Clark University
Department of Economics

November 20, 2024 12:00-1:15pm

Unilateral Carbon Pricing and Heterogeneous Firms

Speaker: Robin Sogalla (DIW Berlin/TU Berlin/Harvard)

Location: Jonas Clark Hall Rm218

Abstract: Unilateral pricing of domestic emissions raises concerns about carbon leakage, prompting calls for protecting exposed industries through subsidies or carbon border adjustments. To quantify the impact of these unilateral carbon pricing tools, this paper develops a quantitative general equilibrium trade model with input-output linkages and heterogeneous firms. Taking firm heterogeneity into account allows for an analytical and quantitative decomposition of the emission intensity effect of unilateral carbon pricing into within and across-firm differences and leads to selection effects which generate economies of scale at the sector-level. Applying the model to EU climate policy, I find that more stringent carbon pricing decreases emissions mainly through within-firm adjustments. Input-output linkages and selection effects aggravate carbon leakage and the real income loss of domestic carbon pricing. Comparing subsidies to a carbon border adjustment as carbon leakage protection, I find that the former leads to a lower real income loss while border adjustments are more effective in targeting leakage.

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