

National Climate Policies and Corporate Internal Carbon Pricing

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While national governments pledged to reduce their greenhouse gas emissions under the Paris Agreement, delivering on these aims will require significant changes in the activities of major sources of emissions such as companies. To drive such changes, companies will need to consider carbon emissions as a cost of production and many companies have begun doing so through internal carbon pricing. We evaluate how national carbon pricing policies influence firm-level internal carbon pricing and corporate emission targets. The goal of this study is to investigate how firms respond to the implementation of a national carbon-pricing regime with respect to the carbon prices they set internally for their decision-making.

We empirically investigate the adoption of internal carbon pricing by major companies reporting to the Carbon Disclosure Project (CDP). A matching estimator enables an appraisal of the effect that climate change policies have in the decision of companies to set their internal carbon prices.

We find that firm-level internal carbon prices are significantly higher in countries explicitly pricing carbon through tax and/or cap-and-trade programs. In particular, we reveal a causal relationship between the national carbon policies in place and the level of internal carbon prices. The treatment effect of having a national carbon pricing policy in place is economically (27 USD per ton) and statistically significant.

We further estimate a “dose-response function” (DRF) which provides more information regarding the effectiveness of national carbon policies by uncovering heterogeneities in the effects of exposure to various levels of national prices. This model was applied to the case of European countries that are rather consistent from economic, institutional, and cultural perspectives. We observe a general positive relationship, increasing with the treatment between national carbon prices and the adopted ICPs. Considering that there are European carbon regulations in practice like a trading system, this result suggests that international carbon prices can have an impact on the decision of companies to price carbon internally. However, more research is needed on the interplay of national and international carbon pricing in the future.

These findings shed light on how companies are factoring climate change in their decision making and on the drivers that can contribute to the generalization of climate pricing in the economy. Specifically, our findings support the view that national carbon pricing mechanisms lead companies to the adoption of higher internal carbon prices.

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