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“Filling gaps and removing traps
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The Heterogeneous Effects of Standards on Agrifood Trade Flows

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Abstract

With falling average tariffs, measures of food safety, e.g., standards and technical regulations, are gaining relevance in agricultural trade. As a result, these food safety measures are often seen as non-tariff barriers to trade, with different political economy implications for producers, retailers, consumers, and national governments. As a result, how standards affect trade flows is of particular interest in the agricultural trade literature. Despite the increasing number of empirical estimates, the standards-trade effect remains ambiguous, e.g., public standards are usually observed to have a trade-reducing effect while private standards enhance trade. Taking advantage of recent theoretical and empirical developments in the trade literature and using a large sample of data, we revisit the standards-as-barriers to trade debate. We focus particularly on maximum residue limits (MRLs), the highest level of a pesticide residue that is legally tolerated in or on food or feed when pesticides are applied correctly. We exploit the bilateral difference in MRLs over the period 2005–2014 for 145 agrifood products across 60 countries. Empirically, we deviate from the usual CES gravity model and instead estimate a theory-consistent translog gravity model. Consistent with the literature, we find that stricter importing country residue limits have a trade reducing effect, i.e., conditional on exporting they reduce the value of trade. However, our translog specification allows for variable trade effects from food standards. Hence, as a novel contribution to the literature, we are able to show that the trade reducing effect of food standards is heterogeneous across import shares. The smaller the exporting country's share in the importing country's total imports, the larger the trade reducing effect, and vice versa.

Keywords: Agricultural trade, food standards, maximum residue limits, translog