	66
6.2.2.2 Relationship Between Debt Total Assets Leverage and Operating Leverage .....	66
6.2.2.3 Relationship Between Debt Service Leverage and Operating Leverage .....	67
6.2.3 Impact Of Financial Leverage On Operating Leverage .....	67
6.3 COMPARISON OF THE FINDINGS WITH THE OUTCOMES OF PREVIOUS RESEARCHES .....	67
6.3.1 Discussion of Univariate Analysis.....	67
6.3.2 Discussion On Bivariate Analysis Through Correlation.....	68
6.3.2.1 Relationship Between Debt Equity Leverage and Operating Leverage.....	68
6.3.2.2 Relationship Between Debt Total Assets Leverage and Operating Leverage .....	68
6.3.2.3 Relationship Between Debt Service Leverage and Operating Leverage .....	69
6.3.3 Impact of Financial Leverage On Operating Leverage.....	70
6.4 SUMMARY .....	70
<b>CHAPTER SEVEN.....</b>	<b>71</b>
<b>CONCLUTIONS AND RECOMMENDATIONS .....</b>	<b>71</b>
7.1 INTRODUCTION .....	71
7.2 CONCLUSION.....	71
7.2.1 Conclusion On the Relationship Between Debt Equity Leverage and Operating Leverage.....	72
7.2.2 Conclusion On the Relationship Between Debt Total Assets Leverage and Operating Leverage.....	72
7.2.3 Conclusion On the Relationship Between Debt Service Leverage and Operating Leverage.....	72
7.3 RECOMMENDATIONS .....	73

7.3.1 Recommendations On the Relationship Between Debt Equity Leverage and Operating Leverage.....	73
7.3.2 Recommendations On the Relationship Between Debt Total Assets Leverage and Operating Leverage.....	73
7.3.3 Recommendations On the Relationship Between Debt Service Leverage and Operating Leverage.....	73
7.4 LIMITATIONS OF THE STUDY.....	74
7.5 SUGGESTIONS FOR FUTURE RESEARCH .....	74
7.6 CHAPTER SUMMARY .....	75
<b>References .....</b>	<b>76</b>