## Analysis of Trade Facilitation policies on customs clearance time

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In most product lines other than agricultural products, tariffs are generally low, as they have been liberalized first under the auspices of the General Agreement on Tariffs, Trade, and the World Trade Organization (WTO), and subsequently in the context of regional and bilateral preferential trade agreements. For developing countries, tariffs have also become less of an impediment because of Generalized System of Preferences programmes and other preferential schemes. As a result, there is a dramatic shift toward non-tariff barriers in recent multilateral and preferential trade agreements.

Empirical evidence shows that poor-quality border management and logistics have a negative effect on trade. A 1 percent reduction in the cost of exporting or the cost of international transport is associated with an export diversification gain of 0.3 percent or 0.4 percent respectively, in a sample of 118 developing countries (Shepherd and Dennis 2007). For sub-Saharan countries, a one-day increase in inland transit time reduces exports by 7 percent on average (Freund and Rocha 2010). Further, A 10% reduction in the time it takes to move cargo from the production line to the ship increases exports by 4%, all else being equal (Djankov, Freund, and Pham 2010). Removing unnecessary barriers to timely delivery is therefore of utmost importance and trade facilitation has been pointed out as an important tool in this respect. To address this issue, WTO members concluded negotiations at the 2013 Bali Ministerial Conference on the landmark Trade Facilitation Agreement (TFA), which entered into force on 22 February 2017. 3

Despite the importance of trade facilitation policies to reduce trade cost and improve customs performance, relatively little has been done so far. My analysis uses similar approach to Walmsley and Minor (2016) but extends the work in the following way. First, I use the new doing business database, which provides the values of customs clearance time in hour. This reduces the complication in previous two analysis due to the non-continuous values of customs clearance times. Second, under the new methodology, doing business customizes the case study assumptions for exports and imports. This provides an opportunity to analyse the difference in the result with the new assumptions and contrast my result with the previous one. Third, in the new doing business database the customs clearance time is divided in to three broad categories; Border compliance, documentary compliance and domestic transport. The customs clearance time for border and documentary compliance is very different and the impact of trade facilitation policies differ for each type of compliance. Therefore, this analysis adds to the existing literature by analyzing the impact of trade facilitation policies for each type of compliance.

The study has three main objective. First, to estimate the impact of trade facilitation policies on customs clearance time. Second, to calculate the potential customs clearance time saved when all countries fully implement all trade facilitation agreements. Third, estimate the welfare and macroeconomic impact of trade facilitation policies using willingness to pay approach. The main research questions are: which trade facilitation policy has greatest impact on reducing customs clearance time for both export and import? Which trade facilitation policies are more associated with import time clearance and which are with export time? How much is the potential reduction in customs clearance time when all countries fully implement WTO trade facilitation agreement? Does trade facilitation agreement improve welfare across income groups? What is the impact of trade facilitation agreement on real GDP? The result for 2015 cross-section analysis indicates that Fees & Charges and Formality-document significantly reduce time to export for documentary compliance. Both variables have coefficients that are economically significant - a one-point move in each index (on a 0-2 scale) produces a reduction in reported time to export for documentary compliance of over

68% and 48% respectively. In case of time to export for border compliance, both formality documents and governance have statistically significant coefficient at 10 % and 5% levels, respectively. A one-point move in each index (on a 0-2 scale) produces a reduction in reported time to export for border compliance over 35%. For import clearance time, both fees & charges, and formality-documents have economically significant coefficient - a one-point move in each index (on a 0-2 scale) produces a reduction in reported time to import for documentary compliance of over 50%. For border compliance, only formality-document have economically significant coefficient at 5% level - a one-point move in each index (on a 0-2 scale) produces a reduction in reported time to import for documentary compliance of over 50%. For border compliance, only formality-document have economically significant coefficient at 5% level - a one-point move in each index (on a 0-2 scale) produces a reduction in reported time to import for border compliance of over 45%.