

Global income distribution and property: a Structural Decomposition Analysis in a Multiregional Input-Output Model with domestic and foreign affiliates.

Topic: Input-Output Modelling: Trade and Global Value Chains policies (2)

Author: Sofía Jiménez

Co-Authors: Adrian Espinosa-Gracia, Julio Sánchez Cheliz

In a world in which the borders of production are diffused and commodities are not entirely produced in a single country anymore, unveiling the national source of Value Added can be a key contemporary topic. Undoubtedly, the presence of Multinational Enterprise (from now on, MNEs) in most countries around the world has important implications on global income distribution, as an important part of Value Added can be sourced back to home countries as profits. The aim of the paper is to analyze the contributions of domestic and foreign affiliates to Value-Added generation in host countries.

For achieving this purpose, the Analytical Activities of MNEs (AMNE) database (OECD, 2024) is used, which provides a set of Multiregional Input-Output (MRIO) tables for 76 countries and 41 industries, covering the 2000-2019 period. This database allows for considering the productive interrelations between countries and sectors, distinguishing between domestic- and foreign-affiliates accounts regarding intermediate inputs, value added, output, and final demand.

Once the dataset is chosen, the suggested methodology is a novel extension of the Structural Decomposition Analysis (SDA), taking as a departure point the proposal made in Miroudot & Ye (2020). Following this work, it is possible to obtain induced matrices containing different groupings of sectors and/or countries. Thus, the SDA consists in accounting for a decomposition of the contribution of several components or effects to growth in Value Added. Initially, two effects are derived. The first term is what we call the value cost effect and indicates the contribution of changes of value-added multipliers to value-added change. If the effect is positive, that means that there is an increase in the use of labor and/or capital and/or intermediate inputs, implying an increase in the value of the costs. Although these increases are considered as a cost, within the general equilibrium it also supposes an additional retribution. The second term is the total demand effect and reflects the contribution of changes in final demand to the value-added change. Our contribution to this method lies in the distinction final demand effect in four components: domestic and external technology effects, and domestic and final demand effects, depending on the home-country of affiliates.

In our case in which we differentiate between domestic and foreign affiliates, we will have these effects for each case. Besides, the application of such a method can be useful for analyzing several aspects of global income distribution in terms of the origin of MNEs, and thus providing answers to questions such as: 1) which is the role of MNEs in Value-Added generation, and whether it is negative or positive all in all; 2) which is the role of the domestic part of the economy in leading countries, confronted to the role of foreign affiliates in those areas; 3) which is the role of foreign affiliates in a selected bloc of countries, in order to compare the Value-Added simulations between the different regional groups to be considered.

Preliminary results reveal different patterns by subperiods. Particularly, we distinguish three subperiods: 2001-2007, 2008-2012 and 2013-2020. Besides, especially in the years before the crisis, value-added has been explained in many countries by the change in final demand. Indeed, domestic demand seems more important than external, except in countries as China until the 2012, when the participation of China in the global market slowdown. Finally, MNEs have a significant role for key economies as Russia and the US.