

Determinants of Capital Structure for Quoted Companies in Nigeria

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ABSTRACT

Empirical work on capital structure in emerging markets like Nigeria has been limited and met with low explanatory power. This study investigates the determinants of capital structure in Nigeria along five dimensions namely; firm-specific and industry factors; taxes; non-financial stakeholders; supply-side factors; and the maturity structure of corporate liabilities. The population of study comprises all non-financial corporations quoted on the Nigeria Stock Exchange (NSE) for the period 2011 – 2016 out of which 50 companies that met the minimum data criteria were utilized. Panel data least squares regression, modified to weighted (Cross Section and Period) models were employed in analyzing the data gathered and the result showed the followings; first, the factors that exert positive influence on corporate borrowing include asset intangibility, firm age and expected inflation while those factors that exert negative influence on capital structure include asset tangibility, growth size, vitality of earnings, profitability, liquidity, dividend-paying status and uniqueness of industry. Second, there is weak evidence that tax considerations are crucial in capital structure choice. The results were, at best, mixed with respect to the profitability of pecking order, target adjustment, trade-off, agency and market conditions models. Asymmetric information explains why smaller, less profitable, less liquid firms with more risky intangible assets and which are low dividend-payers end up relying primarily in debt financing and vice-versa. Third, this study provides new evidence that financing decisions interact with non-financial stakeholders. Specifically, the results support the use of capital structure as a possible bargaining variable by employees, suppliers and customers. Highly levered firms exert pressure on themselves to treat non-financial stakeholders decently. Fourth, there is strong evidence in support of supply-side of capital as leverage increases with debt market access but behaves counter-cyclically as it declines with equity market conditions, terms spread and GDP growth rate. The study recommends the use of leases for financial and collateral-constrained firms, non-debt tax shelters for corporate tax planning, government simplification of tax administration, cautious use of debt for industries with production technologies that place non-financial stakeholders and macroeconomic policies that promote prudent use of debt and debt maturity.

Keywords: Determinants, Quoted Companies, Capital Structure, Stakeholders

INTRODUCTION

The capital structure puzzle is quite a tough one in corporate finance (Bolton, 2016). Finance scholars know quite a bit more about dividend policy than capital structure (Myers, 1984; 2001). The Litner's (1956) model and similar dividend models of how firms set dividends, developed within the past six decades, seems to work well. In particular, perceived stability of future-earnings still affects dividend policy as in Litner's model and share repurchases are now being favoured by in an attempt to time the market or increase Earnings Per Share (EPS) (Leary and Michael, 2011; Lambrecht and Myers, 2012; Kalay, 2014). It is also well known that stock prices react to unanticipated dividend changes, so it is clear that dividends have information content (Miller and Rock, 1985).

By contrast, capital structure indicators are less known despite extensive literature and empirical work on the topic (De-Angelo and Roll, 2015; Graham, Leary and Roberts, 2014a, 2014b). The debate on capital structure is yet to be settled.

Myers (1984:575) famously began his presidential address to the American Finance Association by asking “How do firms choose their capital structure?” and quickly answering “we don’t know”. More than two decades later, Lemmon Roberts and Zender (2008) began with similar question “...after decades of research, how much do we really know (about corporate capital structures?)” and found that “The adjusted R-squares from traditional leverage regressions using previously identified determinants range from 18% to 29% depending on the specification. In contrast, the adjusted R-square from a regression of leverage on firm fixed effects is 60%, implying that the majority of variation in leverage in a panel of firms is time invariant and is largely unexplained by previously identified determinants.

De Angelo and Roll (2015) have further complicated the picture by finding that leverage is actually far from time invariant and that “leverage cross-sections more than a few years apart differ markedly”. This poses an even greater challenge to existing theories and exacerbates the unsettled debate on capital structure policy. As Bolton (2016) distressingly puts it “not only is most of the variation in the cross-section unexplained but also what is driving the time-series variation is poorly understood”.

Most of the research since the seminar work of Modigliani and Miller (1958) has focused on testing the implications of two views of capital structure namely; static trade-off model in which firms form a leverage target that optimally balance various costs (e.g. cost of financial distress, bondholder-stakeholder agency conflict costs) and benefits (e.g. tax savings, mitigated manager stockholder conflicts) of debt, and the pecking order model of Myers and Majluf (1984) and Myers (1984) in which firms follow a financing hierarchy designed to minimize adverse selection costs of security issuance. Other common views include market timing and agency models.

Empirically, these models have experienced both successes and challenges. Each view succeeds in explaining a number of boards in observed capital structures, such as association between leverage and various firm characteristics (Frank and Goyal, 2009) and the aggregate use of different sources of capital.

Statement of the Problem

Corporate finance has taken a beating lately. It is not just the financial services industry that has lost its luster with the public at large, as Zingales (2015) has stated, both the empirical validity of classic theories of finance that appear to be thrown into question by record research. Despite decades of research, there is much contention about the cross-sectional determinants of corporate capital structure.

The interesting area of the capital structure debate is the impact of taxes on debt policy. Questions like “Do the tax benefits of debt affect corporate financing decisions?”, “How much do taxes add to firm value?” and so on, have puzzled researchers since the work of Modigliani (1958) and Miller (1963). Even within the industrialized economies setting, researchers face several problems when they investigate how tax incentives affect corporate financial policy and firm value. Corporate tax rates due to data problems and the complexity of the tax code. Other challenges include quantifying the effects of interest, taxation at the personal level and understanding the bankruptcy process and the attendant costs of financial distress (Graham and Tucker, 2006; Van Binsbergen, Graham and yang, 2010; Korteweg, 2010, Doidge and Duck, 2015). In this study, the attempted analysis of tax benefits complements existing papers on the subject by focusing primarily on calculating the tax benefits utilizing Graham’s (2000) measure of the tax benefit function to introduce new empirical evidence on interaction between debt policy and corporate tax planning from an emerging market.

In addition, the capital structure debate cannot be complete without sufficient input from emerging African markets. As Myers (2001) puts it, there is no universal theory of capital structure and there is no reason to expect one. Several extant capital structure models such as the trade-off, pecking order, target-adjustment, market timing and agency models, have been tested using data from developed markets.

Objectives of the Study

The study seeks to investigate the determinants of capital structure of quoted companies in Nigeria. In pursuance of this, the objectives are:

1. To investigate the impact of firm-specific and industry characteristics on capital structure.
2. To examine the role of taxes in capital structure decisions in Nigeria.
3. To assess the impact of non-financial stakeholders such as employees, customers and suppliers on capital structure decisions.
4. To evaluate the impact of supply side of capital on corporate capital structures in Nigeria.
5. To examine the impact of firm-specific factors on the maturity structure of corporate liabilities in the evolution of financial structures.

Theoretical Framework

The modern theory of capital structure began with the famous propositions of Modiglian and Miller that described the conditions for capital structure irrelevance. Since then, many economists have factors driving capital structure decisions in the “real world”. Harris and Raviv (1991) synthesized major theoretical literature in the field, related these to the known empirical evidence and suggested promising avenues for future research.

Capital Structure Theory and Product market Interactions

Models of capital structure that utilize features of the theory of industrial organization have begun to appear in the finance literature. These models can be classified into two categories. One class of approaches exploits the relationship between a firm’s capital structure and its strategy when competing in the product market (competitions). The second class of approaches addresses the relationship between a firm’s capital structure and the characteristics of its product (and by extension relationship with customers) or inputs (relationship with suppliers).

The Theoretical Determinants of Capital Structure

Here, an attempt is made to summarize the theoretical determinants of leverage and leverage adjusting behavior from the finance literature. Several scholars have documented the theoretical determinants of capital structure. Harris and Raviv (1991) explain the conventional factors while Rojan and Zingales (1995), Frank (2003), Goyal (2009), DeJong et al, (2008), Huang and Ritter (2009), Graham, Leary and Roberts (2014a) distill these variables into simple cross-sectional models.

Empirical Review

According to Copeland, Weston and Shastri (2005), there are two broad approaches to empirical tests of capital structure. First, there are cross-sectional studies that attempt to explain observed financial leverage as a function of the firm’s tax rate, its non-debt tax shields, its potentials for agency cost, its operating leverage, its systematic risk, etc. Here, the incremental impact of each of these variables on financial leverage helps to separate the conflicting theories of capital structure. The second approach is time series data that looks at the relationship between changes in leverage and simultaneous changes in the value of debt and equity on the announcement of a leverage changing event.

Modigliani and Miller (1958) use cross-section equations on data taken from 43 electric utilities. Cordes and Sheffrin use Treasury Department data to examine cross-sectional difference in effective tax rates that may be caused by tax carry-backs and carry-forwards, by investment tax credits, by the alternative tax on capital gain, and by the minimum tax. They found significant differences across industries with the highest effective rate for tobacco manufacturing (45%) and the lowest rate (16%) for transportation and agriculture. This tends to support the De Angelo (1980) contention that the gain from leverage induced tax shields can be positive.

METHODOLOGY

This study adopted the use of panel data regression model to test the research objective/hypotheses. The population of this study includes all listed companies on the Nigerian Stock Exchange (NSE) for the period of 2011 – 2016. Basically, the study targets all quoted companies on the NSE. However, some adjustments are necessary to derive our sample. The sample excludes financial services sector because they are subject to specific rules and special

high-leverage nature of financing is severally affected by exogenous factors. The focus was exclusively on non-financial corporations.

The tabular presentation of the findings is done alongside the five objectives of the study viz;

1. The effect of firm-specific and industry factors on corporate borrowing.
2. The role of taxes on corporate borrowing behavior.
3. The impact of non-financial stakeholder in capital structure decisions.
4. The influence of supply side of capital on corporate capital structure.
5. The relationship between firm-specific factors and maturity structure of corporate debt.

The following findings were deduced:-

1. In Nigeria, corporate borrowing is explained better asymmetric information than by other imperfection such as taxes, market timing or agency effects. This is revealed by the signs of the relations between leverage and conventional factors such as asset tangibility, earnings volatility, dividend payout ratio, liquidity profitability, size and industry uniqueness. The debt levels that this study's model generates are lower than those predicted in trade-off models but in line with the ones observed in Nigeria Corporate Seeter.
2. Non-debt tax shelters play a fairly minor role in capital structure choice or in the determination of the marginal tax rate. The study could not establish any inverse relation between leverage and non-debt tax shields (such as depreciation, amortization, investment allowances, tax-loss carry forwards and backwards, etc.)
3. The explanation power of the explanatory variables of capital structures is sensitive to the choice of estimation techniques. The three types of capital structure variation are cross-firm, cross-industry and within-firm through time. The challenge therefore is to seek out appropriate models of capital structure choice. This work is an attempt and outcome of that challenge. Dynamic models of capital structure choice that, for instance, incorporate lagged values of the debt ratios of firms perform better. The dynamic models can incorporate aspects of the competing theories of capital structure as attempted in this study.

CONCLUSION

Conventional firm-and industry-factors cannot exclusively explain the capital structure of firms. Capital structure is also related to firm's history of borrowing behavior and therefore, dynamic models of capital structure are viable tools for understanding borrowing behavior. Since typically financially constrained firms borrow more than their financially buoyant counterparts leasing contracts can be utilized by these firms to preserve borrowing capacity. This study has not examined separately the impact of leasing in capital structure choice because for most of the companies that has leasing contracts in this study, the arrangement was facilitated by banks and thus lumped together with financial liabilities. The pecking order model outshines other common capital structure models in the Nigeria Corporate environment. To some degree, there are agency effects on capital structure choice as debt preference by small and less profitable firms implies that managers creditably issue debt to pursue efficiency over glamour. Target adjustment rationalizes capital structure instability despite positive adjustment cost. Market timing behavior is most visible during bullish period in the stock market. This evidences that trade-off model is weak.

RECOMMENDATION

Dynamic capital structure models will offer more striking insights on the capital structure choice of companies. Indeed, in a dynamic environment, firms face an inter-temporal trade-off between current and future investments and the cost of external financing. For corporate financial policy, an aspect of financing decision s where dynamic models will be used is in the area of leasing. The importance of collateral on leasing can provide useful insights on financing decisions. When a borrower is distressed, collateral tied to a lease contract is easier to seize than that tied to several debt, and therefore leasing increases debt capacity. Those models argue that this benefit of leasing is traded off against the cost of separating asset ownership and control in leasing. As a result, more constrained and less profitable firms are more likely to lease. This model further argued that it helps explain the "low-leverage puzzle"; firms with zero or low leverage are primarily those with few tangible assets and these firms are significant users of leases.

REFERENCES

- Abur J (2008) Determinants of the Capital Structure of Ghanaian Firms, AERC Research Paper 176, African Economic Research Consortium, Nairobi (March 2008).
- Adelegan,O.J (2009). Investment, financial factors and cash flow from Nigerian panel date, *journal of African Development*,11(i); 77-108.
- Baker,M., and Wurgler,J.(2002). Market timing and Capital Structure, *Journal of Finance*, 57:1-32.
- Copeland T.E, Weston J.E and Shastri, K. (2005) *Financial Theory and Corporate Policy*, 4th Edition, Boston M.A: Pearson Addison-Wesley.
- DeAngelo, H.,DeAngelo L. and Skinner D.J. (2008) Corporate Payout Policy, *Foundations and TRENDS in finance*, 3:95-287.
- Frank L., and Caoyal H., (2009) Refinancing, Profitability and Capital Structure, *Journal of Financial Economics*, 114(3): 424-443.
- Graham and Leary (2011) Debt Specialization, *Journal of Finance*, 68(5): 2117-2141.
- Leary, P.,and Roberts, M (2014) Determinants of Capital Structure of Nigeria listed firms, *Journal of Africa Economics and Finance*, Issue 4(Eurojournals).
- Modigliani and Miller (1961) Buyer-Supplier relationships and the Stakeholders theory of Capital Structure, *Journal of Finance*, 63:2507-2552.
- Onyeiwu, C.I (2014) The Nigeria Financial Structure, business financing and economic growth, 5th Annual International Conference On The Nigerian Financial system and Inclusive Growth and Development, 1:211-219.
- Owolabi S.A and Inyay, U.E (2012) Determinants of Capital Structure in Nigeria Firms: a theoretical review, *Canadian Journal of Accounting and Finance*, 1(1): 7-15