**Project Overview and Research Question**

This project aims to investigate firm dynamics in the wake of natural disasters, such as earthquakes and hurricanes. Prior literature on natural disasters has largely used coarse, nationally aggregated outcome variables, endogenous measures of disaster severity, or insufficiently precise measures of hazard exposure. While disaster effects have been shown by this research, the mechanisms, and hence policy responses, have so far been impossible to identify. We are studying the granular firm-level origins of slow recovery from natural disasters in order to better inform policy to support economies that suffer from adverse shocks. For instance, we plan to analyze how disasters affect firm entry and exit, within-firm labor productivity, allocative efficiency across firms and industries, the composition of entering and exiting firms, and the innovative investment decisions of surviving firms. Do the losses during disasters and subsequent recovery trajectories differ across larger or smaller firms, more or less productive firms, more or less labor or capital-intensive firms, or firms in different industries? Do the effects of disasters differ across countries by level of income, by experience with a given disaster type, or by size of the country? This project uses several decades of global exogenous natural hazard data at high spatial resolutions for earthquake shaking and hurricane wind speeds, introduced into the economics literature by the authors of this grant, to calculate firm-level hazard exposure. We aim to establish a set of empirical facts about how disaster recovery manifests at the firm level, and interpret the economic and policy implications of these facts through the lens of macroeconomic models of firm dynamics and business cycle recoveries.

**External Collaborators**

Ishan Nath (Princeton), Amir Jina (UChicago), Stephanie Lackner (IE University)

**World Bank Collaborators**

Arti Grover, ???

**Data**

The project will leverage the following datasets:

* Manufacturing census data from 11 countries in Grover, Medvedev, & Olafsen (2019)
* Services census data from 20 countries in Nayyar, Hallward-Driemeier, and Davis (2021)
* Manufacturing and services firm data from 17 countries in Nath (2020)
* Earthquake data consisting of the universe of global relevant ground shaking for almost 5 decades at about 1km spatial resolutions from Lackner (2018)
* Hurricane wind exposures at a 0.1° by 0.1° global grid from Hsiang and Jina (2014)
* ERA-5 gridded hourly data on extreme rainfall

**Funding**

This project would benefit tremendously from funding for research assistant support to help with data cleaning and analysis. We are requesting funding for half of a year of full-time equivalent RA support, equal to $33,000. In addition, we are requesting an honorarium of $10,000 to cover the time and effort of our research team. Please note that we do not wish for the funding requests to create a barrier to collaboration. The access to data and opportunity to collaborate with researchers at the Bank is the primary purpose of this proposal. We view the funding requests as significant, but not absolutely essential, support for this purpose.