

Abstract

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A combined approach to forecast container throughput demand: Scenarios for the Hamburg-Le Havre range of ports

The decision to provide new additional capacities in the ports is challenging since it should be supported by a growing demand, which require modelling and forecasting the demand of container throughput. This paper develops an instrument which assists the ports' infrastructure investment-decision-making. A three-step approach is developed by combining the autoregressive distributed lag model with economic scenarios to capture the potential impact of specific risks. The empirical analysis is based on an annual time series (1995–2017) for the total container throughput measured in twenty-foot equivalent units for the main ports within the Hamburg-Le Havre (H-LH) range and a number of economic indices. The study shows that there exists a long-run relationship between the trade indices of EU19 and the total container throughput. The empirical model estimates that the elasticity of the container throughput in the H-LH range to trade indices is about 1.4 on average, and it shows that the moment at which congestion emerges depends strongly on the specific scenario considered.