

A B S T R A C T

PRICING OF COAL IN INDIA

Eversince our country attained independence and eversince India became a planned economy, the socio-economic system has been undergoing structural changes. These changes have had a significant impact on the energy scene in that, they have led to increased demand for energy.

On the supply side, though the energy resource base seems, apparently, to be comfortable, it is in fact not as comfortable when the exploitability of the resource base is taken into account. An evaluation of the energy resource base reveals that coal is a source of energy that can be relied on. On the basis of relative energy resource endowment, the country's energy strategy rightly states that coal should be considered as the primary source of energy.

Despite the important position occupied by coal in the Indian energy scene, coal industry is making the maximum losses and is a sick giant. This can be attributed to the pricing mechanism in our country which has failed to meet the basic objective of energy pricing policy, i.e., to generate sufficient surpluses to facilitate investment. It is therefore necessary to examine afresh, the existing pricing policy for coal, the rationale behind it, and suggest alternate methods.

The thesis is organised as follows - Chapters 1,2,3 and 4 contain introduction and a detailed description of the Indian coal industry. Chapter 5,6,7 and 8 constitute the analytical chapters in which the returns to scale and price of coal have been determined.

Chapter 1 deals, in detail, with the energy scene in India from which follows the statement of the problem, objective and scope of the study and the methodology in brief.

Chapter 2 describes the coal industry in India - its resources, its organisation and its financial performances.

Pricing policy of coal in a global perspective, covering both developed and developing countries is dealt with in Chapter 3.

An analysis of pricing necessitates an examination of costs. Since costs in the coal industry depend on the method of mining adopted, Chapter 4 discusses the mining methods employed in the coal industry in the first subsection. Empirical evidences on the nature of costs are discussed in subsections 4.2, 4.3 and 4.4.

An important point that emerges from Chapter 4 is that the relationship between size of mine and costs, is very significant. The size-cost relationship, or the returns to scale, in the coal industry has been explored in Chapter 5.

Returns to scale in the Indian opencast mines have been estimated using Nerlove's model. Section 5.4 reviews the literature on cost functions and returns to scale. This is followed by a description of the model used and a discussion of the results obtained.

The principle of pricing advocated by this study is the principle of Marginal-cost-based pricing. Chapter 6 deals in detail with Marginal cost pricing, reviews literature on it and discusses the applicability on Marginal cost pricing to the coal industry. The Chapter also describes the various methods by which the principle of Marginal cost pricing can be made operationa, and concludes that the Average Incremental Cost method is best suited for the coal industry.

In Chapter 7, the price of coal has been computed using the Average Incremental cost method. The phenomenon of cross-subsidisation has also been dealt with in this chapter.

The impact of mining on environment and the necessity to impute a cost to the environmental damage done by mining operations, is a highly debated subject. Chapter 8 deals with environmental costs of opencast mining and the manner in which it is computed in India and in the U.S. The impact of internalisation of environmental costs (by the coal industry), on the overall energy policy is also discussed.

In conclusion, the points that emerge from the study are _

- a) There are increasing returns to scale in opencast mines unlike in underground mines. The optimum mine size lies a little over 10 mill. tonnes per annum, and there are very few mines operating at this level.
- b) The price of coal, estimated by the Average Incremental cost method, is Rs.231.34 per tonne. This can be reduced if optimum mine sizes are determined and mines are operated at those levels.
- c) Computation and inclusion of reclamation costs or environmental costs is essential from the long term point of view, though this will increase the price of coal.