



The Incremental Impact of China's Carbon

Trading Pilots

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China has adopted the carbon emissions trading system (ETS) due to its advantages on efficiency and cost grounds. Prior to the national carbon market, China operated seven ETS pilots as experiments for eight years in addition to the existing Energy Conservation and Carbon Abatement Target Responsibility System (ECCA-TRS) in order to accumulate experience with carbon markets. However, the incremental effects of these pilots are unclear so far.

In this study, we estimate the incremental impact of the seven ETS pilots on carbon abatement in the presence of the existing ECCA-TRS. Specifically, we examine whether China's ETS pilots contributed to carbon abatement when the effect of the ECCA-TRS is considered. We use data on 33 two-digit industrial sectors in 30 provinces in China from 2006 to 2019 and employ a triple difference method, taking advantage of the geography, time, and industry variations that China's ETS pilots have in practice.

Our study contributes in two ways to the literature on carbon trading and the carbon governance system.

First, to the best of our knowledge, this is the first paper to adjust for the effect of the ECCA-TRS when exploring the incremental effect of China's ETS pilots on CO₂ abatement. Almost all existing studies did not consider the influence of ECCA-TRS, which is a unique but important mechanism for China. Our results can expand the empirical literature on the implementation of overlapping policy instruments to address the climate change issue.

Second, our results prove the ineffectiveness of the ETS pilots in China, which is quite the opposite conclusion from most other existing research. Specifically, the results show that ETS pilots did not affect the CO₂ emissions or CO₂ intensity of covered industries, and also that the ETS pilots did not substitute command-and-

