

IMPACTS OF AGRI-FOOD POLICY ON ECONOMY AND WATER ENVIRONMENT: THE CASE OF EXTREMADURA, SPAIN.

Topic: IO modeling: Computable General Equilibrium Modeling and Social Accounting Matrices

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Nowadays, certain highly subsidized agriculture activities have a great impact on the natural environment. Knowledge of the environmental impacts of the removal of these subsidies and how to introduce tax policies tackling environmentally damaging activities provide valuable information for the analysis of agricultural policy issues. Taking as a case study of a Spanish region, Extremadura, the aim of this paper is to study the dependence of the economy on these subsidies and their effects on the water consumption of the region. To do so, we construct a regional Social Accounting Matrix with Water Accounts (SAMWA) with disaggregated data for agri-food industries. This SAMWA is used to develop and calibrate an Applied General Equilibrium (AGE) model following the Negishi format in order to evaluate the environmental implications of changes in the farm subsidies. First, we analyze the economic and environmental impacts of a removal of these subsidies. Second, we consider the maintenance of these farm subsidies on those most demanded agricultural products by the foreign sector, whereas a tax is applied on those agriculture products consuming more water, namely animal products. Finally, we evaluate a change in the consumption habits of households toward a healthier food consumption based on more sustainable plant-based food (vegetables and fruits) together with the maintenance of the subsidies on the fruits-vegetables and the tax on the meat.