2.1 Introduction

In the industrially advanced countries such as the U.S.A., the U.K., Germany, France and Japan, where capitalist economic system prevails and where private sector dominates, prices of goods are determined, in theory, by the operation of the forces of demand and supply in the market but not by government action. Under such circumstances, a public enterprise would have to ensure a desired level of profitability on the basis of degree of efficiency achieved, but not at the cost of consumers by charging higher prices. The competition will work in such a way as to reduce costs and prices through improvements in productive efficiency leading to all round benefit. Therefore, under competitive conditions, prices enable (a) the consumer to indicate choices in the market, and achievement of consumer's equilibrium, (b) optimum allocation of resources, and (c) achievement of economic efficiency in the economy.

On the other hand, if the public enterprises are functioning under monopoly conditions, the price policy may not reflect the real cost and the consumers may be exploited.

In a socialist economy, which is a fully planned economy, the role of prices is much restricted compared with the capitalist economy. In such economies prices are socially determined. "Broadly speaking there will be for purposes of calculation two sets of prices—one, which may be called the economic price and the other which may be called the social price; the first would correspond, to the extent that any such correspondence is at all possible, to the normal price in classical economy, while the latter may correspond to the market price of classical economy, including such indirect taxes as the State may impose for the purposes of mobilizing resources. The economic price would cover the cost of production of the commodity including an allowance for maintenance and non-investment activities of the State. The actual price that will be charged will depend partly on the extent of the rate of capital formation envisaged by the community and partly on the requirements of the maintenance and non-investment expenditure of the community. The actual price of individual commodities will also turn upon social policy regarding the desirability of promoting or discouraging the consumption of the commodities concerned but it is absolutely imperative in a socialist society that there will be a clear understanding and calculation of the economic price of each commodity. If this is not done, it would be very difficult to have a rational policy regarding both allocation and utilization of resources in the community."  

price in a socialist economy would depend upon the requirements of the national economy.

As the prices in a socialist economy are determined by the planning authority, consumers have little option to reveal their choice. The decisions regarding the allocation of resources, utilization level, investment pattern, etc., are all decided by the planning authority in conformity with the state policy. The commodity prices are strictly under government control. The economic planners in a fully planned economy always ensure that the net amount of money income in the hands of the people will just be enough to fetch the available quantities of goods and services off the market at planned prices. Thus, the plan is the sole criterion for decision-making.

But an underdeveloped country with mixed economy, by virtue of the existence of both the public and private sectors, has to strike a balance between the two systems discussed above. Here the arguments applicable to neither socialist nor capitalist economies are relevant in entirety because of many reasons. First, the markets may not be perfect, and everything cannot be left to the private sector. Secondly, because of the existence of private sector alongside the public sector, each and every economic activity cannot be planned and regulated. Thirdly, in such economies, the private sector units are more or less free from competition because of protection extended by government; further they are assisted in many ways by the state.
The per capita income of the masses in the underdeveloped countries is low and, at the same time, the marginal propensity to consume in these countries is high. The private sector is generally more interested in producing consumer goods where the profit opportunity is better rather than in producing capital goods which involve long gestation period. The public administration also tends to be relatively inefficient. And they are badly trapped in the vicious circle of poverty. Thus, keeping in view the low taxable capacity and weak administrative machinery, and the state’s increasing emphasis upon its own investment to accelerate the pace of economic development in the country, price policy aimed at making profit becomes both necessary and desirable. So, as in a socialist economy, the public enterprises must charge an economic price\(^3\) which would help in financing the further expansion of the particular enterprise and in augmenting the process of capital formation in the economy.

From the foregoing discussion, it is quite clear that a public enterprise within the national economic setting—whether in a capitalist or socialist or mixed economy—has to make a satisfactory rate of return keeping in line with the national economic goals. Meanwhile, some questions like who should be responsible for ultimate price-fixing and how the profits and losses, if any, be handled, may crop up. The question of responsibility for price-fixing will be discussed

\(^3\) The economic price would include the total cost plus a desired rate of profit.
later. Regarding the handling of profits (losses), the government itself has to decide as it is the main source of capital whether provided in the form of loans, share participation or grants.

2.2 Bases of Pricing

The question as to which theory of pricing is to be followed depends upon the pricing objectives of the public enterprises. In this connection a number of theories have appeared in economic literature since 1937 which are applicable to public enterprises. However, it is to be noted here that the question of competitive prices does not arise as in most of the countries the public enterprises usually are operating in those fields where monopoly conditions prevail. Now, a brief review of the pricing theories and various bases for pricing have been attempted.

2.2.1 Marginal Cost Theory of Pricing

The marginal cost pricing\(^4\) has been advocated as a general rule of price policy for all enterprises.\(^5\) Under this

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Marginal costs are defined as the change in total costs when there is one-unit change in the rate of production. Otherwise stated, $MC$ is equal to the change in total cost per unit change in output; that is,

$$MC = \frac{\Delta TC}{\Delta q}.$$  

The advocates of marginal cost pricing opine that the price should be made equal to this cost. The idea of marginal cost would be clear from the following table.

<table>
<thead>
<tr>
<th>Output</th>
<th>Total Cost</th>
<th>Marginal Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rs. 10</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Rs. 18</td>
<td>Rs. 8</td>
</tr>
<tr>
<td>3</td>
<td>Rs. 30</td>
<td>Rs. 12</td>
</tr>
</tbody>
</table>

The given table makes it clear that the marginal cost changes as the level of output changes. It is illustrated diagrammatically. For the purpose of illustration we have taken below the case of a purely competitive firm.[Diagram 2.1]

In the diagram, we have drawn the 'marginal cost curve' showing the way in which marginal cost behaves as output increases. Here, since we are dealing with a purely competitive enterprise, $MC = MR = AR = P$. The firm is seen expanding output so long as $MR > MC$, that is, the additional cost incurred in producing an extra unit of output is less than the additional revenue received from selling the extra unit of output. The producer stops expanding output at the point where the additional cost of producing extra output is equal to the marginal revenue. In the diagram, at $E$ the $MC = MR = AR = P$, and the profit
Marginal Cost Pricing

Diagram 2.1

Marginal Cost Pricing
equals to \((AH - AC)\), indicating zero profit for the firm. So, the producer is seen producing \(OM\) units of output at \(OP\) marginal cost which is equal to price. In this way, the marginal cost of production theory would help ensure 'an optimum output and maximum utilization of all factors of production'. The price-output decision arrived at on the basis of the marginal cost pricing is optimal in the sense that marginal social benefit equals marginal social cost in the absence of externalities, under perfect competition.

The basic assumptions of the neo-classical theory of the firm, that is, 'the marginalist principle' are that (1) the entrepreneur is also the owner of the firm, (2) the firm has a single goal, that of profit maximisation, (3) the goal is attained by application of the marginalist principle, \(MC = MR\), (4) the world is one of certainty, (5) the relative ease of entry into the industry depends on the market structure, and (6) the traditional theory is basically static.

The application of the principle of marginal cost pricing in a socialist economy seems to have been first suggested for all enterprises (whether public utilities or otherwise) by Lerner. However, its application to public

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6 Ibid., pp. 321-328.


utilities in a mixed economy was first advocated by Hotelling.\footnote{9} These contributions led later to a heated discussion on more concrete considerations of pricing systems for a number of years.\footnote{10} Before pleading for and against the application of marginal cost pricing theory, we have to see whether the industry under consideration is subject to the law of decreasing or increasing costs,\footnote{11} as price-output policy is very much affected by cost behaviour.

First, if the industry is subject to decreasing costs and the average costs are greater than the marginal costs, the total sale proceeds would be less than the total costs if price is made equal to the marginal costs. As a result a loss would arise. The Diagram 2.2 will illustrate this point.

In the diagram, at ORm output, where \( AC = AR \), the monopolist has been able to make a surplus, as the price OPm is above \( AC \). However, at the point where \( AC = AR \), the firm makes zero economic profit. But, at this point where \( AC = AR \), the output \( Mr \) is greater than the profit-maximising monopoly output \( Mm \), although less than the ideally efficient output \( Mc \).

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10 Upto 1938, the development of the marginal cost pricing principle had for the most part been on the theoretical plane concerned with the basic welfare principles, with some attention to the problems of designing an optimum price system for a socialist system.

11 Note here that as most of the public enterprises operate under the conditions of imperfect competition we shall analyse the conditions of decreasing and increasing costs under it.
MARGINAL COST PRICING: DECREASING COST
where $MC = P$. After this point $MC$ is rising, and above the AR curve. Now, the crucial question is: in what way the losses resulting from marginal cost pricing are to be made good?

The losses arising from the fixation of price on the basis of marginal cost can be made good in a number of ways.

(a) It would be quite unwise to leave the gap unbridged, because it would lead the enterprise to permanent crisis and to final collapse. This could be avoided through government subsidy. But, the government subsidy is not possible all the time, and even if the subsidy is provided it will be a burden on the society. Further, the subsidy to the consumers of the products of these enterprises would lead to a redistribution of incomes which might not always be in a desirable direction. A subsidy of this kind may bring laxity on the part of the enterprises, and would help them to mask operational inefficiencies.

(b) To recover the losses arising out of marginal cost pricing, a tax on the product of the public enterprise equal to the difference between the average cost of produce and the price may be levied. Such a tax would make the total price inclusive of tax equal to average cost. But such a method of making good the loss would defeat the basic purpose of advocating marginal cost pricing.

Hotelling postulated an economy in which products are priced at marginal cost, and the losses are made up by taxation. His conclusion is that the deficits occurring in the decreasing cost industries should be made up out of the public treasury.
with the requisite funds collected by means of lump-sum taxes on the products of the particular enterprise. According to him, lump-sum taxes do not affect the prices of commodities.  

(c) In order to eliminate the losses of the industry under decreasing cost conditions, output may be restricted at the point where it is profitable for the enterprise. However, in such a situation, although the losses can be avoided, this will be basically against the principle of marginal cost pricing, and the consumers will be exploited as the enterprise will not reap the benefits of producing output more cheaply.

(d) Another way out is that the tax, instead of being levied on the product of a particular enterprise, may be levied *ad valorem* on the output of all the enterprises. Alternatively, the loss can be met from other taxes such as income tax, capital gain tax or death duty. But this is a matter which needs serious consideration. It has to be seen how this approach affects income distribution, incentive to invest, propensity to consume and so on. So, this approach has to be considered only on the ground of net benefit or loss as a result of marginal cost pricing. Since in reality it is not possible to quantify the effects of such an approach, it is very difficult to say anything definite about the merit or otherwise of the marginal cost pricing.

Secondly, if the industry is subject to law of increasing costs and the marginal costs are greater than the average costs,

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DIG. 2.3

MARGINAL COST PRICING:
INCREASING COST
the total sale proceeds would be higher than the total costs if price is made equal to marginal costs. As a result enterprise will be maximizing profits. This will be made clear from Diagram 2.3.

The figure shows that at OPm price, OQm quantity of output is produced. The marginal cost (MC) is below the AC, and the enterprise makes a surplus. Here, marginal cost pricing leads to profit on each unit on the increasing cost section of the MC curve in the diagram, till MC = AR. After the point where MC = AR, that is, when MC exceeds demand price, the output will be greater than at MC = AR. At OMr output, the firm is not making any profit but there results a negative producer’s surplus due to excessive output.

Although it is generally argued that price should be fixed on the basis of the marginal cost of production so as to ensure efficient utilization of all the factors of production and produce an optimum output, the marginal cost of production theory (also called the ‘Hotelling-Lerner Rule’ or ‘The Rule’) has been subjected to scathing criticism by various economists. First, because of a number of assumptions of marginalist principle, it is difficult to put this theory into use. The assumptions of marginalist principle are not valid. Let us take few examples: (i) While there is a single-owner of the public enterprise (namely Government), there is a divorce of management from ownership, and owners appoint the manager. (ii) The studies undertaken by Hall and Hitch revealed that firms do not know their demand curve nor their marginal costs, hence
the application of the marginalist rule, \( MC = MR \), is impossible owing to lack of relevant information. (iii) The marginalist principle assumes that the real world is full of certainty, and the firm knows with certainty its own demand and cost functions. But it is not true and firms have no perfect knowledge of their costs, revenues and their environment; they operate in a world of uncertainty. In this way a number of objections have been raised against the basic assumptions of marginalist principle.

Secondly, there are several difficulties involved in measuring marginal costs. The determination of costs in industries producing multiple products or services as also where the factors are indivisible, is a difficult exercise. This is the reason why the post office charges the same price for carrying letters from one street to another or from one corner of the country to another.\(^{13}\)

Thirdly, as Hotelling himself admitted, apart from the purely technical problems of determining costs (even when assumed to be solved) problems of interpretation would also exist in actual application of marginal cost pricing. For example, when a train is completely full the marginal cost of carrying an additional passenger is equal to the running of another train. But in the more normal situation when the train is not full the extra cost of carrying an extra passenger is almost negligible. In this case the marginal cost cannot be

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a basis for price fixation. Hotelling says that "the sharp increase in rates to the unlucky passenger on each train can be avoided by an averaging of rates according to the probability of having to run another train".  

However, in many cases, marginal cost may be negligible or even zero. There would hardly be any marginal cost of an additional person travelling on a road or a bridge. The unused capacity would be vast in case of museums, parks and broadcasting services and the marginal cost in these services would be negligible if more persons make use of these services. The zero marginal cost does not imply that those who use the product or services should not pay.

Lewis is of the opinion that where there are fluctuations in the demand or supply there will be fluctuations in price. The regular price fluctuations are not much of a problem. But "irregular and unforeseeable fluctuations are, however, a nuisance. ... This is one of the reasons why uniform prices have been forced by the law on railways and taxicabs, and by custom on department stores, hotels, professional men, and in many other fields".

The fixation of prices at a level insufficient to cover costs may lead to inefficiency in management. It will also increase the need for widening the supervisory powers of the

14 Nancy Ruggles, op.cit., p. 15.
controlling authorities which would result in curtailing the freedom of management and thereby reducing flexibility of the enterprise to fix prices.\textsuperscript{16}

To sum up, marginal cost pricing fails to provide a correct criterion for optimum allocation of resources, for future growth and efficiency. Little is right in concluding: "The general case against marginal cost pricing is overwhelming. All arguments, even the dubious purely theoretical ideal output argument, are against it."\textsuperscript{17}

However, governments in underdeveloped countries may still desire to use marginal cost pricing and give subsidies in a few exceptional cases like providing subsidized housing, cheap milk to children, cheap fertilizers to farmers, etc. In such cases there may even be a strong case for charging less than the marginal costs and making up the losses through general taxation. In the Soviet Union during the initial stages of industrialisation, some of the capital goods were priced at even below the marginal cost.

In the 1967 White Paper, the U.K. government recommended the nationalised industries to adopt marginal cost pricing. The recommendation was endorsed in the reports of both the Select Committee on Nationalised Industries and the National Board for

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\textbf{17} I.M.D. Little, \textit{op.cit.}, p. 194.
\end{flushleft}
Prices and Incomes. In this White Paper, two major concepts were introduced: (a) first, the concept of price as an instrument for achieving efficiency in resource allocation, and (b) the concept of marginal opportunity cost. The application of these concepts led to the White Paper's espousal of "marginal cost-based" pricing. However, a study undertaken at the Government's behest, by the National Economic Development Office, regarding the operation of the White Paper's principles in relation to four major nationalized industries and reported upon by Cooper and Lybrand Associates Ltd. concluded that none of the four nationalized industries based their pricing policies on long-run or short-run marginal costs.

2.2.2 Average Cost Pricing

The Average cost pricing theory suggests that the price of the product should be determined at the point where average cost is equal to the average revenue. The theory is specially adopted in case of Post Offices. Post offices carry letters in the country at the same rate for a long or

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20 It consists of average fixed cost plus average variable cost and normal profit.
short distance. This method is considered to be appropriate because of the following reasons:

Firstly, this method is quite simple and easy to administer. It is said that average cost can be determined very easily. On the other hand, it is very difficult to calculate the marginal cost for the purpose of pricing of various services provided by Railway, Post Offices, industries producing varieties of goods, etc.

Secondly, in this method of pricing, as the entire expenditure of the enterprise is covered the viability of the enterprise is ensured.

In U.K., the public enterprises are expected to cover full costs. "The legal obligation imposed on most of them require them to conduct their undertakings in such a way that its revenues are not less than sufficient to meet its outgoings properly chargeable to revenue account taking one year with another. ..."^22

Thirdly, as no one is required to pay more for the goods he purchases than the amount it actually costs to produce those goods, there is no exploitation of the consumer.

It, thus, appears that the theory that the prices to be charged by a public enterprise should be equal to the average cost seems to be quite valid especially for a developing economy. However, a number of arguments have been raised against

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21 See: Theodor Ihlemeyer, *op.cit.*, p. 263.

this method as well. INRAIC Theory Committee, stated: "... the recommendation ... that prices should be fixed in terms of average unit costs is in practice inapplicable. To take an example, in transport sector ... no satisfactory method of allocating costs according to their origin has yet been found. The problem is at present insoluble on account of practical considerations; moreover, the task of correctly allocating cost elements is fraught with theoretical difficulties of principle, which cannot be overcome by any degree of improvement of the accounting systems of individual economic units and the economy as a whole."

Some of the main drawbacks of average cost pricing may be listed here. First, the average cost pricing may hide the inefficiency of an enterprise as the consumers are compelled to pay the full costs. As a result, the consumers are victims to the inefficiency of the public enterprises. However, this sort of danger may be overcome by continuously encouraging research and development and by introducing the cost-reduction techniques.

Secondly, it is said that average cost pricing may result in hiding excess capacity. This method does not provide incentives for the managers of the public enterprises to reduce costs.

Gilbert Walker objects strongly to the application of

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average cost pricing by a transport undertaking. He gives the example of railway and road traffic. If the railway, say, averages its costs for different traffics—long as well as short distances, main as well as branch lines, and express as well as local services—and carries throughout at uniform rate based on average cost pricing, it has definitely to lose some of its route to the road transport enterprise. He suggested that railway charges should be differentiated between traffics, between main and branch line services and between express and slow trains.24

However, the nationalized industries in the U.K. are statutorily required to provide revenue sufficient to cover the full accounting costs of the industry. But it does not mean that they are not supposed to make higher surpluses.

2.2.3 "No Profit No Loss" Theory or Break-Even Principle

In the past the advocates of laissez-faire policy argued that the state should not interfere in the economic activities of the country. In their view, the state should be allowed to participate only in the most essential services where private investments do not come forward because of lack of attractive profit. Providing of essential services by the state following the principle of 'no profit no loss' was considered essential. This principle was developed by the Fabians in connection with the municipal trading.

"The statement that a public enterprise fix the price with a view to neither incurring losses nor earning profits basically implies two things: (a) first, the enterprise should cover all the charges—current as well as capital, and (b) secondly, the relative prices charged should correspond to relative costs."  

The view that the public enterprises should be run at 'no profit no loss' principle seems to have been based upon the notion that the government enterprises are meant to serve the people (implying that there is no social cost involved), and not to make profit and exploit the consumer. But government enterprises are also to recover all costs, and not be dependent on subsidies. These basic notions distinguish the public sector from the private sector enterprises whose basic motive is to maximise profit. Thus, the public enterprises should adjust the prices of their products in such a way as to make neither profits nor losses. Lewis supports the view that public enterprises should neither make profit nor loss on the ground that this principle helps to check the over- or under-expansion of the enterprise. If this principle is not adopted it will contribute either to inflation or to deflation.  

Lewis goes even further and advocates that each part of the service should pay its way, showing neither profit nor loss.


26 Ibid., pp. 181-182.
He says, "Uniformity of charges where there is no uniformity of cost is the refuse of the lazy mind". 27

Francis Cassel opines that under this principle the profit motive would be replaced by dedication to the welfare of the community. 28

However, Lewis visualises the situation of loss under certain circumstances. To take some examples: (a) he justifies a loss if the corporation is over-capitalised, (b) he defends a loss on the ground of saving foreign exchange, (c) a subsidy to the consumers, and (d) also if the subsidy is given for the purpose of defence. 29

In the present-day world, the concept of 'no profit no loss' is not applicable because the state has been actively participating in the economic activities. The governments in underdeveloped countries have started investing in various economic fields with a view to earning returns for accelerating the pace of economic development. In such a situation, if the break-even price policy is followed the whole process of capital formation will be slowed down, and the aim of some countries to establish a socialist society will remain a distant dream.

2.2.4 Cost-Plus Pricing

Of late, the cost plus pricing principle has been

27 Ibid., pp. 192-193.


advocated for public enterprises. Cost-plus implies two things: (a) first, all costs incurred for producing goods or services including a normal rate of return on capital must be covered, and (b) secondly, over and above this, an additional profit is to be obtained by the enterprise. So it is quite clear that earning profit is the objective of this principle.

Cost-plus pricing principle is quite important for an enterprise for its own existence and growth. But the enterprise should achieve long-run efficiency for the application of cost-plus basis. Otherwise, under the conditions of cost inefficiency, whatever the costs incurred by the enterprise, it will be able to realize costs plus a certain surplus. As a result, the research and development activities will not be encouraged for introducing improvements for cost reduction. However, even if the cost efficiency is not achieved (and, the enterprise is not run at full capacity), the enterprise may be permitted to follow this principle during the initial years, as an exception. Thus, although this principle is adopted during the initial years, a strict assessment of the cost efficiency and evaluation of the performance of the concerned public enterprise should be made by an impartial body.

This formula cannot be used if the enterprise is functioning under competitive conditions. Ramanadham points out two main deficiencies of cost-plus pricing. 30

(a) First, it does not penalize inefficiency for, whatever the costs, the price is sufficient to meet them. In fact it puts a premium on inefficiency. An interesting aspect of the formula for arriving at the price is the addition of a certain percentage to the cost of the product. If the cost shoots up because of any cause, say, work stoppages, material wastages or any other, the actual amount of surplus too increases.

(b) Secondly, the price formula simply makes every line of production equally profitable. In fact, there is no line which is unprofitable. Consequently, the enterprise ceases to exercise initiative in optimizing its product-mix. It is quite possible that, in an enterprise, some outputs are relatively expensive or the technical ability of the enterprise is low in producing them; then, the enterprise should give up producing these products or divert demand to the more economical outputs. Instead of producing such items at a high cost, it may even be worthwhile for the country to import such items. None of these economical measures is likely to emerge from the cost-plus formula.

All nationalized industries in the U.K. are statutorily required to earn revenue sufficient to cover the full accounting costs of the industry. The British Nationalisation Acts also require that the pricing methods should be simple and ensure uniform treatment to all consumers. Within these broad constraints, the industries are theoretically free to devise their own pricing policy. There have been three attempts by
British Governments in White Papers\textsuperscript{31} to declare principles on pricing, which, whilst compatible with the statutes, would put some pressure on the industries to increase their efficiency and would contribute to an economically rational allocation of the nation's economic resources. Since 1961, the U.K. governments have prescribed target rates of returns for the nationalised industries. The pricing policies suggested in the 1978 White Paper were intended to serve the financial purposes as: prices were to provide an adequate level of profits to produce funds for investment and keep down the industries' borrowing requirements.\textsuperscript{32} For example, for the electric supply industry, the system of charges by the Generating and Area Boards was designed to provide revenue sufficient to cover the full costs of the industry, including overheads and the surplus needed to achieve the agreed financial objective of a 12.4 per cent return on average net assets.\textsuperscript{33}

In India, both the Government and the Planning Commission have consistently emphasised generation of surpluses by public enterprises. For example, the draft outline of the Third Five-Year Plan stated: "the surpluses of State enterprises will have to be maximised ... in suitable cases through adjustment

\textsuperscript{31} The three White Papers, Commd. 1337, 3437 and 7131 (H.M.S.O., 1961, 1967 and 1976 respectively).


Prominent economists like D.R. Gadgil, V.K.R.V. Rao, K.N. Haj and others have supported the policy of making profits by public enterprises.

2.2.5 Import Parity Pricing

In the case of public enterprises which have no comparable units in the country and whose costs of production are far higher than the prices at which the products can be imported from abroad, a view has developed that import parity prices would constitute a reasonable basis of price fixation. In other words, the theory suggests that the price of the home-produced goods should be at par with the imported goods. The theory has two variants: (a) Landed-Cost Basis, and (b) International-Parity Prices.

2.2.5.1 Landed-Cost Basis

For landed-cost pricing, we must have a situation where the price is not determined by the market forces; that is, monopolistic or semi-monopolistic situation is present. This basis envisages conditions which make it desirable to take


37 See: Papers Relating to the Formulation of the Second Five Year Plan, op.cit.

recourse to an independent means of arriving at the price, not
dependent on cost of production or the buyer's ability and
willingness to pay. The price would be mainly determined by
the Government decision. The theory also assumes that the
enterprise is already producing at its rated capacity or its
maximum possible cost efficiency.

If an enterprise has been able to market its product at
a lower price than the imported price, then there is no need
for comparison. The need arises only when the prices are higher
than the foreign ones. The adoption of such prices would
help check the profit-making objective of the enterprise and
to force it to bring down its prices through increased effi­
ciency, etc. As a result of this basis of pricing, consumers
will be protected from higher domestic prices by preserving for
them the benefit of international competition in the supply of
the product.

In calculating the landed-cost, the normal price of
such goods in the market of the country of origin, and the
subsidies granted, if any, for the purpose of exports, directly
or indirectly, should be considered. The quality of the goods
imported and its technical composition should also be compared
with the home-made goods. It should also be examined whether
the prices of the imported goods are fixed low particularly for
the purpose of dumping.

39 We may note here that the actual importation of the
product is not allowed. However, this model is applicable
to commodities which can be readily imported, where the
domestic production is inadequate to meet demand.
However, there are four elements to be considered in determining the landed cost: (a) First, the rate of exchange between the foreign and home currencies should be noted. The exchange rate variations distort the significance of the landed-cost as a basis. (b) Secondly, any import duty levied on the product should also be properly taken into account. (c) Thirdly, the price at which the foreign producer decides on exporting the products should be considered. (d) Finally, the cost of production of the foreign producer as reflected in his home market should also be known. Among these elements, the first and second depend upon the policy decisions of the government. The third element depends upon the policy decision of the exporter and the last on the productive efficiency on the part of the foreign manufacturer.

The import-parity pricing basis, though seems to be very useful and appropriate, may not be practicable. The most important question which arises here is the agency which will bear the losses if the cost of production in the home country is higher even with operation and cost efficiency. So, if the landed cost is less than the actual cost in the country, which requires subsidy, the difference has to be provided by the government.

The Bureau of Public Enterprises in India have stated that in respect of those enterprises which operate under monopolistic or semi-monopolistic conditions, the normal ceiling for the price should be the landed-cost of comparable imported goods (and not on the basis of c.i.f. prices). It states that
in calculating the landed-cost the normal price of such goods in the country of their origin should be taken into account in cases where exports of such goods are subsidised on any appreciable scale either directly or indirectly." However, within the ceiling of the landed-cost the enterprises can negotiate prices with buyers and fix prices at suitable levels for their products which would give them a reasonable rate of return on capital invested. In India, enterprises like Heavy Electricals (India) Ltd., and Hindustan Photo Films Manufacturing Co. Ltd., follow this basis.

2.2.5.2 International-Parity Prices

In this case the actual cost of production of the output in the home country is compared with the prices (of the same type of output) prevailing in the international market. The basic purpose behind this concept is also the same as in the case of landed-cost concept; that is, the consumer ought not to be at a disadvantage in price in domestic market as compared to the international prices. The difference between the international parity price and the actual domestic cost of production is to be paid by the government to the concerned enterprise. Thus, the difference between the price fixed on landed-cost basis and the international-parity prices is that in the latter case there exists a well-determined assumption of subsidising

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40 Government of India, Ministry of Finance, Bureau of Public Enterprises, Office Memorandum: Pricing Policies of Public Enterprises, No. BPE/46/ADV-F/68/25, New Delhi, the 27th December 1968. This circular has been quoted in a number of books on Public Enterprises in India.
the cost-price differentials by the government. In case of the former, the enterprises are expected to break-even after a few years. In India, the Hindustan Shipyard Ltd., and Hindustan Aeronautics Ltd. present the examples of international-parity price basis. Let us take the case of Hindustan Aeronautics Ltd. (HAL). The HAL produces Avro aircraft (although a minor proportion of the total operations of HAL) which is analogous in its performance to the Fokker Friendship aircraft. The sale price of Avro aircraft to the Indian Airlines Corporation is determined on the basis of the price at which the Fokker Friendship could be imported from abroad. The difference between the cost of production and the price so arrived is made good by the government as a subsidy to the Hindustan Aeronautics Ltd. In a similar way, in case of Hindustan Shipyard Ltd., international price parity basis has been adopted.41

2.2.6 Externally Determined Prices

When the prices of the products of public enterprises are determined not by internal factors like efficiency, technology, laws of returns, etc., but by outside factors in which the enterprises have a limited say, the prices may be said to be 'externally determined prices'. Three categories may be distinguished under this head.42

(a) First, the government sometimes controls prices of certain goods in the name of national interest. It controls

41 V. V. Ramanadham, op.cit., p. 118.
42 Ibid., pp. 119-120.
the prices, whether the public enterprises are involved in producing those goods or not, on the ground of essentiality of the product. A given price control applies to both public and private sector undertakings. For example, the prices of drugs, fertilisers, and steel are controlled by the government in India.

(b) Inter-enterprise prices: In this case, the price is the result of direct negotiation between the buyer and the seller, both being public enterprises. The basic principle of price determination is of little use here. Neither the test of costs nor the intensity of demand is determinative. It depends upon the relative negotiating skills of the enterprises involved and the price fixations are informal.

(c) Arbitrated prices: Sometimes there may be disputes over fixation of the price, which may have to be settled through arbitration; and the price thus fixed is the arbitrated price. This is a relatively little used method.

2.2.7 Discrimitating Prices

Since the policy of the government in an underdeveloped country is to encourage investment, a policy of discriminating prices could be applied to achieve this result. W. A. Lewis advocates price discrimination as an alternative to marginal cost pricing.43

Three conditions are necessary for successful price discrimination: (1) There should be a monopoly on the supply

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side of the market. In the competitive setting within the mixed system, the prices would be determined by the market and very little can be done in this regard. If it is the case of a monopoly over certain product or service, price discrimination is possible which would enable the enterprise to enhance its profits, costs remaining the same. (2) The total demand should be capable of sub-division into separate markets, each having a different elasticity of demand. (3) It should be possible to insulate one market from the other so that those who are supplied at the lower prices cannot resell to those who would have to pay higher prices. Thus, prices would, to a greater extent, depend upon the nature of the product, the purchasing power of the people, market situation and elasticity of demand.

The price discrimination technique may be applied between customers as also between regions. The customers who are able to pay a higher price would be charged more. This is followed in railways and is known as charging what the traffic will bear or according to the paying capacity of the consumer. Similarly, the relatively prosperous region in the same country is charged higher price than the backward region (or international/domestic prices).

The discriminating prices are quite equitable because the richer classes are made to pay higher prices. So, Lewis points out that the issue between marginal cost pricing and price discrimination is one of social justice, not economics. 44

44 Ibid.
Price discrimination is more pronounced in case of public utilities like transport, electricity, telephones, etc. For consumption purposes higher prices may be charged whereas for the production purposes a lower price could be charged. As a result of such discrimination, investment can be stimulated, and consumption discouraged. In this way, substantial surpluses can be generated from public enterprises which can be used for executing development programmes of the country.

Finally, "discrimination, under which every price exceeds related total costs, is one form of the profit-maximizing process and is possible under conditions of monopoly. It could also be a means of earning revenues for the general exchequer, if the financial arrangement between the Government and the nationalized industry permits of a transfer of the profits to the Government." 45

2.2.8 Two-Part and Multi-Part Tariffs

The system of two-part tariff 46 was first suggested in the later years of nineteenth century. It is owed to an English engineer Dr. John Hopkinson. The system consists of two-part charges—fixed and variable. The consumer is required to pay a fixed sum (irrespective of his consumption), and another sum


46 For detailed discussion and limitations thereof on the two-part tariff, see: W.A. Lewis, Overhead Costs etc., op.cit., pp. 44-69; and also see: Coase, "The Marginal Cost Controversy," Economica, August 1946.
which varies directly with the amount of the commodity consumed. In the electric industry, where it was first adopted, the two-part tariff has now become almost universal. It has been applied to gas and telephone systems, too. Let us take the case of electricity: (1) one may be asked to pay a fixed minimum charge, irrespective of actual consumption, and (2) a charge per unit of additional consumption. Similarly, in case of telephone: (1) a fixed minimum sum has to be paid whether any calls are made or not, plus (2) a charge for each extra call.

There are three possible incentives for adopting two-part tariff by public enterprises. First, it is said that the only scientific way to allocate costs to consumers where periodic fluctuations in demand occur and the equipment is lying idle is to use a two-part tariff. Secondly, it will help an entrepreneur extract more revenues and more profits, given the costs, from his customers. And finally, it is very appropriate where "customer costs" are large.

The advantages of two-part tariff are: first, fixed costs are recovered from the buyer, undisturbed by any variations in inputs or outputs and periodical fluctuations in demand, and variable costs can be recovered with a reasonable profit. Secondly, tariffs may be used as a means of allocating overheads. However, it is not easy to separate fixed and operating costs. The customers who cannot pay the fixed costs are excluded from consumption. These people are usually the poorer sections of the society. Normally, in order to favour the small consumers, a single variable charge is also used. In
such a case, the enterprise can offer a block quantity discount. For example, in case of electricity 'for the first 25 units Rs.10 and for each additional unit Rs.1' may be fixed. But if the consumption exceeds 25 units it has the same effect as two-part tariff. Two-part tariff is used where there is little or no competition in the industry.

The method of price discrimination differs from two-part tariff in that the former is based on differences in elasticity of demand whereas the latter on differences in marginal costs.

As an extension of two-part tariff, multi-part tariff may also be applied in cases where fixed costs are to be distributed amongst numerous services. Railways carrying passengers, freights of varying categories to varying distances are the examples.

In a number of countries the prices of electricity, coal, telephone services, water supply, railways and other infrastructural activities are based on two-part/multi-part tariffs. This would help the government achieve the objectives like generation of surplus, looking after the welfare of the poorer sections of the society, and the like.

The gas industry in the U.K. has adopted different methods of pricing like a flat rate tariff at a standard price them, step rate tariff, a block tariff, and a two-part tariff. The two-part tariff comprises a standing charge and a low running charge. Currently the two-part tariff has
become popular with the consumers. 47

2.3 Remarks

From the above discussion of various pricing bases, it is clear that none of them is quite satisfactory, and it is rather futile to search for a general pricing principle applicable for all the public enterprises at all times. In fact, it is impossible to work out a "purely economic, purely rational and non-political principles of universal validity for setting of prices by means of theoretical economic analysis (that is, analysis based on the use of 'models'). There is no such thing as a 'non-political' price policy. 48

No country has followed a definite pattern of pricing policies. An analysis of the pricing policy in the public sector of different countries especially the developing ones shows a variety of approaches in different sets of circumstances. 49

Public enterprise prices have an eventual impact on resource allocation and on the interests of the employees, the consumers and the taxpayers. Pricing is, as we have seen, responsible for the growth of the public enterprises and also for fulfilling the national economic objectives. Thus, a suitable pricing policy should be evolved for given enterprises

47 Bhalla, op. cit., p. 200.
taking into consideration the capacity utilization, cost and
demand conditions, monopoly power, etc.

It has also been widely recognized that social costs
should be taken into account while fixing prices by public
enterprises. The term 'social costs' covers both the tangible
as well as intangible costs, like cost of industrial concen-
tration, of damage to health caused by smoke, fumes and noise,
of the spoilage of land, or river pollution and of the social
disadvantages resulting from the growth of big towns. However,
it is very difficult to completely identify and accurately
measure such costs. Nevertheless, sufficient attention should
be paid to the social benefit. So far this aspect has not
been given proper attention. If this is given due considera-
tion, the operation of some enterprises may turn out to be in
the public interest even if the prices charged for their
products do not cover their entire costs.

However, in the context of a developing economy a price
policy which aims at making a reasonable rate of profits
should be considered more appropriate. Henderson\(^{50}\) says that
nationalised industries should be asked to pay an annual fixed
amount to the exchequer as a return on capital. This amount
should, in general, represent the yield that is expected out
of the capital investment at long term rate of interest on
industrial securities and at the current rate of amortization.

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The capital should not be valued at historical cost, but at replacement cost. The payments would automatically increase in times of inflation and reduce during depressions. Of course, the annual amount may be varied by the political authorities depending upon the various economic factors. However, there may always be a temptation on the part of the political authorities to raise the amount in an arbitrary manner. This system of making annual payment for public enterprises is quite popular in the socialist countries. In England also, annual payments were being made until 1961 by Post Office to the Exchequer.

In India, the Administrative Reforms Commission has recommended the following principles for formulating pricing policies of public enterprises:

"Public enterprises in the industrial and manufacturing field should aim at earning surpluses to make a substantial contribution to capital development out of their earnings besides making a contribution to the exchequer. Public enterprises should in any event pay their way and should not run into losses except in pursuance of express directions issued by the Government in the public interest.

"In the case of public utilities and services, greater stress should be laid on output than on return on investment at which marginal cost is equal to price.

"While determining the price structure commensurate with the surpluses expected from them, public enterprises should keep the level of output as near the rated capacity as possible, subject, of course, to the volume of demand for
that product.\textsuperscript{51}

The above recommendation is quite clear as to what should be the guiding principles of pricing policies for Indian public enterprises. The Indian public enterprises are operating under different market structures, product and market linkages, and product characteristics that lead to distinct pricing models and bases like average cost pricing, cost-plus pricing, 'no profit no loss' pricing, two-part tariff, import based pricing, etc. In India, some public enterprises like Indian Airlines and Indian Railways enjoy complete monopoly. Some enjoy partial or regional monopoly as in the case of Bharat Heavy Electricals, Hindustan Organic Chemicals and Hindustan Insecticides. Some like fertilisers, steel and machine tools units enjoy a different degrees of monopoly powers. Hotels and others like Mysore Soap and Mysore Lamps are competing with a number of private units.

2.3.1 Nepalese Context

If Nepalese public enterprises adopt marginal cost pricing, then it will ensure an optimum allocation of resources and offers a least cost solution for all concerned provided the necessary assumptions are true; that is, the enterprise, consumers and society. Theoretically, this seems to be an appropriate pricing policy. But marginal cost principle makes the rate structure extremely sensitive and unstable. The fixed costs are known in advance but the marginal cost rests in the

sphere of uncertainty. Frequently, marginal cost may be indeterminate. Further, when marginal cost is below average cost, loss is incurred by equating price with marginal cost. In fact, the marginal cost principle becomes unreliable because of the existence of imperfect competition, indivisibility of products and so on. Thus, because of all these practical problems, the marginal cost pricing cannot be used. So, we have to explore an alternate method of pricing principle for application in the Nepalese context.

Average cost pricing, on the other hand, would be appropriate only in those cases where the enterprises are expected to generate social benefits as well as earn revenues and more or less subsist on a no-profit no-loss basis. Average cost pricing may be appropriate in case of some products and services like water, posts and telegraphs and electricity, but in case of a number of commercial and industrial enterprises application of this pricing principle may not be appropriate, as this has not only to generate profit for their own existence but also for dividend payments. Hence, we have to search for a more appropriate pricing policy taking into consideration the national economic objectives.

As noted in Chapter I, although public enterprises in Nepal were established without any perspective thinking, government has visualized public enterprises as one of the instruments for mobilizing resources needed for the economic development of

the country since the formulation of Second Plan in 1962. This objective was further reinforced by the Government through a circular issued in June 1930 that the public enterprises are under an obligation to earn a certain rate of return on capital employed. In fact, surplus is necessary for the existence, expansion and growth of the concerned enterprise as well as for payments of dividend to the government which has committed a substantial amount of scarce resources in the public sector enterprises. In this sense, the 'cost-plus' principle is an appropriate one.

The primal objective of the public enterprises should be to generate reasonable amount of surpluses on their capital employed with a view to producing sufficient funds for investment. For this, a reasonable target for each enterprise, taking into account their surplus generating potentiality, methods of production, installed capacity, input prices, market structure, commercial banks' rate of interest on fixed deposits, etc., should be fixed. Within the broad framework of 'surplus-making', the enterprises should be allowed freedom to devise their own basis of pricing. However, it is to be noted here that the enterprises should achieve cost efficiency so as not to exploit the consumers by resorting to high prices for their products and services. In fact, the enterprises which are efficiently run and making profits, can contribute towards the attainment of social objectives also.

The Indian case reveals that there is no contradiction between financial and commercial objectives on one hand and
social objectives on the other. Prax Fernandes, former Director General of the Bureau of Public Enterprises in India puts the empirical evidence like this: "I had the unenviable task of assessing the performance of over 120 public enterprises and placing an annual report before the Indian Parliament. This assessment was a composite one, indicating both the financial returns of the enterprises and the contributions which they are making towards the attainment of social goals. The Bureau made a very curious discovery: the public enterprises which were efficiently run, which were making profits and generating surpluses were precisely the enterprises which were contributing most towards the attainment of social objectives. On the other hand, the inefficient enterprises and those which were making enormous losses were very poor in the discharge of social responsibilities. Indeed, in their cases the very fight for survival had tended to create a situation of demoralisation which was thoroughly unconducive to the meeting of wider national responsibilities."

Thus, from the empirical evidence of India, and Nepal's objective of using public enterprises as one of the instruments of mobilizing resources needed for the economic development of the country, we conclude that the prime objective of public enterprises should be making profits, and the attainment of


54 For the discussion on 'why profitability is necessary?' and its rationale in the Nepalese context, see: Chapter III.
financial objectives is not inimical to the discharge of social responsibilities. The objective of making profits should be given serious thought while devising an appropriate pricing basis by the Nepalese public enterprises.