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CAPITAL STRUCTURE AND GROWTH OF PENSION FUND IN KENYA

CASE STUDY OF SBG SECURITIES COMPANY LTD

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Abstract

This study focuses on capital structure theories, the standard Modigliani-Miller framework and the implications on corporate tax .This leads to the conversation that bond investment for pension plans have tangible advantages over holding risky assets like equities and change of debt equity ratio doesn't affect the value of the firm. The paper considers a case study of SBG Securities from Nairobi Stock exchange market which is a Kenyan base security company with a pension fund of around £7.8 Million where these ideas were put into practice. Finally discussion on the value released to shareholders and the extra security members of the pension fund are derived from putting theory into practice. The research findings are useful to the finance managers who need to maintain an optimal capital structure which sounds elusive as per the tenets of the theories and to the investors while choosing profitable investment and prudent financial decision.

Keywords

Capital structure; leverage; bankruptcy risk; corporate performance; fixed-effects regressions; two-step system GMM; emerging countries, Modigliani and Miller (1958)(MM).

1. Introduction

For the last 30 years Kenyan pension funds have invested the majority of their assets in equities: the average equity allocation for a Kenyan pension fund in 2019 was 60% according to Nairobi Stock exchange report, (2019) However in November 2020,SBG Securities Company final pension plan, with £2.3 Million of assets turned its back on equities which were sold and 100% invested in Long term bonds.Equity investment for pension funds was ideal throughout the 1980s and 1990s as they accumulated increasing surpluses, in recent years this bias to equities has often been supported by actuarial asset-liability studies.These studies show a range of possible outcomes for different measures like contribution rate at different projection horizons and funding levels, Based on the probabilities of these measures trustees are asked to make asset allocation decisions.

This paper considers the wider implications of the asset allocation to equities. As can be seen from the Modigliani-Miller (1958) (MM) framework changing asset allocation does not create value neither alteration of debt equity ratio while considering tax needs.The move by The SBG Securities Company has shown how theory can be put into practice.We consider what this decision has meant and discuss the benefits that have arisen from this move. Among the research possibilities were;- the trade-off or the static equilibrium theory (Modigliani and Miller 1963), the irrelevance of capital structure theory (Miller 1976), the information asymmetry and the signal theory (Brealey *et al.* 1977), the theory of contracts (Jensen 1986; Jensen and Meckling

1976), the pecking order theory (Myers 1984; Myers and Majluf 1984), and market timing theory (Baker and Wurgler 2002).Further, purpose of this paper is to adopt dynamics of the capital structure decisions by analyzing the relationship between leverage, debts and equity,profitability and risk as set of explanatory variables within pension fund sector. For instance, Brendea (2014) examined the influence of profitability, growth opportunities, assets tangibility, company size, Herfindahl Index for ownership concentration, and the type of controlling shareholders on the ratio of total debt to total assets. The paper is set out as follows: in section 2 we is pension liabilities; in section 3 pensions in the MM framework; in section 4 we introduce taxation and quantify the possible gain to shareholders; in section 5 w consider the particular case of The SBG Securities Company and section 6 concludes.

2. Literature Review

Development of the main theories regarding capital structure such as the work of Modigliani and Miller (1958) and the previous theoretical contributions like Durand (1952); Guthmann and Dougall (1955) have struggled with various inconsistencies stemming from assuming the certainty of the market structure and interest rates of which the MM criticisms are mainly caused by the indebtedness risk. On the other hand, MM's initial theory stated that the value of a company could not be affected by amending the debt–capital ratio. Despite the rigidity of its assumptions, the model is useful to determine under which conditions the capital structure becomes irrelevant for example, there are no transaction costs on the capital market, it is possible to lend and borrow money at the risk-free interest rate,there are no bankruptcy costs, firms could issue only two types of securities: free interest risk bonds and common shares which may not be practical in real sense because costs must always be incurred in any business.

Establishing the capital structure involves, a series of agreements between the interest groups of a firm, each party aiming to maximize its benefit. For managers, this could mean increasing their control, while the shareholders pursue increased value of the company. This creates the so-called agency cost according to (Ross 1977) which redefines capital structure through the conflicts between shareholders, managers, and creditors. For example, Abor (2017) argued that agency issues may determine firms to follow very high debt strategy, hence resulting in poorer performance which is a common occurrence in the Kenyan pension fund sector. The conflicts of interest between shareholders and managers arise particularly when the company's management has the power to use the free cash flow to achieve personal benefits at the expense of the shareholders. On this issue, Stulz (1990); Harris and Raviv (1990); Zwiebel (1996) argued that debt is a way to reduce conflicts, since the repayments of the debt determine managers to be more conservative and more cautious with excessive investments. In another context, Majumdar and Chhibber (1999) argued that the role of debt as a monitoring channel to increase firm performance is not substantial. In addition,Jensen (1986) noted that leverage is a manner to diminish the management monitoring cost. (Int. J. Financial Stud. 2018).

Capital structure models started from the assumption that debt ratio is a static decision.But, in the real economy, firms adjust the debt level depending on the changes of firm value which is a dynamic process. Goldstein *et al*. (2011) noted that although creditors are protected by contractual agreements, firms have the option to contract new credits without extinguishing the existing debt. In case of bankruptcy, all creditors usually receive the same percentage of indemnity, regardless of when the debt was granted.Such debt is riskier than the ones described by the traditional patterns of capital structure where the bankruptcy costs are assumed to remain constant over time. Such variations always affect the growth of firms across board.Frank and

Goyal (2019) grouped the theories on capital structure into three categories, correlated with the market imperfections, the bankruptcy costs issue: trade-off theory (henceforth "TOT"),the agency cost and information asymmetry issue: pecking order theory (henceforth "POT") and market timing theory (henceforth "MTT").

The trade-off theory shows the importance of limiting indebtedness because of the directly proportional increase of costs determined by the risk of experiencing financial difficulties that counterbalances the tax benefits. The bankruptcy costs consist of direct costs generated by accounting and legal expenses caused by bankruptcy of reorganization, as well as indirect costs represented by lost opportunities because of miss management, such as suppliers and customers' loss of confidence. This theory addresses an optimal ratio between indebtedness and equity, which maximize the company's value, being considered as the point where the benefits and costs of indebtedness are in balance (Shyam-Sunder and Myers 1999).

The pecking order theory (Myers 1984; Myers and Majluf 1984) is based on the assumption that investors know the possibility of confronting information asymmetry issue, for example, the managers'attempt to issue risky securities when they are overvalued. At the same time, knowing that shareholders will try to limit this risk, and this could lead to the inability to finance certain profitable investments through the capital market. Briefly, the pecking order theory argues that if external sources are more expensive than the internal ones, and if attracting capital is more expensive than debt, the capital structure will be affected only if the internal funds are unsatisfactory. For Myers and Majluf (1984), the firms that use external funding sources also may face the adverse selection issue that followed the information asymmetry.

The market timing theory assumes that there is no optimal capital structure, financial decisions are changing over time (Baker andWurgler 2002), and the evolution of capital structure must be seen as the result of the historical funding decisions. MTT suggests that companies will decide to issue new shares depending on the market conditions, and this change will have influence in the coming years, because debt adjustment is not itself a goal (Hovakimian 2006). Less indebted companies are generally those who have accumulated funds when they have been overestimated, and implicitly, very indebted firms are those who have attracted external funds when their assessments were detrimental.(Int. J. Financial Stud. 2018).In kenya,some of our pension fund organizations invest in areas which are already oversaturated leading to poor return on investment.This has created indifference between static decision making processes as per the policies and the dynamic procedures based on market forces justifying the fact that there is no optimal capital structure which is contestable.

3. Pensions and capital structure

Pension is a predetermined sum paid by an individual as an amount he will be entitled upon retirement. Part of it is paid by the employee and the rest by employer. Pension promises represent a debt owed by the company to the pension plan members.Pension liabilities are economic liabilities of the company, not the pension plan because the company must make good shortfalls in the pension plan1. The pension represents a debt owed by the company to the pension fund members.In the developed countries like U.S and U.K, regulation requires separate assets as security for pension promises.DB plans in continental Europe are unfunded. The ultimate owners of the company are the shareholders who own the net value after liabilities of the company are met. The number of payments to be made depends on mortality rates,

withdrawal rates and other demographic features. UK pensions often increase in payment (and deferral) and these increases are based on indices, most commonly the rate of inflation.

However, complexities do not alter the underlying economics that pension promises are debt-like for the sponsor.This gearing on balance sheets to gain equity market exposure is not seen outside of investment trusts. According to Financial Times,(2019) there is no gain from issuing debt to invest in equities. As we run through these arguments we can keep in mind pension funds and ask whether special circumstances exist.In Kenya, the payment percentage is already stipulated by the constitution as part of deferred payments. Its an asset to an individual providing income at retirement.Such pension liabilities is also reffered to as defined benefits (DB) with different funding and regulatory systems in place.The view that pensions are debt-like is gaining ground in the investment community. Investment banks have publishing numerous articles which recognise pensions as debt-like and credit rating agencies are treating unfunded pensions as debt in their analysis thereby correlating it with capital structure.

4. Modigliani-Miller framework (and pensions)

Modigliani-Miller's (MM) first proposition (1958) says that the "market value of a firm is independent of its capital structure" - in other words there is no gain from altering the debt/equity ratio of a firm. The firm generates earnings and cash flows and the capital structure determines how these are split between the shareholders and the debtholders. However changing the proportions of debt and equity will not alter the actual earnings and cash flows of the firm, but merely alter their distribution. Equities will become more risky as the company issues more debt and gears up its balance sheet but the combined value,or "enterprise value", of the company does not change. This result has profound implications. In particular it enables us to separate the financing decisions (where the money comes from) and investment decisions (where a company

invests its money) that a firm has to make.Holding equities in the pension fund is the same as gearing up issuing debt in the company. In a pension context proposition one tells us that the asset allocation decision to hold equities or bonds does not alter the value of the company.The MM proposition is true in an idealised world where there are no market imperfections e.g. no taxes, no transaction costs, no agency costs and everyone can lend and borrow at the risk free rate.This is not practical in a pension fund environments.MM demonstrated that financing decisions do not affect the value of a firm in this idealised world and that it is the so-called second order effects such as taxation, agency costs and transaction costs which are the real drivers of value. It is these second order effects that have been the focus of research. This research has extended the MM framework into a better model of the real world.One of the key insights of MM was to recognise that a company cannot be looked at in isolation.

According to the approach used in “A Primer in Financial Economics” (2002) two portfolios ‘NoDebt portfolio’ which is totally financed by equity and ‘HalfDebt portfolio’ which is 50% financed by debt and 50% financed by equity. These portfolios are falling in same categories apart from their financing.The total value of their assets is 100, the return earned on assets is 35% giving them the same profit and the interest rate payable is 5%. So NoDebt portfolio has Equity outstanding with a value of 100 and no debt, and HalfDebt portfolio has equity outstanding with a value of 50 and debt outstanding with a value of 50.Table 1 shows the profit and loss accounts.

Table 1

Case 1	Operating Profit	Interest	Profit after Interest	Return to shareholders
NoDebt portfolio	35	0	35	19%
HalfDebt portfolio	35	-2.5	32.5	24%

From the above construction, the operating profits earned by both companies above is not affected by the capital structure of the two portfolios. However the return to shareholders is either 19% or 24%. Although in this case HalfDebt portfolio provides a higher return to shareholders it is a more risky investment; this can be seen in the situation where operating profit falls to 0 in case 2. Then the returns are as given in Table 2.

Table 2

Case 2	Operating Profit	Interest	Profit after Interest	Return to shareholders
NoDebt portfolio	0	0	0	0%
HalfDebt portfolio	0	-2.5	-2.5	5%

Let's consider an equity holding in NoDebt portfolio with a value of 5. This entity wants a higher return than NoDebt portfolio equity is expected to provide and is willing to take additional risks to secure this return. One possibility is for the investor to sell their holding in NoDebt portfolio and invest in HalfDebt portfolio. Alternatively the company could borrow money to buy an additional holding in NoDebt portfolio. Let's assume that the organization borrows 5 and invests this in NoDebt portfolio. At time 0 the investor's balance sheet is will be;-

Cash	(5)	borrowing
NoDebt portfolio Equity	10	
Net assets	5	

From the above,MM's results rest on the now familiar arbitrage approach of recognising that if two assets have the same payoffs in all situations they must have the same price. Note that expected returns are not relevant to this argument. The assessment of the risk and return is left to the market where market forces reflects investors views of the potential rewards required to accept further risk. In short $100 of equities is of equal value to $100 of bonds. From this simple statement it follows that value can not be generated by switching between bonds and equities in the MM world.We have also seen that the extra return from gearing up a firm's balance sheet provides higher expected returns to shareholders but this is fair compensation for the risks they face.With the benefit of the MM framework we realise that the value of the company is not changed by moving the investment from debt to equity. All that happens is that the gearing of the

company increases and the equity holders require a higher return to compensate for the risk they now hold.Hence the whole MM analysis translates directly into the pensions environment.

5. The Impact of Corporate Tax

From the profit and loss accounts and balance sheets of pension funds, we are concerned with the economic exposure of the ultimate investors. We will show pension gains and losses on the P&L.For ease of exposition we will consider a fixed interest rate and ignore the effects of personal taxation Let's review some simple notation as follows;-

D = the debt issued by the company

E = the equity of the company

Profit = the operating profit of the company in the year

i = the interest rate

req = return on the equity market over the year

tax = the corporate tax rate

Bold text indicates an item which is unknown at the start of the year.We will also consider the pension plan. For simplicity we will assume that only two asset classes are available to the pension plan - equities and bonds. We use the notation :

L = the pension liabilities

S = the solvency ratio of the pension plan (a percentage)

Aeq = the percentage of the pension plan assets invested in equities

(for example the FTSE100 index)

The sample P&L statement as shown in table 3. Will be;-

Table 3

	Profit and Loss Statement
1	Operating Profit **Profit**
2	Pension fund gain L.(S.Aeq.**req** + S.(1-Aeq)i– i)
3	Debt interest i.D
4	Pre-tax Profit (1) + (2) – (3) **Profit** +L.(S.Aeq.**req** + S.(1-Aeq)i– i)–i.D
5	Corporate Tax (4) x tax tax.(**Profit** +L.(S.Aeq.**req** + S.(1-Aeq)i– i)–i.D)
6	Post-Tax Profit (4) –(5) (1-tax). (**Profit** +L.(S.Aeq.**req** + S.(1-Aeq)i– i)–i.D)

We can now contrast two companies that are identical in every respect apart from their pension plan investment strategy. The first,'EquityPension portfolio' invests its pension plan assets in equities (Aeq = 100%)and the second 'BondPension portfolio' invests its pension plan assets in bonds (Aeq = 0%). We will assume that both pension plans are 100% solvent at the start of the year (S=100%).

Background

Table 4

	EquityPension portfolio	BondPension portfolio
Post-Tax Profit (1-tax).(**Profit** – i.D)	(1-tax).(**Profit** +L(**req**– i) – i.D)	(1-tax).(**Profit** –i.D)

This shows us that the impact of investing the pension plan in equities is equivalent to the shareholder borrowing to get exposure to the equity market. Of course the shareholder could do this directly by borrowing L.(1-tax) at interest rate i and investing this amount in the equity index.

Table 5.

Drivers of the capital structure and their effect according to the main theories.

Variables	Pecking order (POT)	Trade off Theory (TOT)	(Market Timing Theory (MTT)
Short term Debt Structure			
-Overdraft facility -Current Liabilities	-	+	-
Long Term Debt Structure - Long term Loans -Bonds and Debentures -Mortgages	-	+	-
External Equity Structure Share capital: -Ordinary shares	+	-	+
Internal Equity Structure -Retained earnings -Reserves	+	-	
Firm Size Total Assets	--	+	
Growth Growth in pension fund (measured by change in Asset)	**+book value of debt** -Market value of debt	-	-

6. Conclusion

As can be seen from the Modigliani-Miller (1958) (MM) framework,changing asset allocation does not create value neither pecking order theory, contract theory, signaling theory or information signaling theory. Propositions and desired ratios are not directly related to the value of the firm or the firm size. Further, the impact of tax should be considered. We also noted that by investing in equities the pension plan is not doing anything the shareholder cannot do directly and in a more tax efficient way.

So far, many evolvements have been made regarding the ability of financial theory to explain the capital structure decisions, but there are noteworthy particularities that should be considered in the case of emerging countries like Kenya such as effect of technology.This has made capital structure irrelevant in the economy more so; when there are no transaction costs on the capital market, it is possible to lend and borrow money at the risk-free interest rate,there are no bankruptcy costs, firms could issue only two types of securities: free interest risk bonds and common shares, all the companies are included in the same risk class, the cash flows are constant and perpetual, all the agents have the same information (there is no possibility of arbitration by sending market signals), the managers want to maximize shareholders value (there is no agency costs), the cash flows are not affected by the changes in the capital structure.Despite its limitations, MM's work is important, as it have paved the way for further contributions to the financial economy, stating the cornerstone on understanding the prominence of the financial decisions on the company's value.This will propose more value to the investment options for pension fund managers in Kenya.Afterward, Miller (1976) focused on bankruptcy costs, and noted that beyond the corporate perspective, for the persons involved, the balance between tax benefits and bankruptcy costs is actually very hard to find.

Conclusively, the study outcomes, assert that financial environment plays an important role in companies' capital structure decisions and on their subsequent consequences. The main conclusion was that capital structure is cyclical and persistent. The principal divergence with the three theories—trade-off, pecking order, and market timing is that the leverage does not follow a mean reverting process, explained by a growing leverage when profitability is high, and leverage contraction when the earnings are reducing, but it follows a cyclical process like the business cycle.

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