

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

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**Abstract** 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 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. Governments proceeded in the 1990s with an industrial organisation blueprint which separated Generation from Networks, and combined Retail with Distribution Networks. A second wave of industrial organisation was orchestrated by capital markets in the 2000s, splitting Retail from Distribution, and merging Retail with Generation. Many policymakers and regulators view the practice of vertical integration in a neoclassical sense; presenting risks of withholding capacity, increasing prices, raising barriers to entry, non-integrated rival foreclosure and damaging consumer welfare. But the weight of theoretical and empirical evidence points to the contrary, with transaction costs featuring prominently. In this article, a Generator and Retailer are simulated over 15 years of trade in Australia's National Electricity Market as stand-alone businesses, and then as a merged entity. A comparison of the Sum-Of-The-Parts with the Vertical Firm reveals non-trivial transaction costs and multi-stage economies of integration – the Vertical Firm reduces costs by 17% and volatility of earnings by 83%, which produces a 26% improvement in credit quality and lifts statutory profits by 34% holding prices and volumes constant.

**Keywords** vertical integration, electricity markets, energy-only markets, transaction costs, credit ratings

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