

Emissions Abatement and the EU ETS: Testing the Porter Hypothesis.

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Abstract

Do stricter environmental regulations encourage innovation or adoption of greener technologies? Does the provision of free allowances shape competition among brown and cleaner producers? For answering to these questions, this study explores the Porter hypothesis leveraging a heterogeneous shock in free allowances provision during the third phase of the European Emission Trading Scheme (EU ETS) to assess its varied impact across industrial sectors. Employing a difference-in-differences approach, it compares sectors with reduced free allowances to those maintaining allocations, using the Italian data on industrial plant covered by the policy. While treated sectors (the ones experiencing a cut in the provision free allowances) overall reduce their carbon footprint compared to the control group ones, responses vary among incumbents and new entrants. Incumbents facing a shortfall in grandfathering tend not to reduce emissions through innovation and adoption of greener technologies, while new entrants do. On the contrary, in the control group of sectors (fully or highly subsidized by free allowances), the new entrants are pretty emission intensive, aligned to the incumbent. This evidence forms the basis for a theoretical model examining the role of free allowances in shaping competition among brown and cleaner producers. The main variable is a novel indicator of emission intensity based on quantity. The main finding of this paper shows that the presence of free allowances encourage the entry of dirtier producers in the market, in line with the “reverse Porter hypothesis”.