Outsourcing and occupational structure: An Input-Output Perspective

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Author: Marta Fana
Co-Authors: Ariel Luis Wirkierman, Davide Villani

There are growing concerns about the evolution of the employment structure and its integration with the sphere of production. Recent contributions have focused on the evolution of the occupational composition both between and within countries. Much of the debate revolves around the polarisation of the American labour market (Autor et al., 2003) that consists in the more rapid growth of occupations at the bottom and the top of the distribution, at the expenses of the middle (manual) occupations. Since then, several contributions have tried to assess whether polarisation applies to other economies, finding mixed evidence (Breemersch et al., 2019; Dwyer and Wright, 2019; Eurofound, 2014; FernÃ¡ndez-MacÃ-as, 2012; FernÃ¡ndez-MacÃ-as and Hurley, 2017, among others). Most of the differences in findings can be imputed to the methodology employed to record occupational rankings and to variations across countries.

So far, only few researchers linked changes in occupational structures to input-output analysis and global value chains. For example, Reijnders and de Vries (2018) test the Routine Biased Technical Change hypothesis matching input-output tables and occupational data for a large sample of countries. Timmer et al. (2019) study the functional specialisation in trade, intended as the flows of value added in particular groups of occupations and, similarly, Kruse et al. (2023) focus on the concentration of occupations in exports across thirty countries. These studies provide relevant insights about the international linkages in production. However, to the best of our knowledge, less attention has been paid to the domestic process of outsourcing which represents a growing phenomenon of our societies (Berlingieri, 2013; LÃ¡baj and MajzlÃ-kovÃ¡, 2022).

The present paper contributes to this strand of literature combining information on occupational structures with multi-regional input-output data for EU28 countries to study the process of domestic outsourcing in European countries. Occupational data are retrieved from the European Labour Force Survey which are then matched with the Inter-Country Input-Output (ICIO) tables by the OECD over the period 1995-2011.

We employ the notion of vertically integrated sectors (Pasinetti, 1973) to account for the domestic direct and indirect labour inputs (detailed at the occupational level) needed to produce the final output. This methodology makes possible to explore how the occupational structure within vertically integrated sectors has evolved across European countries, accounting for domestic outsourcing. A shift share analysis is applied to assess the extent to which dynamics are attributed to shifts in the occupational composition within each subsystem or changes in their size. Furthermore, we estimate the Occupational Revealed Comparative Advantage (ORCA) indicator to study the relative specialization of vertically integrated sectors across European countries.

One novelty of the paper is that we provide a more solid accounting of the evolution of occupations along the productive structure compared to conventional studies based on occupational changes at the industry level that do not capture the contribution of outsourced workers to the production of the final output. Using vertically integrated sectors, we are able to quantify for such phenomenon, providing a picture that is more consistent from a productive standpoint.
Overall, the paper aims at contributing to the literature on occupational structure an input-output analysis building a dataset for European countries. The findings provide new insights on the extent of the outsourcing process, from an innovative perspective compared to standard industry-based research.