

Reforming the European Union Emissions Trading System (EU ETS): An Institutional Perspective

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Summary

Given the need to reduce greenhouse gas emissions to decrease the risk of dangerous climate change, economists have often argued in favour of carbon pricing. Carbon pricing can essentially take two forms: an emissions trading system or a carbon tax. The European Union chose the former option and implemented the EU ETS in 2005, the first large scale carbon market. As a first mover in experimenting with such regulatory instruments, the EU ETS case offers qualitative and quantitative insights of foremost importance for emerging carbon markets worldwide.

This thesis is divided into two parts. Part I provides ex-post learnings on the EU ETS price formation and policy design. Part II offers an ex-ante perspective by exploring the expansion of the European carbon market. Both parts pay particular attention to a central feature of the EU ETS: its political nature as a government-created market. This institutional perspective on the EU ETS, which seeks to take into consideration the impact of politics and institutions on market functioning, is at the heart of this thesis. It brings a new lens to examine emissions trading as well as draws on the experience of other policy fields, notably monetary policy.

Following the drop of permit prices in the EU ETS, intense discussions emerged on the need to and modality for reforming the market, which is the focus of Part I of this thesis. Yet, evaluating the need to reform first implies understanding the goals of the EU ETS and whether market outcomes are likely to deliver on their promises. Chapter 2 lays the groundwork for the remaining discussions of the thesis by clarifying the different implicit and explicit objectives expected from the EU ETS. Although cost-effectiveness is often proclaimed to be the main goal of the EU ETS, stakeholder opinions diverge regarding the appropriate time frame for this objective, some focusing on short-term while other having a long-term perspective. In addition, certain stakeholders have multiple objectives, for instance, addressing the social cost of carbon.

Based on economic theory, Chapter 2 then provides a comprehensive review of the drivers of the price collapse in the EU ETS, classifying them into three categories: (i) exogenous demand shock, (ii) lack of policy credibility and (iii) market imperfections. From this classification, a new framework to map the reform option space is developed. It carefully examines which policy options represent potential solutions depending both on what drives the price as well as on the objective intended for the EU ETS. Drawing on the analogy to monetary policy, this mapping of the reform option space introduces the concept of delegation in the context of emissions trading. Delegation reflects the extent to which the governance of the market is relinquished to a rule-based adjustment mechanism or an independent body with varying levels of discretionary power.

Complementing the qualitative analysis of Chapter 2, Chapter 3 offers an empirical analysis of price formation. It shows that, contrary to conventional wisdom, demand-related fundamentals such as fuel prices or the economic downturn only explain a fraction of the carbon price drop. Importantly, chapter 3 provides preliminary evidence that regulatory uncertainty and the lack of policy credibility played a much larger role than previously assumed in driving down the price. Chapter 4 is a direct follow-up, closing the gap on the influence of regulatory events in price formation. Using an empirical event study methodology, the chapter carefully investigates how the political process of the cap adjustment has shaped market outcomes in the European carbon market. The findings show that the tedious process of

achieving reform unveiled the lack of political consensus on the EU ETS goals; thereby increasing political uncertainty and contributing to the price decline. These empirical findings have critical implications for the reform of the EU ETS – instruments that do not attempt to anchor long-term regulatory credibility are unlikely to be successful in bringing the price closer to its long-term, socially-optimal path. In this context, though delegation is unlikely to be a silver bullet, it could strengthen the credibility of political commitment by locating the governance of the market outside the political sphere. It could likewise reinforce the flexibility of responding to “unknown unknowns”.

Supplementing the previous chapters, Chapter 5 provides a comprehensive policy analysis of the specific reform option for the EU ETS proposed by the European Commission in 2014 following the price collapse: the Market Stability Reserve (MSR). It is argued that the MSR is unlikely to enhance long-term commitment credibility, raising doubt on its ability to trigger low carbon investments. This policy evaluation is embodied in a broader reform context taking both an ex-post and ex-ante perspectives. It thereby bridges Part I and II.

The second half of this thesis, Part II, offers a forward-looking perspective on the expansion of carbon markets. Chapter 6 investigates the sectoral expansion of the EU ETS towards agriculture, which has often been perceived as challenging. Implementation barriers are regularly cited as impeding carbon pricing in the sector, in particular transaction costs stemming from sector specificities, risks of leakage and distributional impacts on farmers, often perceived as major veto-players. However, the importance of the barriers hinges critically on the precise policy design. Chapter 6 therefore offers the first synthesis of literature on the pricing of agricultural emissions with the rich body of literature on the design of carbon markets. The chapter provides a new perspective on carbon pricing in European agriculture by disentangling the key dimensions of policy design in the light of implementation barriers. In particular, it investigates the role of policy coverage, instrument choice and transfers to farmers in overcoming policy obstacles. First, it is shown that a policy coverage targeting large farms and few emission sources could include a significant share of agricultural emissions, while reducing transaction costs. Second, it is argued that the distributional impacts and leakage risks are contingent upon the policy being voluntary or mandatory. From this perspective, a voluntary instrument can be attractive, but comes at the cost of possible subsidy lock-ins and carbon price Contents v distortion. Third, the role of the Common Agricultural Policy and its potential interaction with carbon pricing is highlighted as being pivotal in determining political feasibility.

Chapter 7 focuses on the other critical side of carbon pricing, going beyond jurisdictional borders. In principle, linking could lead to efficiency gains and reduce the cost of compliance for entities covered under a trading system. Taking the example of REDD+ offsets (Reducing Emissions from Deforestation and Forest Degradation), Chapter 7 investigates the trade-offs between the opportunities of allowing an import of cheaper offsets in carbon markets and the risks it entails in terms of investments. It is shown that a well-designed policy could provide a risk-hedging opportunity for compliance entities while having limited impact on low carbon investment.

In sum, this thesis concentrates on investigating the conditions under which the EU ETS requires policy intervention. It offers an institutional view on the EU ETS reform. Drawing on empirical results, it demonstrates the role of political commitment in price formation. It then analyses the pros and cons of delegation in carbon markets to overcome time-inconsistency and lack of policy credibility (Part I). Part II delivers insights to broaden carbon pricing in the European Union and beyond in the future. Focusing on pricing agricultural emissions, it provides a framework to disentangle the different dimensions of policy design and conceptualize policies that reduce implementation barriers. Finally, Part II examines the trade-offs associated with various policy options to link carbon markets to a forestry offset scheme.