



**The Effects of Capital Structure and Selected
Macroeconomic Variables on Firm Value in Nigeria**

by

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LIST OF ABBREVIATIONS

STDA	Short -Term Debt to Total Asset
LTDA	Long -Term Debt to Total Asset
TDTA	Total Debt to Total Asset
TDTE	Total Debt to Total Equity
CS	Capital Structure
MEV	Macroeconomic Variables
CF	Contingency Factors
CV	Control Variables
FV	Firm Value
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortisation

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Kesan Struktur Modal dan Pembolehubah Makroekonomi Terpilih terhadap Nilai Firma di Nigeria

ABSTRAK

Banyak kajian telah menekankan pentingnya struktur modal sebagai aspek penting dalam perancangan kewangan dan pengaruhnya terhadap nilai firma di negara maju dan negara berkembang. Walau bagaimanapun, pengurus kewangan dalam organisasi perniagaan sukar untuk menentukan nisbah asas hutang dan ekuiti dan tahap modal optimum. Hasilnya, keutamaan pengurus adalah menilai pelbagai kos dan faedah yang berkaitan dengan penggunaan hutang dan ekuiti. Beberapa faktor mempengaruhi sama ada menggunakan hutang atau ekuiti, iaitu faktor khusus firma dan pemboleh ubah makroekonomi luaran. Pada asasnya, objektif utama kajian ini adalah untuk mengkaji kesan penyederhanaan faktor kontingensi (klasifikasi industri, intensiti R&D dan dominasi CEO) terhadap hubungan antara struktur modal dan nilai firma syarikat tersenarai di Nigeria. Objektif kedua adalah untuk mengkaji kesan faktor makroekonomi terhadap nilai firma syarikat tersenarai di Nigeria. Data dikumpulkan dari DataStream dan laporan tahunan 30 syarikat tersenarai sampel di Nigeria untuk tempoh tersebut. Untuk tujuan analisis, analisis data panel digunakan, dan hasilnya menunjukkan bahawa komponen struktur modal (nisbah LTDA, nisbah TDTA dan nisbah TDTE) mempunyai pengaruh positif yang signifikan terhadap nilai firma. Sebaliknya, nisbah STDA mempunyai kesan yang tidak signifikan terhadap nilai firma. Di samping itu, hasil kajian menunjukkan bahawa faktor ekonomi makro mempunyai pengaruh yang signifikan terhadap nilai firma. Lebih-lebih lagi, hasil kajian menunjukkan bahawa faktor kontingensi (klasifikasi industri, intensiti R&D dan dominasi CEO) menyederhanakan hubungan antara struktur modal dan nilai firma. Berdasarkan penemuan ini, kajian ini menyimpulkan bahawa firma dapat meningkatkan nilai mereka dengan menyelaraskan dan mengintegrasikan faktor kontingensi terhadap keputusan struktur modal mereka. Kajian ini juga menunjukkan bahawa pengurus firma Nigeria harus menumpukan pada keputusan pembiayaan yang melibatkan mencari kombinasi ekuiti dan hutang tertentu yang memaksimumkan nilai keseluruhan pasaran mereka.

Kata kunci: Struktur Modal, Faktor Makroekonomi, Kesan Penyederhanaan, Faktor Luar Jangka, Firma Nigeria

The Effects of Capital Structure and Selected Macroeconomic Variables on Firm Value in Nigeria

ABSTRACT

Many studies have stressed the importance of capital structure as a significant aspect of financial planning and its effect on firm value in advanced and emerging nations. However, financial managers in business organisations find it difficult to determine the fundamental ratio of debt and equity and the optimum capital level. As a result of this, the manager's priority is to evaluate the various costs and benefits associated with using both debt and equity. Several factors influence whether to employ debt or equity, namely, the firm-specific factors and external macroeconomic variables. On the premise of this, the main objective of this study is to examine the moderating effects of contingency factors (industry classification, R&D intensity and CEO dominance) on the relationship between capital structure and firm value of listed firms in Nigeria. The second objective is to examine the effects of macroeconomic factors on the firm value of listed firms in Nigeria. Data were collected from DataStream and annual reports of 30 sampled listed firms in Nigeria for the period. For analysis purposes, panel data analysis was used, and the result shows that capital structure components (LTDA ratio, TDTA ratio and TDTE ratio) have a significant positive effect on firm value. In contrast, STDA ratio has an insignificant effect on firm value. In addition, the findings indicate that macroeconomic factors have a significant effect on firm value. Moreover, the findings indicate that contingency factors (industry classification, R&D intensity and CEO dominance) moderates the relationship between capital structure and firm value. Based on these findings, this study concludes that firm can improve their value by aligning and integrating contingency factors towards their capital structure decisions. This study also suggests that managers of Nigerian firms should focus on financing decisions that involve finding a particular combination of equity and debt that maximizes their overall market value.

Keywords: Capital Structure, Macroeconomic Variables, Contingency Factors, Firm Value, Nigerian Firms

CHAPTER 1: INTRODUCTION

1.1 Introduction

In the corporate world, the maximisation of shareholder's wealth and value has been recognised as a significant factor influencing a firm's financial decisions. The value of a firm represents the firm's past, present, and future performance as well as the long-term interest of investors (Bhullar & Bhtnagar, 2013). Value is the distinguishing measuring factor within a market economy. People invest in the hope that each investment's value will have risen by a fair amount above its cost when they sell to compensate them for the risk they took (Koller, Goedhart & Wessels, 2010). This refers to all forms of investment, be it stocks, derivatives, bank accounts or business shares. Indeed, the capacity of a firm to generate value for its shareholders in a trading environment and the amount of profit it generates are the key metrics by which it is measured.

For many decades, profit has been viewed as the sole maximisation function of firms by both business theory and practice (Fiori, Donato & Izzo, 2007). Managers for many businesses focus on the generated financial returns referred to as profit margin, shareholders return or return on investment. This category of returns represents the historical performance, as reported in the annual financial report. However, they are not the most excellent alternatives for what the investors can benefit from a firm. While economic profits are essential to a firm's core stakeholders, most of the stakeholders yearn for other things such as trusting relationship based on principle of distributional, procedural, and interactional justice (Harrison, Bosse & Phillips, 2010).

Firm value is a hugely useful performance measure because it considers the long-term interests of all the firm's stakeholders, not just the shareholders (Aggarwal & Padhan, 2017; Chadha & Sharma, 2016; Copeland, Koller & Murrin, 2000). However, the firms that maximise the value through their business activities create more wealth and treat their employees better, giving more product or service satisfaction to their customers and achieving their sustainable financial stability (Council & Level, 1999; Koller, Goedhart & Wessels, 2010).

In particular, managers must have a theoretical knowledge of value creation and be able to build concrete ties between their strategies and value creation (Koller et al., 2010). For example, this means concentrating less on recent financial results and more on what they are doing to create a "good" business that will generate value in the longer term. Thus, by investing cash now to produce more money in the future, enterprises build value for their owners. The amount of value they generate is the difference between cash inflows and the cost of the investments created, modified to reflect the fact that the cash flows of tomorrow are lower than those of today because of the time value of money and the riskiness of future cash flows.

However, investors invest in a specific firm with hopes that at the end of the holding period of the asset, they will get a high return on investment (stocks, bonds, derivatives, saving accounts, fixed deposits and other financial assets), which will compensate for their investment risk they took. Therefore, both venture capitalists, financial institutions determine the worth of the business before injecting the funds into business ventures (Bhullar & Bhatnagar, 2013). Besides, several factors have been highlighted in the literature as determinants of the value of a firm. Saona and San Martin (2018) classified the determinants

of firm value into two parts that comprise firm-level and country-level determinants. The firm-level determinants include capital structure decisions, dividend policy and corporate ownership concentration. In contrast, the country-level determinants include financial development of the capital market and legal enforcement and regulatory system.

In Nigeria, for instance, the most frequently cited constraint to firms is limited access to finance, which negatively influences their value (IMF, 2018). Moreover, the performance of the corporate sector declined in the past few years. The International Monetary Fund (IMF) country report (2018) discovered that financial statements for the 150 firms covering a wide range of industries and sizes indicate that the corporate sector's earnings on average have declined: earnings before interest, tax, depreciation, and amortisation (EBITDA), earnings before interest and taxes (EBIT), and net income all declined over the period 2013 to 2015 (see Figure 1.1).

(Thousand US dollars)

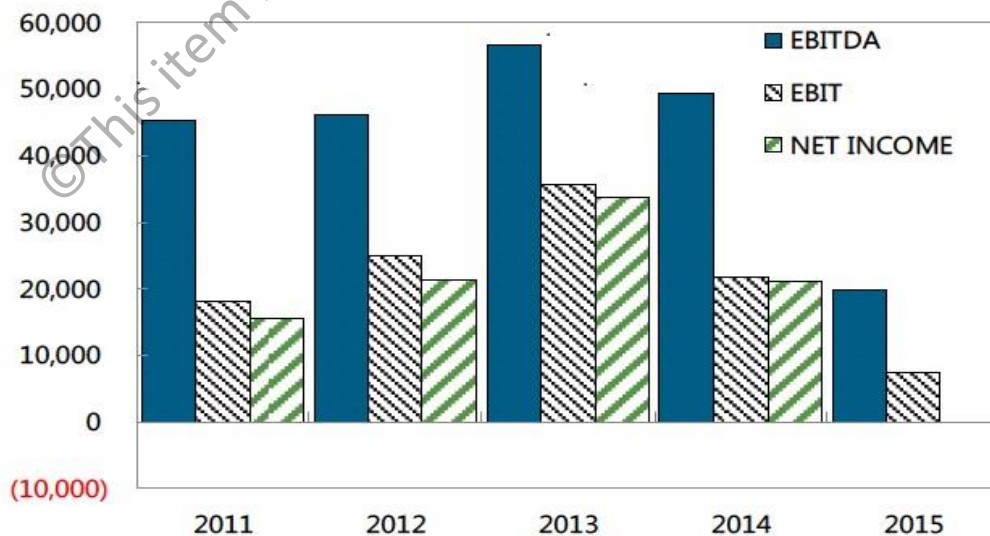


Figure 1.1 Nigeria's Corporate Earnings
Source: IMF Country Report (2018)

In addition, Financial Nigeria International (2018) reported that in the first nine months of 2016, the Nigerian Stock Exchange All-Share Index offered an indicator of the effect of the recessionary pressure on the market. Around January and the end of September, the index decreased by 1.07 per cent; it decreased by 4.05 per cent as at the end of December. The Nigerian stock market in 2016 experienced a significant setback which eroded investors' confidence with an over N1trillion drop in market capitalisation (Premium Times, 2016)

Chukwu, Liman, Enudu & Ehiaghe (2015) argued that productivity begins to decline mostly in early phases of recession and start rising again just as weak firms close. This is corroborated by the findings of Tade and Okwana (2012). They asserted that even though the economic downturn has a cascading effect in several business sectors, leading to low productivity and adverse consequences, the effect has never been the same for every organisation.

Moreover, various studies have debated the significance of capital structure to firm value. For instance, in their article, Modigliani and Miller (hereafter called MM) (1958) argued that if two firms are in the same risk class and an economy with the perfect capital market, having no transaction cost, taxes and bankruptcy costs, then their relative market values are independent in their capital structures. They argued that the rise in the debt capital would not boost the value of a firm because the benefit of lower-priced debt would be precisely counterbalanced by the increase in the cost of equity. Thus, according to Modigliani and Miller (1958), in a tax-free world, both the value of a firm and its capital costs are not affected by its capital structure.

As proof, Modigliani and Miller (1958) presented evidence of arbitrage in support of their proposals. Put simply, they have shown that, under their presumptions, when the two

firms vary principally in the way they are financed and in their total market value, investors will indeed sell their shares to overpriced firms and purchase the shares of undervalued firms with the proceeds and contend with them. These results, which conflicted with conventional wisdom, have spawned extensive theoretical literature, praises, and criticism. However, some groups within the literature who have retained the perfect capital market assumption have defined with increasing precision the circumstances under which Modigliani-Miller's result is valid. In particular, Hagen (1976) and Milne (1975) have shown that changes in capital structure may change the market value of all firms within the risk class. Thus, while a change in leverage does not alter the market value of firms within a risk class, it may alter their absolute value.

In his critique, Durant (1959, P38) has noted that "*indeed, MM's approach to the cost of capital, as the ratio of current earnings to the market price, is essentially static.*" He had further observed that "*the concept of an equilibrium return class, derived from the notion of static equilibrium, is not adequate to a highly dynamic economy.*" Stiglitz (1969) and Altman (1984) argued that more debt would raise the risk of creditors and shareholders in the firm. All these effects would place an appropriate limit on the debt-to-equity ratio of the firm. However, the biggest criticism of the MM theorems was their unrealistic assumptions (Abeywardhana, 2017; Charness & Neugebauer, 2019)

In their article of 1963, Modigliani and Miller relaxed the main objection of their proposition, namely the lack of income taxes, especially corporate income taxes. Modigliani and Miller (1963) concluded that with corporate revenue taxes, leverage would increase the value of a firm because interest is tax-deductible, whereas the dividend income from the

ownership of stocks is not. There are some "side effects," like tax shields, that have to be incorporated into the differences between the leveraged and the unlevered firms.

Moreover, the three major theories proposed as alternatives to Modigliani and Miller's theory were trade-off theory, the pecking order and the agency theory to account for an imperfect market. Trade-off theory contends that a firm will trade the costs and benefits of debt to maximise its value (Kraus & Litzenberger 1973; Myers 1984). The benefits of debt mainly come from the reduced-income tax shield (Miller & Modigliani, 1963). The debt costs are derived through increased bankruptcy costs (Kim, 1978; Kraus & Litzenberger 1973). The costs of bankruptcy are direct and indirect. On the other hand, the pecking order theory maintained that the financing is based on the hierarchy: first, internal funding, then the debt is issued, and equity is issued when debt is no longer approached (Myers & Majluf, 1984; Ross, 1977). Developed by Jensen and Meckling (1976), Jensen (1986), and Hart and Moore (1994), the agency theory claims that optimum capital structure must be the one that minimises conflicts of interest among stakeholders to maximise firm value.

Besides, macroeconomic variables such as Gross Domestic Products (GDP) growth rate, inflation rate and exchange rate have been recognised in the literature as factors influencing the value of a firm. These factors are essential to businesses. Therefore, they need to be mindful about them to minimise their shock on their future cash flows and profitability (Issah & Antwi, 2017). Therefore, firms should forecast the various effect of these macroeconomic variables on future business performances (Broadstock, Shu, & Xu, 2011).

The chapter provides a general introduction to the study. In the subsequent sections, the background of the study was highlighted, which is sub-divided into two sub-sections, i.e.

macroeconomic variables and contingency factors. Section two of the chapter presents the research problems comprising both theoretical and practical issues. Furthermore, research questions, the study's objectives, the study's scope, the significance of the study, and the definition of the key terms were all discussed in sub-sections 1.4, 1.5, 1.6, 1.7, 1.8 and lastly 1.9 organisation of the thesis. The next chapter presents an overview of the Nigerian economy and stock market.

1.2 Background of the Study

Corporate financing decisions are essential issues, and the current theories can at best only explain specific elements of financing complexity (Margaritis & Psillaki, 2010). However, Modigliani and Miller (1958) and others have found that the selection of debt-equity is complicated by factors other than relative prices. Concerning equity, the primary advantage of debt finance is that it does not dilute ownership, and interest payments on debt decrease net income and cash flows (Bacha, Mirakhor & Askari, 2015). Essentially, it is in debt or equity that firms choose two main ways of financing their assets. This can be done through bank loans, bonds, credit on account payables and lines, and withheld income and preferred stock. The debt-to-equity relationship is generally measured by the debt ratio and is the capital structure (Mc Menamin, 1999).

From developing countries perspectives, capital constraints have been recognised as a significant factor influencing the firm value. This is because capital structure decision has a long-term impact on the firm operation and value and subsequently plays a considerable role in the managerial decision because it influences the shareholder's return (Kausar, Nazir, &

Butt, 2014; Maneerattanarungrot & Donkwa, 2018; Yusra, Hadya, Begawati, Istiqomah & Kurniasih, 2019). Further, the financial system in emerging countries is entirely different from developed countries' financial systems. However, Nigeria, as an emerging nation, has a financial market with a different institutional set-up than Western countries with an efficient and developed capital market. Therefore, examining the association between capital structure and firm value in emerging countries, particularly Nigeria. Moreover, in Nigeria, the lack of capital in equity and debt financing in the economy often impede the growth and survival of firms in the country (Nwankwo, 2014).

Nevertheless, the financial decisions of a strong start from choosing between debt and equity for capital financing. The combination of the two is referred to as firms' capital structure (Chadha & Sharma, 2015; Dada & Ghazali, 2016; Ganiyu, Adelopo, Rodionova, & Samuel, 2019; Hossain & Nguyen, 2016; Salam & Shourkashti, 2019; Ullah, Pinglu, Ullah, Zaman, & Hashmi). Capital structure is one of the important financial decisions of a firm because of its significance on firm value (Abor, 2005, 2007; Chang, Wong & Jargalsaikhan 2019; Nguyen & Nguyen, 2020; Siddik, Kabiraj & Joghee, 2017; Vo & Ellis, 2017). For a healthy firm, usually, the cost of equity is higher than the value of debt. Debt is one of the crucial elements in the capital structure of corporations (Abor, 2007; Baltacı & Ayaydın, 2014; Khan, 2012; Yazdanfar & Öhman, 2015). Debt financing may positively or negatively impact corporation growth and strategic investment (O'Brien, David, & Delios, 2013).

Furthermore, various studies have stressed the importance of capital structure as one of the significant aspects of financial planning and its effect on firm value in both advanced and emerging countries (see the works of Aggarwal & Padhan, 2017; Ahmed & Bhuyan,

2020; Cyril, 2016; Hossain & Nguyen, 2016; Kausar. et al., 2014; Li, Niskanen, & Niskanen, 2019; Nenu, Vintilă & Gherghina, 2018 and Nwankwo, 2014). Meanwhile, Khémiri and Noubbigh (2018) and Nenu, Vintilă and Gherghina (2018) stressed that capital structure is one of the most significant issues financial managers face in business organisations challenging to determine the fundamental ratio of debt to equity and the optimum capital level. Karadeniz, Kandir, Balcilar & Onal (2009) maintained that the manager's priority is to evaluate the various costs and benefits associated with using both debt and equity.

In Nigeria, the corporate sector's leverage, in terms of the debt-to-equity ratio, peaked in 2013 (see Figure 2). Moreover, the interest cover ratio (EBITDA / interest paid) on average declined from about 85 in 2013 to below 4 in 2015, indicating financial stress on the corporate sector.

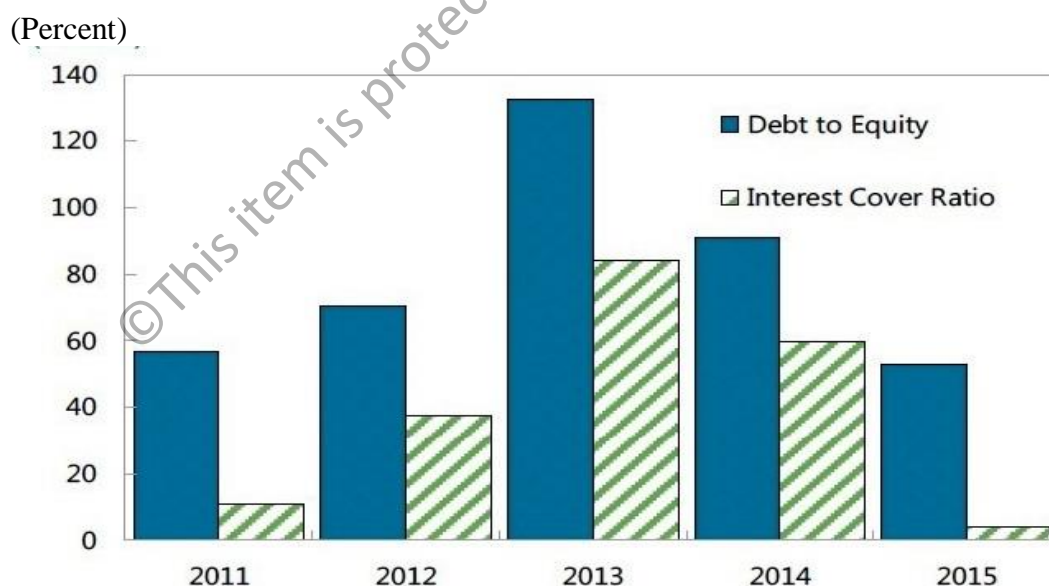


Figure 1.2 Firms' Leverage
Source: IMF Country Report (2018)

Moreover, the financing policy of a firm plays a vital role in achieving its strong economic essentials for the country in the long run. Several factors influence the option of whether to employ debt or equity, namely, the firm-specific factors including profitability, firm size, asset tangibility, etc. (Sahin, 2018; Tulcanaza Prieto & Lee, 2019; Yousaf & Iftikhar, 2018); macroeconomic variables like gross domestic products, inflation, exchange rate, unemployment etc. (Azofra, Rodríguez-Sanz & Velasco, 2020; Khémiri & Noubbigh, 2018; Muthama, Mbaluka, & Kalunda, 2013; Rehman, 2016); and both firm-specific as well as external macroeconomic variables (El Bahsh, Alattar & Yusuf 2018; Çekrezi, 2013; Gajurel, 2016; Khémiri, & Noubbigh, 2018). It is, therefore, necessary for the firms to understand these factors and how they influence the decisions of capital structure choice (Khanna, Srivastava, & Medury, 2015).

Gungoraydinoglu and Öztekin (2011) affirmed that the corporate capital structure is affected not only by the firm's intrinsic characteristics but also by its external operating environment. De Jong, Kabir and Nguyen (2008) further argued in this connexion that internal and external determinants influence the corporate capital structure. Whereas internal determinants, called firm-specific factors, were widely analysed, external determinants were relatively underscored in the literature (De Jong et al.; Laurence, Varouj, Asli & Vojislav, 2002; Muthama et al., 2013).

Also, environmental dynamism and competition influence firms` decision making about the optimal capital structure. Karadeniz et al. (2009) contended that a weak market characterises developing countries. Thus, firms are faced with financial anguish and dubious interest rates and inflation. For instance, the Nigerian capital market is not well developed; as a result, most of the firms in the economy rely on bank financing for capital funding