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Title: Risk and Time Preferences after Natural Disasters



Due to climate change, people are becoming increasingly likely to be exposed to natural disasters. While we know that the behavior of people exposed to disasters changes, the duration of these changes is not well known. We study the short and medium run effects of exposure to the Yogyakarta earthquake in Indonesia, one of its largest earthquakes in recent history. By examining the same cohort of individuals across time, we are able identify which types of behavior are affected (i.e. risk attitudes and time preferences), how long these effects last and whether they differ across gender. Furthermore, the long duration of the data allow us to investigate what kinds of investment help to build resilience to shocks.

The Yogyakarta earthquakes was one of the costliest in Indonesian history with damages exceeding \$3 billion USD and destroyed more houses than the 2004 earthquake and tsunami. The local geology was believed to protect the particular area from large earthquakes and the area had a low predicted probability of large event and thus the earthquake was a surprise for the local communities. More broadly, our panel data, which includes both pre-exposure and multiple post-exposure rounds allows for a more credible identification of the evolution of behavior in the aftermath of large natural disasters.

While we find that the both risk attitudes and time preferences are effected by exposure to the shock, there are strong differences across gender. Only the risk attitudes of men are influenced (they become more risk averse) but there are opposing effects for time preferences. Whereas men become less patient, women become more patient. While these effects are large in the short run, they dissipate over time. The 'recovery' of these attitudes strongly correlate with reconstruction efforts. Due to the strong differences, policy makers strongly need to consider gender in the targeting of benefits, particularly in the immediate aftermath of natural disasters.