

A General Equilibrium Assessment on a Compound Disaster in Northern Taiwan

Topic: CGE Applications to Handle Complex Data Issues

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We analyze an economic impact of a compound disaster on key sectors at seismic hazards in Taiwan. While Taiwan has high-tech export-oriented industries such as semiconductor and electronic products, four nuclear power plants are all built in the at-risk areas close to its capital city with their industrial agglomeration. We use a computable general equilibrium (CGE) model to simulate a compound disaster in Northern Taiwan. We consider the individual disaster components of (1) labor loss, (2) capital loss, (3) power crisis, and finally combine them to simulate (4) a compound disaster comprehensively. The simulation results show that Taiwan's key sectors such as semiconductor and electric equipment would be affected severely by capital and labor losses but not by power crisis. This implies that no electric power allocation would be needed for these industries although we are often tempted to do so in case of emergency.