

João Lizardo R. Hermes de Araújo

BRAZILIAN ESI RESTRUCTURING: REFORM BY TRIAL AND ERROR?

Director-General, CEPEL - Centre for Electric Power Research
Av. Um s/n - Cidade Universitária, CEP 21.941-590 Rio de Janeiro RJ – Brazil
Phone: 55 (0xx) 21 2598.6202, Fax: 55 (0xx) 21 2260.2236, E-mail: <mailto:lizardo@cepel.br>

Overview²

Brazil is a large country (8.5 million square kilometres, larger than the USA without Alaska), with continental distances, a population of 180 million, GDP over 1400 billion US dollars in 2004 and a sizable power system, both in terms of generating capacity and of grid extension. A prominent feature of the Brazilian power system is the weight of hydropower, like Canada and Norway, but with very little international trade, unlike either of those. The significant hydro potential, both operational and to be developed, has shaped Brazilian power policy for the better part of a century. It has also played a prominent role in both power sector reforms undertaken in the last decade, led respectively by the Cardoso and the Lula administrations. These reforms differ very much between them (not least in political motivation); but their differences should not be construed as a simple market versus government dispute. Despite a forceful pro-market rhetoric the Cardoso reform included a spot market that was based on a central optimisation algorithm with little role for price bids (effectively no role at all in normal times) and a mechanism that removed all competition among hydropower plants; moreover, in eight years very few hydropower generators were privatised. On the other hand, despite a strong distrust of market schemes at the roots of the Lula reform, free contracting now answers for 18% of all consumption, much more than in the previous administration. Reality has a way of insinuating itself, and it would appear that each reform started from a bold statement but then proceeded to incorporate hard facts by tâtonnement and negotiation. In the end, whether a reform is successful depends on it being able to attract investment in a sustained way. The Cardoso reform failed that test, and the jury is still out on the Lula reform.

Methods

The paper examines the historical evolution and forces that shaped the Brazilian Electricity Supply Industry after the Second World War. The factors that led to reforming the system are discussed, but the main focus is on the two reforms carried out in the last fifteen years. The Cardoso reform is analysed, in its structure and evolution, with particular attention to its strong points and its failings – that ultimately led to the 2001 crisis and to a new institutional arrangement by the Lula administration. This latter reform is discussed with regard to the preceding one, and assessed as to how it has fared so far. The emphasis is on whether the present arrangements are viable for the present system; if it has incentives or disincentives to efficiency and investment, what impacts it will have on prices, what hurdles it will have to face, what interests are present.

Results

The Brazilian ESI was built around large hydropower plants and dams, resulting in a co-ordinated, partly centralised system dominated by federally-owned generators. This institu-

² This paper is a shortened version of a book chapter (“The case of Brazil: Reform by trail and error?” in Sioshansi and Pfaffenberger [2006]).

tional set-up had significant success between the 1950s and the 1970s, but could not withstand the debt crisis of the 1980s. Failure of repeated attempts to salvage the institutional framework led to market-based reform in the early 1990s.

A striking feature of the Cardoso reform was that the divestment process and market reform followed two parallel and nearly independent paths. This, plus the mismanagement of reform and transition – particularly in view of the difficulties found in privatising large generators – led to the 2001 power crisis through insufficient investment in generation expansion. The new arrangement instituted by the Lula administration purports to ensure adequate expansion investment with an enlarged role for central planning and co-ordination, including a mechanism for regulated expansion auctions and contracts. There also is a role for short and middle term contracting, which may grow.

Conclusions

Despite its failings, at least in two respects the Cardoso reform presented positive results. First was the setting up of a regulatory agency that worked transparently and endeavoured to deal seriously with the issues set before it. Second, in contrast to what happened in generation, the institutional set-up for the transmission system proved to be viable and able to stimulate investments while maintaining incentives for efficiency.

As to the Lula reform, in principle the new arrangements could solve the conundrum of thermal power investment in a large hydro-dominated system. However, two problems have to be solved for investment to reach adequate levels: how to streamline environmental licensing of power plants, specially hydro (which needs collaboration between ministries), and how to ensure an adequate supply of gas to thermal plants and build the (very immature) gas network in a market-oriented context.

References

Araújo, J. L. R. H., “The Case of Brazil: Reform by Trial and Error?”, Chapter 16 in F.P. Sioshansi and W. Pfaffenberger [2006].

Sioshansi, F. P.; Pfaffenberger, W. (editors), “International experience in restructured electricity markets: What works, what does not, and why?”, Elsevier Global Energy Policy and Economics Series, New York/Amsterdam 2006.