

Could globalization become more inclusive? A CGE illustration using Farm heterogeneity data

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Abstract

Following recent trends in theoretical and applied international economics, this paper presents new solutions regarding the modeling of heterogeneous agents on the supply side and, discusses how trade costs reductions, but also technological improvements can contribute to produce more inclusive outcomes in the globalization process. Indeed, it has been pointed in many cases that smallholders can be negatively impacted or excluded from opportunities linked to trade liberalization episodes.

Our approach is first to develop a CGE modeling framework, based on the MIRAGE CGE, where we identify heterogeneous producers, both in terms of productivity and in terms of market access costs, and have fixed cost to trade at the firm/farm level and at the sectoral level. Then, we apply this framework to one Latin American country, namely Peru, agricultural sectors for which we have access to detailed farm and household surveys that allow identification of both productivity level, using stochastic production frontier approaches, and market access costs (based on distance and infrastructure).

Indeed, both factors influence the differences in terms of individual competitiveness on foreign markets leading to extensive and intensive margins, but also explaining two-way trade within a sector without relying on the Armington assumption.

Finally, we use this framework to analyse alternative policy scenarios regarding trade costs reduction (tariffs and infrastructure) as well as productivity gains targeting smallholders.

We develop specific metrics to compare these heterogeneous interventions and identify in which cases, a combination of them can deliver the best results in terms of inclusive participation to trade and inclusive growth.