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Export Diversification Effects of the WTO Trade Facilitation Agreement

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Summary. — We estimate the effects of trade facilitation on export diversification, as measured by two extensive margins: the number of products exported by destination and the number of export destinations served by product. To address causality we use only exports of new products, or exports to new destinations. We find a positive impact of trade facilitation on the extensive margins of trade. The results are robust to alternative definitions of extensive margins, different sets of controls, and various estimation methods. Simulation results suggest substantial extensive margin gains from trade facilitation reform in Sub-Saharan Africa and in Latin America and the Caribbean.

Key words — trade facilitation, export diversification, international trade agreements, WTO

1. INTRODUCTION

Beginning with the work by Anderson and van Wincoop (2004), trade economists have realized both the magnitude of trade costs and the need to bring them down. Even for a "representative rich country", they estimated that the ad valorem equivalent of trade costs could be as high as 170%. Trade costs appear to be even higher for developing countries with the ad valorem equivalent for the average developing nation estimated to equal 219% by Arvis, Duval, Shepherd, and Utoktham (2013). Furthermore, their research suggests that customs formalities and trade procedures that result in unnecessary delays or complexities to traders constitute an important component of trade costs. Recognizing this, the WTO 1996 Ministerial Conference in Singapore agreed "to undertake exploratory and analytical work" on this issue. The simplification of the trade procedures has been part of the WTO's negotiating agenda since August 2004. In December 2013, WTO members concluded negotiations on a Trade Facilitation Agreement at the Bali Ministerial Conference. The new agreement will enter into force and become an integral part of the WTO Agreement once two-thirds of WTO members complete their domestic ratification process.

The type of problems faced by traders at the border include the numerous documents that need to be completed, inspections conducted by different agencies (to address concerns related to national security, quarantine, trafficking of contraband, etc.), customs formalities, and fees and charges. Trade procedures may be opaque and decisions taken by border authorities not subject to appeal. All these problems at the border result in delays and increased costs for exporters and importers. For landlocked economies, the difficulties are compounded because of the need to complete the same cumbersome procedures in the transit nation.

The WTO's Trade Facilitation Agreement contains obligations and disciplines on transparency, formalities, appeals procedures, fees and charges, customs cooperation and transit that address many of these issues. An example of how trade facilitation simplifies trade procedures and make them more transparent can be taken from the Lao People's Democratic Republic, a nation which became a WTO member in 2013. An online portal for trade has been operative since 2012. [1] On this website, all trade-related laws, regulations, measures, restrictions, licensing requirements and tariffs are indexed, cross-referenced, and made searchable by commodity code. The website also includes detailed process maps of business procedures for importing and exporting; full listings of national standards for products; procedures for clearing goods at the border; downloadable forms; and e-alerts which traders can customize to receive information.

The importance of achieving success in the WTO negotiations on trade facilitation has been underlined by a fair amount of empirical work. Various approaches for measuring the benefit of a multilateral agreement on trade facilitation have been pursued, including how much it will reduce trade costs, how much it will increase trade, as well as the positive impact on jobs and on GDP. One effect that seems not to have been explored in sufficient depth is the effect on export diversification. A firm considering exporting for the first time will have to acquire information on trade procedures in the foreign market. It may also have to purchase specialist IT systems and search for dedicated staff who will deal with customs matters (Granger, 2008). These are all examples of fixed costs—costs that have to be incurred up front before the firm even sells a single unit of its output in the export market. To the extent that trade and customs procedures act like fixed costs, they prevent exporters from entering new markets or selling a wider array of products. The benefit of export diversification over selling more of the same product or selling more to the same market is the resulting reduction in risk from idiosyncratic shocks to international trade. Exporters with diversified export baskets or destinations are likely to be better insulated from shocks to specific markets or sectors than others.

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There are various approaches taken in the literature to measure trade facilitation. Several studies use the World Bank's Logistics Performance Index (LPI) and Doing Business indicators as proxies. The LPI is based on a worldwide survey of operators on the ground, providing feedback on the logistics "friendliness" of the countries in which they operate and those with which they trade. In addition, survey data are supplemented with quantitative data on the performance of key components of the logistics chain in a given nation. This includes the quality of trade and transport infrastructure. The Doing Business indicators use data on the time and cost (excluding tariffs) associated with exporting and importing a standardized cargo of goods by sea transport. The time and cost necessary to complete every official procedure for exporting and importing the goods are included as well.

An important innovation in our paper with respect to previous work is that we use the OECD Trade Facilitation Indicators (TFIs) as the measure of trade facilitation. These indicators are more policy relevant than other indicators used in the literature since they correspond to the provisions of the Trade Facilitation Agreement that members of the WTO will have to implement. The OECD TFIs can be readily mapped to the provisions of the WTO Trade Facilitation Agreement such as—Information availability, Involvement of the trade community, Advance Rulings, Appeal Procedures, Fees and charges, Formalities, Cooperation, Consularization, Governance and Impartiality and Transit proceedings—see Appendix Table 12.

Using the OECD TFIs, we estimate the impact of trade facilitation on export diversification as measured by extensive margins of trade. In the baseline estimations, we consider two types of extensive margins: the number of products (HS sub-headings) by export destination, and the number of export destinations by product. We also consider theory-based extensive margins: the bilateral extensive margin suggested by Hummels and Klenow (2005), and an exporter-product extensive margin that, to the best of our knowledge, has not previously been explored in the literature.

While we are not the first to study the extensive-margin effects of trade facilitation, we are the first to do so using the OECD TFIs which are more policy relevant since they closely mirror the Trade Facilitation Agreement. Moreover, we add to the existing literature by considering an exporter-product dimension of trade margins, not only a bilateral one. A third novel contribution of this paper is the quantification of the effect of implementing trade facilitation under two realistic scenarios: (i) trade facilitation reform that moves countries that are below the median of their region to that benchmark; and (ii) reform that moves countries that are below the global median to that level.

Throughout this study, we focus on trade facilitation in the exporting nation. When analyzing the number of destinations by product, this is the only viable option. When analyzing the number of products by destination, we are aware that increases in importers' trade facilitation are likely to have a positive effect. The empirical question of interest, however, concerns the effects of a nation's own trade facilitation for given levels of trade facilitation in destination markets (which we control for).

The remainder of this paper is organized as follows. The next section provides an overview of the literature on trade facilitation. Section 3 discusses the empirical methodology to estimate the effect of trade facilitation on trade margins. We first define the indicators for the different trade margins used in the empirical analysis. Next, we specify the econometric model. In Section 4, we present the empirical results. Section 5 presents estimations that use alternative measurements of trade margins and of trade facilitation. It also discusses various methodologies employed to test whether the effects are heterogeneous across counties and sectors. Section 6 includes the results of simulations under the two scenarios of convergence to the regional median and convergence to the global median. Section 7 concludes.

2. LITERATURE

There is no single definition of trade facilitation. Nevertheless, it is possible to categorize the way the term has been used in the economic literature and by international organizations along at least three dimensions—whether the scope of measures is narrow or broad, whether it includes soft or hard infrastructure and whether it involves modification of trade procedures or only more efficient implementation of existing procedures. Narrow definitions of trade facilitation focus on border procedures and on the logistics of moving goods across frontiers. Broader definitions include any measure that expands trade, even behind the border measures such as product standards and expanding access of small and medium enterprises to trade finance. Greater transparency is an example of soft infrastructure while the building of ports and railways involve hard infrastructure. The simplification, harmonization, or standardization of trade procedures implies modification of existing procedures. In this paper, by trade facilitation we mean the provisions contained in the WTO's Trade Facilitation Agreement. It is thus narrow in scope, focused on soft rather than hard infrastructure, and involves the modification of existing trade procedures.

Trade facilitation has a significant potential to reduce trade costs. This effect has been quantified by a series of empirical studies that follow the methodology of Novy (2013) to infer trade costs from the observed pattern of production and trade across countries. Chen and Novy (2009) estimate that technical barriers to trade, taken as a whole, explain 4.5% of the variation in trade costs across 11 European Union member countries during 1999–2003.[2] Arvis *et al.* (2013) estimate trade costs in agriculture and manufactured goods in 178 countries for the 1995–2010 period. They find that a one standard deviation improvement in the World Bank's LPI is associated with a trade cost reduction of 0.2–0.5 standard deviations. Using the OECD TFIs as a measure of trade facilitation, Moïsé, Orliac, and Minor (2011) estimate a cost reduction potential of around 10% of overall trade costs. In a follow-up study, Moïsé and Sorescu (2013) disaggregate the cost-reduction potential across income groups. They estimate this potential to be 14.5% in low-income countries, 15.5% in lower middle-income countries and 13.2% in upper middle-income countries.

Trade facilitation is likely to reduce both variable and fixed trade costs. The formalities and requirements of a nation's customs have to be met each time a shipment crosses a border. There are, however, also one-time costs such as those incurred by a firm to acquire information on border procedures. The number and complexity of the documents required for clearance can also be seen as a fixed cost. Traders have a one-time cost of learning how to fill in the forms. As the WTO Trade Facilitation Agreement contains provisions requiring countries to publish and make available information on border procedures as well as to decrease and simplify documentation requirements, it should reduce fixed costs and create new trading opportunities. Firms that are less productive and did not export before will be able to do so now since the revenues from