Title: Heat Informality and misallocation: Firm adaptation in the short and long run

Speaker: Dr. Jonah Rexer, World Bank

Area: Economics

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Abstract:

How do climate shocks shape resource allocation across firms? Rising temperatures might worsen allocative efficiency if large, productive firms face constraints in adapting. We assess this question in India, an economy characterized by informality, misallocation, and extreme heat. Using census data on 42 million non-farm establishments from 1990-2013 linked to granular climate histories, we estimate the impact of heat on the firm size distribution. A 1°C temperature shock reduces firm size by 11.6%, with losses concentrated among large, formal firms. Displaced workers reallocate to smaller, informal firms, generating allocative efficiency losses of up to 4.3%. In long difference estimates spanning several decades, the relationship reverses: large firms adapt and absorb labor, while small firms contract. This adaptation offsets nearly 60% of the short-run labor demand shock. These results highlight a general mechanism of climate adjustment: in the short run, shocks exacerbate misallocation by pushing labor into low-productivity firms, but in the long run, adaptation by larger firms restores efficiency.

Speaker Profile:

Dr. Jonah Rexer is a development economist, with interests in political, labor, urban, and environmental economics.

His research studies how foreign investors navigate conflict and corruption; the politics of international finance; political communication in pandemics; the environmental and political consequences of natural resource wealth; urbanization in emerging countries; and climate change adaptation. His work has appeared in top academic journals, including the *American Economic Review (AER)*, the *American Economic Journal - Policy (AEJ)*, the *Economic Journal (EJ)*, and the *Proceedings of the National Academy of Sciences (PNAS)*.

He is currently an Economist at the World Bank in the Office of the Chief Economist for South Asia (SARCE), as well as a visiting scholar at Princeton University. At the Bank, he worked on climate adaptation, gender inequality, labor markets, critical minerals mining, and the impacts of emerging technologies like artificial intelligence.

Previously, He was a Postdoctoral Associate in the Empirical Studies of Conflict research group and Lecturer at the School of Public and International Affairs, Princeton University.

He hold a PhD in Applied Economics from the Wharton School of Business, University of Pennsylvania, and an MPA/ID from the Harvard Kennedy School. He conducted field research in Uganda, Nigeria, India, and Myanmar.

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