

Relationship between economy and power sector



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CHAPTER 1

INTRODUCTION

The relationship between electricity and economic growth is highly correlated. Historically, it is proved that electricity consumption per capita can achieve improved economic/social development and faster economic growth.

Economy is made up of some core sectors which carry out the important economic activities, they heavily rely on power sector. So it is understandable that load shedding does not only hinder the core functioning of these sectors but it also sets back the whole economy.

Power sector is the major source of production of gross national product, foreign exchange, industrial, commercial and agriculture development. It is obvious to state that power crisis initiates not only a long term but many short term problems to the economy alongside hurting its peripheries. Which is a two way relationship.

A recent study on the cost of load shedding to Pakistan economy by Institute of Public Policy (IPP) estimate that the cost of load shedding to industry have reached a high level, equivalent to 10% or more of national sectoral value added or almost 2% of the GDP. The total cost of outages in the commercial/ service sectors is estimated in 2011-12 at Rs 472 billion, equivalent to almost 2.4% of the GDP. The national outage cost in agriculture sector is estimated at Rs 89 billion in 2011-12. The total outage cost to residential consumers in the urban areas of Pakistan is Rs 195.8 Billion in 2011-12.

Electricity is the most common source of energy for our economy. Energy and the growth/ functioning of an economy are highly correlated. Therefore sectors which carry out the important economic activities heavily rely on power sector. So it is understandable that loadshedding does not only hinder the core functioning that economic sectors but it also sets back the whole economy.

Considering the perfect timeframe of the condition of our economy this work holds a special importance because it is not only a highly attentive topic but much work is in progress from strategic and policy point of view.

General public is keenly waiting for the government to draw special attention towards this burning issue of power loadshedding and government is working towards its quantification and policy implementations. There is no doubt that constant and persistent power outages has rapidly increased over a period of time and it has immensely damaged all sectors of our economy.

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Work has been done on power crisis at national level but I have approached it on regional, provincial and national level. My work can be an addition to the work which has already been done. I have chosen Punjab for the quantification of costs and for making a comparison between this province and Pakistan. Further among sectors my study area is confined to small scale manufacturing sector (SSMS). Manufacturing sector is considered to be the main source of economic growth having forward and backward linkages with the other sector of the economy. It accounts 13.2 percent of Gross Domestic Product (GDP) and 13.8 percent of total employed labor force. Small Scale Manufacturing, which accounts for 1.6 percent of total GDP. Punjab holds the major stake in the whole country henceforth my thesis can prove to be a major contribution to the economy considering its usefulness from economic and policies point of view.

According to my estimates at National level in the small-scale industrial units the total outage cost is estimated at Rs 121 million on a value added of Rs 950 million. The value added in SSMS of Pakistan in 2011-12 is estimated at Rs 242 billion. National Estimate of outage Costs ($= (.121/0.950) * 242$ Billion) equals Rs = 30.8 Billion Rs.

According to the provincial/Punjab estimates the small-scale industrial units the total outage cost is estimated at Rs 59 million on a value added of Rs 475 million. The value added in SSMS of Punjab in 2011-12 is estimated at Rs 167 billion. National Estimate of Outage Costs ($= (.059/0.475) * 167$ Billion) equals Rs = 20.7 Billion Rs.

Research Question

Considering the current economic environment it is crucial for us to know the national and provincial costs of outages in real terms and to find out what are the long term and short term consequences of these costs.

To find out how much among the total national costs are the costs which are directly and indirectly related to Punjab.

To identify whether the costs have increased or decreased overtime and what magnitude is related to which industry.

To estimate which sector spends the most on sources of alternative supply of electricity?

To approximate which sector has the highest direct and indirect costs?

Objective of the thesis

- To analyze the power sector from different costs point of view.
- To surveillance the relationship of different costs of different economic sectors which ultimately makes up the back bone of an economy.
- To compare and knock out the factors behind these costs.
- To understand the underlying problems related to province of Punjab and to the individual sectors.
- To evaluate the nature, reasons and outcomes of these costs.
- Make the research worthwhile for the policy recommendations.
- To develop a deep understanding of the costs factors directly and indirectly related to sector of Small scale manufacturing sector (SSMS).

- To collect and use first hand and second hand data to quantify and explain the affects of power crisis to the sectors, Punjab and Pakistan.
- To my thesis worthwhile and to focus on trying to relate this topic to more of a real side and try to compare it with layman's point of view.

Thesis structure

My thesis is going to comprise of 7 chapters. The first chapter simply introduces the subject and lays out some facts and entails what is the specific focus of my study. Second chapter reviews the various literature and reviews the quantification methodologies. Third chapter entails the methodology that I have used in order to calculate the costs of outages. Fourth chapter focuses on the sampling technique that I have used for my thesis. It also lays out the distribution of units that I have studied and I have also profiled them in this chapter. Fifth chapter discusses the various adjustments that are undertaken by various units and I have narrowed down some observable variables to study the affect of loadshedding. Sixth chapter analysis the results that I have derived from the samples. It outlines various estimation of costs at national and provincial level. Chapter seven is based on the conclusion and appropriate policy recommendations that arise from my research.