BATModel

better agri-food trade modelling for policy analysis

Agri-food trade and non-tariff measures

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Non-tariff measures (NTMs) – and more specifically sanitary and phytosanitary (SPS) measures and technical barriers to trade (TBTs) – are increasingly used by policymakers. Two main reasons explain this growth. First, tariffs have decreased over the last decades; second, consumers increasingly ask for health and environment protection. If the effects of NTMs on agri-food trade are now well identified in the trade literature, some further developments are still needed.

The trade effects of NTMs have traditionally been explored through the estimation of gravity-like equations. The focus has been on the trade-restricting impact of measures, while only a few studies have accounted for their potential trade-enhancing effects. In a nutshell, estimating the impact of NTMs can provide either positive or negative net effects, both of which can be justified theoretically. Thus, the NTM trade effects basically remain an empirical question. The creation of extensive databases by United Nations agencies has encouraged deeper insights into use of NTMs across countries, while also providing opportunities for more comprehensive empirical assessment of benefits and costs. However, two main issues affect current estimations of NTMs trade effects. On the one hand, NTMs are usually captured through basic dummy variables (0/1 variable) or by a simple count of the number of standards enforced. The real restrictiveness of NTMs is therefore not accounted for; on the other hand, estimations of ad valorem equivalents (AVEs) of NTMs have been challenged in the literature.

The Working Package 5 of the BATModel project aims at addressing these issues. The work resolves around three dimensions. First, our objective is to refine the econometric estimations of the NTM effect beyond the standard-gravity approach. In our investigations, we rely on the following approaches: gravity models, two-stage modelling, panel estimations with firm-level data, a price/quantity approach, and quasi-experimental techniques. Specific bilateral effects are accounted for. Our work also assesses the impact of NTMs in the framework of agriculture and food international supply chains. Specifically, research is conducted focusing on trade in value added and global value chains (GVCs) and on the provisions included in trade agreements that foster GVC participation in agri-food supply chains. To do so, trade in value added flows are explored at a disaggregated level and matched with NTM data.

Second, our research aims to shed light on both the costs and benefits of NTMs. In the literature, the focus is usually on NTM trade costs, while the NTM trade benefits are often overlooked. Some NTMs are more protectionist in nature (e.g. import licenses), while in the category of technical measures (SPS and TBTs) the range of possible instruments is varied, and accordingly, co-existence of positive and negative impacts is expected. Thus, technical measures implemented to provide superior guarantees of food safety and quality, reduce information asymmetries and negative externalities,

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thereby potentially having a demand enhancing effect. We also aim to disentangle fixed and variable costs induced by NTMs, e.g. the impact on extensive and intensive trade margins, respectively. Our work tackles these different aspects through the estimation of AVEs for various NTMs, suitable for use in simulation modelling approaches.

Finally, our ambition is to better include the prevailing NTMs in simulation models. We develop a welfare analysis focusing on the EU and developing countries. In our framework, NTMs not only represent market access barriers but may also have benefits, which are largely neglected in the existing literature. One objective is to combine the costs and benefits of NTMs in agri-food trade in a common framework, with emphasis on quantifying the benefits of reducing unintended regulatory costs that lead to trade costs, and balanced against the objective of maintaining consumer benefits from existing regulatory targets. In essence, the benefits of NTMs in agri-food trade will be expressed in terms of the increased in quantities traded and/or increased utility (due to quality and/or variety).

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