

Impact of China's Domestic Carbon Emission Trading Scheme

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In December 2009, as a participant in the Copenhagen Accord, China pledged to carry out a domestically binding target to reduce its economy's carbon intensity by 40 to 45 percent by 2020 compared to 2005 levels. To achieve this target, Chinese government is planning to utilize more market-based means and will begin domestic carbon trading programs during the period of 12th Five-Year Plan. By now, literature review shows that there is no study focusing on economic effect of China's domestic carbon trading. With different provincial economic structure and growth, there exists substantial difference for energy consumption and carbon emission between provinces in China. In 2008, the highest provincial carbon emission per GDP is about six times of the lowest provincial carbon intensity. Therefore, it is expected different carbon emission trading scheme will result in different effect on different provinces, and there will be some impact on income disparities between the provinces. In this paper two domestic carbon emission trading schemes are designed: one is the emission quota based on provincial carbon emission per capita, and another is the emission quota based on accumulation of provincial carbon emission. We utilized China's multi-regional computable general equilibrium (DRC-CGE) model developed by the Development Research Center of the State Council of China. This model is recursive dynamic. The model is calibrated to the 2002 provincial Social Accounting Matrix (SAM) developed from the 2002 provincial input/output tables. The paper will address macroeconomic impacts of domestic carbon emission trading schemes in China and also the impacts on provincial economic development as well as income disparity between provinces.