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Motivating Emissions Cleanup: Absolute vs. Relative Performance Standards

Jamie T. Mullins*

Abstract

This article empirically compares the effectiveness of relative versus absolute performance standards in motivating compliance actions. By leveraging a unique set of Chilean administrative panel data, I examine a natural experiment created by a change in the performance standard used to incentivize the reduction of particulate matter in the atmospheric emissions of stationary pollution sources in the Santiago Metropolitan Region. I find that the absolute standard drove $^{21\%}$ less emissions cleanup than did the relative standard. I also demonstrate how sharp heterogeneity in responses to the change in standards is predictable based on an ex-ante identifiable type-categorization, which leads to the broadly-applicable conclusion that stricter regimes drive more compliance actions when imposed via an absolute performance standard compared to a relative standard. The extension of this framework provides a general means of anticipating whether an absolute or relative performance standard will drive higher rates of compliance actions in other settings.

JEL Codes: D47, D81, H41, Q52, Q53

Keywords: Absolute Standard; Relative Standard; Air Pollution; Air Quality Policy; Regulatory Uncertainty; Environmental Regulation; Chile; Criterion-Referenced Standard; Norm-Referenced Standard

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