PROJECT BRIEF 6:

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TRADE AND FOOD STANDARDS: MEASURING DISTANCE IN MAXIMUM RESIDUE LEVELS OF PESTICIDES

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101000551

1. Main Messages

Maximum Residue Levels (MRLs) play a crucial role in shaping agricultural trade. Differences in MRLs across countries act as non-tariff measures, influencing global trade flows and market access.
The EU follows a stringent regulatory approach, often exceeding international standards such as those set by the Codex Alimentarius.
Regulatory divergence in MRLs creates trade barriers, particularly for developing countries exporting to the EU.
A new index measures the 'distance' between MRL regulations to assess the alignment or divergence between the EU and its trading partners.
Harmonisation efforts could enhance trade efficiency, reduce compliance costs, and promote sustainable agricultural practices.

2. Research Scope & Methodology

This study provides a **quantitative assessment of regulatory differences in MRLs,** focusing on:

- EU MRL regulations versus those of key trading partners.
- The role of toxicity levels in pesticide regulation.
- Specific Trade Concerns (STCs) raised at the WTO.

Development of an index measuring the 'distance' between MRL standards. Data sources include:

- Homologa and BCGlobal Veterinary Drugs Database for pesticide and antibiotic MRLs.
- WTO STC database for trade concerns related to pesticide regulations.

3. Key Findings: Evidence Supporting Policy Discussions

3.1. Regulatory Divergence in MRLs and Its Impact on Trade

- **The EU applies some of the strictest MRLs globally,** often more stringent than Codex standards.
- **Developing countries struggle with compliance,** particularly in pesticide-intensive crops such as cocoa and coffee.
- **MRL stringency affects trade flows,** with lower-income countries facing higher adaptation costs.

Implication: Improved technical assistance and regulatory convergence could lower trade barriers while maintaining safety standards.

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3.2. Measuring Regulatory 'Distance' in Pesticide and Antibiotic MRLs

A new index quantifies the difference between EU and partner country MRLs.

- Toxicity-weighted analysis shows that **some regulations disproportionately impact** certain commodities.
- **Regulatory gaps persist** between developed and developing nations, leading to trade distortions.

Implication: Aligning MRLs where possible, or offering targeted exemptions, could enhance trade facilitation without compromising safety.

3.3. WTO Specific Trade Concerns (STCs) Related to MRLs

- **STCs related to MRLs are increasing,** indicating growing trade frictions.
- **Disputes often arise from differences** between EU and Codex MRL standards.
- **Countries with higher pesticide use frequently challenge EU restrictions,** citing trade discrimination.

Implication: A more structured approach to resolving STCs could help avoid trade conflicts and enhance regulatory transparency.

The two maps below compare regulation differences for slightly and highly toxic substances. The mean and distribution of the synthetic distance index indicate that as toxicity decreases, country heterogeneity slightly increases. Figure 6.1 illustrates the distance in MRL regulation from the EU for highly toxic substances, while Figure 6.2 shows this distance for slightly toxic substances.

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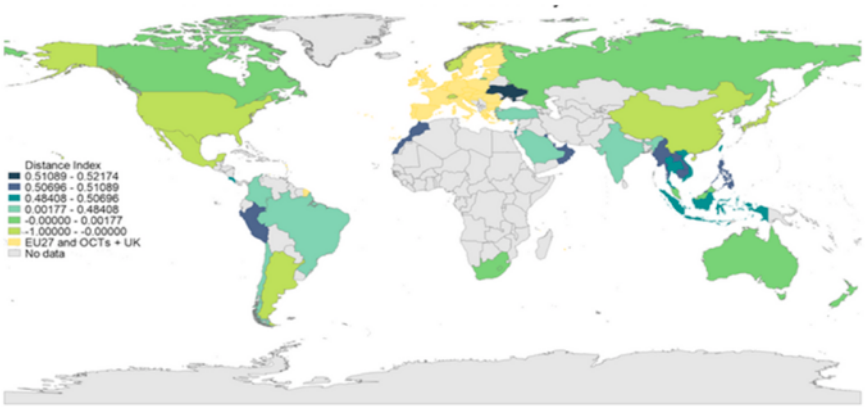
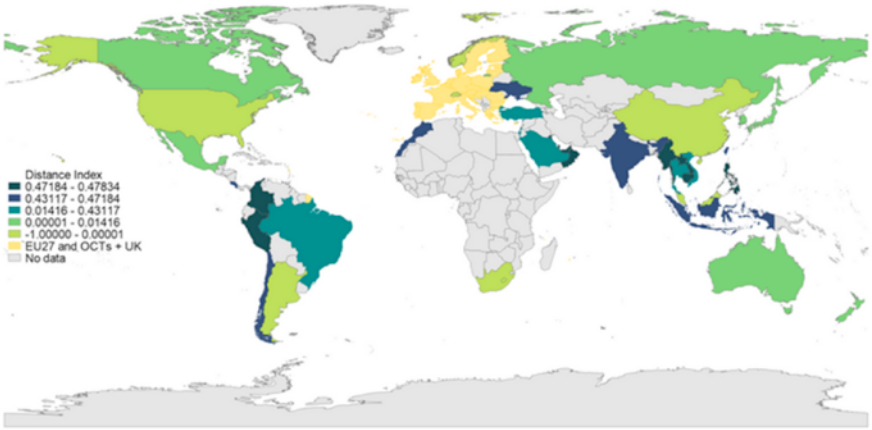
Figure 6.1: country's distance in MRL regulation from the EU for highly toxic substances



Source: Authors' elaboration on data Homologa 2020.

Figure 6.2: Country's distance in MRL regulation from the EU for slightly toxic substances



Source: Authors' elaboration on data Homologa 2020.

4. Implications for EU Policy & Trade Governance

- **Encourage harmonisation** of MRL standards at the global level.
- **Develop science-based thresholds** that balance safety and trade facilitation.
- **Improve regulatory transparency** to reduce compliance uncertainties for exporters.
- **Increase funding for technical assistance** to help exporters meet EU standards.
- **Facilitate training programmes** for sustainable pesticide use.
- **Consider mutual recognition** agreements for low-risk pesticides.
- **Enhance dispute resolution** mechanisms for MRL-related STCs.
- Ensure that MRL-setting processes are **transparent and evidence-based.**
- **Encourage Codex-aligned standards** where feasible to reduce regulatory fragmentation.

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5. Conclusion

This analysis underscores the importance of harmonising pesticide and antibiotic MRL regulations to reduce trade barriers while maintaining high food safety standards.

Key takeaways:

- **Regulatory divergence in MRLs acts as a non-tariff barrier**, disproportionately affecting developing country exporters.
- **A structured approach to regulatory convergence** could improve trade facilitation while ensuring safety.
- **Stronger WTO mechanisms** for resolving MRL-related STCs are needed to reduce trade tensions.

This Project Brief is based on **Deliverable 2.3.** of the TRADE4SD project.

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Trade4SD is a 4-year project devoted to research on a topic which is high on the domestic as well as multilateral, EU and bilateral trade policy agenda. The ambition of the project is to explore and foster the positive linkages between trade and sustainable development is to provide policy recommendations for the creation of new opportunities for agents involved in the global, regional and national agri-food value chains, and to define conditions for sustainable livelihoods of farm producers in the EU and developing partner countries. Trade is a central factor in shaping global, regional and local development. Increased trade, empowered by the growth of Global Value Chains (GVCs), has boosted productivity and incomes in many countries.

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