

## Economic Growth After an Earthquake: A Synthetic Control Approach

**Authors :** Diego Diaz H., Cristian Larroulet

**Abstract :** Although a large earthquake has clear and immediate consequences such as deaths, destruction of infrastructure and displacement (at least temporary) of part of the population, scientific research about the impact of a geological disaster in economic activity is inconclusive, especially when looking beyond the very short term. Estimating the economic impact years after a disaster strike is non-trivial since there is an unavoidable difficulty in attributing the observed effect to the disaster and not to other economic shocks. Case studies are performed that determine the impact of earthquakes in Chile, Japan, and New Zealand at a regional level by applying the synthetic control method, using the natural disaster as treatment. This consisted in constructing a counterfactual from every region in the same country that is not affected (or is slightly affected) by the earthquake. The results show that the economies of Canterbury and Tohoku achieved greater levels of GDP per capita in the years after the disaster than they would have in the absence of the disaster. For the case of Chile, however, the region of Maule experiences a decline in GDP per capita because of the earthquake. All the results are robust according to the placebo tests. Also, the results suggest that national institutional quality improve the growth process after the disaster.

**Keywords :** earthquake, economic growth, institutional quality, synthetic control

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