



ESRI Research Bulletin

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reduced industrial electricity prices?*

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Has the restructuring of EU electricity markets reduced industrial electricity prices?¹

***Marie Hyland**

POLICY CONTEXT

The restructuring of electricity markets has been underway around the world since the 1980s. Restructuring (or “liberalisation”) has generally involved separation of vertically-integrated monopolies, privatisation of certain segments of the electricity market and incentive-based regulation for those parts of the industry not generally amenable to competition. The restructuring of the electricity market in the European Union is the most significant cross-jurisdiction reform of the electricity-supply industry to date.

OVERVIEW

This research estimates the impact of the restructuring process in the EU on electricity prices for industrial consumers. The literature to date on this topic has generally failed to establish a causal link between reform measures and end-user prices. In particular, many earlier analyses have ignored the fact that, just as restructuring may affect prices, the decision to restructure may also be influenced by prices.

While the overarching aim of electricity market reform was to improve efficiencies, which should result in lower prices, the restructuring of the EU energy market may not have been accompanied by falling prices for numerous reasons. As electricity prices evolve slowly, it is possible that reform measures have not yet had the time to work through to lower end-user prices. Furthermore, certain restructuring measures may not have had the anticipated effect on price. For example, it has been argued that separation, or “unbundling”, of the vertically-integrated monopolies may be associated with increased operational costs and loss of coordination economies, resulting in higher prices. Likewise, the expected effect of sector privatisation on end-user prices is uncertain: while private ownership may decrease inefficiencies and costs, without effective regulatory oversight, this may not result in lower prices due to the inelastic nature of electricity demand.

The current research aims to quantify the overall impact of restructuring on industrial electricity prices, taking account of two important modelling concerns:

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first, the fact that past electricity prices may be an important determinant of current prices; and second, that reform may be driven by prices, rather than being a driver of prices.

FINDINGS

Once the aforementioned modelling concerns are accounted for, this research finds no conclusive evidence that electricity market restructuring has yet resulted in lower prices for industrial consumers. Furthermore, it illustrates that attempts to quantify the impact of market restructuring on price are highly sensitive to the estimation strategy.

The results show that industrial electricity prices in Europe evolve slowly and thus, prices are significantly related to their past values. This highlights the importance of including past prices in models explaining the current electricity price. When electricity market restructuring is analysed in a framework that accounts for this, vertical separation (“unbundling”) in the industry does not appear to have had any significant impact on industrial prices.

On the other hand, the presence of a liberalised wholesale market appears to drive down the industrial electricity price. However, this effect is only statistically significant if we assume that the direction of causation runs from reform steps onto end-user prices. Once the model accounts for the possibility that end-user prices may themselves influence the decision to engage in reform, this effect disappears.

POLICY CONCLUSIONS

Based on this research, no firm conclusions can yet be drawn about whether or how electricity market restructuring in Europe has affected industrial electricity prices. However, this is not to suggest that European countries should have avoided the reform process. For many countries, energy market restructuring has taken place in the context of a broader liberalisation process; to not have engaged in electricity market reform may have harmed the credibility of that process, with potentially negative economic consequences.

Accurate estimation of the long-term effects of reform will need further analysis over longer time periods, as the restructuring process may not yet have had sufficient time to influence end-user electricity prices. Until the restructuring process is more mature, and additional data become available, the results of this analysis should encourage caution among policy makers in terms of drawing inferences about the impact of EU electricity market reform.