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Title: Environmental Technology Transfer and the Impact on Carbon Emissions

Abstract

The technology market facilitates transfer and accelerates implementation of cutting-edge technologies, including environmental technologies. We construct a comprehensive dataset on environmental technology transfers and examine the impact of technology adoption on carbon emissions. We find that firms adopting environmental technologies experience significantly higher emission efficiency and lower emissions, by approximately 11%, over subsequent five years. To address endogeneity concerns, we perform IV regressions by constructing a novel instrumental variable that exploits exogenous variation in firms' access to the technology market. Our analysis of the determinants of environmental technology transfer shows that large emitters, especially those with high profitability, are less likely to adopt environmental technologies. While both penalties and subsidies incentivize firms to adopt environmental technologies, subsidies appear to be more effective.