

Government Failure and the EU ETS: What prospects for phase 3?¹

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Abstract

Phase three of the EU ETS promises to improve upon the government failures of earlier phases. If the EU Commission has been both strategic and incremental in its approach to improve the EU ETS to ensure stakeholder support, what does Hayek's 'knowledge problem' tell us about the perils of such strategies?

Introduction

Emissions trading, once the darling of economists who desire efficient, effective and equitable climate change policy, has been severely criticised for its exposure to rent-seeking. This susceptibility explains government failures such as permit over-allocation and windfall profits that resulted from rent-seeking in the legislative process creating the European Emissions Trading Scheme's (EU ETS). As a result, many optimists have become emissions trading sceptics because this exposure to rent-seeking may outweigh any policy benefits (Baldwin 2008:6; Robinson 2008:62). Phase 3 of the EU ETS, however, provides a source of optimism because the allocation rules that contributed to these government failures have been modified and should reduce the risk of recurring failures. It is too early to tell whether EU ETS phase 3 will be an improvement on previous phases, particularly in light of rules that provide free EUAs to industries at risk of carbon leakage. Nevertheless, the EU ETS provides interesting lessons for how incremental improvement of policies can escape

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the static ‘original sin’ predictions of public choice scholars. Despite the early optimism, the Hayekian ‘knowledge problem’ does provide important insights into the downside risks of policy reform strategies and can help guide future reforms. This paper will describe how emissions trading and other market based instruments (MBIs) are better tools than command and control (C&C) mechanisms at managing global public goods like the earth’s climate. This will be followed by consideration for the practical problems experienced with the EU ETS and an analysis of whether phase 3 allocation rules are an improvement on previous phases. To conclude, the paper will explain how EU ETS policy reform was achieved and consider how Hayek’s (1945:524) ‘knowledge problem’ can inform the perils of such approaches.

The Problem

Where property rights do not exist or are difficult to establish, the market does not always provide obvious solutions to social problems (Robinson 2008:57). This is particularly true of global public goods, like climate change, that also suffer from challenges of non-excludability and free-riding which cause collective action problems. Nicholas Stern describes climate change as ‘the greatest market failure of all time’. Following this logic, welfare economics prescribes government intervention to correct these market failures: i.e. promote collective action and internalize negative externalities (Breyer 1982). However, the form which this intervention takes is highly contentious.

Public choice and the Hayekian school of economics are both sceptical that politics can cure markets. Hayek (1945:530) argues that policymakers suffer from a ‘knowledge problem’ of insurmountable informational asymmetries. They can therefore never beat the price mechanism at discovering information to design optimal policies, like the level of a carbon tax or the best new abatement technology (Pennington 2000:7). Public choice scholars provide a conceptually different critique of government intervention. They believe the political process is a marketplace, where actors are self-interested and preferential legislation is ‘sold’ to the highest bidder (Baldwin and Cave 1999:21-23). Legislation is tainted by this ‘original sin’ and is suboptimal because the political process is prone to rent-seeking by firms that lobby for protective legislation (Tullock 1967). The insights of information asymmetry and political markets both highlight the risk of capture where vested

interests bias the incentives of regulators and governments to act in their interests rather than the broader public interest (Helm 2006:174).

The theoretical market-based solution

Market-based instruments (MBIs) can reduce the risk of capture. Traditional command and control (C&C) instruments rely heavily on information provided by regulatees in setting and enforcing rules (Baldwin and Cave 1999:36). The case of greenhouse gas emissions (GHG) from industrial emitters is illustrative of the problem with using C&C instruments to address environmental problems where abatement costs are heterogeneous and the social costs of pollution are uniformly mixing (i.e. not localized). Regulatory design requires knowledge of the marginal abatement costs for each installation, so that efficient output levels can be set. The technical expertise for this analysis, which firms hold, provides incentives for them to reveal information strategically in order to benefit from less stringent rules or regulations that create barriers to market-entry that reduce competition (Sunstein 1990:433). Technical experts become invaluable to both firms and regulators. This promotes revolving-door career paths between the regulator and regulatees, which furthers the cosy-relationships that contribute to capture (Helm 2006:179). However, not all MBIs reduce capture as effectively. Capture is more likely using quantity-based (emissions trading) rather than price-based (carbon taxes) MBIs, because setting and allocating quantities is more information intensive (Helm 2006:180). Even between emissions trading regimes, a similar choice presents itself. A baseline-and-credit model requires knowledge of output levels. Permits are then grandfathered based on historical emissions with gradual abatement target reductions over time. Firms can use this informational advantage to game the allocation system (Baldwin 2008:265). The alternative cap-and-trade model, if permits are completely auctioned, does not require knowledge of pollution abatement costs for each installation. This reduces the information asymmetry and rent-seeking potential (Tietenberg 2000-113; Helm 2006:180; Baldwin 2008:266). Harnessing markets provides other co-benefits.

MBIs promote allocative efficiency better than C&C regulation (Bohm and Russel 1985:395-460). This is because MBIs incentivize behavior through market signals rather than explicit directives; the approach of C&C instruments (e.g. methods and levels of pollution control). MBIs harness market forces because pollution abatement

is motivated by self-interest that in aggregate can also meet collective policy goals (Stavins 2002:1). For example, emissions trading provide incentives to exceed abatement targets because excess permits can be sold. In contrast, C&C instruments provide less flexibility and tend to force firms to take on similar pollution-control burdens regardless of costs (Ibid).

MBIs are said to promote dynamic efficiency (technology) better than C&C instruments because it provides incentives for firms to find cheaper abatement methods and sell excess permits on the market. However, very little empirical evidence supports this theoretical claim (Stavins 2005:71). In fact a recent analysis by Driesen (2007:454) finds that MBIs promote expensive innovation less than C&C approaches. There are other serious drawbacks with MBIs.

Practical Problems with MBIs

In practice, the European Emissions Trading Scheme (EU ETS) has suffered serious problems that validate the Public Choice and Hayekian arguments outlined above. The allocation of emissions permits (EUAs) in phase 1 and 2 of EU ETS (2005-2012) was free and based on historical emissions (grandfathered) rather than auctioned. Member states determined the level of the cap and allocation methodologies; subject the EU approval (Ellerman and Joskow 2008:37). Public choice predictions that firms would lobby to minimize climate policy costs or gain additional rents is confirmed by the large windfall profits of generators who passed-on the nominal cost of permits to consumers (Michaelowa 1998b:253). Estimated windfall profits for UK generators in 2007 were €1.76 billion (Wettestad 2007:3).

Hayekian predictions of insurmountable informational asymmetries contributed to another system flaw: the over-allocation of EUAs. This caused their price to crash after April 2006 for the rest of phase 1. It also contributed to the UK exceeding its phase 1 cap by 30 million tons of CO₂, because low EUA prices provided the wholesale electricity market with no incentive to continued burning costly gas, reverting to coal instead (Euractiv.com 2009). Setting national EU ETS caps was challenged by significant informational asymmetry for gathering data on actual emissions of regulated installations (Betz and Sato 2006:254; Grubb and Ferrario 2006:498). It also provided incentives for member states to protect national industries

by over-allocating EUAs (Svendsen 2005:157; Skjærseth and Wettestad 2008:188). Despite the multiple unintended consequences, phase 1 and 2 did lead to modest abatement (Ellerman and Buchner 2008:285; Skjærseth and Wettestad 2008:287). The government failures of these phases provided the impetus for changing allocation rules in phase 3 (2012-2020) and moving towards a cap-and-trade model with full auctioning.

Optimizing MBI policies: Phase 3 EU ETS Improvements

In June 2009, the EU ETS phase 3 legislative process concluded and made significant changes that may improve future EU ETS performance. For example, new rules require 100% auctioning for electricity generators in most EU countries. This removes risks of windfall profits (Delbeke interview). In addition, total auctioning levels will be ~50% compared to a maximum of 5% and 10% in phase 1 and 2 respectively. Cap levels and EUA allocations will no longer be left to member states. Instead, they will be centralized at the EU level. Also, industries that successfully lobbied for exclusion in phase 1 (aluminium and chemicals) will be included, as will aviation and other transportation sectors. However, phase 3 rules did not escape the influence of special interests. (Directive EC/2009/29; Directive EC/2008/101; Commission MEMO/08/796)

Energy intensive industries successfully lobbied for free permits and a formula that identifies industries at risk of carbon leakage.³ These industries are concerned that carbon-pricing regulation in the EU will encourage the displacement of energy intensive industries to countries with no similar regulation, and have no impact on global emissions. The new rules for these industries require strict benchmarking (best practices) for the initial free allocation. The threshold formula to qualify for free permits is also very onerous (Delbeke, interview). Because these industries are exposed to global competition, they cannot in theory pass-on the nominal costs of EUAs to consumers as the electricity generators did in phase 1 and 2. Emissions trading will still provide incentives for these industries to beat abatement targets and not exceed free allocations because they can buy and sell EUAs on the secondary market. Nevertheless, the current validity of carbon leakage arguments suggests

³ Defined as the ‘relocating of GHG activities from the EU to third countries thereby increasing global emissions’.

energy intensive industries exaggerated the need for free allocations (EndsReport 2007:number 394:36-39; EndsReport 2008:number 400: 32-35).

A Second Round of Capture?

The debate on carbon leakage is very complex and briefly outlined below. Oxford Economics (2007:4) predicts that moving to 100% auctioning with a carbon price of €25/ton will cut EU GDP by 0.5% in the medium to long term. However, a more moderate analysis by the Carbon Trust (2007:1) concludes that only cement, steel and aluminium sectors are exposed (Stace interview). Others such as Barker, Junankar et al. (2007:6291) and the IPCC (2007:12) believe that carbon leakage will only have minimal effects, similar to variations in exchange rates (EndsReport 2007:number 394:37). Indeed Reinaud (2008:2) found no EU ETS impact on carbon leakage and a recent report by Climate Strategies (Droge 2009:6) warns of future regulatory failures with free allocations to energy intensive industries. Quantifying carbon leakage is challenging, particularly because member states will push for protecting domestic industry and evidence is only certain once displacement occurs (Stace, interview). This is confirmed by the preliminary list⁴ of exposed industries, which contains more than conservative prescriptions recommend (Kunst 2009). Therefore, the risk of windfall profits in phase 3 has not disappeared.

Lessons from Phase 3

Public choice presents a bleak picture of public policy prospects. If regulation is always a function of the ‘original sin’ what explains the movement towards potentially improved emissions trading policy from phase 1 to phase 3? Some of the answers to this question are found in a small body of literature that explains policy reform; and which match the phenomenon witnessed in the EU ETS. Patashnick (2008:chapter 2) surveys this literature and outlines three conditions for policy reform to benefit a broad constituency at the expense of narrow special interests. Firstly, policy entrepreneurs must lower the information costs to mass publics by linking reform solutions to salient issues. In phase 1, the commission and member states pursued this strategy by linking emissions trading with GHG mitigation policy to

⁴ The final list will be adopted in December 2009

institutionalize the EU ETS. It was also a strategy to empire build from Brussels and establish global European leadership on climate change (Egenhofer 2007b; Braun 2008). In phase 3, NGOs, energy intensive industries and the media acted as policy entrepreneurs when they explained the link between higher energy prices and windfall profits to a very receptive public. The second condition is: reform proponents must adopt procedural strategies to weaken the organizational advantages of narrow groups. In phase 1, energy generators held a Hayekian informational advantage, because some (BP and EURELECTRIC) had experience with emissions trading and advised the commission on the EU ETS design (Egenhofer 2007b; Braun 2008). This provided them with an insider status *vis a vis* other regulated industries and helped them hide (or have overlooked) the risk of windfall profits (Ehrenberg interview). In phase 3, however, energy intensive industries dominated the agenda, by providing the commission with information about risks of carbon leakage and setting up the High Level Group on Competitiveness, Energy and the Environment which facilitated the dialogue between energy intensive industries and policymakers. They also dominated the European Climate Change Program meetings, which was the primary institution for stakeholder input; outnumbering energy generators by three to one in phase 3 (Gullberg 2008; Wettestad 2008). The last condition was also satisfied: reform advocates must use tactical concessions to neutralize political opposition. In phase 1, the commission secured the support of the largest emitting group (electricity generators) through permit allocations that gave them short-term windfall profits. In phase 3, it developed free EUA allocation formulas for energy intensive industries and included provisions to compensate them for higher energy costs. This secured the continued support of these industries for the EU ETS. Although this three pronged approach seems straightforward, it too is subject to the risks of government failure.

Hayekian lessons for policy reform

The Hayekian ‘knowledge problem’ is highly relevant to any government strategy for policy reform. The first condition (policy entrepreneurs lowering information costs to mass publics and linking policy reform to salient issues) is uncontentious, particularly since governments hold no monopoly on policy entrepreneur activity. However, the second and third conditions (adopting procedural strategies and paying-off political opposition), resembles the failed strategy of picking winners in industrial policy caused by the Hayekian ‘knowledge problem’ (Robinson 2008:59). It also—as EU

ETS phase 1 and 2 demonstrates—can lead to government failures with significant unintended consequences. Procedural strategies should therefore weaken any one group’s grip on government policy, not empower one group over another. Paying-off political opposition faces another ‘knowledge problem’: identifying credible opponents that have the most to lose with new reforms—which justifies some compensation in the transition to a low carbon economy. The EU ETS demonstrates this conundrum. Energy generators in phase 1 were the largest emitters, securing their support was crucial, but these industries can pass-on permit costs to consumers and can therefore manage carbon pricing regulation. Many energy intensive industries, on the other hand, cannot. These industries should have been ‘paid-off’ in phase 1, not the electricity generators.

Conclusion

Phase 3 EU ETS EUA allocation rules are cause for optimism because they demonstrate MBIs can be improved over time. Specifically, the level of rent seeking, to which emission’s trading is so disposed can be incrementally reduced in the medium-term. This provides an example of where public choice fails to predict policy change. However, the evaluation of phase 3 performance requires attention to how these new rules will work in practice, particularly the policies for industries at risk of carbon leakage. Final judgment cannot be made until phase 3 evidence is gathered and analyzed. This potential allocation rule improvement will strengthen arguments against returning to the failed industrial policies and top-down C&C approaches of the past. However, any approach to policy reform must pay careful attention to the Hayekian ‘knowledge problem’, because attempts at procedural reforms or payoffs to neutralize vested interests may do more harm than good and further discredit emissions trading policy.

Bibliography

- Baldwin, R. (2008). "Regulation Lite: The Rise of Emissions Trading." Law and Financial Markets Review 2(3): 262-278.
- Baldwin, R. and M. Cave (1999). Understanding regulation : theory, strategy, and practice. Oxford ; New York, Oxford University Press.

- Barker, T., S. Junankar, et al. (2007). "Carbon leakage from unilateral Environmental Tax Reforms in Europe, 1995–2005." Energy Policy 35: 6281-6292.
- Betz, R. and M. Sato (2006). "Emissions trading: lessons learned from the 1st phase of the EU ETS and prospects for the 2nd phase." Climate Policy 6: 351-359.
- Bohm, P. and C. Russel (1985). Comparative analysis of alternative policy instruments. Handbook of natural resource and energy economics A. Kneese and J. Sweeney. Amsterdam, Netherlands, Elsevier. 1: 395-460.
- Braun, M. (2008). "The evolution of emissions trading in the European Union-The role of policy networks, knowledge and policy entrepreneurs." Accounting, Organizations and Society doi:10.1016/j.aos.2008.06.002: 1-19.
- Breyer, S. G. (1982). Regulation and its reform. Cambridge, Mass. ; London, Harvard University Press.
- Carbon_Trust (2007). EU ETS impacts on profitability and trade: A sector by sector analysis. London, Carbon Trust: 1-9.
- Driesen, D. M. (2007). Design, Trading and Innovation. Moving to Markets in Environmental Regulation. J. Freeman and C. Kolstad. Oxford, U.K., Oxford University Press: 436-469.
- Droge, S. (2009). Tackling Leakage in a World of Unequal Carbon Prices. Climate Strategies Working Paper. Cambridge, U.K., Climate Strategies: 1-93.
- Egenhofer, C. (2007b). "The Making of the EU Emissions Trading: Scheme: Status, Prospects and Implications for Business." European Management Journal 25(6): 453-463.
- Ellerman, A. D. and B. K. Buchner (2008). "Over-allocation or Abatement: A Preliminary Analysis of the EU ETS base on the 2005-06 Emissions Data." Environment and Resource Economics 39: 267-287.
- Ellerman, A. D. and P. L. Joskow (2008). "The European Union's Emissions Trading System in Perspective." Policy May 1-49.
- EndsReport (2007). What price the cost of carbon? Ends Report. 394: 32-35.
- EndsReport (2008). Weighing the carbon cost to heavy industry. Ends Report. 400: 32-35.
- Euractiv.com. (2009). "EU Emissions Trading Scheme." EU Emissions Trading Scheme Retrieved September 17, 2009, from <http://www.euractiv.com/en/climate-change/eu-emissions-trading-scheme/article-133629>.
- Grubb, M. and F. Ferrario (2006). "False confidences: forecasting errors and emission caps in CO2 trading systems." Climate Policy 6: 495-501.

- Gullberg, A. T. (2008). The European electricity sector and the EU ETS review. CICERO Working Paper 2008:01. Oslo, Center for International Climate and Environmental Research: 1-14.
- Hayek, F. A. v. (1945). "The Use of Knowledge in Society." The American Economic Review **35**(4): 519-530.
- Helm, D. (2006). "Regulatory Reform, Capture and the Regulatory Burden." Oxford Review of Economic Policy **22**(2): 169-185.
- IPCC (2007). Summary for Policymakers. Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. B. Metz, O. R. Davidson, P. R. Bosch, R. Dave and L. A. Meyer. Cambridge, U.K., Cambridge University Press: 1-24.
- Kunst, H. (2009). "WG 3 Meeting: Sectors deemed to be exposed to a significant risk of carbon leakage –state of play." July 16. Retrieved August 20, 2009, from http://ec.europa.eu/environment/climat/emission/pdf/wg3_cl_hk.pdf.
- Michaelowa, A. (1998b). "Climate Policy and Interest Groups-A Public Choice Analysis." Intereconomics(November/December): 251-259.
- Oxford Economics (2007). Report on modelling the macroeconomic competitiveness impacts of EU climate change policy. London, Oxford Economics: 1-54.
- Patashnik, E. M. (2008). Reforms at risk : what happens after major policy changes are enacted. Princeton, N.J., Princeton University Press.
- Pennington, M. (2000). Planning and the political market : public choice and the politics of government failure. London, Athlone.
- Reinaud, J. (2008). Issues behind Competitiveness and Carbon Leakage: Focus on Heavy Industry. IEA Information paper. Paris, International Energy Association: 1-122.
- Robinson, C. (2008). Climate Change, Centralized Action and Markets. Climate Change Policy: Challenging the Activists. C. Robinson. London, The Institute of Economic Affairs: 42-67.
- Skjærseth, J. B. and J. Wettestad (2008). EU emissions trading : initiation, decision-making and implementation. Aldershot U.K., Ashgate.
- Stavins, R. N. (2002). Experience with Market-Based Environmental Policy Instruments. Kennedy School of Government Working Paper No. 00-004. Cambridge, Mass., Harvard: 1-99.
- Stavins, R. N. (2005). Implications of the US experience with market-based environment strategies for future climate policy. Emissions trading for climate policy : US and European perspectives. B. Hansjürgens. Cambridge; New York, Cambridge University Press: 63-77.

Sunstein, C. (1990). "Paradoxes of the Regulatory State." University of Chicago Law Review 57: 407-441.

Svendsen, G. T. (2005). Lobbying and CO2 trade in the EU. Emissions Trading for Climate Policy: US and European Perspectives. B. Hansjurgens. Cambridge, U.K., Cambridge University Press: 150-162.

Tietenberg, T. (2000). Tradable Permits in Principle and Practice. Moving to Markets in Environmental Regulation: Lessons from Twenty Years of Experience J. Freeman and C. D. Kolstad. Oxford, U.K., Oxford University Press: 63-95.

Tullock, G. (1967). "The Welfare Costs of Tariffs, Monopolies, and Theft." Western Economic Journal 5: 224-32.

Wettestad, J. (2007). EU Emissions Trading and Windfall Profits: Unexpected Redistribution about to become History? Memo for CANES meeting. Oslo, Fridtjof Nansen Institute: 1-5.

Wettestad, J. (2008). EU Energy-intensive Industries and Emissions trading: Losers becoming Winners. FNI Report 10/2008, Fridtjof Nansen Institute: 1-21.

Other Sources

Parliament and Council Directive (EC) 2008/101 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community [2009] OJ L8/3

Parliament and Council Directive (EC) 2009/29 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community [2009] OJ L140/63

Commission (EC), 'Questions and Answers on the revised EU Emissions Trading System' (Memorandum) MEMO/08/796, 17 December 2008d.

Interviews

Dr. Joachim K. Ehrenberg, Directorate B - Industrial Policy and Economic Reform: Directorate-General for Enterprise and Industry, European Commission, June 2, 2009: 09:00, Brussels.

Jos Delbeke, Deputy Director-General for the Environment, European Commission, June 5, 2009: 11:30, London.

Gareth Stace, Head of Climate & Environment Policy, EEF: the Manufacturers' Organization, August 4, 2009: 10:00, London.