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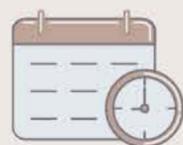
CUHK SOCIOLOGY 中大社會系

QA COMPUTATIONAL Social Science@CUHK

Weather Fluctuations, Migration and Inequality

by Prof. Filiz GARIP
Professor of Sociology and Public Affairs, Princeton University

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HKT | **Dec 2, 2022 Friday**

AM 09:30-11:00

Webinar via
zoom

Existing work presents mixed findings on the impact of weather events on international mobility. Relying on fine-grained data over a long time span (1980-2019) in the Mexico-U.S. setting, we turn to machine learning (ML) tools to first determine if weather events can predict migration choices of 150,000+ individuals. We use random-forest models which allow us to include a comprehensive list of weather indicators measured at various lags, and to consider complex interactions among the inputs. These models rely on data-driven model selection, optimize predictive performance, but often produce 'black-box' results. In our case, the results show that weather indicators offer at best a modest improvement in migration predictions. We then attempt to open the black box, and model the linkages between select weather indicators and migration choices. We find the combination of precipitation and temperature extremes and their particular sequencing to be crucial to predicting weather-driven migration responses out of Mexico. We also show heterogeneity in these responses by household wealth status. Specifically, we find that wealthier households in rural communities migrate in the immediate aftermath of a negative weather shock (relative to the 'normal' weather in their community), while poorer households need to experience a positive weather event following a negative one in order to migrate to the United States. This pattern suggests that migration as an adaptation strategy might be available to select households in the developing world, and the most vulnerable might be excluded from resorting on an international trip unless they experience particular sequences of weather events that allow them to raise the necessary funds first.

Filiz Garip is a Professor of Sociology and Public Affairs at Princeton University. Her research lies at the intersection of migration, economic sociology and inequality. Within this general area, she studies the mechanisms that enable or constrain mobility and lead to greater or lesser degrees of social and economic inequality.

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