RETAIL COMPETITION UNDER REGULATED TARIFFS IN MEXICO

Alejandra Elizondo Cordero, Centro de Investigación y Docencia Económicas AC (CIDE), +525557279800 ext 2480, alejandra.elizondo@cide.edu
Tomas M.Damerau, Centro de Investigación y Docencia Económicas AC (CIDE), +5215524401911, tdamerau@gmail.com

Overview

We model the economic gains from introducing retail competition in Mexico's electricity sector and review the regulatory changes that took place to that end. In an unexpected move, in August 2018 the energy regulatory commission (Comisión Reguladora de Energía, CRE) authorized competition in the retail market. Small users, previously excluded from participating in the market, will be able to choose and negotiate with electricity providers. Currently, more than 36 million residential users are subject to regulated and heavily subsidized tariffs.

The introduction of retail competition follows the recent regulatory changes that liberalize the Mexican electricity sector. Since launching the energy reform in 2013 the market structure has changed significantly. The state-owned vertically-integrated utility was unbundled into several legally independent firms. These changes include: cost-reflective market mechanisms at wholesale level, an independent market and system operator with legal autonomy, a reinvigorated independent energy regulatory commission, and clean energy certificates, among others. These changes are aimed at reducing productive and allocative inefficiencies that characterized the sector throughout the last four decades.

Theory suggests that with the introduction of retail competition both types of inefficiencies should be reduced (Joskow 2008, Motta 2004). However, the experience of other countries suggests varying results- see for example Defeuilley (2009). This paper contributes to the literature in two different ways. First, it qualitatively analyzes the changes to the regulatory framework and their expected impacts on market dynamics. Second, it estimates the combined effects of retail competition with regulated and subsidized tariffs. We model three different scenarios that are relevant in the Mexican context: i) tariffs continue to be regulated and capped below the marginal costs, triggering subsidies, ii) tariffs are regulated but set at marginal costs, iii) the removal of tariff regulations and subsidies. These cases are of interest because they reflect both the uncertainty around the development of residential electricity tariffs and the promises of the new Administration that takes office in December 2018.

Methods

The assessment of the regulatory changes and their implications for the economy are reviewed with a set of semi-structured interviews with policy makers and potential players in the newly opened segment of retail. We also conduct document analysis to identify the key factors that determine the firms' behavior in the new market.

We use game theory principles to model the firms' behaviour under different policy scenarios. To model these effects we set up a profit function for each of the competitors where the following parameters interact: a parameter that limits the market share of the incumbent firm, a parameter that reflects the likelihood of subsidies reimbursement, a parameter that limits the size and direction of price fluctuations. These parameters create the three major types of policy scenarios mentioned above.

In our model, firms compete by quantity, under uncertain levels of compensatory subsidies that offset the differential between costs and regulated tariffs. Moreover, the Government's objective to limit price fluctuations may limit potential welfare gains from market liberalization.

Results

Preliminary results of the estimates of the combined effects suggest that effective competition will only take place when the elimination of subsidies is coupled with full liberalization of tariffs.

Conclusions

This paper presents a timely analysis of the economic effects of introducing competition in the electricity retail market under regulated and subsidized tariffs. The analysis of the Mexican experience in the liberalization of energy markets sheds light on several issues that remain unsolved for other countries.

References

Defeuilley, C. (2009). Retail competition in electricity markets. *Energy Policy*, 37(2), 377-386.

Joskow, P. L. (2008). Lessons learned from the electricity market liberalization. Massachusetts Institute of Technology, Center for Energy and Environmental Policy Research.

Motta, M. (2004). Competition policy: theory and practice. Cambridge University Press.

Osborne, M. J., & Rubinstein, A. (1994). A course in game theory. MIT press.