

Have Zonal Electricity Prices in Sweden Caused Industrial (Re-)locations?

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A zonal reconfiguration of electricity markets can result in different prices depending on location within a country, especially if transmission bottlenecks occur. The electricity prices diverge if there is not enough capacity to transport electricity from the regions with abundant energy generation to those that experience scarcity. This can impact industrial relocation and location choices, and hence investments and overall competitiveness. However, there is no consensus in the literature on whether changes in prices result in industrial relocations in practice.

In this context, we ask: Have zonal electricity prices in Sweden caused industrial (re)locations? The 2011 Swedish electricity market reform increased the number of pricing zones from one national price to the current four regional prices.

In order to examine this question, we conduct an investigation of industrial (re)location patterns in the context of different electricity prices both on a macro or micro level, a method previously outlined by Nijkamp & Perrels (1988). The former requires identifying the electricity intensity (share of electricity input in the production value) of the industrial sectors and compare that against the variation in electricity prices, thus finding the link between industrial location and electricity costs. The latter implies researching individual firm behaviour, which we do by distinguishing between existing and emerging industries (and hence relocation and location).

The micro-level analysis is conducted through analysing industrial firm behaviour. We do this by looking at data from the European Restructuring Monitor (ERM) of Eurofound (2025) which noted the large-scale restructuring events reported in national media and on company websites. We studied the events occurring between the 1st of December 2011 until the 1st of November 2025, covering the following categories: offshoring, reshoring, relocation, mergers and acquisitions, business expansion, closure, bankruptcy and internal restructuring.

The macro-level analysis shows that regional electricity consumption patterns did not considerably change, and the energy intensity of the Swedish traditional industries has been

quite low. The micro-level analysis shows that the reform did not cause any northbound manufacturing relocations, even after the prices diverged. However, we also find that new industries (i.e. low-carbon steel, green hydrogen, green ammonia and to some extent data centers) increasingly locate up north due to the renewable electricity surplus and the lower prices, making it worthwhile to distinguish between location and relocation, between traditional and emerging industries. The reform has had limited impact on the labour market and should not be viewed as a labour market policy. In terms of the jobs impact of new industry location to the north, the main takeaway is that the industries attracted are electricity-intensive rather than labour-intensive.

The findings are relevant given the ENTSO-E Bidding Zone Review, and they relate to the recently abandoned government proposal to create multiple zones in Great Britain. They also contribute to the ongoing discussion in Sweden about whether to maintain the zones, as well as to a better understanding of industrial policy and industrial decarbonisation.

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