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Financial Regulation of the Electricity Distributors: Necessity and Feasibility

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Abstract

Since the second half of the 1980s, when electric utilities were first privatized, the ability of the private sector to manage the supply of electricity with safety and quality has become a matter of high relevance for national governments wherever privatization has taken place. In this regard, the severe financial problems that have affected some electric utilities in different countries from time to time, have made it increasingly clear that exposure to financial risk can compromise a utility's ability to maintain service quality and continuity, and therefore that regulatory authorities should pay attention to the identification and control of utilities' financial risk exposure. This article aims to explore the factors that could contribute to the financial vulnerability of electricity distribution companies, in order to identify potential instruments for risk recognition and management. This study also proposes to examine possible regulatory policies for monitoring and addressing financial sustainability problems in these companies, a topic which has so far received scant attention in the international literature on electricity regulation. Lastly, this paper will evaluate the feasibility of regulating the financial exposure of electricity distributors.

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1. Introduction

Nowadays, national regulators, experts and public entities in several countries have a growing interest in developing methodologies for economic and financial analysis of the electric distribution utilities. So far, criteria, parameters and rules have been developed and applied to regulate the finances of the electricity sector. However, due to the high complexity of the matter, regulators are still improving their instruments and mechanisms of financial regulation. In this context, it is important to study the trends and evolution in this subject in order to contribute to the development of a highly relevant topic for regulatory policy.

This paper, which was developed under the framework of a project supported by the ANEEL's R&D Program, aims to analyze how the financial risks of the distribution segment of the electricity sector can affect operational indicators, such as the quality indexes of the services provided. The paper notes the increasing financial risk stemming from the regulatory reforms that have taken place in several countries. The recent transition from a “safe” model in terms of profitability and costs, where financial risk was largely borne by customers, to another in which the companies can incur in financial loss in a regulated environment suggests that attention to this new risky situation is needed for purposes of regulatory policy.

The financial nature of this situation suggests the use of financial supervision instruments, such as statistical models and accounting practices, that are widely used in other regulated sectors. The rate issue comes up as a central aspect, because the size of the distribution company revenues can be crucial to the success and failure of projects. Rates are the central mechanism to cover costs, ensuring the profitability of the invested capital, and enabling the quality of the operation together with the fulfilment of financial obligations.

The financial supervision of power distribution companies by regulators is a serious concern, especially in Brazil. Although there are a few recent experiences worldwide, this topic remains open to new contributions. This paper will present examples of financial regulation in the electricity sector, which can enrich the evaluation about the applicability of this policy.

This paper is divided into two main parts. The first one deals with the need for supervision of financial risk due to the transition to the price-cap model, mainly because of the financial losses it can generate for power distribution utilities. For this purpose, the paper compares the two main ratemaking models, rate-of-return and price-cap, highlighting their positive and negative aspects. In the second part, the paper analyzes the feasibility of financial supervision policy, reviewing three recent regulatory standards: that of the British regulator, the Office of Gas and Electric Markets (OFGEM), of the Ontario Energy Board (OEB) in Canada, and of the Brazilian regulator, the National Electric Energy Agency (ANEEL). The analysis focuses on the mechanisms and regulatory arrangements already developed.

2. Structure Ratemaking model: impact on the financial risk of distribution companies

In the electricity sector, the ratemaking model has a fundamental role to guarantee moderate prices for users and profitability for investors. The process of liberalization in the 1980s was decisive with the transition from the cost of service model to the incentive regulation model. This transition has brought considerable changes for the sector and raises lots of questions about how the ratemaking model change will affect the risks of electric power distributors.

2.1 Definition and Analysis: Rate of Return and Price-cap Models

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