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# Pre-Disaster Planning and Post-Disaster Aid: Examining the Impact of the Great East Japan Earthquake

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## Abstract:

In this paper we examine the extent to which pre-disaster planning and post-disaster aid can help firms recover from the negative impact of a natural disaster. Using detailed plant-level data covering the areas affected by the March 2011 Great East Japan earthquake and tsunami we find that the number of stopped days of operation was negatively impacted by the disaster although we find that only the tsunami-affected plants experienced reduced sales six months after the earthquake. However, we do find evidence to suggest that post-disaster sales was influenced by a number of pre and post-disaster policies. More specifically, we find that pre-disaster policies such as having alternative transport arrangements and a diversified supplier network positively affect post-disaster sales. We also find that post-disaster aid from local banks and trading partners positively influences post-disaster sales but that direct cash payments from government appears to have no statistically significant effect.

Keywords: Natural disaster, firms, Japan, earthquake

JEL codes: Q54, R5, R10, R12, D22, L10, L25, M13, C01

## 1. Introduction

As the world economy continues to grow and an increasing proportion of the population lives in cities and urban areas it is important to understand how economic resilience to natural disasters can be influenced by the actions of firms and governments. The risks associated with a changing

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