

## **Effect of Non-Tariff Measures on Sri Lankan Tea Trade: A Bayesian Inference**

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Non-tariff measures such as food safety standards on agricultural trade have become an emerging barrier throughout the world. The objective of this paper is to assess the impact of Sanitary and Phytosanitary measures for Sri Lankan tea exports by stipulating Maximum Residual Levels (MRLs) for the pesticide Endosulfan that is mostly used for tea production all over the world. Bayesian analysis was used in this study to estimate the gravity equation for the tea exports from Sri Lanka using a Multilevel Mixed Model. Panel data from 2003 to 2017 for fourteen prime destinations of Ceylon tea were considered for this study. The results show that the MRL of pesticide imposed by importing countries has significantly affected Sri Lanka's tea exports. One percent decrease in the MRL on Endosulfan can result in a 0.67% (approximately USD 10,138,488.77 in 2017) decrease in Sri Lanka's tea exports and one percent increase in the tariff rate leads to a 0.03% percent decrease in the value of Sri Lankan tea exports. By comparison with the tariff effect, the MRL is associated with a bit higher trade effect for Sri Lankan tea exports. Policy implication such as large variations among countries and increasingly tighter restrictions from developed countries on food safety standards leads to great challenges in exporting food products like tea. Thus, these outcomes recommend that the negative impact of MRLs is found to outweigh the impact of import tariffs, highlighting the greater role that non-tariff measures play on Sri Lankan tea exports. Therefore, there is an urgent need for regulatory policies to uplift Sri Lankan tea exports.

*Keywords:* Bayesian analysis, Gravity model, Maximum residual level, Non-tariff measures, Tea exports