Brazilian exports and income distribution: an input-output analysis for 2002-2014

Topic: Input-Output Analysis: Trade and Global Value Chains Policies - I
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International trade broadens the consumer market, and it also creates value-added and income. However, this income generated is heterogeneously distributed among household groups, which may impact the income distribution within a country. According to Goldberg and Pavcnik (2007), one of the few insights that are consensual in trade theory is that changes in a countryâ€™s exposure to world markets affect the distribution of resources.

The impacts of international trade on countries' income have been widely discussed in theoretical and empirical literature. However, due the ascending globalization, the concern about its impacts on income inequality has become more relevant in the last decades. This process includes reductions in policy and transport barriers to trade and hence, greater international trade flows. As observed in Goldberg and Pavknik (2007), this phenomenon coincided with a period of increasing within-country inequality in many regions, mainly the developing ones, leading economists to attempt to link globalization to inequality.

Empirical studies relating trade openness and income inequality found that the direction and magnitude of this relation differ for each country and time, depending on factors such as development and income level, productivity, social and institutional structure, and trade reforms specificities (Goldberg and Pavknik, 2007; Meschi and Vivarelli, 2008; Bergh and Nilsson, 2010; Ã‡elik and Basdas, 2010; Bensidoun, Jean and Sztulman, 2011; Atif et al.; 2012). These papers, like most of the literature, used econometric approaches. Otherwise, Alsamawi et al. (2014) used input-output analysis to calculate the inequality footprint of nations, that is, the income distribution (measured by Gini index) that each country produces elsewhere in the world, for importing goods. Their main finding was that most developed countries (more egalitarian) import from developing countries (more unequal), for instance, China, Russia, Brazil, Thailand, and the Philippines.

The matter about trade impact on income is especially relevant for Brazil. Although Brazilian inequality has slightly fallen since 2000 (IPEA, 2016), it is still remarkably high, and it started to grow again after 2016, according to Continuous National Household Sample Survey (hereafter, PNADC) from IBGE (2020). Indeed, Brazil presents the fourth highest Gini index of upper-middle-income countries (World Bank, 2020).

For Brazil, the link between globalization and this large inequality is not clear. As exposed by Castilho, MenÃ©ndez and Sztulman (2012), the country has experienced a large increase in trade openness between 1998 and 2004, mainly due to growth in export exposure. Nonetheless, they found evidence, based on time series data (for 1987-2005), that rising export exposure tends to decrease poverty and inequality in Brazilian states. Alsamawi et al. (2014), using input-output data from 1990 to 2010, found that Brazilian inequality footprint is much smaller than its within-country Gini index. As explained above, this represents de income distribution of imports. Despite the abovementioned literature, an important question remains unanswered: what is the contribution of each partner to the inequality footprint of Brazilian exports?

In this context, we aim to assess the domestic income inequality linked to the Brazilian exports. Thus, we assess the generated income, direct and indirectly, from exports and its distribution among the income groups through an input-output analysis and the hypothetical extraction method. We use the World Input-Output Database (WIOD) for 2002-2014 and household income data from National Household Sample Survey (PNAD) to calculate some index, such as domestic income per group in Brazilian export to each partner, domestic income per group in Brazilian export of each industry to each partner, domestic income per group in Brazilian gross exports, and others.