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Price and Quantity Collars for Stabilizing Emission Allowance Prices: Laboratory Experiments on the EU ETS Market Stability Reserve^{*}

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Abstract

We report on laboratory experiments, with financially motivated participants, comparing alternative proposals for managing the time path of emission allowance prices in the face of random firm-specific and market-level structural shocks. Market outcome measures such as social surplus and price variability are improved by the use of a price collar (auction reserve price and soft price cap). Comparable performance enhancements are not observed with the implementation of a quantity collar that adjusts auction quantities in response to privately held inventories of unused allowances. In some specifications, the quantity collar performed worse than no stabilization policy at all. The experiment implemented a specific set of structural elements, and extrapolation to other settings should be done with caution. Nevertheless, an examination of the observed behavioral patterns and deviations from optimal behavior suggests that a price collar has an important (although perhaps not exclusive) role to play in constructing an effective market stability policy.

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