

Compilation of China's Logistics Industry Input-Output Tables and Estimation of Its Contributions to Economic and Employment Growth

Topic: Structural Change and Economic Dynamics

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Based on the Classification Standards of the Social Logistics Statistical Survey System released by the National Development and Reform Commission, this paper constructs a non-competitive input-output model that reflects the logistics industry and compiles logistics industry input-output tables for China in 2012, 2017, 2020, and 2023. On this basis, we estimate the contribution of the logistics industry to China's economic and employment growth through inter-industry linkages. In addition, using a provincial multi-regional input-output table, we develop a demand value-led analytical framework to characterize the extension paths of regional logistics industry chains and to assess their employment effects on other regions within the context of a unified national market.

The analysis relies on two main types of data: national input-output tables and sector-level employment statistics. The benchmark input-output data are derived from non-competitive tables that explicitly account for processing trade, compiled by the Global Value Chain Research Group of the Institute of Mathematics and Systems Science, Chinese Academy of Sciences. These data are consolidated into non-competitive input-output tables with 139 sectors for 2012, 149 sectors for 2017, 153 sectors for 2020, and 211 sectors for 2023. To conduct spatial analysis, the study also employs multi-regional input-output tables for 2012, 2017 and 2020 obtained from the China Emission Accounts and Datasets (CEADs) database.

This study makes three main contributions. First, it innovatively constructs a logistics-specific input-output framework and compiles 20-sector input-output tables that not only retain detailed sectoral classifications but also split selected sectors into logistics-related and traditional components. This structure enables a more precise depiction of the interconnections between the logistics industry and traditional sectors, providing a methodological and data foundation for analyzing the role of logistics in economic circulation. Second, within the input-output framework, the impacts of the logistics industry on economic output and employment are quantified and decomposed into three transmission channels: the pure logistics industry chain effect, the effect of logistics-driven expansion of traditional sectors along related industry chains, and the reverse effect of traditional sectors stimulating logistics demand. Third, in the context of building a unified national market, a demand value-oriented analytical framework based on multi-regional input-output tables is developed to systematically trace the spatial extension of regional logistics industry chains and to estimate the cross-regional employment spillover effects of the logistics industry.

The results show that, first, the contribution of the logistics industry to aggregate GDP first increased and then declined, whereas its contribution to employment rose steadily and reached 6.23% in 2023. Second, the logistics industry contributes to GDP and employment mainly by stimulating the development of downstream industries in the supply chain. Third, the value added and employment created by the logistics industry itself are smaller than the value added and employment it induces in traditional industries. Fourth, the development of the logistics industry in transportation-node provinces and border provinces significantly increases employment effects in other regions. This study provides an important method for scientifically and accurately quantifying the economic effects of the logistics industry and offers policy implications for promoting the development of transportation-node cities and accelerating the establishment of a unified national market.