

Structural Analysis of the Agricultural Sector in Japan Using a Social Accounting Matrix for 2023

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The agricultural sector continues to play a relevant role in modern economies despite its declining share in total output, particularly due to its strong intersectoral linkages, its contribution to food security, and its potential to stimulate rural development. In this context, the objective of this study is to analyse the structural role and economic potential of the agricultural sector within the Japanese economy using a Social Accounting Matrix (SAM) for Japan for the year 2023, with a detailed disaggregation of 19 agricultural productions. This level of sectoral detail allows for a more precise examination of the internal relation of the agricultural sector and its connections with the broader economic system. To construct this SAM, we combine the social accounting matrices based on the FIGARO tables provided by Eurostat with the input–output table containing detailed information on disaggregated agricultural sectors provided by the Government of Japan.

The analysis employs a multisectoral linear modelling framework based on SAM techniques. Specifically, the study applies the Hypothetical Extraction Method (HEM) to evaluate the quantitative importance of the agricultural sector within the overall economic structure, while classical multiplier methods, including backward and forward linkage indicators derived from Rasmussen–Hirschman analysis, are used to identify subsectors with strong intersectoral connections. In addition, employment multipliers are calculated to assess the capacity of agricultural productions to generate jobs in response to exogenous increases in demand. These complementary techniques provide a comprehensive view of both the structural position of agriculture in the Japanese economy and the potential spillover effects generated by different agricultural activities.

The results provide new insights into the economic relevance of agriculture in Japan by identifying the agricultural productions that act as driving sectors, generating significant multiplier effects across the economy through their demand for inputs and their contribution to value chains such as food processing, logistics, and services. The analysis also highlights the heterogeneity within the agricultural sector, showing that certain productions exhibit stronger dispersion effects and higher employment generation potential than others. These findings underline the importance of analysing agriculture at a disaggregated level rather than as a single aggregated sector.

From a policy perspective, the results suggest that targeted policies aimed at stimulating specific agricultural productions could enhance economic spillovers, support regional development, and strengthen the resilience of rural economies. By identifying the subsectors with the greatest structural influence, this research contributes to the design of more effective agricultural and rural development strategies in Japan.

Overall, this paper contributes to the literature on SAM-based structural analysis of agriculture by providing updated empirical evidence for the Japanese economy using a recent Social Accounting Matrix and a detailed sectoral disaggregation. The study demonstrates how multisectoral economic modelling can support the identification of strategic agricultural productions capable of promoting economic growth and employment while reinforcing the role of agriculture within modern economic systems.