Winners and Losers of EU Emissions Trading: Insights from the EUTL Transfer Dataset

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Executive summary

Motivation

While distributional issues may not be the focus of most academic research into (EU) emissions trading, they do play an important role in the public debate and policy making. Carbon leakage provisions and the level of free allocation feature prominently in ongoing discussions about a reform of the EU Emissions Trading System (EU ETS) and are the subject of lobbying activities of companies and industry associations. In this paper, I therefore ask the question: Who were the winners and losers of EU emissions trading during its first period? And: What are the factors influencing whether a company stands to make a gain on the market for emissions permits or has to expect additional costs?

The aim is to provide input into the political debate, by understanding the distributional implications of certain design choices made in the context of the EU ETS. Also beyond the European policy context, these considerations are likely to be relevant. Following the Paris Agreement many jurisdictions have to decide which instruments to employ to put their mitigation contributions into practice. As one of the longest-running and largest carbon markets in the world, the EU ETS serves as an example for both the positive and negative lessons learnt.

Research performed

In order to analyse distributional effects between participants of the EU ETS during its first trading period, data on the transfer of EU emissions permits from the EU Transaction Log (EUTL) is used. The EUTL is an electronic database, administered by the European Commission, detailing all transfers of allowances taking place under the EU ETS. To the best of my knowledge, this paper is the first one to use this transfer dataset to look specifically into distributional effects of the EU ETS on participating firms. It also matches a price to each individual one of the 40,000 transactions considered in this analysis, as prices are not directly available from the EUTL. Mindful of the challenges related to this, four different price scenarios are explored in this paper.

Data on the EUTL is available at account level. These accounts are matched to parent companies liable under the EU ETS. Using a Heckman selection model, I analyse which firm characteristics and behavior influence the level of gains or costs incurred by companies liable under the EU

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ETS. I furthermore analyse the influence of design choices made in particular with regards to the level of free allocation and the inclusion (or not) of small companies.

Main conclusions

Results indicate that significant wealth transfers took place during the first trading period of the EU ETS and that the level of free allocation was a major determinant for who would become a potential 'winner' or 'loser' on the market for EU allowances. In relation to this, the analysis further reveals the importance of the unequal treatment (in terms of free allocation) between the electricity and industry sectors and of companies situated in different ETS countries. As a consequence, large industrial companies, especially in the iron and steel and cement sectors emerge as the biggest 'winners' as they were the companies with the highest allocation surplus. This also applies to electricity generators located in Eastern Europe.

Whether or not a company could make a gain from being overallocated depended on its decisions whether to enter the market and at which point in time to do so. The analysis confirms that small companies were less likely to participate, which points to the existence of significant transaction costs, which prevented many small companies from realising potential gains on the market (as well as jeopardising the efficiency of the system).

Policy implications

Policy makers therefore have to be mindful about decisions regarding the level of free allocation to individual sectors and companies, as those design choices have a large influence on the way in which gains and costs are distributed under the system, which in turn has repercussions on its political acceptability. From the third trading period onwards, free allocation of allowances is based on EU-wide harmonised rules (rather than National Allocation Plans as in the first and second trading period). The electricity sector generally has to buy its allowances and allocation to industry is mostly based on benchmarks. Therefore, the unequal treatment of liable companies in different sectors and / or different countries is less of a concern now than it was during the first and second trading periods. However, industrial companies continue to receive fairly generous free allocation under the EU ETS up until at least 2020. Moreover, a new source of unequal treatment was introduced, i.e. the possibility to compensate industry for electricity price increases, which only a minority of ETS countries make use of.

Another implication of the results is that governments should think about how to assist small companies in actively participating in the market. They may explore different options, such as phasing in liability over time, setting minimum thresholds for inclusion in the scheme, offering information at the start of the system, or allowing for the participation of intermediaries, as well as providing low-cost market access for small firms.

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