CARBON MARKET FORUM

CEPS Thinking ahead for Europe

The Proposed Market Stability Reserve

Reflections on the discussions at the CMF Workshop 18 November 2014

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Conclusions

It is clear that hedging demand and behaviour in both power and industrial sectors is subject to considerable changes, depending on economic, regulatory and technological developments. As such, finding the perfect answer, or making the start of the MSR dependent on finding the perfect answer, is not a real option. There does not seem to be a right answer; there are multiple answers that depend on many factors, which change over time. Therefore, it is reasonable to assume that the MSR bandwidth will undergo changes.

This makes the governance of the MSR of key importance. In particular, governance should allow for flexibility so that changes in market behaviour may be accounted for. At the same time, such governance should be as predictable as possible.

Predictability is important as changes to the MSR's bandwidth may increase regulatory uncertainty, which undermines investments in low-carbon technologies. The MSR is intended to improve the inter-temporal optimisation of the ETS. While many feel that it is capable of doing so, the MSR governance should not encourage or force firms to apply higher discount factors to their investments.

We can therefore conclude that the best course of action is to start the MSR with thresholds that meet a general consensus, but ensure that predictable, but flexible governance allows that parameters such as the MSR thresholds can be updated through processes that are speedier than co-decision.

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The CEPS Carbon Market Forum was established in 2012 with the aim of creating a neutral space where policy-makers and regulators are able to meet carbon market participants and other stakeholders to discuss carbon market regulation and general policy issues.

Background and overview

In January 2014, the European Commission came forward with a Proposal to establish a Market Stability Reserve (MSR). The proposal is going through the co-decision procedure, with the European Parliament's Committees on the Environment and on Industry recently having given their first views on the proposed reform to the EU emissions trading system (ETS). Work is also ongoing in the Council Working Group.

The MSR is intended to correct a design imperfection in the EU ETS: the lack of flexibility on the supply side. With the Market Stability Reserve, this imperfection will be addressed as far as rigidity in the auctioning schedule is concerned. Free allocation remains a separate issue, although some industry stakeholders urge that protection against carbon leakage is included in the MSR proposal.

The MSR would operate as a quantity-based mechanism by adjusting the auctioning schedule, in a predictable and systematic manner. In this context, the 'backloading' measure, passed in December 2013, constituted an ad hoc intervention. Many feel that a mechanism operating on quantity triggers is a more appropriate market mechanism than direct intervention on the basis of allowance prices.

At the same time, quantity-based mechanisms require the correct setting of several parameters. These parameters relate to timing (introduction and time-lag), the bandwidth or threshold levels and the rates at which allowances would be withheld from or re-injected into the auctioning schedule.

The information and assumptions used to set the MSR parameters can have considerable influence on the development of the ETS and the supply of its allowances. This ultimately affects the degree to which the ETS is central to the EU's efforts in reducing emissions. The long-term goal of the EU is still to reduce emissions by 80% to 95% by 2050, as compared to 1990 levels. The October European Council, however, agreed a new intermediate target of reducing emissions by 40% by 2030.

One issue that has been brought up many times is that of the threshold levels of the MSR, which many feel have been set at subjective levels, without real supporting argumentation. In deciding the thresholds of the bandwidth, the main requirement that needs to be ensured is the adequate supply of allowances to account for the hedging and banking needs of ETS operators. The MSR bandwidth should help mimic the behaviour of a real and 'natural' market, where there is supply flexibility on both the demand and supply side of the equation.

The primary determinant of the bandwidth, therefore, is the hedging demand of the power and industrial sectors. The Commission's proposal has a lower threshold of 400 million allowances, below which allowances would be re-injected into the market, and an upper threshold of 833.33 million, above which allowances would be added to the Reserve. This leaves a 'hedging corridor' in between, where no intervention would take place. Our workshop reflected on the separate hedging practices of power and industrial, with separate sessions on each.

While the MSR constitutes a reform to the ETS, which is just one instrument in the EU's larger environmental policy, overlapping policies are of crucial importance to the MSR design in particular. Many factors influencing hedging demand are also impacted by targets for Renewable Energy (RE) and Energy Efficiency (EE).

Power Sector Hedging

Hedging in the power sector is driven by the requirement that electricity generators cover the costs of carbon when the sale of electricity takes place. As these operators sometimes sell forward their electricity for up to three years, this creates considerable demand for allowances. The exact practices, however, differ across, and even within, regions and sectors.

Hedging demand is composed by expectations of future carbon prices, fuel prices and power prices. Firms themselves can influence the latter, as they can apply some flexibility to their forward sales. Nevertheless, if there is the expectation that any of these prices will increase, this will also lead to hedging demand going up.

The reverse can also be observed under certain conditions. Hedging could also decline if prices are expected to decline and there is less need for carbon hedging. Similarly, given the additional charges on electricity prices, many industrial operators are starting to develop their own generation, which also requires less power and carbon hedging.

The power sector, therefore, has to make assumptions on how prices of these different components will develop. It must also be noted that these different components are not independent of one another. Higher fuel prices will be reflected in power prices, while the fuel mix will in turn be reflected in the carbon prices.

Several observations can be made on how these components may develop:

- Electricity demand is dropping, which leads to lower prices. The ETS is not the only instrument driving carbon reductions. This is also strongly influenced by the targets on RE and EE. Stronger EE targets, in particular, directly impact electricity demand.
- Power prices have dropped considerably in recent years for a variety of reasons, including reduced demand.
- The share of market players that engage in hedging is going down. Due to the average size of firms decreasing, overall hedging demand is dropping as smaller players tend to hedge less. This is a consequence of market fragmentation, which in turn may also be driven by RE targets. Small solar farms, for example, may provide increasing shares of total electricity generation.
- RE and EE targets directly affect the carbon intensity of all products, thereby influencing demand for both European emission allowances (EUA) and electricity.

The above indicators all point downwards, which signals that hedging demand may be very different in the future, and perhaps already significantly so when the MSR is set to be introduced.

At the same time, these factors stand in contrast to the current hedging demand as measured by the open interest on the futures market for allowances. With current demand levels, the upper threshold of 833.33 million would be insufficient as compared to the observed demand of 1.1 billion, at the end of 2013. With unchanged demand, this may result in upward pressure on the EUA price sooner than expected; although Art. 29a remains available as a safety valve.

Nevertheless, changes in hedging demand have already been noted in recent years, according to some observers. Whereas some five years ago, hedging demand was driven by the need for large investments in renewable and gas power stations, today, the energy market has already been transformed by some of the factors mentioned above. This means that *divestment*, not just *investment,* has also become part of the decision-making process for

firms. Moreover, the higher share of renewables in the energy mix makes liquidity throughout the year less predictable, and harder to hedge against.

Investment decisions are also made with different time horizons in mind. There is the immediate hedging demand to satisfy short-term compliance obligations, but beyond that, there are multiple targets for 2020, 2030 and 2050. While there is relative certainty up to 2030 — following the October European Council — emissions reductions targets for 2050 are seen as much less certain by some.

Uncertainty about future, long-run climate targets undermines the likelihood that EUAs are seen as appreciable assets. This makes them less attractive as an asset class for speculators, which may feed into the overall hedging demand.

Industrial sector hedging

The hedging behaviour of industrial sectors in the ETS has also changed in recent years. This is partially due to the ETS having matured throughout its different phases. On the other hand, the transformed economic landscape impacts hedging and investment behaviour as well.

Hedging and banking behaviour depends heavily on the time horizon applied. As is the case for the power sector, sectors apply different strategies for different time horizons. During Phase 1 of the ETS, which had a limited duration, firms only passively banked their unused EUAs after accounting for their current emissions. This behaviour became more pro-active as longer emissions forecasts became necessary during the longer periods from Phase 2 onwards.

When looking further ahead into the future, firms will adapt their hedging practices accordingly and make use of the flexibility offered by banking and borrowing. This allows for inter-temporal optimisation, to make sure that emissions reductions follow a cost-efficient path.

Expectations about the future, both regarding carbon prices and expected output, then become important drivers of hedging demand, and of investments in low-carbon technology. There are two ways in which industrial operators may hedge: one is a direct way of hedging by covering their expected net-short position of allowances. The other represents the gains realised through investment in low-carbon technology, which requires firms to acquire fewer allowances going forward.

In the wake of the economic crisis, however, firms have seen their growth prospects diminishing. As a result, whereas they used to hedge with a long-term time horizon in mind, many firms now plan ahead only up to 2020. While sufficient free allocation acts as a partial hedge in itself, firms still face a residue against which it is hard to hedge, given many uncertainties.

In light of the above discussion on power and non-power sectors, various observations on the bandwidth were made:

- France proposes higher thresholds (800 and 1300) but also suggests that the (re)injection rates should be higher, so that the hedging corridor will be reached more quickly.
- The Industry, Research and Energy (ITRE) Committee of the EP proposes a bandwidth of 500 to 1000.
- If 2007 business as usual benchmarks are taken, the ETS would reach a supply/demand balance by the second part of the 2020s. In that light, the 400 million lower threshold in allowances seems low for that time period.

- The bandwidth as proposed by the Commission approaches optimal levels, but only so under assumptions of perfect information and no uncertainty, which do not hold in reality.
- With current hedging demand, the bandwidth may be comparatively low. Then again, some see hedging demand as likely to decrease, even if there is a lot of uncertainty.

Other considerations

The MSR is currently proposed to start in 2021; several member states and other stakeholders suggest, however, that an early introduction may be beneficial. In any case, with hedging demand being uncertain and likely to change, the bandwidth should be reviewed upon its introduction. This would allow for an updated assessment of the influence of RE and EE targets on the determinants of hedging behaviour.

It should also be noted that a bandwidth based largely on hedging demand is in conflict with the technology-neutral-property often ascribed to the EU ETS. Power-hedging demand is a function of current fuel and technology use. By embedding this in a supply mechanism, a path dependent bias for current technology is created. This runs contrary to the environmental aim of the ETS to support the transition to low-carbon technologies.

Finally, the question needs to be asked of how hedging would have taken place had there not been a surplus of +2 billion allowances in the ETS. The MSR is arguably a response to this surplus which materialised due to the combination of supply rigidity and reduced economic output. It remains unclear what form hedging behaviour would have taken if there had been solid economic growth instead, or what would happen if economic growth returns to pre-crisis levels and the MSR supply is depleted.

Summary

It is clear that hedging demand and behaviour in both power and industrial sectors is subject to considerable changes, depending on economic, regulatory and technological developments. As such, finding the perfect answer, or making the start of the MSR dependent on finding the perfect answer, is not a real option. There does not seem to be a right answer; there are multiple answers that depend on many factors, which change over time. Therefore, it is reasonable to assume that the MSR bandwidth will undergo changes.

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