

Capital Budgeting and Economic Development in the Third World: The Case of Nigeria

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Abstract

Poor and Unrealistic capital budgeting has long been the bane of socio-economic development in Africa and of course, Nigeria. The issue of capital, investment and how it was undertaken in the capital budgeting process thus constitutes a major concern of this paper. Even in the midst of vast economic and resources cum endowment, African countries are not only technologically backward but wallow in neckdeep poverty and indebtedness. In the bid to resolve this nagging problem, this paper looked at the form and approach of the Nigeria government to capital budgeting. It tried to unravel the causes of project abandonment, capital disappearance and inhibition placed on capital budgeting as the country related to other countries outside her borders (particularly in the Western world). The paper adopted a basic research approach whereby it collected primary data from questionnaires administered on 94 firms primarily and they were complemented with vast secondary data extracted from Nigerian stock exchange fact books from 1980-1999. The analysed data were presented in tables, percentages and were critically discussed. Basically, the study found out that most firms used one form of the criteria or another for selecting optimum investment. However, the study revealed that the most common method is the payback period. The study also revealed that dividends and taxation payouts as well as shareholders' funds and share capital strongly influenced public companies growth performance when juxtaposed with retained earnings and credit investment. Moreover, net cash flow on investment is found to be a strong determinant of performance since higher income dictates better investment returns and vice-versa. The paper concluded that capital budgeting decision is an unnegotiable investment decision making strategy that must be taken very seriously. Given the fact that only private sectors made use of various methods of project valuation, which accounts for the reason why the little development visible in Nigeria are from the private sectors, the study therefore pushes that the government should embrace capital budgeting if it is to witness appreciable economic development.

Key words: Capital Budgeting, Economic growth

JEL classification: E24, C22

I. Introduction

Capital budgeting in a developing economy is very vital and must be approached with all sense of diligence. The rate of economic development in the third world has been relatively slow and it needs to

be accelerated. Gone were the days when a community would say that she will keep to herself. The modern world is not only a competitive world but a globally captured village. As such, it is either a society or community braces up with modern requirements for development or suffers self-inflicted setbacks. Capital budgeting involves making investment decisions concerning the financing of capital projects by firms. Making a good investment decision is important since funds are scarce and it will add to the value of the firm especially in Less Developed Countries LDCs and Third World poor nations of the world. Capital investment decision is thus one of the requirements, if properly applied, that can accelerate economic development

The forty-eight countries of the sub-Saharan Africa expend an upward of 13.5 billion dollars per annum on foreign debt payment to rich foreign creditors. The origins of this debt trap for poor states lie in the formation of the Organization of Petroleum-Expecting Countries (OPEC) in 1973 and the dramatic rise in oil prices that year. The OPEC states deposited their new oil wealth in Western banks. Since idle money loses against inflation, which was rising rapidly at the time, the banks needed to find countries to take loans. Many states in Eastern Europe and the third world borrowed huge sums of money in expectation that interest rates would remain stable. Many African countries accepted these loans for political and economic stabilization in the post independence era.

On the side of the creditors as well, in context of the cold war, little thought was given to the purpose of the developing countries for collecting loans. More so, many of these loans were given in order to gain and or retain the loyalty of corrupt regimes, which was characteristic of Africa at that time. The expectation of the third world states, that Interest rates will remain stable, was shattered by two major trends in global economy over the two decades;

First, the fixed exchange rate system that had been established after the second world war collapsed, and state began to use interest rates to stabilize their exchange rate. Secondly, interest rates rose in the 1980s in response to trade and budget deficits in the United States. This caused a downturn in the economies of industrialized states, thereby reducing export markets for poor states. The global prices for primary commodities, which formed a large bulk of third world's export earnings, collapsed as well. These left many of these states in abject financial bankruptcy. Debts incurred were so large that they needed new loans to finance them. This brings the other side of the debt story to high

Debt Servicing

This debt trap or debt 'cancer' as some writers have put it, represents a continuing humanitarian disaster for some over seven hundred million of the world's poorest people. These debtor states were under-developed and their debt crisis further plunge them into deeper economic crisis and abject underdevelopment.

Before solutions can be proffered to problems, apart from understanding the nature of the problem it is important to analyse the cause or causes (if it is multifaceted) of the problem. The same thing goes for the debt crisis in Africa. Apart from the historic cause that is the international economic regression of the 1960s and 1970s, there are some other causes that can be regarded as important even though they are indirect causes. They include:

Mismanaged lending and spending. In the 1960s United States' expenditure was more than its revenue. This made the country print out more dollars, thereby devaluing the dollar. Consequently, oil-producing state which had their economies pegged to the dollar were affected by these decrease in dollar value. In 1973, the oil-producing countries hiked their prices in response, thereby earning a lot of money, which they put in Western banks. Interest rates increased alongside and more lending ensued by banks so as to prevent crisis.

Second, corrupt-leadership in borrower states. Due to the fact that these loans were thoughtlessly accepted, and they were collected by western-backed dictators, they had little or no implications for development nor benefit for the masses. Most of these leaders siphoned these loans for personal aggrandisement.

Thirdly, in 1982, Mexico defaulted on its debt payment, threatening the international credit system. These moved IMF and World Banks to introduce Structural Adjustment Policies to help Mexico and other Third World States facing these problems repay their debt. The harsh conditionality that came with these policies have only further entrenched these debtor states in the indebtedness. Structural adjustment advice in the past has led to the cut back on important spending such as health education in order to be able repay loans. This has implied downward spiral turn and further crash down into poverty in African states.

Finally the protection in the world's market for agricultural products and low-technology manufactures, which make it particularly difficult for African countries to diversify and increase exports to hard currency markets, thus making it doubly difficulty for them to earn their way out of the debt trap.

The danger of the debt crisis to North and South led both of them to seek ways out. The United States, as the world's leading economy and the largest single holder of Less Developed Countries' (LDC) debt, has been at the vanguard of this effort. Some of which include Nicholas Brandy's plan of 1989 when over 100 billion debt owed by LDCs was forgiven, interest rates lowered, and now loans given. There has been increased flow of concessional aids from creditors. Sub-Saharan Africa has emerged over the last two decades as the major aid-receiving region.

In October 1996, the first real attempt was made to deal with the problem when the World Bank and the IMF won agreement from their Boards of Governors for the establishment of the Highly Indebted Poor Country Initiative. At its launch, the policy offered the promise of poor countries achieving a "robust exit" from the burden of unsustainable debts. This comprehensive approach to debt write-offs with an enormous potential for poverty reduction is open to the poorest countries, which are eligible for highly concessional assistance such as from World Bank's International Development Association and the IMF's poverty Reduction and Growth Facilities; which after having applied full traditional debt relief mechanism still face unsustainable debt situation and which have proven record in implementing strategies focused on reducing poverty and building the foundation for sustainable economic growth.

The debt-ridden states however are expected to make attempts at helping themselves. The concern of the northern states may be to no avail if these debtor states do not take steps that will help relief their situation. Some of these measures may be long term. That is they may be foundational solutions, which will require consistent build-up and development.

The capital investment decision is thus one of the most critical and crucial decisions that any country or organisation can take to achieve economic development. Since economic development depends on the multiplicity of viable corporate firms and enterprises in the country, the approach adopted here is to demonstrate how capital budgeting, as an investment decision can promote corporate organisational growth. In other words, capital budgeting is an integral part of the corporate plan of an organisation, which reflects the basic objectives of an organization. The capital investment decision is more than investment in capital assets such as fixed assets, e.g., land and buildings, plant and equipments etc.; it can include intangible fixed assets (e.g., research and development) and working capital. Thus, the capital investment decision involves large sums of money and may introduce a drastic change in a company. For instance, acceptance of a project may significantly change a company's operation, profitability and risk complexion (since the benefits will accrue in the future). These changes might also affect investors' evaluation of a company (Osaze, B.E. 1996:40-44).

Firms invest very heavily annually in fixed assets. These investment decisions can affect the firms' turnover for years. A good decision will boost earnings sharply and dramatically increase the firms' value. A bad decision can lead to bankruptcy. Hence, effective planning and control are essential if the health and long-run viability of the firm is to be assured.

Capital Budgeting integrated the various elements of the firms. Though, its administrative control rests with the financial manager, the effectiveness of a firm's capital investments depends on inputs from all major departments. All other departments (Accounting, Production, Engineering, Purchasing etc) help in the estimation of the operating costs, and also in the estimation of initial outlay or

investment cost. The Marketing Department helps in providing sales forecasts. All of these are key contributions from other departments but obtaining funds and estimating their cost are major tasks of the financial manager.

The various estimates of the departments are drawn together by the Finance Department in the form of a project evaluation report while top management, ultimately sets the standards for acceptability.

II. The Problem

Most third world countries depend excessively on importation. They do not develop an enduring technological base that can support the growth of their economies. Their capital investment decision is not usually well articulated. This is because their government do embark on white elephant projects that gulp huge sums of money and are useless in terms of utility to the people. The projects often are abandoned half-way and in some cases, are only executed on papers. In Nigeria, examples are: the National Identity Card Project, hosting of international conferences such as commonwealth, Festival of Arts and culture (FESTAC) National balloon project, to mention but a few. To worsen the situation, the funds for the projects do not come handy through Internally Generated Revenue (IGR) but through foreign loans such as borrowing from International Monetary Fund (IMF) or the World Bank. The consequence of such decisions has led Nigeria in particular like other Africa Countries into deeper new imperial substitute and antagonise.

The current efforts of the Nigerian government towards privatisation of hitherto government-owned firms and corporations is an indirect concession to the fact that the former investment decision pattern of the national government is not wise enough. No wonder the adamant posture, recalcitrance and undaunted-ness of the government even against very rife oppositions and allegations that the leadership has sold to neo-colonial impetus.

Considering the matter from the corporate perspective therefore, capital budgeting decision is one of the decision-making areas of a financial manager that involves the commitment of large funds in long-term projects or activities. Consequently, it affects management decisions about the future that are not certain.

The capital investment decision is usually an irreversible decision. Once an organization has committed funds to a project, it must see to the end of the project or else, it might lose all the money initially committed. For example, if a project will cost a certain sum of money and seventy-five percent of this had been committed, for such a project to become operational, the promoter must look for the balance of twenty-five percent or else he will lose the entire sum initially committed. The evaluation of capital budgeting therefore lies in the fact that it assists management in making investment decisions that will provide an adequate cash flow or return to compensate the investors over its investment and also to achieve company's financial objective of maximizing the wealth of shareholders. The study therefore seeks to examine the importance of capital investment decisions; the basic steps in making capital investment decisions and the techniques used in evaluating capital investment projects so that the overall country's economy can grow from the corporate sector investments.

Review of the Literature and Conceptual Framework

The problem of economic development in Nigeria manifests in the evidences that abound on the systemic failure of a neo-colonial society in Nigeria (Nnoli 1993:1-26). Nnoli further argues as follows:

... between 1980-1984, the Gross Domestic Product (GDP) declined. In 1983 the rate of decline was a high as 6.3%. The GDP at current 1980 prices declined from just below N55 billion in 1980 to around N45 billion in 1987. At constant 1977-78 factor cost in 1987 factor cost in 1986 it showed a drop of 3.3% when compared with the 1985 figure... Similarly, the current gross national product (GNP) per capita declined from around US\$960 in 1980 to around US\$300 in 1987; output of the industrial sector declined by 4.7% and 18.2% in 1983 and 1984 respectively; and the inflation rate which

declined from 20.8% in 1981 to 7.7% in 1982 increased to 23.2% in 1983 and 43.6% in 1984 (Nnoli 1993:7).

Economic development in Africa has not been steady. In fact, when compared to the situation in the West, the conclusion is that countries of the third world is either qualified as undeveloped or mildly put underdeveloped. Africanists scholars have tended to heap the blame on the Europeans; saying that colonialism or neo-colonialism is the bane of Africa's economic woes. This notion is referred to by Onigbinde (2003:21-25) as the "Original Sin Fallacy". The present economic woe of underdeveloped countries (UDCs) according to this fallacy is that UCDs' condition is original "in relation to a so-called non-achievement ... (rather) the present condition of the underdeveloped world is a historical product of capitalist expansion (ibid).

The crisis of underdevelopment in Africa is also captured in the of Rasheed Sadig in "Africa at the Doorstep of Twenty-First Century" Adebayo Adedeji (ed.), African within the world is,

...poverty increased in both the rural and urban areas: real earning fell drastically; unemployment and underemployment rose sharply; hunger and famine became endemic; dependence on food aid and food imports intensified; disease, including the added scourge of AIDS, decimated population and became a real threat to the very process of growth development; and the attendant social evils-rime delinquency, the a mess vengeance (cited from Onigbinde, op. cit., 2003: 78-79) .

In Nigeria, a preponderant majority of about over 100 million is in a situation of misrule, instability, poverty, hopelessness, corruption, moral decay, violence and general macro economic uncertainty. In the reports of United States for International Development (USAID), 1988-1992 (cited from Onigbinde, 2003:79-80):

... approximately 180 million of sub-Saharan Africa's 500 million people can be classified as poor, of whom 66.7 percent, or 120 million, are desperately poor. By every international measure, be it per capital income (\$330), life expectancy (51 years), or the United Nation's Index of Human Development (.255 compared to .317 for South Asia, the next poorest region), Africa is the poorest region in the world.

The solution to all these problems lie in the fact that firms are to embark on projects that would give rise to company's value which will by extension enhancing the desired economic development for the country. In the course of achieving this, the firm's activities become more complex and management assumes a sound financial position in the handling of problems and decisions therein. Modern approach to financial techniques could be traceable to valuation models propounded by John Bur Williams in 1938. Validity of these models did not manifest in finance until 1950s when series of theories had to be established in solving un-tackled problems of investment projects.

In this period of unstable financial operation, companies retain policy through the maintenance of sound financial structures, reflecting the proliferation of government financial regulations, backed up by the aim of a controllable and dynamic investment pursuit for the sustenance of national economy. Empirical studies emerging from established theoretical apparatus have filled up the vacuum in business procedures, which continually arouse the interest of experts in making positive contributions required to compare the financial condition and performance of various firms. It is also important to be conscious of the fact that, the idea of rigorous pursuit of firm's stabilization through debt funding unravelled the negligence of financing decision in business organizations.

The Capital Budgeting Process

For survival in the face of competition, for growth and development a firm needs a constant flow of ideas for new products and ways to make existing products better or at a lower cost. With imaginative executives and employees, many ideas for capital investment will be advanced. Since some ideas will be good ones, procedures must be established for screening projects. Moreover, a well managed firm will go to great lengths to develop good capital budgeting proposals e.g. a sales representative may report that customers are asking for a particular product which the company is not producing now, the

sales manager will discuss the idea with the marketing research group to determine the market size for the proposed product. If a substantial market does exist, cost accountants and engineers will estimate production costs. If it appears that the product can be produced and sold to yield a sufficient profit, the project will be undertaken.

The investment decision is one of the most significant decision areas. It might have effect the future profitability either because it might result in an increase in revenue or because it can cause an increase in efficiency and a reduction in costs. The important steps in the decision process are:

The practice of capital investment involves risk, the method of measuring the benefits, weighting the strategic objectives of the investment against the predetermined risks, and in choosing the method for the analysis is also risky.

Capital budgeting procedure is based on firm's perception of planning for financial increment due to successful market performance, customers' satisfaction and retention, capacity to launch new products or possibility of improving old ones. In view of the set goal, preparation of capital budgeting is centred on firm's main interdependent variables of available resources needed for investment mobilization at a particular point in time. Management of firms are required to exhibit nearly an effective prediction of capital budget with respect to minimum level of certainty or uncertainty as per the propositions made to arrest the non-warranty atmosphere of business environment. As Dam (1979) has observed if a nation has a stable economic prediction, capital investment demands could significantly be financed and implemented according to the company's designed goals and objectives. Any nation facing un-quantifiable economic instability may transfer such impediment of growth to organizational survival. Company's investments suffer in a poorly controlled economy be it in a developed or developing country. Future prediction of income becomes uncertain and risky in an un-conducive socio-economic and political atmosphere.

Time preference and risk are intriguing ideas that decision makers cannot avoid in financial decision making, the attempt to find solution to problem of risk and uncertainty has sparked up divergent views in the literature. One of the proponents to discuss the difficulties emanating from Capital Budgeting is Bodernhorn (1959). He notes the obstacle of making decision in budgeting of capital and observes that the formulation of such decision is centred on the available investment opportunities that will make firm to accept or reject a project. To make rational decisions firm must have specific objectives in the sense of maximizing its profit based on the expected long-term returns to be acknowledged as an increase or possibly a decrease in projected investment. We should note a gain that, a project is acceptable to management only when it adds to the profit of the firm after all costs (including the cost of capital) have been met. This statement agrees with the traditional theory objective of maximization of wealth of firm's owners. This involves increasing the shareholder's wealth or yielding a rate of return larger than the normal rate; because the normal rate is earned if the owners have invested in an alternative venture.

i. Identifying possible investment projects

This is the project ideas' generation stage. Projects ideas' can originate from any level within the organization. It can be from the operator in the factory or supervisor or production manager or managing director. Employees should be encouraged to identify new products, new production methods, new markets etc. Companies should also have in operation a system by which technical help can be given to staff to develop project ideas into formal investment proposals. We should regard project ideas' generation stage as a continuous stage in any organisation not regarded as one which should be undertaken over a long interval period.

ii. Identifying possible alternative to the projects being evaluated

This stage involves identifying possible alternative projects to the projects being evaluated.

iii. Acquiring Relevant Data on the Projects under Consideration

This stage involves finding all the relevant data on the projects under consideration. This task should be carried out without bias. Where possible an independent financial manager can carry out the task.

iv. Evaluating the projects from the data assembled

This stage involves carrying out a financial evaluation of the projects based on the criteria the firm uses. It is advisable to use more than one criterion. We will describe the various criteria that can be used in evaluating projects later in this paper.

As will be described later, the discounted cash flow method is the best-recommended approach since it is consistent with the objective of maximizing shareholders' wealth. The financial evaluation will enable the firm to determine the worthwhile-ness of the project.

v. Project Selection

This is a stage where a final decision is taken on the project. The board of directors will usually take the decision on projects to be selected. Possibly about three projects might be recommended to the board after evaluation. The board of directors will use their experiences to decide the projects to be selected.

vi. Project Implementation

This involves implementing the decision taken on the projects selected. Efforts should be made as much as possible to carry out the decision taken. We will give more discussions on this later.

vii. Project Monitoring and Control

This involves monitoring the progress of the project to assess its effectiveness and whether the expected benefits are being realized. Reviews such as a post audit might need to be carried out. We will give more discussions on this later.

Conceptual Clarification

The term capital means the funds employed to finance fixed assets used in production. A budget is a detailed plan of projected inflows and outflows over future periods. Capital Budgeting is therefore the process of planning expenditure that generates cash flows expected to extend beyond one year.

Project Classifications

Capital expenditure proposals/investment decisions need to be carefully made.

Firms generally classify projects into categories so that projects in each categories are analysed differently since their benefits and the level of expenditure requirements.

1. Replacement Projects/Maintenance of Business Projects

These include expenditures necessary to replace worn-out or damaged equipment used to produce profitable products. To continue its current business, these projects are necessary for the firm to embark upon, and such maintenance decisions are usually routine and are normally made without going through an elaborate decision process.

2. Safety and Environmental Projects

These are mandatory, non-revenue producing investments made necessary by government regulation, collective bargaining agreements, or insurance policy requirements. Most often, they are quite routine too and need not go through an elaborate decision making process.

3. Cost Reduction Projects

They are expenditure to replace serviceable but obsolete plant and equipment, to lower the cost of labour, raw materials, electricity etc. A detailed analysis is needed here to support the expenditure.

4. Expansion Projects

Involves expenditures to increase the availability of existing products and services. These investment decision are relatively complex because they require an explicit forecast of the firm's future supply and demand conditions. Mistakes are possible and could be expensive and so, detailed analysis is necessary before the decision could be taken.

It also involves expansion into new products and services or to expand into new geographical areas. These are strategic decisions that could change the fundamental nature of the firm's business, hence, very detailed and thorough analysis is invariably required.

III. Types of Investment Decisions

Independent Investment

Investments are independent when two or more investment can be taken together simultaneously and the acceptance of one cannot delay or affect the other.

Mutually Exclusive Investment/Projects

These are investments that cannot be taken together. Accepting A means that B has to be ignored.

Contingent Investment

i.e. the acceptance of one will necessitate the inclusion of other projects e.g. establishing a company at Iyanfoworogi village will necessitate road, water etc. projects.

The Criteria for Investment Decision

Criterion for measuring the viability of investment projects is highly imperative and these rules have extensively explained the conditions required for accomplishing goal of revenue maximization.

However these rules or criteria are the

- Payback Period
- Accounting Rate of Return
- Internal Rate of Return.
- Net Present Value
- Profitability Index

They provide a stable preference to firm's financial position, as every manager is expected to manage his funds competently. Quirin (1967) argues that capital budgeting procedures stipulate an avenue for an organization to invest its present sum of money efficiently and effectively in the long run. Often time capital investment procedure incorporates variables that cut across several financial assets business expansion, acquisition and merger and any other assets with life span spreading beyond one or two years. It is also important to note that the idea of strategic planning for capital investment emanates from critical evaluation of financial models.

IV. The Payback Period Criterion (PBP)

The above criterion is classified under non-discounting appraisal and it depends on the number of period (usually in years) taken for the future net cash flows on a capital investment to payback the initial or original net cash outlay. Since it is based on an immediate retrieval of gain from the executed project, formulation of this decision will consider specifically payback period. Any project with PB above the specified PBP maximum is however rejected because it will take too long a time to retrieve

initial capital. Application of PB rule on mutually exclusive projects will favour the choice of the best alternative for the project having the shortest payback period which is ultimately acceptable.

Brealey and Myers (1988) support this idea when they tagged PBP as the simplest way to communicate the degree of desirability of an investment project, and thus every individual commenting on the viability of a project based on discounted cash flows alone may ignore the ideas of those individuals with little knowledge about such rules.

As proponents and critics have stressed, the deficiency of the definition of Payback period makes the model complex. Just like any other theory, it can only offer a partial understanding of what constitutes its benefit to either the managers or owners of firms. Nonetheless it is defective because it does not consider the time preference of fund, as it gives equal weight to all future net cash flows over each project's Payback period. It has therefore been agreed that the PBP rule is not fully accepted as a desirable rule for evaluating capital project because it violates the following capital budget properties, in the sense that:

- (i) all cash flows should be considered and
- (ii) these cash flows should be discounted at the opportunity cost of funds.

V. Accounting Rate of Return (ARR)

The accounting rate of return is described as the annual accounting profits from a capital project. Divided by a defined annual average capital investment outlay over a project's life span. The rule is thus compared by the firm to certain arbitrarily set hurdle rate. It means, is simply the average after tax profit divided by the initial cash outlay of the project, and has similarity with the return on assets. The accounting rate of return as a non-discounting criterion is exposed to the same type of criticism like the PB since it violates the two properties of capital flows, but considers all the accounting profits instead of cash flows, over a given life of a capital investment. It however does not consider time value of money. Managers would be indifferent in their choice between one project and other with after tax profits, which may occur in the opposite chronological order because both projects would have similar accounting rate of return. Apart from this, it is possible that, the use of accounting variables could provide a misleading interpretation of net cash flows emerging from the project outlay. This may happen, since depreciation of the initial cost of capital over the future life of a capital investment is concisely treated as cash costs.

The defect may also arise from the accounting standards in force when a particular project assessment is being made at that given period. Despite all these flaws accounting rate of return is widely used to appraise capital budgeting decision by financial managers, but mostly side by side with the discounted cash flows – especially the net present value.

VI. Internal Rate of Return (IRR)

The IRR is a discounting cash flow, which has been enhancing a set of decisions made, based on capital budgeting. It is described as the rate of interest at which the present value of expected capital investment outlays is exactly equivalent to the present value of expected cash earnings on that capital project. It is in essence the rate, which equates the present value of the cash inflows, and also a rate making the computed net present value exactly zero. Separately put, it is the rate of return on invested capital, which the project is returning to the firm, when the net present value is equal to zero. The said assertion agrees with the Keynes (1936) statement on marginal efficiency of capital. In other word marginal efficiency of capital is equivalent to that rate of discount which would make the present value of the series of annuities given by the expected returns of the capital asset during its life span just equivalent to its supply price. Fisher (1907) states equally, that the rate of return over cost is that rate which is employed in quantifying the present worth of all the costs and the present worth of all the returns which will make these two the same. This means the IRR is the break even point of cost of capital and thus a measure of investment liability with respect to rate of return rather than value.

Specifically, IRR rule is simple and gives better understanding to decision-maker about convenient evaluation of expected rate of return per unit of time during investment process. As risk depends on the amount of capital exposed to its over time, IRR assists in measuring the project profitability with regard to similarity of quantity and time of risky project. IRR is economically preserved; as such management having the knowledge perceives consciously whether the rate of return is convincingly greater than the required rate of return for different capital projects. Carsbery (1974) identifies the basic problem of IRR rule as providing an assessment of the return relating to the cash outlay required from a project and ignores the absolute size of the return on investment. Investors and financial analysts may not find it difficult to explain appropriately what this rate of return stands for.

VII. The Net Present Value

The net present value of an investment or capital project is the aggregation of the present values of all cash benefits by deducting the present value of all cash. In mathematical form the net present value is explained as:

$$NPV = \sum_{t=1}^n \frac{CF_t}{(1+r)^t} - I_0$$

Where CF_t = Cash flow at the end of the period t

R is the required return per period.

N = overall number of periods in the project's life.

I₀ = the initial fund project required

The net present value is thus the evaluation of the amount by which the project value is maximized; this will in turn serve as gain for the wealth the owners used in future to come. A negative net present value means the project is not desirable and vice versa. Every estimation of NPV of a project should involve measuring the project's future net cash flows, discounting these at the appropriate cost of capital to procure their present value, deducting the initial capital cost or net investment outlay, at the project commencement period. This expression supports the submission of Porterfield (1966) that the NPV of a project as the present value of cash inflows minus the present value of the cash outflows, Bierman and Smidt (1980) have argued that, the present value of a project should depend on the ratio of interest used, as there is not a single present value estimate but a group of estimates focusing on what rate of interest is selected. In the real world the present value is evaluated, by employing a single, pre-determined interest rate which reflects the view of the firm's cost of capital. Assumption to reinvest is often the objective of both NPV and IRR. Thus it has been noted that both the stated techniques are superior over the non-discounted rules in appraising the desirability of a capital project have judged the NPV and IRR to be effective either to accept or reject a capital investment. Merret and Sykes (1963) feel, the respective advantages of the two techniques could be examined in respect of practical approach to decision making and which might have reflected in the assessment of their usefulness by the investors. Moreover, problems arising in tackling negative cash flows, which do occur during the spanning life of a capital project favour the net present value, because it is incorporated with a term; reject or accept.

$$PI = \frac{\text{Present Value of Cash Inflows}}{\text{Present Value of Cash Outflows}} = \frac{\text{PV Benefit}}{\text{PV Costs}}$$

$$= \frac{\sum_{i=1}^n \frac{E(cf)_i^t}{(ifk)_i^t}}{\sum_{i=1}^n \frac{Cit}{(itk_i)^t}}$$

VIII. Profitability Index (PI)

The Profitability Index (PI) also known as the “Benefits-Cost Ratio” is the ratio of the present value of future cash benefits, at the required rate of return to the initial cash outlay of the investment. It is another technique at the disposal of an entrepreneurs or decision makers to assist in choosing among several causes of actions. In a layman language, if the monetary cost of a project/programme is ascertained and is also compared with its expected benefits in monetary terms. For a project to be acceptable, its benefits must outweigh its costs.

IX. Methodology of the Study

It has been critically observed that investment decisions of corporate companies in Nigeria are seriously affected by the uncertain economic climate. The unstable economic climate makes policy on firms’ anticipatory project highly subjective to the attributes of financial repression, foreign exchange shortage, inaccurate forecast for aggregate demand of goods, relative capital market pricing of stock, adequate funds for lending and borrowing and so forth. This study is therefore intended to look into capital budgeting decisions of public quoted companies in Nigeria.

The study applied both primary and secondary sources to collect the data. For the primary source questionnaires were administered and this was supplemented by oral interviews. The secondary data used had been sourced from the Nigerian Stock Exchange Fact Books (1980, 1984, 1988/89, 1992 and 1995) and related literatures.

This study was conducted in ninety-four firms that responded to our questionnaire out of one hundred and eighty-four companies earlier identified through preliminary surveys. The selection was further based on the fact that the firms so selected have their head offices situated in Lagos for easy coordination and these firms also cut across eleven sub-sectors of the economy namely: Agriculture, Banking, Breweries, Building, Materials, Conglomerates, Construction, Food/Beverages and Tobacco, Healthcare, Insurance, Petroleum (Marketing) and Textiles.

Table 1: Percentage of responding companies employing models of capital budgeting techniques

Model Employed	Frequency	Percentage of company Employing Models
PBP, ARR, NPV	27	28.7
PBP, ARR, IRR	22	23.4
PBP, IRR	19	20.2
PBP, NPV	21	22.3
PBP, ARR, NPV, IRR	4	4.3
Mathematical Programming	1	1.1
None applicable	0	0
Total	94	100

Source: Field Survey

From Table 1 above, it shows that Payback Period model was increasingly being used together with ARR and NPV as the main measuring standard of the total percentage, respondents combining the models of PBP, ARR and NPV held the highest (27%). 22% of the respondents combined PBP, ARR and IRR, 19% applied IRR and PBK, 21% combined NPV with PBP, 4% used PBP, NPV, IRR, ARR and Mathematical programming approach while one percent of the respondents did not indicate their interest. With this development, public companies did fully make use of capital budgeting models to evaluate capital project expenditures.

Table 2: Percentage and Frequency distribution of companies using discount rate for cost of capital technique

	Apply as independent Evaluation method		Total Other methods			
	Frequency	%	Frequency	%	Frequency	%
Cost of Debt	8	8.5	11	11.7	19	10.1
Cost of Equity	14	14.9	12	12.8	26	13.8
Weighted/Average Cost of Capital	18	19.2	16	17.0	34	18.1
A measure depended on past Experience	31	33.0	14	14.9	45	23.9
Expectation with regard to growth and dividend payment	11	11.7	23	24.5	34	18.1
Return from risk free Assets plus a premium related to Risk Class	7	7.5	13	13.8	20	10.6
Not applicable	5	5.3	5	5.3	10	5.3
Overall total	94	100	94	100	188	100

Source: Field Survey

From Table 2 above, out of two methods by which projects are financed namely equity and debt, the respondents provided answers to varying avenues by which funds were sourced to implement capital investments. Of the 94 companies shown in the table, 33% employed measure based on past experience if exclusive but 14% when used with other methods and 11.7% when combined with other measures, 14.9% employed cost of equity as an exclusive standard and 12.8 % a combined measure. 19.2% employed weighted average cost of capital, while 17.0% used it when combined with other methods. Growth and dividend payout techniques were used by a total of 11.7% firms and 24.5 % when combined with other measures.

Table 3: Analysis of corporate risk in decision-making

Criteria Used for Measuring Risk	No of Forms	Percentage
a. Criteria Used for Measuring Risk		
i. Ignore risk and use simple standard for all project	18	19.1
ii. Assessment of project riskiness based on subjective approach	31	33
iii. Probability distribution of project's cash flow	11	11.7
iv. Probability of loan	21	22.3
v. Risk not assessed	13	13.8
Total	94	100
b. Risk Classification		
i. Depends on project financed exclusively by equity	17	18.1
ii. Based on project funded exclusively by equity	42	44.7
ii. Based on project funded by both equity and debt	35	37.2
Total	94	100
c. Accounting for Risk in CBT		
i. Shortening the required pay back	47	50
ii. Raising the required rate of return	29	30.9
iii. Raising the discount rate while computing present value	18	19.2
Total	94	100
d. Expected Market Interest Rate		
i. Changes in interest rates on security values	21	22.3
ii. Possibility of evaluating capital project viability	33	35.1
iii. Assess minimum expected return on investment	21	22.3
iv. Sudden change in interest rate disallows project execution	19	20.2
Total	94	100

Source: Field Survey

Table 3 (a) Risk Criteria

Table 3(a) presents the response of companies to the criteria used for measuring risk. 18 among the respondents did ignore risk and used simple standard purely on returns (19.1%). 31 of the respondents assessed the risk of projects based on subjective approach, (33%), 11 involved in probability distribution of project cash flows (11.7%) 21 depended on probability of loss (22.3%) while 13 did not evaluate risk in capital investment decision (13.8%). It was concluded that many of these public companies (33%) predicted for risk subjectivity.

Table 3(b) Risk Classification

Classifying risk level characterized by divergent methods of funding was found to be associated with greater exposure to debt or equity capital.

This was true in all companies. Table 3(b) shows that 17 companies depended on project financed exclusively by debt (18.1%) while 42 companies exclusively financed their projects by equity (44.7%) and 35 responding forms considered risk classification by combining both equity and debt financing (37.2%).

Table 3 (c) Accounting for Risk in Capital Budgeting Techniques

Table 3 (c) has shown that 47 companies out of 94 preferred shortening the required payback (50%), 29 did often raise the required rate of return (30.9%) and 18 raised the discount rate while calculating the present value. Many authors have not supported the use of payback in this regard because of its inability to forecast beyond the stipulated period, unlike the net present value or internal rate of return which possess the stronger standard for deciding long term project.

Table 3(d) Expected Market Interest Rates

The market interest rates viewed as being affected by four factors these factors have been enhancing the efficiency of respondents to judge their capability in taking up investments. Table 3 (d) has depicted companies' positions in the choice of such factors. As indicated, 21 companies agreed to changes in interest rates on security values (22.3%).

Security value explains the strength level of every organization to customers and other competitors in the external environment. Generally, companies adhering to this phenomenon are leaders which other firms emulate. 33 of the respondents (35.1%) were of the opinion that possibility of evaluating capital project viability could not affect their growth when the market interest rate remained fluctuating. 21 companies based their assessment on minimum expected on investment (22.3%) and 19 of the respondents (20.2%) refused to operate and execute capital investment when there was a sudden change in interest rates.

The conclusion that can be drawn here is that in an uncertain environment, the anxiety to press ahead by ignoring the consequences of risk taking often contributes to growth in subsequent years if a project is properly managed.

Table 4: Distribution of responding firms through corporate dimensions in decision-making.

S/N	Corporate Dimension of Capital Investment	No of Firms	Percentage
a	Allocating funds to capital Investment		
	5 million – 10 million	5	5.3
	11 million – 15 million	6	6.4
	16 million – 15 million	8	8.5
	21 million – 25 million	20	21.3
	26 million and above	55	58.5
	Total	94	100
b	Span of years for new project implementation		
	1-5 years	39	41.5
	6-10 years	28	29.8
	11-15 years	16	17.0
	16-20 years	6	12.8
	Above 20 years	4	9.6
	None applicable	1	5.3
	Total	94	100
c	Target growth rate of firm		
	5 - 10 %	47	30.9
	11 -15 %	21	28.7
	16 – 20 %	12	18.1
	Above 21 %	9	21.3
	None Applicable	5	1.1
	Total	94	100
d	Source of funds for Capital		
	i. Retained earnings or profits	29	30.9
	ii. Equity capital through the Stocks Market	27	28.7
	iii. Long term loan only	17	18.1
	iv. Equity and Debt	20	21.3
	v. None applicable	1	1.1
	Total	94	100

Source: Field Work

*Capital investment is referred to as funds committed to a long-term project with the purpose of making profit in unforeseeable future.

Table 4 (a) above shows how many companies allocated money to capital investment. The highest number of firms (55) allocated funds in the range of ₦26 m and above representing (58.5%). 20

respondents allocated between ₦21 m – ₦25 m to capital projects representing (21.3%). 8 companies did allocate between N16 m – ₦ 21 m to capital investment (8.59%) while 6 and 5 respondents allocated money between ₦11 m – ₦15 m (6.4%) and ₦5 m – ₦10 m (5.3%) to capital projects respectively. The outcome of these companies testified to the importance attached at corporate level to long term capital projects.

Table 4 (b) is concerned with span for the new project implementations. Because of the economic instability quoted companies expectations in terms of profits seemed high within the possible shortest period. 39 companies that involved in new project implementation restricted their period of decision to between 1 – 5 years (41.5%). 28 companies supported 6 – 10 years (17.0%) 16 – 20 years (6.4%) and above 20 years (4.1%) respectively. Only one company failed to respond.

Table 4 (c) shows the rate of the companies' growth as it affects their investments decisions. The majority of 47 companies (50%) assigned 5 – 10%, 21 companies (22.3%) assigned 11 - 15%, 12 companies (12.8%) assigned 16 - 20% and only 9 companies (9.6%) assigned a rate above 21% while only 5 firms (5.3%) did not indicate their interest.

Table 4 (d) shows the preference for sources of funds for capital projects. The importance of sources of funds cannot be over-emphasized because, to certain extent the source of capital determines the level of confidence and degree to which risk can be accommodated. The number of firms that support equity are 56 i.e. (29 + 27) representing (59.6 %) while only 17 companies (18.1%) preferred debt finance. The number of companies that favoured the combination of equity and debt are 20 representing 21.3 %. This shows the management of Nigerian firms prefers an equity of finance.

X. Summary of Findings

Concerning the use of capital budgeting techniques, it was revealed that virtually all the companies surveyed used one form of the criteria or another for selecting optimum investment. It was revealed further the most common method is payback period. However with the present opportunity open to top management, it has become possible to combine payback other criteria such as NPV, IRR and linear programming to choose the optimum alternative project an outcome of corporate decision.

The study further highlights the core rule of capital market as the type, which allows free entry and exit of investors. Similarly the function of the Nigeria Stock Exchange and Security and Exchange Commission is to put in place enough liquidity for an efficient market operation by these inventors.

The study revealed that dividends and taxation payouts as well as shareholders funds and share capital strongly influenced public companies growth performance when related with retained earnings and credit investment. Furthermore, overall strongly positive impact of net cash inflows on investment return was also consistent with other findings that net cash inflow should be regarded as a desirable determination of performance, since higher income dictates better investment return and vice versa. The result then showed that low investment return was a signal of poor growth performance level.

XI. Conclusions and Recommendations

Claude Ake is of the view that the people at the end of development and that their well-being is the supreme law of development. He further opines that “development strategy is always contextualized in a particular state, social structure, culture, and meaning. It implies a structure of politics, but it also influences political interactions, practices, and outcomes” (Ake, 2001:126-127). Development, being the supreme goal of every society must be pursued from both the public and private sectors. However, since the current trend is that the state is withdrawing from active participation in economic sector in the favour of the private sector, which has led to the phenomenon of privatisation of hitherto owned state corporations and enterprises, the private sector as nowadays occupied a focal position. In other words, the private sector needs to do everything humanly possible to breakeven and to achieve the overall societal goal whose onus now rest on private sector performance. Capital budgeting decision, therefore, is an un-negotiable investment decision making process that must be taken seriously. To this end, this study has demonstrated through a careful analysis of the performance of private sector firms,

how capital budgeting can be used to facilitate and accelerate economic development within corporate firms and by extension to the large society.

The study also showed the effectiveness of the Nigeria Stock Exchange and the Security and Exchange Commission in controlling the activities of public companies. Most of the general financial economic policies relating to investment manifest from the advisory note were emphasized consistently by these agencies. It was obviously shown that the growth performance of public company is influenced by retained earnings and investment returns subject to practical knowledge and experience of management and some other factors like shareholders equity dividends and taxation, total assets and net cash inflows which also determine the level of performance.

From the evidence in the study, cash inflows generated through effective management of business activities and investors eagerness to deal in stock with a particular company reveal the degree of capital base of that firm which is also the cornerstone of satisfying the shareholders with respect to dividends pay out.

Departing a little from the above ideals, it might be worthwhile to recommend that economics rhetoric must be matched with economic action. Enabling legislations and conducive social climate must be provided for economic activities in Nigeria. Besides, technological competence and know how must be encouraged, developed and stepped up. Moreover, the political climate must be sanitized of corruption, greed and avarice. Fulfilling these recommendations, the pace is set for the realization of economic development that Africa and indeed a third world desires.

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