YOU'D BETTER BET ON THE ETS

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Messages

- Emission Trading System can perform well
- A short-term surplus of allowances emerged
- Lack of confidence breaks inter-temporal arbitrage
- Subsequent price slump endangers the system
- Proposal: Reestablish confidence by selling insurances on the future allowance price
The ETS works!

Figure 1: Country-level verified ETS emissions, million tonnes CO2

Table 1: Relative change in the growth rate of emissions between (2005-05) and (2007-08)

<table>
<thead>
<tr>
<th>Reductions caused by the shift to the second period</th>
<th>-3.6%**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control variables</td>
<td></td>
</tr>
<tr>
<td>Changes in turnover</td>
<td>19.1%***</td>
</tr>
<tr>
<td>Changes in employment</td>
<td>0.07%</td>
</tr>
</tbody>
</table>

Source: Abrell et al (2011). Note: significance: ** at 5% and *** at 1%.

=> ETS is effective, i.e., caused additional emission reductions
The ETS works!

=> ETS discriminates between sectors

| Table 2: Relative change in the growth rate of emissions between (2005-06) and (2007-08) by sector |
|-------------------------------------------------|---------------------------------|-----------------|--------------------|-----------------|
| Reductions caused by shift to the 2nd period    | Pulp & paper                    | Non-metallic minerals | Basic metals       | Electricity & heat |
| -2.9%                                           | -8.7%***                        | -9.5%*               | -0.1%              |
| Control variables                                | Changes in turnover             | 15.4%**             | 29.9%***           | 8.9%            |
| Changes in employment                           | -6.2%                           | -4.6%               | 9.9%               | 1.2%            |

Source: Abrell et al [2011]. Note: significance: * at 10%, ** at 5% and *** at 1%.
A surplus in 2013

- **Recession**: industrial production grew from 2003 to 2007 by almost three percent per year, but decreased by almost two percent per year between 2008 and 2012.

- **Substituting policies**: 20 percent energy efficiency target as well as the 20 percent renewables target [increase in renewables would imply a carbon reduction of 41 million tonnes of CO2 in 2012]

- **International credits**: 284 million tonnes per year in phase II

- **exceptional** allocation in 2012/2013: some additional 500 million allowances brought to the market (NER, NER300, early 3rd)
The existing ETS implies high prices

- System tightens constantly
- Intertemporal arbitrage should induce higher prices today
But, surplus translated into a price slump

- **Two possible reasons:**
  - Structural oversupply (low growth, new technologies)
  - No credible commitment (tools and incentives to deviate ex post)
Low prices are a problem!

- risk of locking-in high future emission patterns
- encourages national emission reduction policies
- encourages sectoral emission reduction policies

=> self-fulfilling prophecy
Reestabishing confidence

- Need for a long-term commitment device
- Selling guarantees on the future minimum carbon price (i.e., a put-option):
  - Public money at stake -> market participants reassured of the long-term nature of the ETS
  - Targeted intervention -> can encourage investments today
  - In the central scenario a positive cash-flow for the public sector
  - Otherwise, cost of changing policies are socialised
Example

- EIB auctions off guarantees for buying 1 bn emission allowances in the year 2030 at €40
- At current carbon price the value of the guarantee is about €25 => significant upfront revenues
- Confidence in the system increases => present carbon price rises [risk free price is about €28]
  - Enables low-carbon investment
  - Increases allowance auctioning revenues
  - Makes national decarbonisation measures redundant
  - Gives time for discussing structural tightening

- If politically stabilising ETS by 2030 is successful, public sector makes money
- If politically stabilising the ETS by 2030 fails, the cost of early low-carbon investments is partly socialised
Back-up
Allowance prices at envisaged decarbonisation levels are likely to be higher.

Figure 4: 2050 Emission prices