

Name: SUN Wen

Title: Carbon flow and carbon inequality in the context of deglobalization: Behind restrictions on commodity and human mobility

Abstract:

The current round of globalization is coming to an end with events such as Brexit, the US-China trade war, and the outbreak of COVID-19. The rise of deglobalization has gradually affected international trade and imposed restrictions on the flow of goods and the mobility of people. Moreover, it has begun to spread from the economic, political and diplomatic spheres to the environment. In the issue of international cooperation on climate change, although the principle of ‘common but differentiated responsibilities’ was introduced as early as 1992, the implementation of national sharing responsibilities for carbon emission reduction has been controversial. And the dispute of ‘carbon inequality’ among nations is growing. The challenges here are mainly twofold: firstly, how to tackle the historical carbon debt problems derived from the developed countries; and secondly, how to account and balance the issue of embodied carbon flows/emissions between producing and consuming countries. However, what is worse and cannot be ignored is that the unilateral withdrawal of the United States from the *Paris Agreement* has further exacerbated the uncertainty of cooperation among countries and seriously hindered the global carbon emissions negotiation process.

Against this backdrop, a series of interesting scientific questions follow and are worth exploring in depth: (1) What are the historical characteristics of carbon emissions embodied in the commodity and human mobility across borders? (2) What changes will deglobalization bring to the embodied carbon emissions till 2100 due to the restrictions on the commodity and human mobility? (3) Will embodied carbon flows in the context of deglobalization decrease economic growth in developing countries on the one hand, and increase carbon emissions in developed countries on the other? Will it lead to a ‘lose-lose’ situation or come to a balance in the long-term? (4) Is there an equilibrium point conducive to both economic and environmental development under a long-term limited opening policy? and (5) How to formulate a consumer-based sharing responsibility of carbon emission reduction that integrate international and intergenerational fairness? Therefore, this thesis tries to examine the transnational embodied carbon flows in the context of deglobalization behind the restrictions on commodity and human mobility. At the same time, it will simulate and analyze the cumulative effects of the global carbon inequality from 1900 to 2100, and ultimately develop a policy of consumer-based sharing responsibility on carbon emission reduction that integrates international and intergenerational fairness.

Keywords: carbon flow; carbon inequality; deglobalization; commodity and human mobility; sharing responsibility; international and intergenerational fairness; CGE model