



Real Estate and Urban Economics Seminar

**A Quantity-Based Approach to Constructing
Climate Change Risk Hedge Portfolios**

Thursday, June 2, 2022

10:30 a.m. - 11:45 a.m.

Via Zoom Meeting Only

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Abstract

We propose a new methodology to build portfolios that hedge climate change risks. Our quantity-based approach explores how mutual funds holdings change when the fund adviser experiences a local extreme heat event that shifts beliefs about climate risks. We use the observed trading behavior to predict how investors will reallocate their capital when “global” climate news shocks occur, which shift the beliefs and asset demands of many investors simultaneously and thus move equilibrium prices. We show that a portfolio that holds stocks that investors tend to buy after experiencing a local heat shock appreciates in value in periods with aggregate climate news shocks. Our quantity-based approach yields superior out-of-sample hedging performance compared to traditional methods of identifying hedge portfolios. The key advantage of the quantity-based approach is that it learns from cross-sectional trading responses rather than time-series price information, which is limited in the case of climate risks. We also demonstrate the efficacy and versatility of the quantity-based approach by constructing successful hedge portfolios for aggregate unemployment and house price risk.

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Rosalinde and Arthur Gilbert Program in Real Estate, Finance and Urban Economics*