17th International Input-Output Conference

TITLE: IDENTIFICATION OF THE VIRTUAL GLOBAL CARBON NETWORK OF JAPAN WITH GLOBAL LINK INPUT-OUTPUT MODEL

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COUNTRY: JAPAN

KEYWORDS: INPUT-OUTPUT ANALYSIS

PAPER CONFERENCE CODE: 162

FULL PAPER IN CD?: NO

ABSTRACT:

Today's globalized national economies are embedded in structures associated with high CO_2 emissions both domestically and internationally. At the same time, measures to reduce these emissions are set to be introduced increasingly around the world. This study considers the policy implications of these two concurrent trends by focusing on the structural relationship between a country's economy and the global CO_2 emissions it induces. Taking Japan as a case study, the study develops the novel 'GLIO' model and uses it to calculate the CO_2 emissions of the global supply chain network supporting Japanese household consumption. The results show that 31% of the total emissions attributed to households are generated outside Japan, especially in China, the U.S., Saudi Arabia, the U.A.E. and Indonesia. The study also identifies the principal foreign countries and regions that need to be prioritized by individual sectors in Japan when monitoring import-export regulations and overseas CO_2 emissions policies.