

Construction of a Prefectural Multi-Regional Waste Input-Output Table in 2005 for Environmental Analysis

Topic:

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Internal disparities are a crucial issue in almost all countries. These problems are related with both economic issues and environmental issues such as CO₂ emissions, waste emissions, waste treatment, waste transportation, and landfill. In regional input-output (IO) analysis, the number of regions in IO tables has not been large enough to investigate such problems. For example, Tsukui, Kagawa, and Kondo (2011) conducted a case study on Tokyo, Japan, and showed that consumption in a metropolitan region has a larger negative than positive effect on other regions. Although they found that Tokyo's consumption increases the burden on other regions, by using a two-area inter-regional waste IO table, evaluation of the impact on the other specified region was not possible. The purpose of this study is to clarify the interdependent relationship between domestic regions. To this end, work on the construction of a multi-regional waste IO table with inter-regional shipments among Japan's 47 prefectures is started. In this study, the IO relationship in industrial sectors is investigated from the economic and environmental points of view. The multi-regional waste IO table for the 47 prefectures is constructed mainly by applying a non-survey technique, using the 2005 inter-regional IO table compiled by Hasegawa et al. (2011) and the inter-prefecture waste shipment data of the Ministry of the Environment, Japan. From this table, an inter-regional shipment of waste to be treated in accordance with industrial sector activities is shown.