

Driving Forces of Chinese Provincial CO2 Emissions

Topic: Environment Emissions as a Spatial Concern

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Abstract:

As the world's largest emitter of CO₂, China stated that it intended to achieve the peaking of CO₂ emissions around 2030 and to make best efforts to peak early in the U.S.-China Joint Announcement on Climate Change released last year. To meet this target, the Chinese central government needs to take active actions, as well as the local governments. Since Chinese provinces have followed different pathways and are in different stages of development, measures adopted by the local governments to reduce CO₂ emissions should be based on the characters of a certain region.

This study focuses on what has driven the increase of Chinese provincial CO₂ emissions. We apply structural decomposition analysis (SDA) on a four-year provincial multi-regional input-output table which includes 30 Chinese provinces and is available for 1992, 1997, 2002 and 2007. Generally, there are several factors driving the growth of provincial CO₂ emission, including local consumption, investment and international export and intra-national export. With this multi-provincial SDA model, the paper will investigate which factor is more important for emission growth and whether the driving forces are different for different provinces.

Key words: Chinese provincial CO₂ emissions; Driving forces; Multi-regional input-output analysis; Structural decomposition analysis

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