

The European Emissions Trading System (EU ETS): Learning to deal with uncertainty

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Launched in 2005, the EU ETS is the world's largest experiment to control CO₂ emissions. It is an emissions trading scheme based on the hope that pricing emissions could be used as an incentive for companies to reduce emissions. Countries that produce 21% of emissions are under this kind of emissions trading systems, and prominent polluting countries (e.g., Brazil, China) are implementing new national emissions markets, bringing the total number of potential controlled emissions to the 49% (World Bank, 2013). The expansion of emissions trading systems increases the potential control on emissions that a new international regulation of carbon market could reach.

Nevertheless, political struggle and price instability dominate the current reality of the emissions trading systems worldwide. Thus, I question how and why companies make decisions in the EU ETS under these uncertain conditions. I use a behavioral model of uncertainty (bounded rationality) and test this model by applying it to quantitative data from a survey conducted in two consecutive phases (Phase 1 occurred from 2005–2007 and Phase 2 occurred from 2008–2012) with German companies in the EU ETS. I have been interested in changing variables over time to determine how companies make decisions regarding emission allowances. The most important change was that companies tend to outsource decision-making regarding emissions allowances at the end of Phase 2 rather than during Phase 1.

This research explains why companies decide to either keep the emission allowances or outsource it. The model's prediction shows that companies are getting rid of allowances because of high transaction costs. Transaction costs can be viewed as friction (Williamson, 1981) between the wheels of a car and the ground beneath them. The number of working wheels determines the successful forward motion of the car. Broken wheels mean there is no forward motion; in the EU ETS, companies face uncertain "wheels" of decision for emission allowances as they are confronted with indecisions regarding price development and future political regulation. As a result, this research shows that political uncertainty is more relevant than short- and long-term price uncertainties.

We use data from 857 questionnaires (249 in 2005, 234 in 2006, 193 in 2007, and 181 in 2012) in which German companies responded to this survey at least twice in the consecutive phases. The questionnaire contains 29 retrospective questions about trading activities, strategic investment, technological responses to the EU ETS, and responsible departments for emission trading.

Bibliography

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