

Title: The Workings of a City: The Response to Floods in a Coastal Megacity

Speaker: Prof. Amine Charles-Louis Ouazad, HEC Montréal

Area: Economics

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Abstract:

Within-city flood risk and its capitalization in house prices is challenging to measure and model as urban infrastructure, land use, and elevation affect the impact of precipitation and tides away from the coastline. The capitalization of flood risk in housing markets and the sorting of households within cities remains a challenging empirical question. This paper leverages new geocoded waterlogging, rainfall, urban infrastructure data to examine the impact of highly localized flooding on the housing market in Mumbai. It develops a waterlogging model explaining geocoded municipal reports at 15-minute frequency and 250-meter resolution. Using transaction-level data in new housing projects in the city, we find that waterlogging exposure results in a 12-13% decline in property prices on average. We also find evidence of buyer sorting: homebuyer incomes in flood-exposed projects decline by 21–24%, suggesting that lower-income households are more likely to purchase in locations recently affected by flooding. Sale of units in flood-exposed projects declined but the effects are modest and weakly statistically significant, suggesting that buyer sorting is more pronounced than switching away from flood-exposed properties. Finally, examining whether new buildings are moving away from flood-prone areas, we find the opposite relationship; there are 0.017 additional building applications in a grid-year for every additional waterlogging report in previous years. Overall, the results suggest that although localized flood risk is capitalized into housing prices and results in sorting of homebuyers by income, formal development does not retreat from flood-prone areas. These findings raise concerns about limited adaptation to climate risk and higher incidence of risk among lower-income households in rapidly urbanizing coastal cities.

Speaker Profile:



Amine Charles-Louis Ouazad is Associate Professor at HEC Montréal's Department of Economics. His research has been cited in Congressional hearings, the Financial Times, Wall Street Journal, New York Times, CBS, Bloomberg, Politico, etc. He serves on the scientific and awards committees of the American Real Estate and Urban Economics Association, and the scientific committee of the Urban Economics Association. Previously, he was an associate professor at École Polytechnique and Rutgers Business School, and an assistant professor at INSEAD. In April 2020, he was appointed DLA Piper Distinguished Visiting Professor of Economics at Johns Hopkins University. He has taught over 5,000 students across six countries in the EMBA, MBA, PhD, MSc, BComm and BSc programs.

Webpage Link: <https://aouazad.github.io/Website/index.html>