

Effectiveness of Pricing Policy in Nigerian Public Sector Enterprises: A Theoretic Approach

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Abstract

Pricing Policy of Public Sector Enterprises (PSEs) is about the general theories of pricing the goods and services provided by government owned enterprises. The pricing policies adopted are determined by the objective behind the establishment of the Public Sector Enterprises. This paper examines the different pricing methods based on the objectives of the public enterprises, the problems of these methods and evaluates other methods that could serve as solution to those problems. The data sourced are from documentary sources such as textbooks, journal articles, and other forms of publications. The paper sees determinants of pricing policy in Nigerian public sector enterprises to be among others, the financial and non- financial objectives for establishing the enterprises, the market structure, the nature of the economy and its vertical and horizontal linkages for a specific commodity. The paper condemns the profit - based pricing policy being contemplated for Nigerian public enterprises and recommends the no-profit no-loss pricing policy, as it is consistent with the objective for establishing public sector enterprises.

Key Words: Pricing policy, Public sector enterprises, Marginal cost, Marginal revenue, Profit margin

I. Introduction

Public Sector Enterprises (PSEs) are State or Government owned companies and parastatals. They are set up and controlled wholly or partly by the government for the purpose of providing a service for the populace or to sell a particular product. (Buhari, 200, 201), There are different types of public sector enterprise. Some public enterprises are public utilities supplying water, electricity, telephone, transportation etc. In Nigeria, Power Holding Company of Nigeria (PHCN), Nigeria Telecommunications (NITEL), Nigeria Railway Corporation, the various States Water Boards are a few examples of public enterprises. Until recently, private operators were not allowed to run telecommunications and NITEL was a monopoly.

Marketing and Commodity Boards are another type of public sector enterprises, but they have been scrapped in Nigerian with the introduction of Structural Adjustment Programme. They were set up to enhance farmers' income by purchasing produce from them during harvesting season to resell during scarcity. The third category of State owned enterprises are the commercial companies, which usually compete with private owned companies. Examples are the Nigerian National Petroleum Corporation (NNPC), Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB). Public Sector Enterprises (PSEs) are financed by government loans and grants, and perhaps some external borrowings too from capital markets. Government loans are borrowed from institutional lenders within and outside the country and are to be repaid, while grants come in the form of assistance. They do not have equity capital and are not quoted on the Nigerian Stock Exchange to be able to have a continuous valuation of their business.

State owned enterprises usually have two major objectives, namely the strategic objectives and financial objectives (Mayo, 1990). The strategic objectives are the principal objectives of the parastatal, which are contained in the Act establishing the parastatal. They comprise a combination of:

- (i). Statutory objectives which are set out in the Act which created the parastatal.
- (i). Additional objectives which are agreed with the management of the parastatal.

The financial objective of public sector enterprises cannot be to maximize the wealth of its owners – the government or the general public – because this is not a practical concept.

Their financial objective is to contribute in a certain way to the national economy. Depending on the political view of the government of the day, the financial objectives could be to earn sufficient profits so that the industry can provide a certain proportion (or even the entire amount) of its investment needs from its own resources. It is against this backdrop that government is commercializing some parastatals. A very profitable parastatal may be expected to lend surplus funds to government. (Mayo, 1990, 9)

The financial objectives of Public Sector Enterprises are usually subjected to a number of political and social considerations, some of which are as follows:

- (i). Service: Because a parastatal is expected to deliver certain standard service to its customers, it sometimes does so at a charge below its cost. This accounts for why postal service must deliver letters to remote locations for the price of an ordinary postage stamp.
- (ii). Social Need: Sometimes because of the overriding social and political importance of a service to be provided, government is willing to heavily subsidize a parastatal or even allow it to run at a loss. A typical example is the sale of fertilizer.

Since public sector enterprises have financial objectives, there is, therefore, the need to have a pricing policy to determine the prices at which its goods and services will be sold to the general public. The financial performance of a state owned enterprise revolves around the pricing policy. It constitutes the most significant impact on the finances of the enterprise. The pricing policy is about determining the appropriate price that will enable the enterprise to achieve its financial objective. It is also about what price should be charged for the service or goods supplied by the enterprise.

A number of factors affect the pricing policy or determine the prices of goods and services provided by public sector enterprises. They include the financial and non-financial objectives, the market structure, the type and category of goods, the nature of the economy and its horizontal and vertical linkages for a specific commodity (Premchand, 1983). Some commodities are to be sold to the public, some to the government itself, while some are inputs of other enterprises. In some cases, enterprises experience a near monopoly in the goods and services they provide, while elsewhere they may compete with private enterprise.

This paper is primarily aimed at analyzing in-depth, the different pricing policies and/ or methods generally adopted by public sector enterprises with a view to recommending the most appropriate pricing method to be adopted by the Nigerian public sector enterprises. Towards this end, the paper is organized as follows: Section I is the introduction, Section II dwells on the conceptual framework and literature review, while Section III presents the research methodology. Section IV contains discussion of result while the paper is concluded in section V.

II. Conceptual Framework and Literature Review

Public sector enterprises consist of government – owned enterprises whether at local, state or federal levels. The public sector as an economic agent is acting on behalf of everybody, with all its economic resources commonly owned, and all its activities carried on, on behalf of everybody (Afolabi, 1999). For this reason, decisions taken on pricing goods and services produced by public sector enterprises must be in the public interest.

Pricing policies of public sector enterprises can also play a key role in determining income distribution in the society. The major question then is who benefits from the goods and services provided by the public sector enterprises? The answer is, only those who avail themselves of their services (Frank and Webb, 1977: 60). However, the determination of user charges (school fees, tolls on roads, electricity tariffs, rent on public houses and hospital charges) is an important factor in achieving desired income distribution in society. This can be achieved by either collecting less user charges from the poor and less privileged or by providing the services to them free of charge.

According to Afolabi (1999), despite the free market features in the Nigerian economy, public sector presence is still very high in terms of investment in basic infrastructure, high capital outlay, etc. The public sector is a dominant force if measured by parameters like employment, real output, gross capital formation, etc. Their pricing policies, therefore, have very large impact on the whole economy.

There are various principles, which govern the pricing policy of public utility services such as the roads, sewage and education, etc.

Usually their cost should be taken care of by the government through the use of taxation principle. Services of this nature are pure public goods whose services cannot be priced because they are indivisible. For instance, the users of a bridge (i.e. pedestrian bridge or flyover) constructed above a railway line, can easily be identified, but may be difficult for the appropriate tax authority to collect the road tax and for the users to pay the tax due to the time involved. The best solution is to finance such an enterprise out of general taxation. Due (in Jhingan, 2003: 536) listed four rules where public utilities should be provided free and their costs covered by the general taxation. First is the case of services where little wastes will occur if they are provided free. Secondly, where changing the price will restrict the use of such service. Thirdly, where the cost of collecting taxes is high. Fourthly, where the method of distribution of tax burden on services is inequitable. These rules are only applicable to few essential public services like education, sewage, roads, etc. But in the case of services other than those listed above, free services might bring about wastage of resources.

Dalton (in Jhingan, 2003: 536) advocates the compulsory cost of service principle, whereby government should charge a price for the services it rendered to the people. This is because municipal services such as sewage, sweeping streets, street lighting are under priced. Every family of a locality may be asked to pay for them, but since they are public utilities, they may be charged nominally and the gap between revenues and cost remains. This is met from general taxation. It serves as a government subsidy to the users of such services.

However, Dalton favours the voluntary price principle for public utilities. According to this principle, the consumers of a public service are required to pay the price fixed by the public service enterprises. The public service enterprises may have a monopoly in a particular service, such as water or power supply and it may fix a price for it, but the service being a public utility, it may set a price lower than its cost of production so that the welfare of the community is not adversely affected.

The general principle for pricing such public services is to recover costs without distorting the allocation of resources. This is done by making selling price equal to short-run marginal cost while keeping productive capacity constant. This is usually done by increasing-block or multi-part tariff and time-use-rate structures. Increasing-block or multi-part tariff means the consumption of water or power is priced at a low initial rate up to a specified volume of water or power used (block) and at a higher rate per block, thereafter. The time-use-rate structure is the situation where consumers pay a premium during the periods of high demand. This increases the overall utilization capacity of the service and also the profits of the public service enterprises supplying the service.

The most important objective in pricing goods and services is to ensure efficient use of the economic resources required for their production. The use of economic resources involves the opportunity cost in terms of the alternative uses that have been forgone. The opportunity cost relevant to public enterprises relates to the social opportunity cost or the cost incurred by the society as a whole. These costs are different from private cost reflected by the market prices paid for resources input. The quantification of such allocative charges or benefits is the question here. Capital invested in an enterprise is a resource input, and it is expected that the capital employed should earn a return equal to its opportunity cost, that is, the benefit foregone if the capital were invested elsewhere. The opportunity cost of capital is the rate of return that is earned by alternative investment. When the rate of return on capital is considered in the pricing policy of public enterprises, then the pricing policies are consistent with efficient resource allocation.

III. Research Methodology

This paper is a descriptive research paper using documentary sources of data. Descriptive research is a research, which specifies the nature of given phenomena. It attempts to give a picture of a situation and to secure a full understanding (description) of the phenomena and provides a knowledge of the situations as it is (Nnamdi, 2002 and Osuala, 2001). Therefore, this paper is a fact finding research that explores a problem situation in order to learn more in-depth about the situation and be able to answer any question related to it (Dandago and Mukhtar, 2003).

The data sourced for this paper is from documentary sources. The researchers use secondary sources of documented materials such as textbooks, journals, articles and other forms of publications.

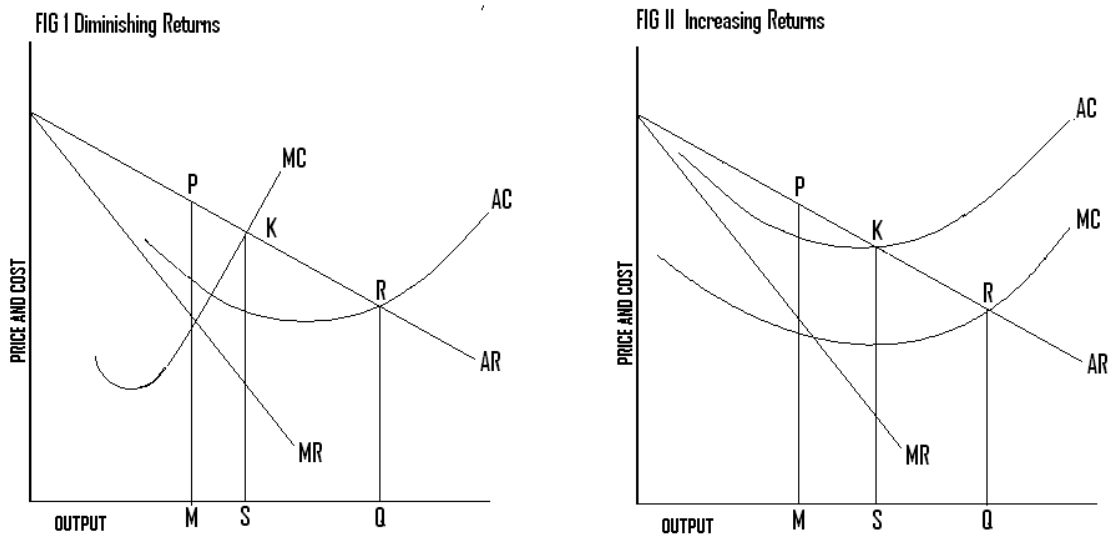
IV. Discussion of Results

There are three basic methods of pricing in public enterprises (Jhingan 2003: 536). These methods are techniques of pricing goods and services that are adopted due to their relevance to the objectives of public sector enterprises. They are the marginal cost pricing rule, no-profit-no-loss pricing policy and profit pricing policy.

(a). Marginal Cost Pricing Method

One of the aims of government owned enterprises is to be economically efficient or to maximize social welfare. But how do they price their goods and services in order to achieve this aim? In other words, how do they combine economic efficiency with appropriate pricing of goods and services they provide?

A public sector enterprise is usually a monopoly or semi-monopoly, therefore, its average revenue (AR) and marginal revenue (MR) curves slopes downwards. In this situation, price which is average revenue (AR) is always higher than the marginal cost. This is illustrated with the aid of diagrams below.



(i) Marginal Cost Principle

When a public sector enterprise follows the marginal cost principle, it will produce and sell where marginal cost (MC) is equal to marginal revenue (MR). At this level the price (AR) is above average cost (AC) and it will make super profit, whether it is operating under diminishing (increasing cost) or increasing (decreasing cost) returns. But no optimal output is achieved at this point (see graphs above). Thus, the aim of public sector enterprise to be economically efficient or to maximize social welfare will not be achieved. Furthermore, since the objective of the public sector enterprise is not to maximize profit, there is no justification for its existence in a privatized or deregulated economy. Government should allow private participation, which will encourage competition, that will eventually bring down prices and produce goods and services at optimal levels (Buhari, 2001: 205).

(ii) Marginal Cost Pricing Method:

A public sector enterprise adopting marginal cost pricing rule will produce and sell where price (AR) equals marginal cost (MC). This is the pricing method that achieves optimal resource allocations and, therefore economy and efficiency by producing goods and services at optimal size (see graphs above). A public sector enterprise adopting the marginal cost pricing rule will both make profit and achieve optimal output under the decreasing returns (increasing cost). But it will incur losses under increasing returns (decreasing cost) even though it achieves optimal size production. To meet this losses, government should compensate the enterprise from taxes levied on consumers of the product. This has been the argument of Nigerian government for imposing tax on petroleum products, when they claim that NNPC is operating at a loss.

(iii) Average Cost Pricing Method:

When public sector enterprises follow the average cost pricing method, it fixes prices based on average cost i.e. price is equal to average cost. The problem with this method is that the public sector enterprise will not achieve optimal output.

When the enterprises produce and sell where the average revenue (price) is greater than average cost (AC), it will make super profits. To further reduce prices where the price (AR) equals to average cost (AC) – no-profit, no-loss, the firm will break even but it will create excess demand and lead to mal-allocation of resources.

When the enterprises produces where the price (AR) is less than average cost (AC), it incurs losses and this means unless government will continue to fund the enterprise, it will not be able to continue in business. At this point, the enterprise is not achieving optimality. So, except there is a political and social overriding need, government will not continue to give grants to the enterprises. It will be both uneconomical and a social waste.

Problems of Marginal Cost Pricing Method

1. **Conceptual and Practical Difficulties:** The calculation of marginal cost in case of ‘Lumpy’ or indivisible factors is difficult to estimate accurately. All factors are variable in the long run, but ‘lumpy’ factors are fixed and their marginal cost is very high. This means that the calculation of marginal cost is a difficult work.
2. **Administrative Difficulty:** The marginal cost principle is disqualified from being the sole or even the main principle of pricing on the score of administrative difficulty. It fails to supply a principle which is clear and unambiguous.
3. **Managerial Difficulty:** When a public service enterprise incurs a loss, it may not be due to marginal cost pricing, but the result of general inefficiency. It is difficult to separate the two different causes for the loss in practice.
4. **Inequitable:** The marginal cost pricing is inequitable. When the loss of an enterprise is covered by general taxation, it is a subsidy which the users of a service or good get from the government. But this subsidy is at the expense of the non-users of the service who are taxed by the government. Thus, marginal cost pricing is inequitable.
5. **Diversion of Resources:** When the government covers the losses of public service enterprises by giving subsidies through taxation, it diverts the country’s resources from other more productive uses such as roads, schools e.t.c. This may hamper economic development.
6. **Second Best Problems:** This arises when all prices in all industries are equal to marginal cost. It is called the best optimum. This is possible if every public service enterprise follows marginal cost pricing rule. But it is possible that some public service enterprises have a monopoly such that price is higher than marginal cost and it may be possible to force the price down to the marginal cost level. In this case, the first best position cannot be attained.
7. **Adverse Effects of Taxation:** The levying of additional taxes by the government for subsidization of public service enterprises leads to adverse effects on the people and the economy. This is because people have to pay more in the form of additional taxes and their ability to save and work is adversely affected.
8. **Problem in Two-Part Tariff:** The imposition of two-part tariff in the marginal cost pricing rule involves certain special difficulties in the case of some types of public services.
 - (a) **Economic Losses:** For some public utilities, such as National Parks, Public Zoos, Amusement Parks, etc., the total fixed costs of operations are high. For such services, the principle of marginal cost pricing may lead to an economic loss because the revenue may not be high enough to recover the investments in fixed assets.
 - (b) **Congestion Costs:** The overuse of services, like an amusement park, zoo, museum, library, in the form of overcrowding reduces the satisfaction of the people who visit them. This kind of pollution involves congestion costs which are difficult to estimate.
9. **Restrictive Conditions:** According to Graff (in Jhingan 2003: 536), the marginal cost-pricing method cannot lead to an optimum position unless certain restrictive conditions are fulfilled. They are technological neutrality, no externalities, perfect divisibility of factors and all public service enterprises to follow the marginal cost price equality rule. But the fulfillment of such a large number of conditions is not possible.

To overcome some of the difficulties of marginal cost pricing method, the principle of peak load pricing is suggested by Jhingan (2003: 536(v)). According to this, the price of a product or service overtime is adjusted to the product’s (or service’s) intensity of use, such as in the case of telephone services as practiced by Nigeria Telecommunications (NITEL).

(b). No-Profit No-Loss Pricing Method

This means that the pricing of public service enterprises products or services should cover total costs. Total cost includes all types of expenses incurred by a public service enterprise in producing a product. This total cost may be covered by making the price to be equal to the average total cost of production, or by following two-part or multi-part policy.

(i). The full cost or average total cost policy has the following merits. The total cost of production and output can easily be obtained from the enterprise accounting records. It is better to fix full cost price for merit goods such as highways, public transport, public education, public libraries, museums, recreation parks, etc. For such services people should be charged a price instead of providing them free or at concessional rates. Full cost price lead to profits, which compensate for losses so that there is no loss or profit.

Problems of No-Profit No-Loss Policy

Even though this policy leads to a No-Profit No-Loss situation, it has certain limitations.

1. It may lead to mal-allocation of resources when consumers do not buy additional units at marginal cost.
2. When average revenue (demand curve) lies below the average cost, the average cost pricing will not give any output. The total cost will not be covered at all.

(ii). Two-part or Multi-part Tariff

This principle is arrived at overcoming the limitation of average cost pricing policy. It is another device to cover the loss. It works this way: total cost is divided into overheads, direct and indirect costs, while the price to consumers consists of two parts. The first part is the price which is set equal to the marginal cost. The second part is the lump sum tax per period paid by users. PHCN, for instance, may decide to charge users of electricity a fixed annual rent, and then further charge for the actual units consumed every month. An amusement park may charge entrance fees and then separate charges for individual attractions.

Problems of Two-part or Multi-part Tariff

1. It is difficult to distribute overhead cost between different products and consumers.
2. The two-part or multi-part tariff policy is applicable only where consumers buy continuously from the public sector enterprise; and the public sector enterprise, in turn, can sell at the average cost price to them.
3. This policy is discriminatory which is unfair and unjust. For instance, charges for electricity supply to industrial users are higher than for agricultural purposes.

Despite these problems, both Two-part and Multi-part Tariff pricing and Average Cost pricing policies aim at covering total cost.

©. Profit Based Pricing Method

This pricing policy will make the State utilize its own resources rather than taxing its citizens. Public service enterprises must be carried on a profit making basis not only in the sense that the public enterprises must yield an economic price but also get sufficient resources for financing a part of investment and maintenance expenditure of the government.

Problems of Profit Price Policy

It is difficult to have a particular rate of profit for all public service enterprises. Furthermore, all public service enterprise cannot earn profit simultaneously due to the following reasons;

1. Those public service enterprises which have not broken even cannot earn profit because their overhead cost will be high.
2. In the case of heavy industries, the gestation period is long; therefore, it takes them a very long period to breakeven and starts earning profit.
3. In the case of public utility, welfare and not profitability is the principle objective.

V. Conclusions

From the foregoing, the profit price policy in public sector enterprises is not acceptable for a number of reasons:

- i. It leads to making super profit by public sector enterprises due to the monopoly they enjoy. If they are established for profit making motive, then they should allow for competition so that these prices of their products or services will be determined by market forces.
- ii. Where the product of the public sector enterprise is used as an input for production in the private sector, a profit price policy will lead to skyrocketing prices which will cause inflation in the economy.

Furthermore, if the prices of the products of public enterprises are rigged up to provide a surplus, the pertinent question arises as to why consumers of those products should be made to pay a special tax through the back door for the benefit of the State?

In view of the above, we recommend a no-profit no-loss policy for public utilities or marginal cost pricing rule. This is because it fits into the objective of public service enterprise, which is not to maximize profit but to provide welfare service. However, if the profit price policy must be used, it should be regulated in the interest of consumers and the economy.

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