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Carbon Abatement Costs: Why the Wide Range of Estimates?

Carolyn Fischer, *Richard D. Morgenstern*

Abstract:
Estimates of marginal abatement costs for reducing carbon emissions derived from major economic-energy models vary widely. Controlling for policy regimes we use meta-analysis to examine the importance of structural modeling choices in explaining differences in estimates. The analysis indicates that particular assumptions about perfectly foresighted consumers and Armington trade elasticities generate lower estimates of marginal abatement costs. Other choices are associated with higher cost estimates, including perfectly mobile capital, inclusion of a backstop technology, and greater disaggregation among regions and sectors. Some features, such as greater technological detail, seem less significant. Understanding the importance of key modeling assumptions, as well as the way the models are used to estimate abatement costs, can help guide the development of consistent modeling practices for policy evaluation.

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