

An Application of the Multiregional Input-Output Model (MRIIM) approach to assess the disruptions caused by the Earthquake in Turkey

Topic: Input-Output Analyses and Input-Output Modelling of Disasters - I

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Natural disasters in the form of earthquakes are one of the biggest threats to economic growth for a country. Such an event is responsible for creating disruptions at the economic, social, and environmental levels and can push an economy on its back foot. The recent earthquake in Turkey and Syria is its biggest example, which took more than 50000 lives and caused huge damage to the major infrastructures. Such an event causes disruptions not only in the region where it occurred but also leads to ripple effects in the other sectors of different regions and economies. Therefore, keeping the aforementioned discussion in mind, the current study will analyze the perturbations caused by the earthquake with a primary focus on Turkey and the major economies in the European Union (EU) i.e., Germany, France, and Italy. For this purpose, the study will incorporate Multi-Regional Inoperability Input-Output Model (MRIIM) by taking the recent data available into consideration (1). Such an application will try to answer the research question, the disruptions caused by the Turkish earthquake in various sectors of the different advanced EU economies i.e., to compute the ripple effects in other sectors produced by changes in a sector owing to the earthquake event. Based on the application, the study will lay down the foundation for making the sectors resilient from future similar disasters by identifying the most critical sectors in the economies. The study will also formulate necessary recommendations for the policymakers to ensure that both economic and social damages are brought to a minimum. The application of MRIIM in the case of Turkey's earthquake scenario lays down the foundation for the novelty, and upon its conclusion, a first-of-its-kind study.

Keywords: Earthquake, Turkey, Syria, MRIIM, FUCOM, EU, Inoperability

(1) The data will be based upon the Input-Output Tables available on Eurostat & World Input-Output Tables (WIOD) data sources for multiple economies.