

Merchant utilities and boundaries of the firm: vertical integration in energy-only markets

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A central feature of electricity market reforms involved restructuring monopoly utilities. In the generation segment, policies promoting restructuring and competition could not be faulted on the grounds of scale economies. But the partitioning of generation from retail supply received little focus. When proposals for industry restructuring emerged, multi-stage scope economies should have been of unquestionable interest but surprisingly little empirical evidence existed.

In Australia, governments proceeded to restructure the industry during the 1990s with an industrial organisation blueprint which separated generation from networks, and combined retail supply with distribution networks. A second wave of industrial organisation was orchestrated by capital markets in the 2000s, splitting retail supply from distribution, and merging retail supply with generation.

Vertical re-integration has been deeply unpopular amongst some regulators and policymakers in Australia and in Great Britain – viewing the practice in a neoclassical sense; presenting risks of withholding capacity, increasing prices, raising barriers to entry, non-integrated rival foreclosure and damaging consumer welfare. By this logic, vertical integration is presumed to be highly anti-competitive. Consequently, it has been a continual regulatory target and more recently in Australia, the subject of policy intrusion. Yet the weight of theoretical and empirical evidence on vertical practices points to the contrary. To the extent that market power exists, its source is usually derived from horizontal scale, not vertical industrial organisation.

The purpose of this article is to analyse vertical integration amongst merchant utilities in Australia's National Electricity Market – why it occurs, why it matters to the flow of investment, and how material multi-stage economies of integration are in Australia's energy-only market setting. In doing so, this research simulates two businesses from 2004/05-2019/20; viz. i). a pure-play retailer and ii). a merchant generator of unequal size. The two firms are then *merged* (Vertically Integrated Firm) and compared to the Sum-Of-The-Parts (i.e. the simple sum of the stand-alone retailer and stand-alone generator – thus enabling a direct comparison of equivalent sized business groups). Use of half-hourly spot prices, forward contract prices, and yearly retail tariffs over a 16-year window produces rich insights into industrial organisation in energy-only markets.

Results confirm material transaction costs exist when generation and retail are partitioned – cumulative costs rise by ~13%. The credit quality of stand-alone businesses are 'junk' whereas the same two firms, vertically integrated, exhibit investment-grade metrics. Market frictions including bounded rationality, instability of wholesale prices and incompleteness of forward markets are the key sources of multi-stage economies of integration.

Vertical integration provides the means by which to stabilise profits, navigate missing money, mitigate the worst effects of capricious regulatory and policy interventions, and maintain investment-grade credit metrics – the latter facilitating the continuity of investment in *timely* new plant capacity given the market for Project Financed merchant plant is largely closed.

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