

Estimation of Dynamic Impact of Port Shutdown on Spatial Economies Using CGE Model with a Micro-Simulation Module of Seaport Activities

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The paper estimates spillover effects of port shutdown on spatial economies using a CGE model with a micro-simulation module of seaport activities. Schematic structure of causality between the port shutdown and commodity flows and production are derived from interviews and foreign port shutdown cases in terms of risk-based inter-industrial analysis. The model is applied to assess the effectiveness of policy instruments to minimize the economic negative effects of X-event on the regional economic growth, estimating changes in the transportation and logistics costs and the outputs. The simulation results are expected to develop a comprehensive port risk management system and a framework on protection of national infrastructure safety plans.