

Track and Trade: A liability approach to climate policy

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Optimal Carbon Tax

difficulties

- pay today for damage in future
⇒ politically unacceptable
- heterogeneity in beliefs about climate change and weights
⇒ no single tax rate

results (no heterogeneity)

$$\text{FB: } B'_i(e_i) = \beta E \frac{\partial D}{\partial Z}$$

- tax $t^* = \beta E \frac{\partial D}{\partial Z}$ at $t = 1$
- liability: pay $\frac{\partial D}{\partial Z}$ at $t = 2$
(credibility)
- market for liability: price $p = \beta E \frac{\partial D}{\partial Z}$ at $t = 1$

Remarks

1. heterogeneity in beliefs about climate change

Gilboa, Samet and Schmeidler (2004):

duel between two gentlemen

- two opposite rankings of outcomes
(1 wins and 2 loses), (no duel), (2 wins and 1 loses)
- each believes that he wins with prob 85%
- if similar beliefs \Rightarrow no duel
- unanimity among individuals should not be used by society to justify duel

2. heterogeneity in weights and discount factors

$$\sum_{i=1}^n \alpha_i E_i [B_i(e_i) - \beta_i D_i(Z)]$$

ex.:
$$\sum_{i=1}^n \alpha_i [w_{i1} + \beta_i w_{i2}]$$