

The Importance of Virtual Water Consumption for São Paulo State and Rest of Brazil: An Input-Output Analysis

Topic: Regional Policy Modeling

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Abstract

Following the United Nations, in general, Brazil is in a comfortable situation with respect to water, with a satisfactory per capita water availability situation when compared to other countries. However, despite this apparent comfort, there is an uneven spatial distribution between water supply and demand in Brazil. About 80% of water availability is concentrated in the Amazon River Basin region, which has a low population concentration. On the other hand, São Paulo State, the richest state in Brazil, and a net exporter of goods and services to the rest of Brazil, accounts for 1.6% of national water resources, 32.1% of its GDP and 21.7% of Brazilian population. Since the beginning of 2014, this region has been on alert due to the worsening of the water crisis that started in 2010. The situation is even worst in the Metropolitan region of São Paulo city. In this scenario, the proper allocation of water resources can ease the pressure on the demand for water needed for economic and social development. However, this allocation requires the identification of the main water demanding sectors, directly and indirectly, in the two regions considered in the model, São Paulo state and Rest of Brazil. Knowing that is of great significance for supporting regional and national water and trade policies. The results can contribute to a better understanding of water scarcity problems and provide pertinent measures, helpful to the sustainable management of water resources in the country. We use an inter-regional input-output model, considering 94 sectors, to estimate the importance of the virtual water contained in goods and services, consumed and traded in these two regions, as well the water direct and indirectly consumed by the households. General results show that the State of São Paulo is a liquid importer of virtual water from the rest of Brazil.