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EMPIRICAL RESEARCH ON THE EFFECTS OF CARBON TAXES ON ECONOMY AND CARBON EMISSIONS IN CHINA

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Abstract

Using the provincial panel data of China during 1995-2009, this paper focused on the effects of carbon taxes on economy and carbon emissions in China based on different scenarios. Our research makes the following conclusions: Carbon taxes will restrain economy growth and curb carbon emissions, but the effects will continually decrease with the enhancement of carbon taxes. Increasing carbon taxes will increase output elasticities of capital and labour, but decrease output elasticity of energy. Therefore, it will be beneficial for the capital and labour to replace energy gradually and contribute to decreasing energy consumption and carbon emissions. With the enhancement of carbon taxes, the effects of carbon emissions intensity, energy intensity and output on carbon emissions will continually decrease. Carbon emissions intensity has the most sensitive effect on carbon emissions, followed by energy intensity and output. In order to realize low-carbon development, China should develop low-carbon energy, and then try to improve energy efficiency and take the economic growth speed issues into account.

Key words: carbon abatement, carbon emissions, carbon taxes, economy growth

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