

Chapter 1

Introduction and Outline of the study.

Chapter 1. Introduction

The very basis of sustained development and growth of any economy depends upon the availability of reliable and cheap energy resources the country has in its command. The stability and resilience of the economy is dependent upon the energy basket the nation has. As a nation, we have in the last decade recorded sustained growth of 7.3% and are progressing to a stage from where our economy will take off to a high growth trajectory. As we progress to this inflection point, it becomes very important to ensure that our energy requirements are met in a cost effective way. This study intends to take us through the various options currently available and their relative importance to the economy with specific relevance to the state of Gujarat. As we progress through this journey, the relevance of Petroleum Products becomes evident. The key drivers of the economy i.e. the industrial sector, the power sector and the transport sector are dependent on the Petroleum Industry and its product pricing. The call of the hour is reliable & sustained availability with market driven pricing. As a developing economy our energy requirements are very large even though our per capita consumption rates are much below the Organisation of Economic Co-operation and Development (OECD) averages. We are already world's fourth largest consumer of crude oil and petroleum products after United States, China and Japan. As per International Energy Agency (IEA) study papers, we are forecast to become the third largest consumer of petroleum product by 2014. Already Petroleum Oil and Lubes (POL) constitute more than 30% value of our total imports and it is the single largest component in the import basket. The current volatility of prices of crude & finished products and the uncertain political scenario in the Middle East have thrown a big challenge to us not only in the growth front but also to our balance of payments position.

1.1 Objectives of the study

The study is an attempt to understand and elaborate the following:

- Various energy options available globally and their relevance to our economy.
- Importance of Petroleum Products in the energy market and its role as the key price driver.
- Complexities of Petroleum Pricing globally and the way the products are priced in the domestic market.
- Study the impact of Petroleum Pricing and its volatility on the economy of Gujarat. The decontrol of fuel price and its impact analysis is carried out with empirical studies.
- The state's policy of alternate fuel strategy of Natural Gas is analyzed.

Based on the findings, to recommend Pricing Principles of petroleum products to suit the growing energy needs of the state.

1.2 Research Methodology

1.2.1 Literature survey

The study involves detailed literature survey to undertake issue based discussions of the Global Energy scenario and Petroleum Pricing Methodology in vogue globally and locally. To attain this objective, research has been carried out with the help of various Published documents from Government sites, Web sites, Publications and Research Papers of Institutes uploaded in the Web and in public domain. All the sources have been documented & referred in the work. The main sources have been documents from International Energy Agency, IMF working papers, British Petroleum World statistics 2010, Ministry Of Petroleum and Natural Gas, State and Central Government – Socio Economic Review of last decade, PPAC site and News Articles. The Pricing Methodology has been dwelt upon from actual Oil Industry working sources and from Domestic & MNC Oil Industry Sites.

1.2.2 Data collection

The primary data of transport rates have been collected from small fleet operators in state of Gujarat. The data sources have been listed and catalogued in tables numbered as prefixed C along with the workings. Similarly data of Furnace oil consumption and captive power cost has been taken from a major steel industry in the state of Gujarat. The identity of the industry has not been revealed as they were very particular about it.

The secondary data sources are primarily from Oil Industry, Central and Government bodies, IEA, World Bank and IMF sites. All these data are tabulated and detailed in the work (*World Tables prefixed A, India Tables prefixed B and calculations prefixed C*).

1.2.3 Mathematical and statistical calculations

The Price sensitivity analysis has been done through spread sheets and its impact on Gross State Domestic Product and Net Domestic Product worked out through regression analysis. Various statistical tools are used to collate & compile the data.

The discussions and analysis is based on industry data with the help of graphs and tables. Simple econometric models have been used to reconfirm the data and the analytical frame work of the study. Mathematical modelling of higher order has been avoided to keep the study simple and interesting to all sections of readers. The subject of petroleum pricing has lot of interest to all section of users, from policy makers to common consumers of the product. However there are no work, currently available which provides the comprehensive overview of the sector and explains the

pricing methodology. This work is an attempt to fill this gap. The study will not only inform the reader with the entire pricing dynamics but also enable him to reach the decision of pricing methodology all by himself.

1.3 Outline of the study

1.3.1 Chapter 1 - Introduction

The background of the study is discussed in this section briefly. This is followed by stating the objectives of the study. The research methodology observed in the study is then detailed with the outline of the study.

1.3.2 Chapter 2 - Global Energy Overview

In the beginning the chapter seeks to understand and find out the various energy resources available globally. Then it proceeds to know what are their sources and how globally they are being utilized. The structural trends and the fuel mix, the energy market follows worldwide are then outlined. The relevance of all these resources to the Indian economy is then discussed with the future road map.

1.3.3 Chapter 3 - Petroleum Pricing

This chapter begins with exploring and knowing the product called petroleum. How this product is secured from nature and then processed to reach the market is explained. The various forms of fuels called petroleum are introduced to the reader. The section then explains the pricing aspects of the petroleum products from crude to diesel. The various pricing principles followed internationally are discussed followed with introduction to the major markets with their trade practices. Then the pricing methodology of the product in the domestic market with their genesis is described.

1.3.4 Chapter 4 - Petroleum Pricing and Indian Economy

This chapter begins with the background of world economy and the current economic scenario with the backdrop of petroleum pricing. The importance of Petroleum pricing in Indian economy is then analysed with reference to GDP and its various sectors. The predominance of manufacturing followed by power and petroleum is then discussed in detail.

1.3.5 Chapter 5 - Petroleum Prices and Gujarat

This section deals with the petroleum pricing in state of Gujarat. The pricing methodology and the impact of state taxes are discussed. This is followed by impact analysis of petroleum pricing on state GDP and its various elements. The impact of diesel prices on freight and its consequent impact on WPI and GDP is analysed

segment-wise. Freight sensitivity analysis is carried out to understand the price dynamics of diesel on other sectors of the state economy. This is followed by an econometric analysis to reaffirm the analytical work and findings.

1.3.6 Chapter 6 - Petroleum Pricing and Industries in Gujarat

This chapter deals with energy needs of industries in Gujarat. The nature of industries and their energy needs are outlined. The energy sources available to the industries are discussed and the relevance of petroleum products are studied. The pricing methodology of all the energy alternates are studied to understand the impact of petroleum pricing as the key pricing determinant in the energy market. The global scenario is compared to the existing realities to understand the future path and options available to the economy. Substitution effect in between fuels is studied with actual case study of a major industry in the state. Conclusion and lessons on energy pricing for industrial sector are drawn.

1.3.7 Chapter 7 - Gas Based Economy – Gujarat

This section looks at the state policy of developing alternate fuel – Natural Gas. The source and supply scenario is discussed followed by global trends. The impact of price volatility of petroleum products eroding the viability of the sector and its long term prospects are discussed. Pricing policy alternatives to enable the Natural Gas (import) LNG viable is also discussed.

1.3.8 Chapter 8 - Conclusion

This chapter summarises the whole study with significant findings and analysis of the work. The summary recommendations are outlined to enable policy makers to follow-up further on the matter and implement pricing reforms in the energy market. For the general readers, the recommendations will enable them to understand and appreciate the significance and importance of the subject. This is followed by limitations of the study.