

Disentangling social impacts in global value chains through structural path analysis: the case of forced labour in the cotton industry

Topic: Input-Output Analysis: Trade and Global Value Chains Policies - IV

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This analysis proposes an analytical method to trace the precise pathways through which impacts from a specific origin are disseminated worldwide and embodied in high-income nations' consumption. Our methodological approach is based on a multi-regional input-output model developed using Exiobase data for 2019 (Stadler et al., 2021). The model is extended with the Structural Analysis Path (SPA) methodology, which allows us to trace and quantify the critical interactions in the impacts' dissemination process from their origin until reaching their destination as final demand in a specific industry and region. The SPA method is explored both in gross and net terms as complementary perspectives to disentangle the complexity of global value chains, which is the main contribution of our approach. The net assessment accounts just for interindustry transactions, whereas the gross analysis considers all steps of the value chain, even those occurring at an intraindustry level.

In this work, we analyze a case study to expose the features of this proposal, which focuses on assessing the global reach of forced labour in the cotton industry in China and India, the two leading worldwide cotton producers. Forced labour in the cotton industry in Asia is a matter of interest since it is a core issue in the fashion industry's sustainability debate. Cotton cropping is a labour-intensive activity often performed by vulnerable collectives, like migrants, children or women in the case of India (Singh, 2017) or ethnic minorities in the case of China (Lehr, 2020). Based on Exiobase and the International Labour Organization data, China and India are estimated to use approximately 31,900 and 55,300 forced labour workers in this activity, respectively. In addition, textile global value chains are intricate and complex, making it hard to trace the negative social impacts linked to them. Therefore, a deeper understanding of how the responsibility of workers' exploitation spreads to developed nations is necessary to shed light on the social sustainability debate.

Although this kind of forced labour seems to be a regional affair, our results show that more than a high share of these forced workers are attributed to the European Union and the United States consumption, respectively, with apparel, footwear, and textiles as key goods embodying these workers. However, other relevant industries, such as machinery, motor vehicles, and furniture, also incorporate forced labour from the Chinese and Indian cotton industries in their value chains. After analyzing the specific paths of dissemination linked to the fashion demand of the European Union and the United States, our key findings show the predominant role of the Chinese textile industry in most paths given the high number of intrasectoral transformations inside this sector.

We also prove that forced labour in the Chinese and Indian cotton industries is even more distant to the final consumer than usual unskilled labour, which is an additional obstacle to its traceability. The bulk of this indecent labour appears in two to four stages of production before finalizing the good, which is far enough to hinder traceability.

Different patterns arise when looking at other employment indicators in the fashion value chain: while value-added and high-skill labour are mainly concentrated in short paths in the developed countries of destination, medium- and low-skilled labour are mainly imported from longer paths crossing emerging economies.