ADJUSTMENT SPEED TOWARDS TARGET CAPITAL STRUCTURE AND ITS DETERMINANTS IN PAKISTAN

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ABSTRACT

This study investigates the dynamism of the capital structure of the non-financial listed firms in Pakistan for the period from 2003 to 2012. Specifically, the main objectives of the study are to estimate the adjustment speed towards target capital structure, determining the factors affecting the adjustment speed towards target capital structure, and identifying the factors affecting the target capital structure. Firm specific and country specific factors are used to investigate the determinants of adjustment speed and target capital structure. Difference Generalized Method of Moments (GMM) is used as the estimation technique to avoid the endogeneity and serial correlation problems. The study confirms the existence of optimal capital structure for Pakistani non-financial listed firms, and concludes that firms make full adjustment towards optimal capital structure in 1.46 years to 2.03 years, depending upon the proxy of target debt used. Similarly, factors affecting adjustment speed towards target are also found to be dependent upon the proxy of debt used. Firms' profitability, stock market development, and distance are found to be relatively consistent determinants of the adjustment speed. Firm and country specific factors affecting target capital structure are also found to vary across the proxies of debt used. However, tangibility, earning volatility, cash, and industry median leverage appear consistently and significantly affecting the target leverage. Interest rate, the only country specific factor, is found to affect target debt when total liabilities to total assets and total debt to total assets are used as measure of the debt. This study contributes in the existing literature of the capital structure by providing evidence regarding the existence of target capital structure in Pakistan. In addition, this is the first attempt that estimates the adjustment speed towards target capital structure, and identifies factors affecting adjustment speed towards target capital structure for Pakistan using four different proxies of leverage.

Keywords: dynamic capital structure, speed of adjustment, generalized method of moments

ABSTRAK

Kajian ini menyiasat kedinamikan struktur modal syarikat-syarikat bukan kewangan yang disenaraikan di Pakistan dari 2003 hingga 2012. Secara khusus, objektif utama kajian ini ialah untuk menganggarkan penyesuaian halaju terhadap sasaran struktur modal, menentukan faktor-faktor yang mempengaruhi penyesuaian halaju terhadap sasaran struktur modal, dan menentukan faktor-faktor yang mempengaruhi sasaran struktur modal. Faktor spesifik syarikat dan faktor spesifik negara digunakan untuk menyiasat penentu penyesuaian halaju dan sasaran struktur modal. *Difference Generalized Method of Moments* (GMM) digunakan sebagai teknik anggaran bagi mengelak masalah endogeniti dan korelasi bersiri. Kajian ini menyokong kehadiran struktur modal optimal untuk syarikat-syarikat bukan kewangan yang disenaraikan di Pakistan, dan menyimpulkan bahawa syarikat membuat penyesuaian penuh terhadap struktur modal optimal dalam tempoh 1.46 tahun hingga 2.03 tahun, bergantung kepada proksi sasaran hutang yang digunakan. Faktor yang mempengaruhi penyesuaian halaju terhadap sasaran juga didapati bergantung kepada proksi hutang yang digunakan. Keuntungan syarikat, pembangunan pasaran saham, dan jarak didapati secara konsisten sebagai penentu penyesuaian halaju. Faktor spesifik syarikat dan faktor spesifik negara yang mempengaruhi sasaran struktur modal juga didapati berbeza bergantung kepada proksi hutang yang digunakan. Walau bagaimanapun, tangibiliti, volatiliti pendapatan, tunai, dan median leveraj industri dilihat konsisten dan signifikan dalam mempengaruhi sasaran leveraj. Kadar faedah yang merupakan satu-satunya faktor spesifik negara didapati mempengaruhi sasaran hutang apabila jumlah liabiliti kepada jumlah aset dan jumlah hutang kepada jumlah aset digunakan sebagai ukuran hutang. Kajian ini menyumbang kepada literatur sedia ada tentang struktur modal dengan menyediakan bukti tentang kewujudan sasaran struktur modal di Pakistan. Sebagai tambahan, ini merupakan cubaan pertama yang menganggarkan penyesuaian halaju terhadap sasaran struktur modal, dan mengenalpasti faktor-faktor yang mempengaruhi penyesuaian halaju terhadap sasaran struktur modal di Pakistan menggunakan empat proksi leveraj yang berbeza.

Kata kunci: struktur modal dinamik, penyesuaian halaju, *generalized method of moments.*

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LIST OF ABBREVIATIONS

ASEAN	Association of South East Asian Nations
CBA	Collective Bargaining Agency
CEE	Central and Eastern European
CEO	Chief Executive Officer
CPI	Corruption Perception Index
CV	Coefficient of Variation
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest Taxes Depreciation and Amortization
FMOLS	Fully Modified Ordinary Least Square
GDP	Gross Domestic Product
GMM	Generalized Method of Moments
HLM	Hierarchical Linear Modeling
IFS	International Financial Statistics
ISE	Islamabad Stock Exchange
KSE	Karachi Stock Exchange
LSE	Lahore Stock Exchange
LTD	Long Term Debt
MM	Modigliani-Miller
MTB	Market-to-Book
NDTS	Non Debt Tax Shield
NPV	Net Present Value
OD	Observed Debt
OLS	Ordinary Least Square
R&D	Research and Development
ROA	Return on Assets
ROE	Return on Equity
SBP	State Bank of Pakistan
SEM	Structural Equation Modeling
SMEs	Small and Medium Enterprises
STD	Short Term Debt
TA	Total Assets

TD	Target Debt
TFCs	Term Finance Certificates
TSLS	Two Stage Least Square
UK	United Kingdom
US	United States
WACC	Weighted Average Cost of Capital
WDI	World Development Indicators

CHAPTER ONE

INTRODUCTION

1.1 Background and Motivation of the Study

The debate on the issue of optimal capital structure[1] began after the founding research study by Modigliani and Miller (1958). In this paper they conclude that under the restrictive set of assumptions the capital structure is irrelevant. That means financing with debt or equity doesn't affect the firm's value (Modigliani & Miller, 1958). After 5 years of this irrelevance theory, Modigliani and Miller (1963) considered the corporate taxes and favored the use of 100 percent debt in capital structure due to tax deductibility of interest expense. Kraus and Litzenberger (1973) further advanced the Modigliani and Miller's work and considered both the benefits of using debt and the bankruptcy costs that could incur due to use of the excessive debt, and suggested an optimal capital structure.

Since then numerous research studies, mainly focusing on developed countries, have been conducted investigating the factors determining the optimal capital structure, and many theories have emerged from these studies. Worth mentioning theories are: Trade-off theory, Dynamic trade-off theory, Agency theory, Market Timing theory, and Pecking order theory. The applicability of the theories of capital structure, formulated on the basis of empirical evidences from developed countries, need to be investigated and understood

[1] The term optimal capital structure is also referred as the target capital structure, optimal leverage, target leverage, target debt, and optimal debt. These terms have been used interchangeably in this document.

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