**A Global-Scale Investigation of Firm-level Economic Recovery from Natural Disasters**

This project proposes a novel combination of economic and earth science data and methods to understand the mechanisms through which natural disasters can affect national economies around the world. Historically, economists have believed that "disasters are good for business.” A major challenge has been the lack of cross-disciplinary engagement between social and physical sciences that aims to understand and model disasters. In contrast, ground-breaking work by this PI used physics and earth science methods to reconstruct every tropical cyclone (i.e., hurricane or typhoon) that occurred since 1950, and showed that (when measured correctly) disasters actually suppressed economic growth for decades. Despite recent progress in demonstrating that these long-term economic effects exist, research has yet to fully identify the mechanisms that lead to them. Theory suggests that long-term economic damage must be due to changes in investment behavior in the economy. This project therefore investigates disaster effects at the firm-level, since firms are the driver of economic growth and investment within a country. The project will focus on earthquakes and hurricanes, which are global in scope and affect roughly half of the countries on Earth. Using extensive firm-level data from dozens of countries combined with novel, interdisciplinary data on disaster exposure, we will examine firm dynamics after a disaster hits. Understanding mechanisms is particularly important as this would guide policy responses to disasters in order to help society cope with these longer-run effects, especially in lower income countries, where governments are less able to provide general insurance and safety net policies.

Overview for website:

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We aim to understand the mechanisms through which natural disasters can affect national economies around the world, using a novel combination of economic and earth science data and methods. Historically, economists have believed that disasters are “good for business,” and increase economic growth. However, a major challenge in understanding what actually occurs empirically has been the lack of cross-disciplinary engagement between social and physical sciences, as disasters are defined and measured inappropriately for socioeconomic questions. In response, recent economic research using methods from earth science has shown that, when measured correctly, disasters suppressed economic growth for decades. The mechanisms are not yet understood, but theory suggests that long-term economic damage must be due to changes in investment behavior in the economy. Therefore, we investigate disaster effects at the firm-level, since firms are the driver of economic growth and investment within a country. Our focus is earthquakes and hurricanes, which are global in scope and affect roughly half of the countries on Earth. Using extensive firm-level data from dozens of countries combined with novel data on disaster exposure, we examine firm dynamics after a disaster strikes. Understanding mechanisms is particularly important as this would guide policy responses that will help society better cope with natural disasters.