

MARKET VALUE MAXIMIZATION, AFTER-TAX PROFIT AND THE COST OF CAPITAL OF ENTREPRENEURIAL FIRMS**Abstract**

Entrepreneurial firms in Nigeria have quite limited sources of funds. Each source also has a unique cost in implicit and explicit terms. Besides, the costs of acquiring capital is known to be relatively higher here than elsewhere. This paper examines the implications of various costs of capital on the market value and profit of entrepreneurial firms. Specifically, four costs were identified as follows: cost of debt (k_d), cost of equity (k_e), cost of retained earnings (k_r), and weighted average cost of capital (k_o). Ten-year time series and cross sectional data were collected from ten entrepreneurial firms quoted in the alternative investment markets category of Nigeria Stock Exchange. Two panel study regression models were formulated with two dependent variables (market value and net profit), and four independent variables (k_d , k_e , k_r , and k_o). Random error model (REM) was preferred on two grounds: first, the intercept for each model bearing the cross-section effect was treated as random variable with a mean value of β_i , and second, there is no correlation between the individual or cross-section error component $\hat{\epsilon}_i$ and the regressors ($\hat{K}_{dit}$; $\hat{K}_{eit}$; $\hat{K}_{rit}$; and $\hat{K}_{oit}$). We found that market value responds significantly to changes in k_e and k_r . Profitability was not found to respond to changes in any particular cost in a statistically significant measure even at $p \leq 0.1$. It was concluded that values of capitalized funds depend more on the vagaries of market forces than on profitability prospects of the firms' assets.

Key words: Market value, profitability, weighted average cost of capital entrepreneurial firm

Introduction

Recent dramatic changes in Nigeria's economy and the volatility of foreign exchange market have created challenges in estimating a firm's cost of capital. If availability of scarce financial resources in the required quantity and cost are anything to worry about, then entrepreneurial firms will be up to a slow catch-up, because these factors are so unpredictable that future investment planning is almost impossible. This is coming in the backdrop of regarding financing decision as unarguably the most debated, most opinionated and perhaps most dynamic determinant of equity holders' value. It appears so because of the germane implication of financing decision around all other decisions. For instance, a firm's investment decision revolves around how best to allocate capital to maximize value, and this is achieved if and when the right financing decision takes precedence. Again, a firm's dividend decision is optimized on account of its ability to capitalize part of its earnings. One can imagine why entrepreneurs spend sleepless nights trying to figure out the most efficient means of financing future projects, and never hoping to choose between *the devil and the deep blue sea*. That is to say, while one cannot truly prescribe debt financing for a nascent business entity due to usury, credit risk, and liquidity risk, you would also not dare the loss of control and value associated with new equity holder, which together can increase the implicit cost of equity and so compel such investor to ask for compensating return. It is the implicit compensation for credit (default) risk plus the explicit rate to the debt holder and the implicit compensation for adverse selection problems plus the hurdle rate of return to equity holder that form the composite costs of capital lined up in the debt-equity bifurcation.

Entrepreneurial firms in Nigeria have a background fraught with recurring incidences of illiquidity, under-capitalization, deprivation of private equity finance, phobia for partnership, application of obsolete technology, missing financial markets, asymmetric information problem, disturbing systemic structures that will not be fixed in the foreseeable future, etc (Dagogo & Ollor 2009). Not minding the overarching burden, these firms must also negotiate and seal the most unattractive financial deals. Worst are the financing trade-offs that increase the complexity of decision making. With minimal government interventions, these firms, on their own smooth both macro and micro environmental variables which, at each scan, elicit more threats to deal with than opportunities or greater weaknesses than strengths, respectively. It is now common to say the entrepreneur sees opportunity where others see challenges. The entrepreneur is also encased as a special breed deserving of all government supports because his efforts are likely to impact on employment, government revenue, gross domestic product, balance of payment, and price stability. It thus appears that these elegant theories do not transform to the sought-after successes in Nigeria in spite of numerous success testimonies recorded elsewhere. But we do encounter *one-in-a-million* entrepreneurial breakthroughs or occasional illicit network-enhanced flukes. This study explains entrepreneurial failures caused by volatile financing cost.

Statement of the Problem

Good financial skills begin with assembling relevant information for financial decision making. A firm's capital budgeting and asset valuation entail information on discount factor, and estimates of cash flows. So, it makes good sense for an investor to determine ahead of time the appropriate cost of acquiring different types of capital in order to appraise the present value of an investment's stream of income. Good financial sense also means an evaluation of the investment environment, as that would impinge not only on the cost of capital but also on the probability of expected stream of future cash flows occurring. Besides, because business people end up utilizing funds from different sources with different attributes as often described in capital structure arguments, it is comprehensible to apply the weighted average cost of capital (WACC) in such evaluation exercises. So, imagine that a discerning investor does not have an idea of his overall cost of capital, implicit and explicit, in respect of using other people's money and/or called-up equity funds. Also imagine that an investee does not have an idea of the cost to him for supplied funds, which manifest sooner or later as cash outflows from financing activities and/or opportunity cost. Obviously, both categories of people will run out of business sooner than later. First, they may be unable to measure the degree of financial leverage on their businesses. Second, they may be ignorantly trading on equity beyond an acceptable benchmark. Third, earnings-before-tax of their businesses may be inappropriate. Forth, they may be sub-optimizing the market value of their respective enterprises or entities. Fifth, they ultimately do not also know the cost or benefit of retaining part of their profits. The list of implications may be endless. Indeed, they have no idea of the extent to which ignorance or even volatility of cost of capital estimation can drive failure, particularly, of entrepreneurial firm. In fact, the fastest means of squeezing life out of small business is to impose tough financing measures such as very high interest rate, stifle access to capital, withdraw tax moratorium, withdraw fiscal incentives, withdraw monetary incentives, foreclose private equity investments (formal or informal), close all available windows for bank lending to finance working capital, etc. (Van der Wijst and Thurik, 1991; Dagogo and Ollor 2009; Chittenden, 1996a; Jordan 1988).

The criticalness of financing small businesses has not gone unnoticed by government, beginning with structural, institutional and policy reforms to ensure cheaper sources of capital that will enhance corporate investment and realize economic growth as well as full employment. For instance, the establishment of Second Tier Securities Market in 1985, and the commencement of Alternatives Security Market or emerging companies markets, was to provide soft requirements for small businesses in the securities market. Also, institutional equity investment in upcoming businesses was encouraged via small and medium-enterprises equity investment scheme (SMEEIS) beginning from 2001. This was short-lived because of multiple reasons, one of which is the cost of equity funds in its implicit sense, leading to a situation where so much funds were accumulated yet SMEs were unable to access them. It was a situation where potential investors feared the consequences of information asymmetric problems on the one hand, and investees feared dilution of earnings and control as they must surrender the position of finance director as a precondition for equity participation, on the other hand. However, this should not be a problem because private equity investors in SMEEIS had a predetermined exit time, not more than five years.

Studies in capital structure have shown different financing behaviours prescribed or manifested by different stages of business. For instance, Myer's (1984) pecking order has convincing evidence that small businesses demand private equity finance at their nascent stages. Dagogo & Ollor (2009) also provided evidence that retained earnings and financial bootstrapping are relevant contributors to changes in return on capital employed and net asset values of small businesses. Every mention of capital structure has a corresponding mention of implications for overall cost of capital. However, such studies imply the universality of management principles and so we erroneously hope that they apply in exact magnitude here in Nigeria as they do in the west where such principles have their roots. (Keasey and Watson, 1987; Storey, 1988; Lowe, 1991). It is on this ground that we investigate the implications of financing costs on the market value and profitability of entrepreneurial firm.

Theoretical review

In reality, since every investment project undertaken is unique with respect to its composite risk, the expected returns will equally be different. For instant, if two projects are the same with respect to both operating risks and cash flows, they may differ with respect to financial

risk rising from the manner they are financed. Besides, the larger source of difference in riskiness of projects could even come from their operating activities, which will introduce operating risks of varying dimensions such as market risk, competitive risk, technology risk, etc. In short, any activity of the firm that may lead to variability of expected cash flows will constitute risk factor. Such broad profile of risk supports our earlier assertion that no two projects convey similar risk profile. If cost of capital derives from risk, then cost of capital is personal to every project.

However, the firm represents the aggregate of investment projects undertaken. Therefore the firm's cost of capital is the average required rate of return on the aggregate of investment projects. The firm's cost of capital can be used to discount the cash flow of those investment projects, whose inherent risk is equivalent to the average risk of the firm. To do this, the weighted average is preferred. For instance, a required return of 8 percent means that the investment project should yield a return of at least 8 percent in order to compensate investor for the risk. It is generally assumed that investors are risk averse and that the required return depends on the risk of the investment. The investors will require different rates of return on various securities, since they have risk differences. The higher the risk of security, the higher the rate of return demanded by fund provider in entrepreneurial firm.

Choosing a given type of fund takes account of both implicit and explicit considerations. For instance, it is traditional for entrepreneurial firms to exhaust private equity options to finance growth before considering debt options. Same way, the first priority for working capital financing would be bootstrapped funds. As a firm grows, its propensity to meet financial obligations increases, so it leverages its profit through acquisition of additional fixed assets by incurring fixed cost and increasing its debt profile. The first is operating leverage while the second is financial leverage. The combination of both, another way to describe acquisition of fixed assets through debt financing, has a remarkable influence of the firm's profitability for every unit of fixed cost settled with debt financing.

The relationship between type of financing and profitability has been highly controversial. At the foundation is the following common sense analogy by Miller (1998): the manner you slice your pizza does not change the satisfaction you derive from consuming it. What is important is the size of the pizza. Also, if you bring out one thousand Naira bill from your right pocket and put it into your left pocket, you are not richer, are you? In other words, capital structure decision does not matter, what matters is investment decision. This was the bedrock of the arguments of Modigliani and Miller (1958 & 1963). In 1958, they argued that financial managers spend time trying to identify an optimal capital structure, believing that it does not only exist but that it is also the point where the firm maximizes its profit and (or) market value; that it is pointless and irrelevant to do so because every combination of debt and equity offers the same effect on profit and (or) market value. They hinged their proposition on a number of assumptions, and sought a behavioural explanation, relying on the activities of arbitrageurs, for having the overall cost of capital (K_o) remain constant at different degrees of financial leverage. A combination of assumptions too difficult to abstract from in a real world made MM proposition a mere academic exercise. For instance, when critics questioned the chance of living "in a world without tax", Modigliani and Miller (1963) admitted that the tax deductibility advantage of interest charges surely takes a toll on (K_o), leading to an increase in market value. Interestingly, Miller commented that these assumptions have provided sustained excitements and intrigues in research in this area of finance.

MM proposition is at variance with earlier held opinion or the traditional view, which draws from the concept of leverage as described below: let's assume that a young graduate proposes to start a distributive business with one million Naira. He has personal savings of N250,000, and could receive the balance of N750,000 in one of two ways. First is to borrow it from a bank that charges interest of 15 percent (debt). Second is to invite three of his friends who will agree to participate in the business with each contributing N250,000 but holding 20 percent equity. This means that the combined equity holdings of the three friends is 60 percent while the young businessman controls 40 percent of the business. This is a fair deal and sufficiently compensates for his entrepreneurial adventure. Assume that the business is for one year, that there is a tax moratorium, and that the earnings before interest is N400,000. The businessman gets N340,000 as net earnings in the first option or N160,000 in

the second option. Clearly, the first option increases his net worth because he has used debt to leverage his business. The traditional view places a caveat: that he cannot continue to increase his debt just to increase his net worth because cost of debt (K_d) rises at some point, indicating that investors will ask for higher interest rate in a firm that is highly leveraged to compensate for the risk of probable bankruptcy. Besides, if the entrepreneur wishes to expand the business and so invites equity investors at this point, cost of equity (K_e) will also rise beyond the initial rate in response to the same reason as above. What is more, the overall capitalization rate (K_o) begins to rise after the supposed optimal point, i.e. the point where marginal real cost of debt is equal to marginal real cost of equity. $MRK_d = MRK_e$. (Olowe, 2009; Keown (1998); Van Horne, 2012; Pandey 1995).

Speaking of K_o , since firms sell various securities to investors to raise capital, its investment project should generate sufficient net cash flow not only to meet obligations to investors (equity and debt holders) but also set aside some cash flow for future investment in line with the treatment for constant growth assumption of dividend, which is a fair approximation of investors' expectation. This has three implications: first, investors' expected growth pattern may not be constant. Second, the possibility of growth resurrects the incidence of retained earnings. And three such capitalized earning tends to be the cheapest source of fund as it is free of floatation cost and personal tax.

Classical finance theory is mostly based on the assumption of efficient markets, which is rooted in the economic concept of opportunity cost for the investors, meaning that the market mechanism determines the flow of investment fund in line with utility maximizing motive of the rational investor. And the aggregate action of all investors will ultimately determine the market clearing or efficient price of securities. (Brealey, 2009; Emery, 2004; Arnold, 2008). Simply put, risk is the possibility that the actual return will differ from the expected return. (Watson and Head, 2010). An investment's required rate of return may be equal to the firms cost of capital plus or minus a risk-adjustment factor, depending on whether the investment's risk is higher or lower than the firm's risk. The objective method of calculating the risk adjusted cost of capital (amidst pockets of criticism that have led to variations of this model) is the use of capital asset pricing model (CAPM) shown in equation 1, and the commonly used formula for determining opportunity cost of capital is also given in equation 2.

$$R_j = R_f + \beta_j(M - R_f) \dots \dots \dots \text{equation 1}$$

$$I_0 = C_1/(1+k) + C_2/(1+k)^2 + \dots C_n/(1+k)^n \dots \dots \dots \text{equation 2}$$

Where I_0 equals capital supplied by investor in period 0, representing net cash inflow. C_n equals expected returns, representing cash outflow. k equals the required rate of return or the cost of capital. The sum of the outflows discounted should at least be equal to the returns expected from alternative investment opportunities of equivalent risk in the financial market. Two critical assumptions of CAPM appear to be flawed by critics: first, the idea that unsystematic risks can be completely diversified away is hardly tenable in the real world. Second, imperfections in the market hold greater implications for measurement and estimations than were presented under the assumption of perfect market.

Research methods

Ten year time series data were collected from a cross section of ten emerging companies listed in the alternative investment market of Nigeria stock exchange. This suggested that panel study is appropriate. We identified two bottom lines namely: market value and net profit. Each of them varies arguably as changes occur in costs, especially, cost of capital. Accordingly, they represent our dependent variables. Secondly, since a firm's capital structure is largely composed of debt, public equity, private equity, and retained profit, we have considered each asset class as part of the cost structure leading to the overall cost of capital. We also acknowledge that when weighted by the contribution of each asset class, the average derived therefrom is different from each of the individual classes standing alone. Accordingly, the independent variables are costs of debt, public equity, retained earnings, and WACC. We would have included private equity finance in view of the study's focus on entrepreneurial firms whose securities are traded publicly. Such firms are open to attract private investments (or instrument) in public equity, (PIPE) with private equity-type return. This may come as venture capital or management buyout firms. Occasionally, a successful PIPE may be

an indication of possible *take private*, i.e. making a public company private and removing its listing from the stock exchange. (Fraser-Sampson, 2010). We are however deficient in data on private equity cost of capital.

Model specification

The functional relationships of the two multiple regression models are: $MV = f(K_d, K_e, K_r, K_o)$; and $\pi = f(K_d, K_e, K_r, K_o)$. Where MV equals market value of the firm’s securities; π equals net profit; K_d equals cost of debt; K_e equals cost of public equity; K_r equals cost of retained earnings; and K_o equals weighted average cost of capital. Given the following assumptions, states of facts, and preemptive sensitivity analysis, random error model of panel data regression analysis was preferred; first we have spatio-temporal data set that is balanced, i.e. the panel is made up of ten emerging companies and ten years of time series data so that

$$MV_{it} = \beta_0 + \beta_1 K_{dit} + \beta_2 K_{eit} + \beta_3 K_{rit} + \beta_4 K_{oit} + u_{it} \dots \dots \dots equation\ 3$$

$$\pi = \beta_0 + \beta_1 K_{dit} + \beta_2 K_{eit} + \beta_3 K_{rit} + \beta_4 K_{oit} + u_{it} \dots \dots \dots equation\ 4$$

Where β_0 equals intercept of MV and π ; β_1 to β_4 are parameters of the independent variables as defined above; and μ is the random variable or error term usually explained away in order to estimate the effect of the core independent variable; i equals 1,2,3.....10 and t equals 2005, 2006 2014. Second, we treat the intercept for each model bearing the cross-section effect as random variable with a mean value of β_i , such that $\beta_i = \beta + \mu_i$, where $i = 1,2,3.....10$, and $\beta = 1/10 \sum a_i$; $t = 2005, 2006....2014$. The estimates of the true parameters β, β_1 to β_4 of the determinants $K_{dit}; K_{eit}; K_{rit};$ and K_{oit} are symbolized as follows:

$$MV_{it} = \beta_0 + \beta_1 \hat{K}_{dit} + \beta_2 \hat{K}_{eit} + \beta_3 \hat{K}_{rit} + \beta_4 \hat{K}_{oit} + \hat{\epsilon}_{it} \dots \dots \dots equation\ 5$$

$$\pi = \beta_0 + \beta_1 \hat{K}_{dit} + \beta_2 \hat{K}_{eit} + \beta_3 \hat{K}_{rit} + \beta_4 \hat{K}_{oit} + \hat{\epsilon}_{it} \dots \dots \dots equation\ 6$$

where $\hat{\epsilon}$ = estimate of the random variables μ . Third, we assume that there is no correlation between the individual or cross-section error component $\hat{\epsilon}_i$ and the regressors ($\hat{K}_{dit}; \hat{K}_{eit}; \hat{K}_{rit};$ and $\hat{K}_{oit}$). Put together, the random effect model will be of the form:

$$MV_{it} = \beta_0 + \beta_1 \hat{K}_{dit} + \beta_2 \hat{K}_{eit} + \beta_3 \hat{K}_{rit} + \beta_4 \hat{K}_{oit} + w_{it} \dots \dots \dots equation\ 7$$

$$\pi = \beta_0 + \beta_1 \hat{K}_{dit} + \beta_2 \hat{K}_{eit} + \beta_3 \hat{K}_{rit} + \beta_4 \hat{K}_{oit} + w_{it} \dots \dots \dots equation\ 8$$

where $w_{it} = \mu_i + \hat{\epsilon}_{it}$, and w_{it} is a composite error term that clearly involves two errors, the first (μ_i) is the cross-section or firm specific error component and the second ($\hat{\epsilon}_{it}$) is the combined time series and cross-section error component. The assumptions of random effect model are that $\mu_i \sim N(0, \delta_u^2)$; $\hat{\epsilon}_{it} \sim N(0, \delta_{\hat{\epsilon}}^2)$; $E(u_i \hat{\epsilon}_{it}) = 0$; $E(u_i u_t) = 0$; ($i \neq j$); $E(\hat{\epsilon}_{it} \hat{\epsilon}_{is}) = E(\hat{\epsilon}_{it} \hat{\epsilon}_{jt}) = E(\hat{\epsilon}_{it} \hat{\epsilon}_{js}) = 0$; ($i \neq j$; $t \neq s$), Gujarati, Porter, Gunasekar (2012). This means that the individual error components were not expected to be correlated with each other and were not to be auto-correlated across both cross section and time series units.

Table 1: Summary statistics of panel study with random effect model

Variable	Coefficient	T-Statistics	Probability	Other statistics	
Panel A (equation 7)					
β_0	712.0799	5.410435*	0.0000	R ²	0.251160
β_1	-401.7526	-0.444179	0.6575	ADJ. R ²	0.063699
β_2	-1.90105	-1.978865*	0.0496	F-stats	1.339697
β_3	-0.650193	-3.968373*	0.0001	F-prob.	0.263540
β_4	-7.420622	-0.557733	0.5778	D.W	0.564328
Panel B (equation 8)					
β_0	-8433421	-0.807182	0.4208	R ²	0.189087
β_1	-34.89239	-0.366010	0.7149	ADJ. R ²	0.018324
β_2	-0.004413	-0.036965	0.9706	F-stats	0.046323
β_3	-0.003481	-1.382885	0.1687	F-prob	0.986729
β_4	-0.009106	-0.063423	0.9495	D.W	1.277791

*p ≤ 0.05

Discussions

As shown above, changes in costs of capital only account for 25 percent of changes in market value and 18 percent of changes in net profit. These figures are not statistically significant for purposes of generalization as indicated by their probabilities. For the individual t-values, K_e and K_r have statistically significant values in panel 'A' implying that changes in them would generally cause changes in emerging companies. For instance, a unit increase in K_e causes 1.9 units decrease in market value while a unit increase in K_r causing 0.65 unit decrease in market value. This ratifies the argument under the traditional and net income schools of thought, albeit with a point of departure between both schools concerning optimal capital structure. The thrust of both arguments is that K_o can be altered with increased financial leverage. The departure stems from the traditional scholars' belief that there exists a point where K_e begins to rise as a reflection of assumption of higher financial risk. Also, recall that K_r is cheaper equity capital when we account for the implicit floatation cost and personal tax advantage. This does not explain why its elasticity is relatively lower than that for K_e . On the contrary, we expected larger elasticity than we got. Two things could be responsible. First, retention rate or dividend payout is a highly debated issue which also hinges on dividend growth rate and serves as signal in a largely asymmetric market. Second, although it is a determinant of market value as explained above, it creates future values when entrepreneurial firms are involved. Aside from showing an inverse relationship between cost and market value, which is our a priori expectation anyway, the value for K_d looks spurious, outrageous, and therefore not any basis for valid analysis. It however extends its effect on K_o , which turns out to be insignificant, too. More interesting is the outcome that the cost of every fund demonstrated a negative relationship with market value thus impressing upon us the sensitivity of cost of capital to market value.

Two distinctive outcomes set panel 'B' apart from 'A': first is their paltry coefficients, and second is the fact that none was statistically significant. This supports the more frequent reference to market value rather than profit as relevant indicator for assessing a firm's cost of capital. Meanwhile literature of finance is replete with measurement of degree of operating leverage and its effect on profit. Fundamentally, market value speaks volume with financial leverage whereas profit serves to explain changes in sales whenever variable-to-fixed cost ratio is altered. (Dagogo, 2015). Finally, there is a bid of absurdity in the study that could make interpretations fairly uneasy. Entrepreneurial firm are usually private equity-driven yet we were unable to include cost of private equity finance in our models. For instance, proxy for cost of venture capital finance, which is often the internal rate of capital (IRR), may give further insight about value creation through very high level retention of earning over a long term.

Conclusions

Costs of various types of funds have greater effect on changes in the market value than it does with profitability of entrepreneurial firm. This is so because the value of capitalized funds both debt or equity does not depend only on the prospects of the firms' assets for increased profit but also on other intrinsic factors that are part of the fundamentals of these firms and those that are determined by the vagaries of market forces. Secondly, cost of equity contributes most to the changes in market value. The small value of retained earning comes with mixed feelings as is always the case with capital structure argument or irrelevance of dividend policy argument by Modigliani and Miller (1961). On one side is the argument in favour of consolidation of previous earnings in order to create value for the future, and on the other side is the market sensitivity argument, seeing dividend payment as a signal for profitable performance. Since this study is about entrepreneurial firms, the former argument becomes more appealing. But the bases of accepting this would have rested on the outcome of the coefficients of cost of private equity if we had included it as part of the model. This thus suggests an area for future research contemplation.

References

- Alile, H. I., (1994). "The role of capital markets in Africa's economic reforms". *The NSE Fact book* 1994.
- Anyafu, A. M. O., (2002). *Nigerian financial market and institutions*". Enugu: UNEC B & F Publication.

- Arnold, G. (2008). *Corporate Financial Management*. Harlow: Financial Time Prentice Hall. (5&6), 603-626.
- Brealey RA, Myers SC, Allen F (2009). *Principles of corporate finance*. McGraw-Hill, Boston, MA.
- Brealey, R.A., S.C. Myers and A.J. Marcus, (1996). *Fundamentals of Corporate Finance*. 3rd Edn. McGraw-Hill, New York.
- Brigham, E.F. & Houston, J.F. (2009). *Fundamentals of Financial Management*. South-Western Cengage Learning, Mason, O.H.
- Dagogo, D.W, and Ollor, W.G (2010). The effect of Venture Capital Financing on the Economic Value Added Profile of Nigerian SMEs *African Journal of Accounting, Economics, Finance and Banking Research Vol. 5. No. 5. 2009*.
- Dagogo, D. W., & Obara, L. C.,
- Damodaran, A., (1996). *Investment valuation; Tools and techniques for determining the value of any assets*. John Wiley, New York.
- Emery DR, Finnerty JD, Stowe JD. (2004). *Corporate financial management*. Pearson/Prentice Hall, Upper Saddle River,
- Fama EF, French KR. (2004). *The capital asset pricing model: theory and evidence*. J Econ Perspect 18(3):25–46
- Fama, E.(1977). *Risk-adjusted discount rates and capital budgeting under uncertainty*. J. Financ. Econ., 5(3): 24.
- Fama, E.F. and K. French, (1997). Industry costs of equity. J. Financ. Econ., 43: 153-193.
- Gitman, L.J. and V.A. Mercurio, (1982). Cost of capital techniques used by major US firms: Survey and analysis of Fortune's 1000, *Financial Management* 11(4), 21-29.
- Graham, J.R. & Harvey, C.R. (2002). How Do CFOs make Capital Budgeting and Capital Structure Decision? *Journal of Applied Corporate Finance*, 15(1), 8-25.
- Gujarati, D and Sangeetha (2013). *Basic Econometrics*, New Delhi: McGraw-Hill Publishing Co., 4th ed
- Hussain, J., Millman, C., Matlay, H. (2006), S"ME financing in the UK and in China: a comparative perspective", *Journal of Small Business and Enterprise Development*, Vol.13 No. 4, pp.584-99.
- Ignacio, V.P. and B.P. Antonio, (2005). Consistency in Valuation: *A Practical Guide*. Retrieved form.
- Ignacio, V.P. and J. Tham, 2009. *A Note on the Weighted Average Cost of Capital WACC*. Available at SSRN, Social Science Research Network. Retrieved form:
- Keasey, K., Watson, R. (1987), "Non-Financial Symptoms and the Prediction of Small Company Failure: A Test of Argenti's Hypothesis", *Journal of Business Finance & Accounting*, Vol.14 No.3.
- Lowe, J., Tibbits, G. E., McKenna, J. (1991), "Small Firm Growth & Failure: Public Policy Issues and Practical Problems", in Renfrew, K. M., McCosker, R. C. (eds.), *The Growing Small Business*, Proceedings of Fifth National Small Business Conference, pp. 175–190.
- Modiglian, B.F. & Miller, M.H. (1958). The Cost of Capital Corporation Finance and the Theory of Investment. *Am Econ. Rev.* 48(3): 261 – 297.
- Modigliani, F. and H.M. Merton, (1963). *Corporate Income Taxes and the Cost of Capital*:
- Modigliani, F. & Miller Merton.H., (June 1958), "The Cost of Capital, Corporation Finance and the Theory of Investment", *American Economic Review*, 48, Pp 261-297
- Moskowitz, T.J. & Vissing-Jorgensen, A. (2002). The Return to Entrepreneurial Investment: A Private Equity Premium Puzzle? *American Economic Review*. 92, 745 – 778.
- Myers, S. and S. Turnbull, (1977). Capital Budgeting and the capital asset pricing model: *Good news and bad news*. J. Financ., 32: 321-333.
- Myer, S. C. *The capital structure puzzle*. <http://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.1984.tb03646.x/full>
- Myers, S.C.(1974). *Interactions of corporate financing and investment decisions: implications for capital budgeting*. J. Financ., 29(1): 1-25.
- Nwanyanwu, L. A., (2014). Cost of loan capital and capital assets acquisition in Nigeria: Implications on Organizational Profitability. *European Journal of Business and Management* 6 (26), 199 – 208.
- Onyema, O. (2013). The Alternative Securities Market of The Nigerian Stock Exchange. *Launching of the Alternative Securities Market for Emerging Business*, The Muson Centre, Onikan Lagos.
- Osamwonyi I.O. (2004). *World Bank Assisted Sites & Services Projects: A Milestone*
- Pandey, I.M., (2013). *Financial Management New Delhi*. Vikas Publishing House PVT Ltd.
- Ross, S. (1976). The Arbitrage Pricing Theory of Capital Asset Pricing. *Journal of Economic Theory*, 13, 341 – 360.

Shannon, P.P.; Robert, F.R. & Robert, P.S. (2000). Valuing Business: *The Analysis and Appraisal of Closely Held Companies*.

Sharpe W.F. (1964). Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk. *Journal of Finance*, 19(3), 425 – 442.

Sick, G.A., (1986). *A certainty-equivalent approach to capital budgeting*. *Financ. Manage*, 15: 23-32.

SMEDAN (2015). National Policy on MSMEs.

Storey, D., Watson, A., Wynarczyk, P. (1988), “Fast Growth Small Businesses: A *Study of 40 Small Firms in North East England*”, *Research Paper* No. 67, London Department of Employment.

Tham, J. and V.P. Ignacio, (2004). *Principles of Cash Flow Valuation*. An Integrated Market-Based Appraoch. Academic Press.

Watson, D. & Head, A. (2010). *Corporate Finance, Principles and Practice Financial Times/prentice*

Weston, J.F. and T.E. Copeland, 1992. Managerial Finance. 9th Edn., The Drydem Press

Wu, J., Song, J., & Zeng, C. (2008). An Empirical Evidence of Small Business Financing in China. *Management Research News*, 31(12), 959-975.

Yadav, A., (2013). Capital budgeting procedures and practices of Unsung Entrepreneur in Delhi. *International Journal of Science and Research* 6 (14), 28 – 48.

NET PROFIT FOR 10 ASeM FIRMS 2006 -2015

S/N	NAME OF FIRMS	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	Smart Products Plc	3,866	2,469	3,509	5,368	7,425	7,055	11,660	12,021	12,344	16,658
2	Rokana Ind. Plc	(18,852)	(19,632)	(37,985)	(11,150)	508,054	511,176	636,381	559,110	766,855	971,405
3	Afrik Pharceutical Plc	1,269,435	2,785,060	3,205,445	2,812,905	4,173,361	- 2,457,387	- 8,777,500	- 15,766,652	(9,249,712)	(6,898,199)
4	Adswitch Plc	5,059	5,192	683,000	6,510	10,182	- 19,686	14,055	14,683	15,521	14,815
5	Tropical Petroleum	137,349	144,815	145,750	176,067	177,550	188,658	199,509	210,680	311,373	414,956
6	W/A Aluminium Plc	2,734,396	3,461,765	5,329,956	1,196,843	3,373,928	67,751	141,676	173,840,164	(223,881,550)	(227,830,323)
7	Capital Oil Plc	1,776,964	270,614	(39,413,282)	- 233,163,670	(324,782,247)	(53,532,380)	(23,040,037)	487,430	559,944	813,581
8	Rak Unity Pet. Plc	898,438	588,453	1,053,188	375,555	- 26,638	293,965	326,660	41,613	53,873	89,759
9	Union Ventures Plc	995,470	2,043,187	2,097,092	2,166,705	2,487,216	- 46,990	1,423,645	854,423	878,685	955,075
10	Juli Plc	359,936	- 11,071,810	1,384,747	- 4,623,026	- 9,737,591	- 27,006,589	- 36,777,535	2,905,178	3,693,118	4,002,465

MARKET VALUE (MARKET CAPITALIZATION) FOR 10 ASeM FIRMS 2006 -2015

S/N	NAME OF FIRMS	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	Smart Products Plc	185.50	135.49	152.79	157.76	212.61	104.34	120.96	134.30	144.55	162.09
2	Rokana Ind. Plc	627.10	403.13	423.36	430.18	411.25	527.71	547.01	558.21	551.08	443.19
3	Afrik Pharceutical Plc	208.22	223.94	220.26	219.22	211.06	1,261.20	531.24	404.15	330.22	274.10
4	Adswitch Plc	786.70	853.25	876.19	952.54	1,152.01	1,251.82	1,510.21	1,755.82	2,675.15	2,500.55
5	Tropical Petroleum	206.30	161.36	174.23	178.38	185.13	175.48	189.52	208.42	246.22	281.85
6	W/A Aluminium Plc	576.42	597.80	642.96	658.09	751.18	779.58	762.79	802.46	821.24	831.33
7	Capital Oil Plc	654.40	701.32	826.39	754.27	544.14	527.26	544.34	2,024.64	1,850.21	2,026.37
8	Rak Unity Pet. Plc	621.33	787.10	849.30	744.44	802.45	719.32	812.76	797.76	851.71	696.30
9	Union Ventures Plc	794.91	828.10	862.64	954.61	1,583.63	2,167.20	2,035.31	2,991.12	2481.09	3103.62
10	Juli Plc	742.11	702.93	672.08	786.16	842.66	873.08	888.53	864.13	1,120.34	1,321.11

COST OF DEBT RATIO FOR 10 FIRMS 2006 -2015

S/N	NAME OF FIRMS	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	Smart Products Plc	0.09	0.10	0.09	0.08	0.09	0.01	0.08	0.09	0.09	0.09
2	Rokana Ind. Plc	0.08	0.09	0.08	0.10	0.09	0.08	0.10	0.10	0.10	0.01
3	Afrik Pharceutical Plc	0.09	0.10	0.08	0.09	0.07	0.08	0.08	0.08	0.09	0.07
4	Adswitch Plc	0.08	0.09	0.09	0.08	0.09	0.07	0.08	0.08	0.09	0.08
5	Tropical Petroleum	0.08	0.11	0.08	0.10	0.10	0.10	0.10	0.10	0.08	0.09
6	W/A Aluminium Plc	0.10	0.10	0.09	0.09	0.10	0.09	0.09	0.08	0.08	0.08
7	Capital Oil Plc	0.09	0.08	0.09	0.09	0.08	0.09	0.09	0.10	0.10	0.10
8	Rak Unity Pet. Plc	0.08	0.09	0.10	0.10	0.08	0.08	0.08	0.08	0.08	0.08
9	Union Ventures Plc	0.08	0.09	0.09	0.09	0.09	0.12	0.08	0.08	0.09	0.09
10	Juli Plc	0.08	0.09	0.10	0.10	0.10	0.10	0.08	0.09	0.09	0.09

COST OF EQUITY RATIO FOR 10 FIRMS 2006 -2015

S/N	NAME OF FIRMS	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	Smart Products Plc	0.18	0.21	0.23	0.22	0.28	0.27	0.29	0.31	0.33	0.38
2	Rokana Ind. Plc	0.20	0.24	0.26	24.00	0.30	0.31	0.36	0.31	0.35	0.39
3	Afrik Pharceutical Plc	0.28	0.29	0.33	0.34	0.39	34.00	0.38	0.36	0.38	0.38
4	Adswitch Plc	0.20	0.24	0.23	0.27	0.26	0.29	0.30	0.34	0.33	0.32
5	Tropical Petroleum	0.14	0.19	0.18	0.20	0.22	0.24	0.28	0.31	0.35	0.37
6	W/A Aluminium Plc	0.23	0.28	0.27	0.29	0.24	0.26	0.32	0.36	0.38	0.41
7	Capital Oil Plc	0.34	0.36	0.37	0.39	0.42	0.46	0.44	0.45	0.47	0.49
8	Rak Unity Pet. Plc	0.32	0.34	0.36	0.33	0.34	0.38	0.39	0.40	0.39	0.45
9	Union Ventures Plc	0.24	0.26	0.28	0.30	0.34	0.38	0.39	0.41	0.40	0.40
10	Juli Plc	0.27	0.32	0.31	0.35	0.39	0.41	0.43	0.44	0.48	0.47

WEIGHTED AVERAGE COST OF CAPITAL FOR 10 FIRMS 2006 -2015

S/N	NAME OF FIRMS	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	Smart Products Plc	0.23	0.25	0.29	0.30	0.34	0.35	0.36	0.37	0.42	0.44
2	Rokana Ind. Plc	0.23	0.24	0.26	0.24	0.28	0.31	0.31	0.35	0.31	0.37
3	Afrik Pharceutical Plc	0.21	0.23	0.25	0.24	0.26	0.28	0.24	0.24	0.29	0.30
4	Adswitch Plc	0.15	0.16	0.18	0.24	0.26	25.00	0.28	0.27	0.31	0.31
5	Tropical Petroleum	0.22	0.24	0.26	0.24	0.27	0.30	0.31	0.32	0.34	0.36
6	W/A Aluminium Plc	0.28	0.27	0.29	0.30	0.34	0.33	0.35	0.36	0.38	0.39
7	Capital Oil Plc	0.19	0.23	0.24	0.28	0.29	0.31	0.33	0.34	0.35	0.38
8	Rak Unity Pet. Plc	0.21	0.23	0.24	0.28	0.29	0.26	0.30	0.31	0.33	0.33
9	Union Ventures Plc	0.21	0.23	0.24	0.26	0.28	0.27	0.31	0.33	0.33	0.34
10	Juli Plc	0.27	0.29	0.32	0.33	0.35	0.36	0.38	0.38	0.39	0.39

COST OF RETAINED EARNINGS FOR 30 FIRMS 2006 -2015

S/N	NAME OF FIRMS	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	Smart Products Plc	0.17	0.14	0.15	0.19	0.17	0.16	0.34	0.29	0.32	0.26
2	Rokana Ind. Plc	0.12	0.10	0.11	0.12	0.12	0.11	0.12	0.13	0.12	0.13
3	Afrik Pharceutical Plc	0.11	0.14	0.15	0.14	0.15	0.10	0.10	0.09	0.09	0.12
4	Adswitch Plc	0.13	0.14	0.12	0.11	0.10	0.12	0.11	0.11	0.13	0.16
5	Tropical Petroleum	0.12	0.14	0.15	0.16	0.14	0.11	0.13	0.18	0.14	0.16
6	W/A Aluminium Plc	0.07	0.07	0.08	0.08	0.07	0.06	0.09	0.08	0.09	0.10
7	Capital Oil Plc	0.10	0.08	0.08	0.08	0.07	0.07	0.06	0.07	0.08	0.09
8	Rak Unity Pet. Plc	0.09	0.09	0.10	0.11	0.07	0.09	0.10	0.08	0.09	0.08
9	Union Ventures Plc	0.10	0.09	0.09	0.07	0.07	0.08	0.08	0.08	0.09	0.09
10	Juli Plc	0.09	0.08	0.07	0.08	0.10	0.10	0.10	0.12	0.11	0.10