Dynamic Incentives and Permit Market Equilibrium in Cap-and-Trade Regulation*

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December 11, 2019

Abstract

While the cap-and-trade program was initially proposed as a static regulation, its implementation introduces dynamic incentives such as banking of permits and abatement investment. I examine the performance of the program by accounting for dynamic incentives in the context of the US Acid Rain Program. I develop and estimate a heterogeneous-firm dynamic equilibrium model of emissions abatement and permit trading with transaction costs. Simulations reveal that although the permit banking system improves the overall cost-effectiveness, the aggregate level of banking is excess due to transaction costs. Equilibrium distribution of emissions is more dispersed in the cost-effective outcome.

Key words: *cap-and-trade regulation, dynamic equilibrium model, gains from trade, permit banking, transaction costs, electricity industry.*
JEL Code: D22, L94, Q52, Q58

*This paper is based on Chapter 1 of my Ph.D. dissertation at Northwestern University. I would like to thank Rob Porter and Mar Reguant for their guidance and encouragement throughout the project. I am grateful to Vivek Bhattacharya, Igal Hendel, Gaston Illanes, Koichiro Ito, Kei Kawai, Zhentong Lu, Mark Roberts, Lola Segura, Max Tabord-Meehan, Yuta Takahashi, Nicholas Vreugdenhil, Yasutora Watanabe, Anthony Lee Zhang, and seminar participants at many institutions and conferences for their helpful comments and discussions. I acknowledge financial support from a Waseda University Grant for Special Research Projects (2018S-223) and JSPS KAKENHI Grant Number 19K13696. The previous version was circulated under the title "Incentives to Invest, Storable Permits, and Transaction Costs in Market-Based Environmental Regulation." All errors are my own.

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