Impact of the MSR cancellation mechanism

Theresa Wildgrube | Strommarkttreffen | 16 November 2018
Economic theory behind the EU ETS (1/2)

**Annual optimization**

- Emitters react to a yearly cap/price
- Emissions < cap → surplus, i.e. emitters do not abate

**Intertemporal optimization**

- Emitters form an expectation on the development of prices and minimize their costs intertemporally
- A high private reserve is not necessarily just a surplus
- Reserve can be interpreted as companies‘ savings for later (anticipating price increases)
Economic theory behind the EU ETS (2/2)

How do emitters choose the optimal emissions path?

**Hotelling’s rule:** The price of exhaustible resources (available allowances) increases with the interest rate

- Investors are indifferent between investing their capital at the interest rate or exploiting the resource
- As long as private reserve exists, firms can choose their optimal path of emissions and abatement; Hotelling’s rule applies
**MSR cap can have a significant impact**

- MSR builds up to 2760 million allowances
- 1945 million allowances cancelled in total (5% of all allowances issued from now on)
- From 2029 onwards, allowances are returned to the market
- Under a cap, the MSR is depleted in 2037
- Without cap, MSR rises to 2750 in 2022 and depletes steadily from 2028 to 2054

Source: Own model results
Impact of MSR and MSR cap on the price development

**EU ETS without MSR**

**EU ETS with MSR**

**EU price [EUR/t CO₂eq]**

- **ETS_noMSR**
- **MSR_noCap**
- **MSR_withCap**

**2057: last issuance of EUA**

- Price path according to Hotelling
- Higher initial price level with MSR
- Short run price diff. negligible
- Cap leads to higher prices, esp. in the long run

Private reserve (TNAC) = 0
Insights and further discussion

Takeaways

- Significant cancellation expected; the MSR cap has a potentially high impact in terms of total emissions
- The theoretical model does not explain the sharp price increase in the last year; however, impact on prices is expected in the long run

Further discussion

- Do emitters react „rationally“? Do they act shortsightedly?
- With or without MSR: How will politicians, emitters and the public react to high CO₂ prices?
- Cancellation only after review: Is it a credible threat? Commitment problem
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