An Estimate of Internal Carbon Pricing of Korean Companies under the Emission Trading scheme

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Abstract

This paper estimates an internal carbon pricing of Korean companies under the Korean domestic emission trading scheme using firm-level data. Internal carbon pricing is a monetary value putting on GHG emissions, which enables companies to take a measurable approach of carbon management and investment strategy in business operations. The price of emission a company decides to buy the credit considering its marginal GHG abatement cost is used as a proxy for an internal carbon pricing in this study.

The data were collected from 100 respondents mainly from energy intensive industries in Korea. A multiple-bounded discrete choice (MBDC) format was adopted as an analysis method. The results indicate that the range of the internal carbon price on the part of 50% of the samples corresponds to about 12,500~20,000 KRW/t-CO₂ (11.7~18.7 USD/t-CO₂). Using econometric analysis, this study identifies and discusses the determinants that associate to the internal carbon pricing based on an analytical framework developed in this study.

This study contributes to provide insight into a possible method of estimation of corporate internal carbon pricing and its findings have meaningful implications for the government to initiate and assist in company proactive carbon management and further policy improvement.

Key words: internal carbon pricing, emission trading scheme, multiple-bounded discrete choice, company, Korea