

Unbundling, Regulation, and Pricing: Evidence from Electricity Distribution

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Unbundling of vertically integrated utilities (VIU) has become a major instrument when it comes to the regulation of network industries in many jurisdictions around the globe. Given that the network represents an essential input for downstream retailers, VIUs may have incentives to disadvantage retail competitors by setting excessively high grid charges, which the VIUs themselves can cross-subsidize. Thus, unbundling of the network stage intends to eliminate incentives for price discrimination against rivals and to foster competition in the retail segment. In contrast to the extreme form of full ownership unbundling, which may destroy vertical synergies, legal unbundling represents a softer regulation, which requires the former VIU to disintegrate its distribution network into a new legal entity. Legal unbundling thus intends to decrease discrimination incentives and foster downstream competition by strengthening the formal independence of the distribution system operator, while at same time, it may (partly) retain vertical economies. Nevertheless, the idea of unbundling, is still subject to contentious debate, as there is much empirical evidence that it eliminates economies of vertical integration, though evidence on its overall price effects is still lacking.

We thus study the effect of legal unbundling on grid charges using panel data of German electricity utilities for the period 2005–2014 by the means of a difference-in-differences approach. We make use of the fact that only firms with more than 100,000 customers had to legally unbundle, and also exploit the variation in the timing of the implementation of unbundling measures. We find that the implementation of legal unbundling leads to a decrease in distribution grid charges by 5%–9%, depending on the on the form of price regulation in place (i.e. rate-of-return or incentive regulation). Our findings corroborate the hypothesis that legal unbundling is indeed effective in limiting the incentives for price discrimination against downstream rivals. Moreover, we extend the relatively limited literature on the potential benefits of unbundling in general and of legal unbundling in particular. Given that the loss of vertical economies should become minimized with legal unbundling, while it still has a price decreasing effect, our findings suggest that legal unbundling may indeed represent a “golden mean” between the two extremes of ownership unbundling and vertical integration. From this perspective, our results are “good news” to many jurisdictions that already apply (e.g. most EU member states and many US states) or are planning on introducing (e.g. Japan) legal unbundling in combination with incentive regulation.

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