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**MEASURING THE IMPACT OF STANDARDS ON AGRICULTURAL EXPORTS
OF LOW INCOME COUNTRIES: THE STANDARDS RESTRICTIVENESS INDEX**

THE WORLD BANK DEVELOPMENT ECONOMICS RESEARCH GROUP – TRADE & INTEGRATION¹

The following communication, received on 11 March 2013, is being circulated at the request of the World Bank.

1 PROJECT OVERVIEW

1. This policy research project investigates the effect of national and international standards on agricultural exports of developing countries, with a focus on low income countries in Africa and South Asia. Despite persistent technical and regulatory barriers to trade, there remains very little empirical data and analysis about the impact of standards on trade flows. This is especially true in regard to low income countries.

2. As trade agreements have continued to lower tariffs and quotas throughout the world, other barriers, such as technical barriers related to product standards, have increased in prominence. Because differing standards requirements across countries can result in substantial additional costs for producers in developing countries seeking market access, the harmonization of standards to international norms can reduce costs and promote export growth and diversification. Further, the relative importance of the agriculture sector in the economy and export composition of many Least-developed countries (LDCs) means that stricter standards on agriculture imports (particularly in the largest import markets) may leave LDCs especially vulnerable to market exclusion.

3. Broadly, the question we seek to answer through this research is: What is the impact of standards (particularly "maximum residue levels" (MRLs) of pesticides) on agricultural exports of developing countries? More specifically, we are developing new, highly detailed data on standards and trade to address the following questions:

- Are developing countries' exports affected more by changes in product standards?
- Do standards set by developing countries affect trade flows differently than standards set by developed countries?
- Will a rise in income in emerging markets be accompanied by greater standards restrictiveness? And if so, what impact will this have on exports from less developed countries?
- Which products, firms and countries are affected more significantly by changes in product standards?

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2 PROGRESS & INITIAL RESULTS

2.1 The Standards Restrictiveness Database

4. The Standards Restrictiveness Database we have constructed for this analysis includes MRL standards data for 26 major importing countries across the years 2006-2011. This information is drawn from Agrobase-Logigram's Homologa database, which collects monthly changes in allowable pesticides for approximately 88 importing countries. We then mapped this data to 235 products at the 6-digit HS level, covering exports from 145 countries.

5. This new dataset, which combines standards data with trade flows, allows us to conduct rigorous econometric analysis to better understand how agriculture standards (and changes to standards over time) impact trade flows - particularly from LDCs. Importantly, it does not restrict our analysis to one specific pesticide (as other studies do), but rather frees us to develop a measure of restrictiveness that takes into account all published MRLs for each importer-product pair in a given year.

2.2 Working Paper 1: Impact of Standards in BRIC countries on Agriculture Exports from LDCs

6. Our first research paper to come from the Standards Restrictiveness Database focuses on trends in import standards for agricultural goods in the BRICs, and the impact of standards in BRICs on exports from developing countries. We show that, in general, as a country's income rises, so do its product standards. Thus, the question arises: as incomes in the BRICs rise, will this create new opportunities for exports from LDCs (as many hope), or as standards in BRICs become more restrictive, will LDCs be vulnerable to exclusion from these growing markets?

7. First, we concentrate on creating a new model to determine standards restrictiveness. Unique to this study, our database allows us to combine into a single restrictiveness index both the *number* of standards imposed by a country on imports (for instance, the number of pesticides regulated by standards on a given product) and the *level* of the standards, as measured by the permissible MRLs. By combining the two measures (number of standards and MRL levels), we get a more holistic picture of overall restrictiveness.

8. Secondly, using this new index of restrictiveness, we investigate whether or not higher standards have an impact on agriculture exports from LDCs. Thus far we find that indeed, more standards leads to fewer imports overall. Also, standards appear to have an impact not only on the intensive margin of trade, but also the extensive margin. These initial results suggest, as hypothesized, that LDCs risk losing out as incomes in BRICs increase and standards restrictiveness follows suit.

9. This work remains in-process as we continue to adjust our model. In addition to the above, we are investigating how standards regimes, though mostly applied on an MFN basis, affects exports from low-income countries relative to high-income countries. Finally, we hope to carry this research forward to examine changes in standards over time in the BRICs and the effect these changes will have on trade flows from the LDCs.

3 NEXT STEPS & DISSEMINATION

10. We intend to expand our research using the Standards Restrictiveness Database to conduct analysis at the firm level in order to gain greater insight into the impact of standards on different sizes and types of firms and to identify whether standards have trade diversionary effects and/or depress trade overall.

11. We also plan to have the database prepared and available for public access as part of the World Bank's Open Data initiative. We will utilize our public portal on the World Bank website to present the database in a user-friendly format that will facilitate further research on standards and trade both within the World Bank and amongst outside academics and organizations.

12. Finally, dissemination is a key component of this project. In December 2012, we presented our preliminary results and began collecting comments at the International Agricultural Trade Research Consortium Conference (IATRC) in San Diego. Through the remainder of FY2013 (until 30 June 2013), we are seeking additional opportunities to disseminate the research at academic conferences, multi-lateral forums (e.g. WTO, ITC, etc.), the STDF, World Bank seminars/workshops, and as a part of other technical assistance programs in and for IDA-eligible countries.
