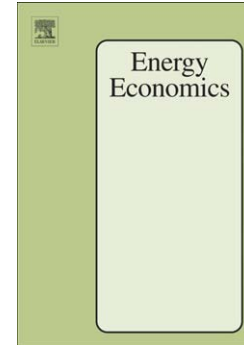


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# MODELLING UK SUB-SECTOR INDUSTRIAL ENERGY DEMAND

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## Abstract

The importance of considering homogenous economic agents when estimating energy demand functions is recognized in the literature, but so far data availability problems have explained the prevalence of empirical analyses only at an aggregate level. Motivated by the goal of developing the new industrial module to be adopted by the UK government Department of Business, Energy and Industrial Strategy (BEIS) for their econometric Energy Demand Model, we propose the first cointegration analysis that provides evidence on energy demand elasticities with respect to economic activity and energy price at a disaggregated industrial level. While the average of our estimates are comparable to those of the existing literature on the industrial sector as a whole, we find that there is considerable heterogeneity in relation to the long-run impact of economic activity and energy price on energy consumption, as well as to the speed with which firms re-adjust their equilibrium demand of energy in response to economic shocks. Finally, we learn that long-run disequilibria are tackled through altering the level of energy consumption rather than economic activity, a conclusion that has important implications for policy analysis.

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