Carbon taxation and precautionary savings*

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Abstract

This paper asks how precautionary savings affect the level of the optimal carbon tax. I build a heterogeneous-agent incomplete-markets model with a climate externality, where households have preferences over a clean and a dirty consumption good. To account for the empirical fact that poorer households spend a larger fraction of their income on dirty goods, these preferences are often modeled using a quasi-homothetic Stone-Geary specification. I show that, even when employing this particular functional form, a precautionary saving motive renders Engel curves non-linear. This implies, however, that the optimal carbon tax might deviate from the Pigouvian rate. I estimate the structural parameters of the utility function using an indirect inference approach and use the estimated model as a laboratory to study the effects of precautionary savings on the welfare-maximizing carbon tax.

Full draft available soon

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