

CHAPTER 1

INTRODUCTION

1.1 Overview

Electric power generation and distribution are important infrastructures for the development of an economy of a country, especially if it is industrial based, and in its development stages. A stable and cheap electricity supply is essential for two reasons: first, it will help to ensure the efficient conduct of the existing economic activities of the nation. Second, it will aid in the expansion of business activities, especially by attracting foreign investors into the country.

In most developing countries, it is the government-owned utility companies that are responsible for the generation, transmission, and distribution of electricity. However, since the late 1980s, governments in most of the developing countries have been facing numerous financial problems caused by a) the high and increasing capital/expenditure cost necessary for the development of power generation, and, b) increasing generation cost created by inefficient operation of power plants. The latter is mainly due to ineffective management of human resources, and the pressure on government-owned utilities to purchase raw materials locally, in order to protect 'home industries' (MacDoland, 1999).

To overcome these problems, the governments in most of the developing countries are deregulating their power generation sector. This, they hope, will bring about the following: first, the financial burden of the government can be reduced by transferring it to the private sector. Second, deregulation can promote healthy competition in the power generation sector, which will in turn bring about an improvement in efficiency, and a reduction in the price of electricity to the end consumer (Bacon, 1995; Zinc, 1997).

Due to the high capital expenditure for the construction, maintenance and generation of energy, many developing countries in Asia and Latin America are now turning to private investors to supply all or some of the energy requirements. Asia has a large share of the Independent Power Producers (IPP) market, with 103 contracts worth US\$ 54 billion, while Latin America has 28 contracts worth US\$6.6 billion.¹ In Asia, the IPP business is concentrated in China, Indonesia, Philippines, India, Pakistan, Malaysia and Thailand. These countries have experienced rapid economic growth and exhibit a backlog of unmet demand for power.

Largely because of the deregulation of the power generation sector, IPPs account for 5 to 60 percent of the host country grids' peak demand. As a result of this, the monopoly of the power generation usually held by the government – owned utilities is broken.

Figure 1 shows the distribution of IPP investment in the developing countries until 1997.

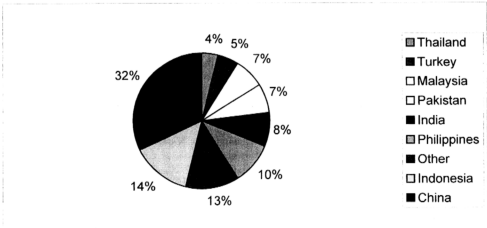


Figure 1 : The IPP Market (Source World Bank)

Other countries are Argentina (3%), Chile (2%), Colombia (2%), Morocco (2%), Czech Republic (1%), Lao PDR (1%), Mexico (1%) and Peru (1%)

¹ Public Policy for the Private sector Note No. 162 – December 1998

1.2 The Objective of the Study

The objective of this study is to discover whether deregulation of the power generation sector increases the operating efficiency of the power plant. This is achieved by comparing two existing power plants, one owned by Tenaga Nasional Berhad (TNB), and the other operating as a subsidiary of Sime Darby. (The rationale for selecting these two companies will be explained in Chapter 3.)

The power plants will be compared in terms of a) generating cost, and b) Net Present Value (NPV) per installed capacity.

The criteria used for the selection of the power plants is that both needed to have the same operating and technical systems.

1.3 The Scope and Limitations of this Study

Although it was mentioned at the outset (p. 2) that the benefits of deregulation are twofold, that is, reducing the financial burden of the government, and promoting healthy competition in the power generation sector, thereby improving operational efficiency, this study is limited to an exploration of the latter.

This is mainly because investigating the issue of operational efficiency will yield more valuable information that can assist in the decision making processes associated with the deployment of resources in the power generation sector.

Another limitation is that analysis was carried out based on information on the operating costs of the power plants made available by the Operating Managers of both the companies, since there was no published data on this. It was not possible for the researcher to verify this data, or treat it as audited material. However, this should not affect the validity of this study, as the sources

(operating managers) are quite reliable in their capacity as employees of well-established companies.

One more limitation is that the rate of return on the market (k_m) used to calculate the cost of equity (k_e) is based on a one-year duration, which is from December 1998 to December 1999. However, this should not affect the final result of this study, since the one-year duration fairly reflects the return of market.

1.4 The Rationale and Significance of the Study

Currently, popular opinion has it that deregulation in the power generation sector has achieved its stated objectives, that is, reducing the financial burden of the government, and promoting healthy competition in the power generation sector, which will in turn bring about an improvement in efficiency, and a reduction in the price of electricity to the end consumer (p.2). However, there has not been conclusive proof of these desirable effects, especially in Malaysia.

A review of the related literature reveals that numerous studies have been carried out in some other countries that contribute to the body of hard data in this area (McDaniel, 1998), but there appears to be a dearth of such work when it comes to our own country (Malaysia). Thus it is the intention of this study to contribute towards creating a pool of literature in this very important area so that we can make conclusive decisions in future.

1.5 Organization of the Study

This study has been divided into five chapters. The first chapter introduces the study, states its objective, defines its scope and limitations, and describes the significance of the study. The second chapter reviews the related literature. The methodology used to achieve the objective of the study is discussed in the third

chapter. The fourth chapter describes the findings of the study, while the concluding chapter interprets and discusses these findings.