

# Japanese Manufacturing Facing the Power Crisis after Fukushima—A Dynamic Computable General Equilibrium Analysis with Foreign Direct Investment

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## Abstract

The Great East Japan Earthquake and the subsequent tsunami hit and destroyed the Fukushima Daiichi Nuclear Power Station. People lost the trust to safety of the nuclear power plants, and the regulatory authority became very reluctant to permit power companies to restart nuclear power plants. To make up the lost nuclear power supply, thermal power plants are more often operated consuming more fossil fuels to raise power charges. This power crisis is anticipated to force the domestic manufacturing industries to move out to, say, China through foreign direct investment (FDI). With a world trade computable general equilibrium model, where recursive dynamics is installed to describe both domestic investment and FDI from Japan to China, we simulate the power crisis by assuming lost capital stock and intensified fossil fuel uses by the power sector to investigate its impact on the Japanese manufacturing sectors. We found the power crisis adversely affect food, pottery, steel, and non-ferrous metal sectors but benefit transportation equipment, electric equipment, and machinery sectors, about which people often anticipate “hallowing-out.”

<The draft is to be available at: [http://www3.grips.ac.jp/~nhosoe/JEA2013\\_Toyama.pdf](http://www3.grips.ac.jp/~nhosoe/JEA2013_Toyama.pdf)>

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