



Poverty, Inequality and Trade Facilitation in Low and Middle Income Countries

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Introduction

- International trade is a key element of global economic integration. Together with global economic integration, the world trade volume has been increasing remarkably.
- Recently, trade facilitation has been emerging as an important strategy in international trade promotion. Trade facilitation has been put in the agenda of WTO since 1994, and the member governments of WTO have started negotiations on trade facilitation since 2004 (Duval, 2007).



Introduction

- The direct impact of trade facilitation is to increase the international trade. There are other numerous studies which find a positive relation between trade facilitation and international trade flows (e.g. APEC, 1999; Hertel et al., 2001; Hummels, 2001; Kim et al., 2004; Walkenhorst, 2005; Clarke, 2005; Hertel and Keeney, 2006; Francois and Manchin, 2006; Nordas et al., 2006; Sadikov, 2007; Duval and Utoktham, 2009).
- Since trade facilitation can increase international trade of a country, it can promote economic growth and affect poverty and income distribution of the country. However, the effect of trade facilitation on poverty is unknown a priori.



Introduction

- There are few empirical studies on indirect effects of trade facilitation on other economic outcomes (e.g., APEC 1999; Kinnman and Decreux and Fontagné, 2006; Hertel and Keeney, 2006; Lodefalk, 2007).
- There is little research if not anything on the relation between trade facilitation and poverty as well as inequality. Thus this study aims to examine the association between trade facilitation and poverty and inequality in low and middle income countries.

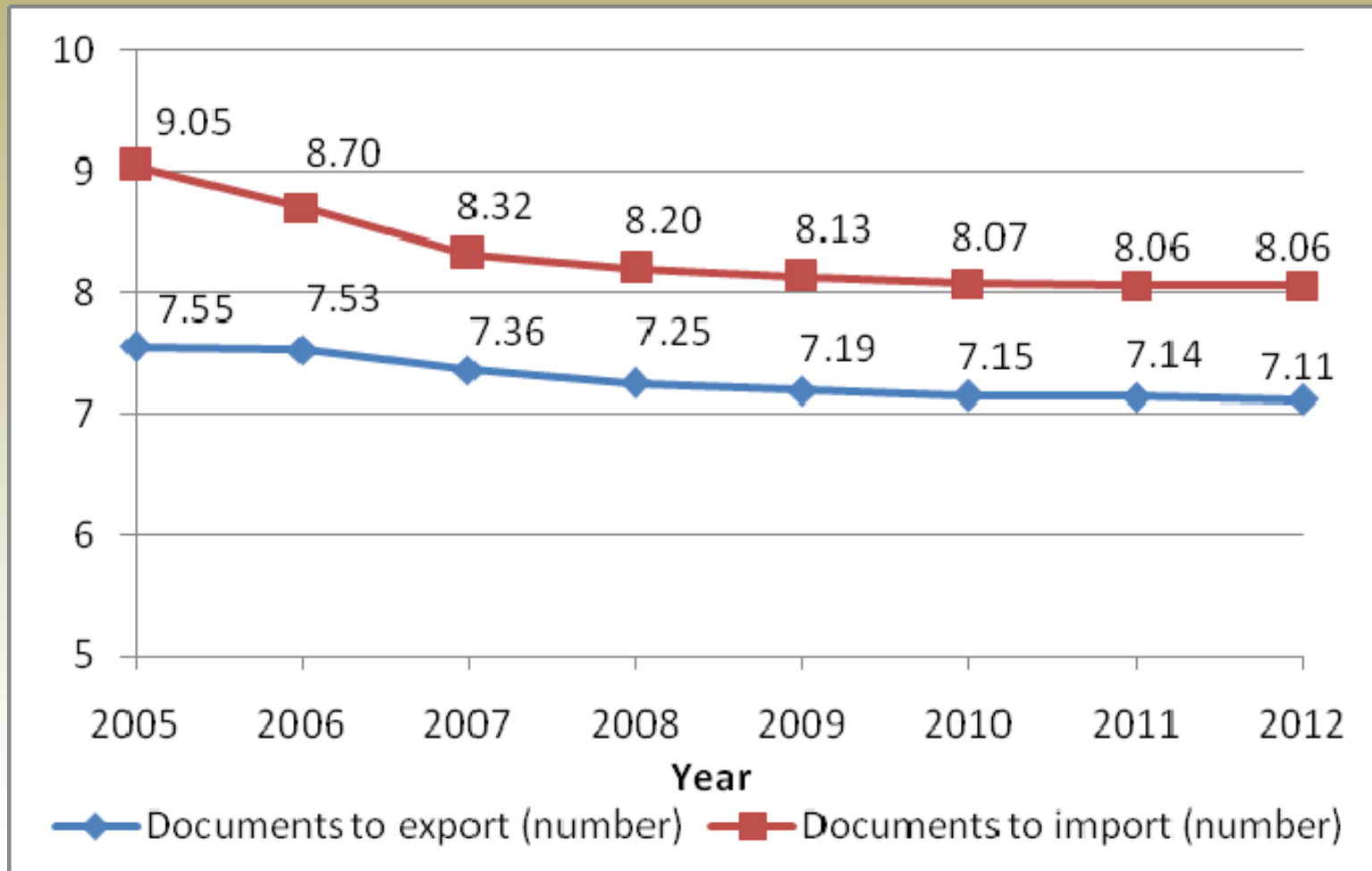


Data set

- The main data source in this study is from the World Bank's database. Up to 2012, there are data on 1260 indicators of countries throughout the world.
- The data set includes several indicators of trade facilitation such as logistics performance index, the number of documents, the number of days, and cost of import and export of most countries in the world.
- Data on poverty indexes, Gini and other country-level indicators are also available. These yearly data form unbalanced panel data of countries during the period 2005-2012.
- The number of low and middle income countries that have data on both trade facilitation and poverty and inequality is 90. The total number of observations is 225.

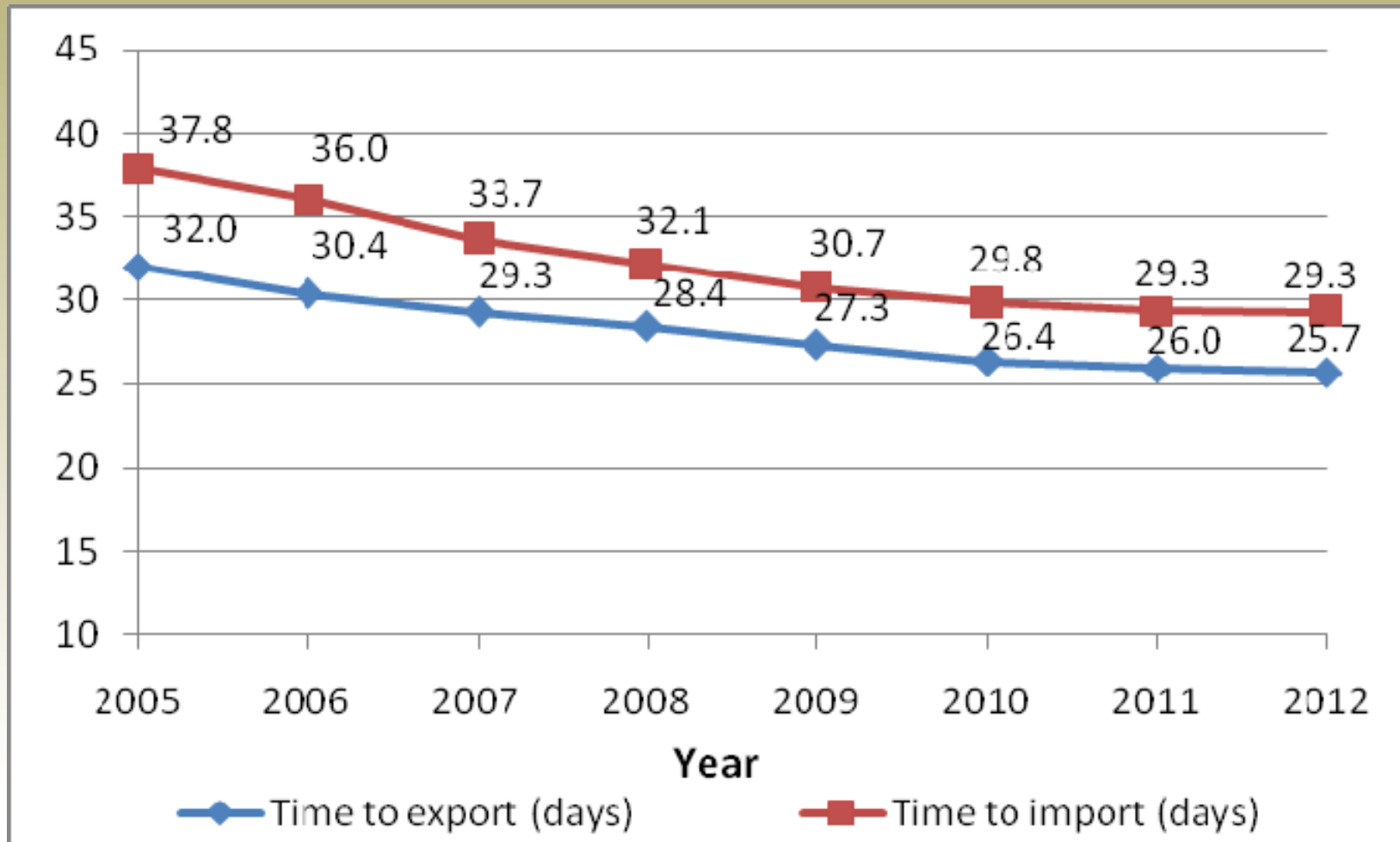


Data set: The number of documents to export and import



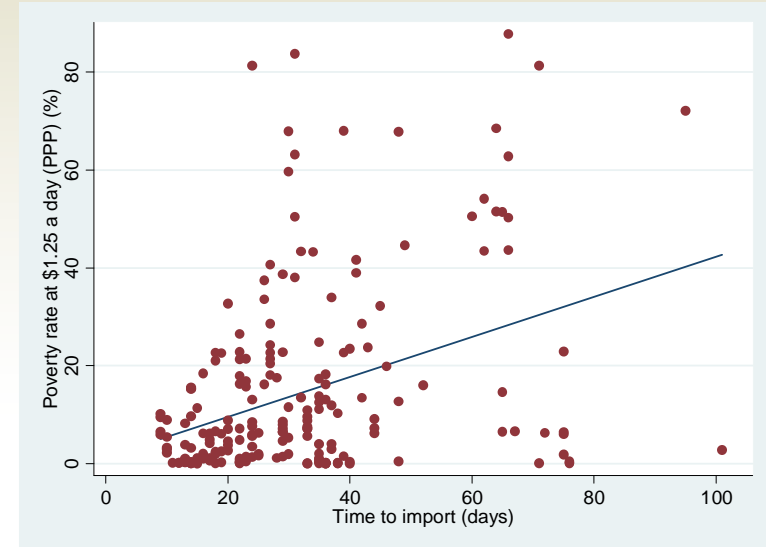
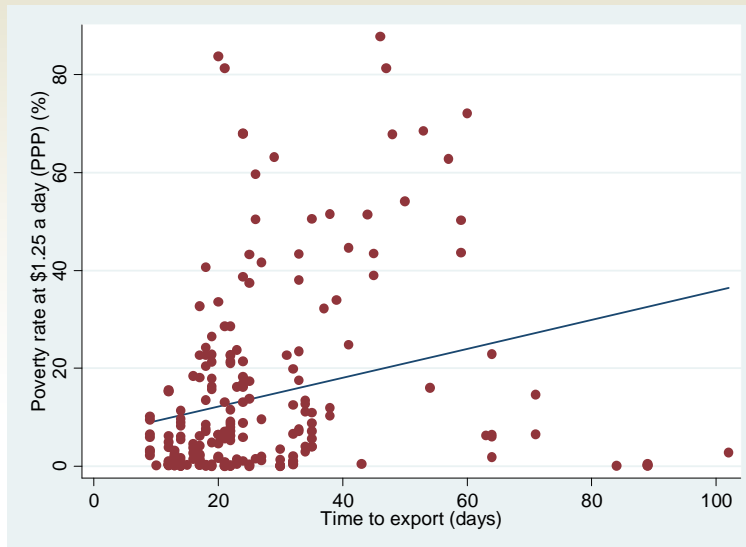
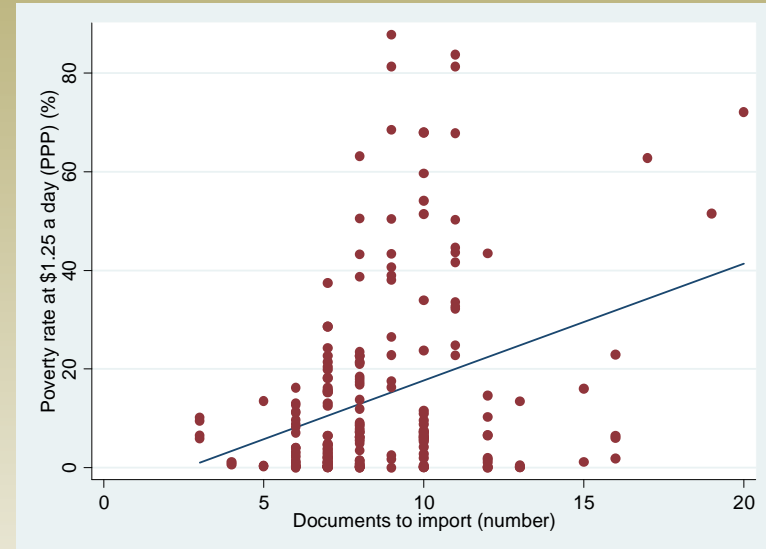
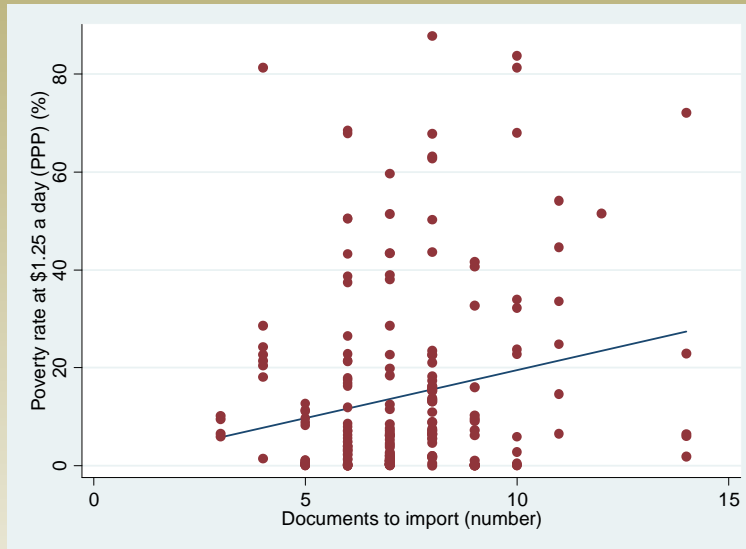


Data set: Time to export and import (days)



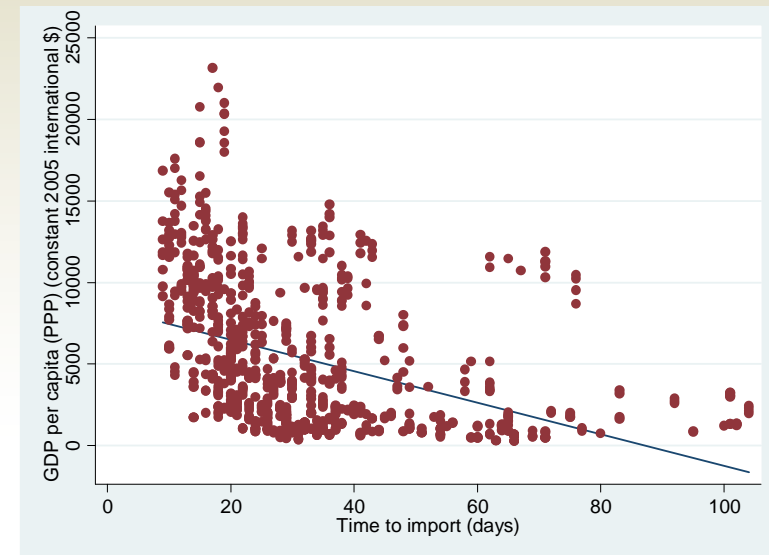
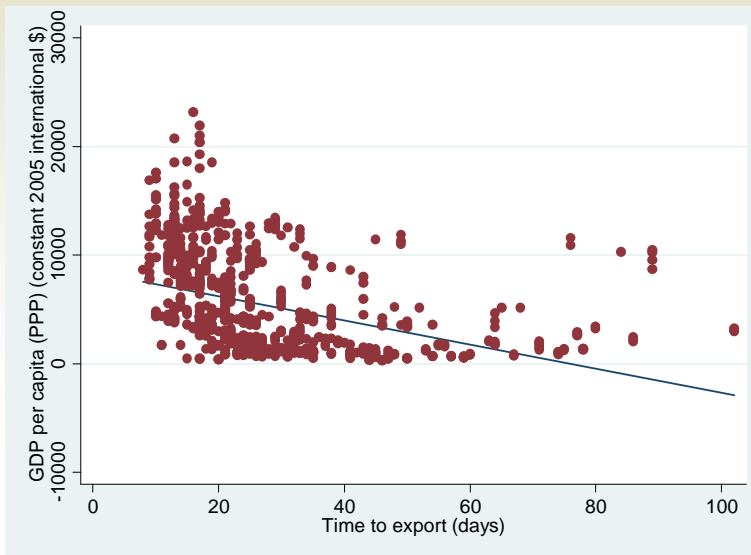
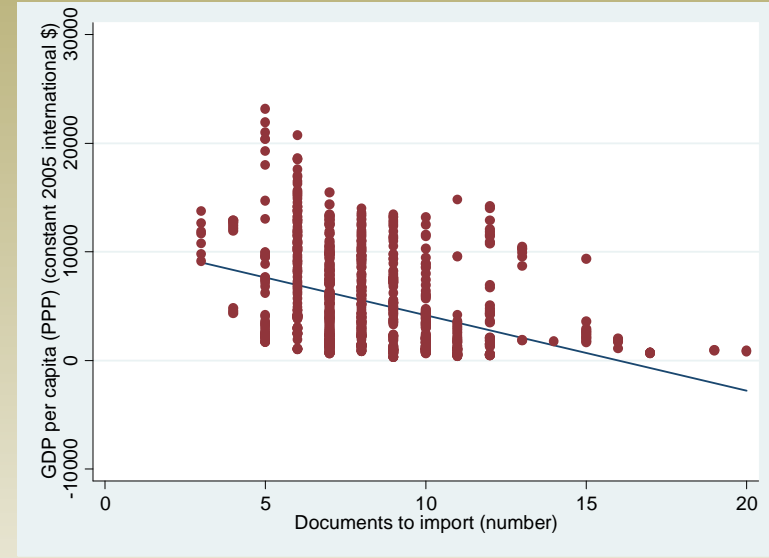
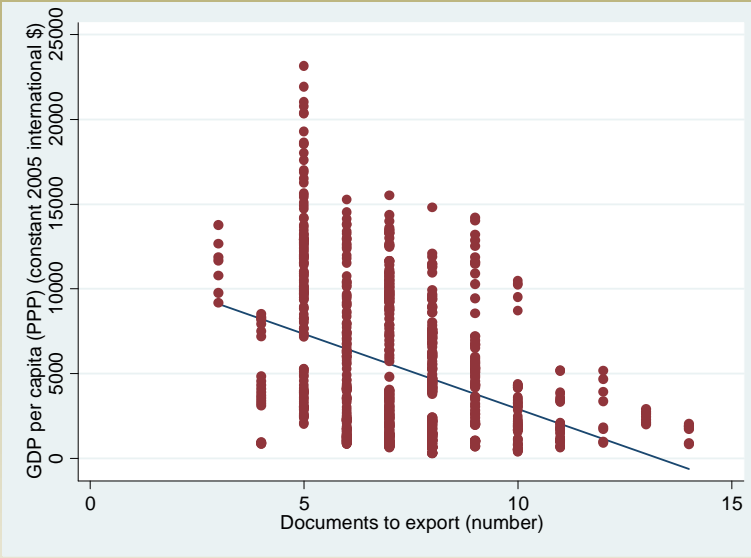


Association between the poverty rate and trade facilitation



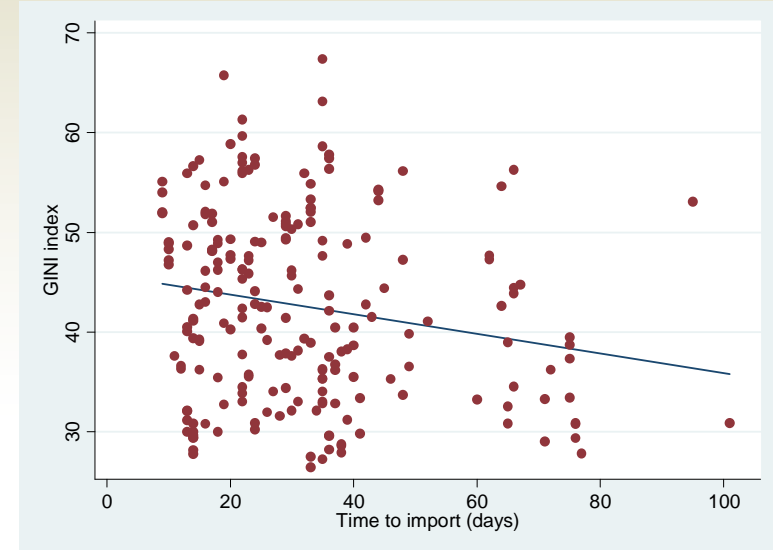
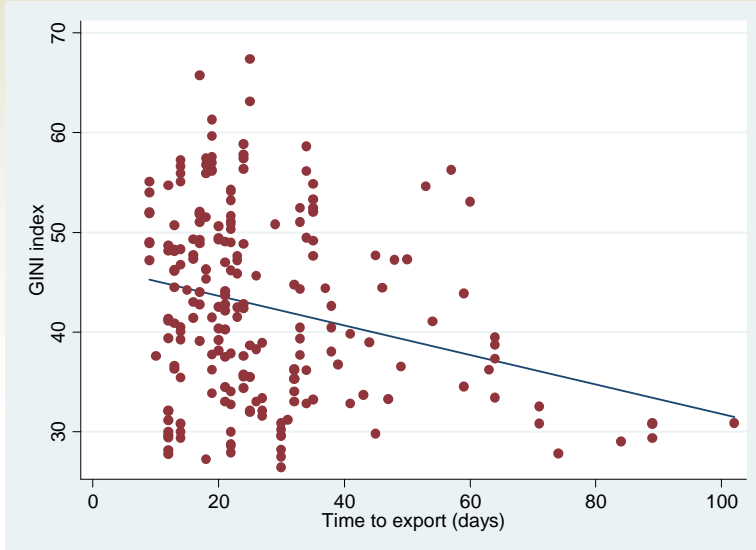
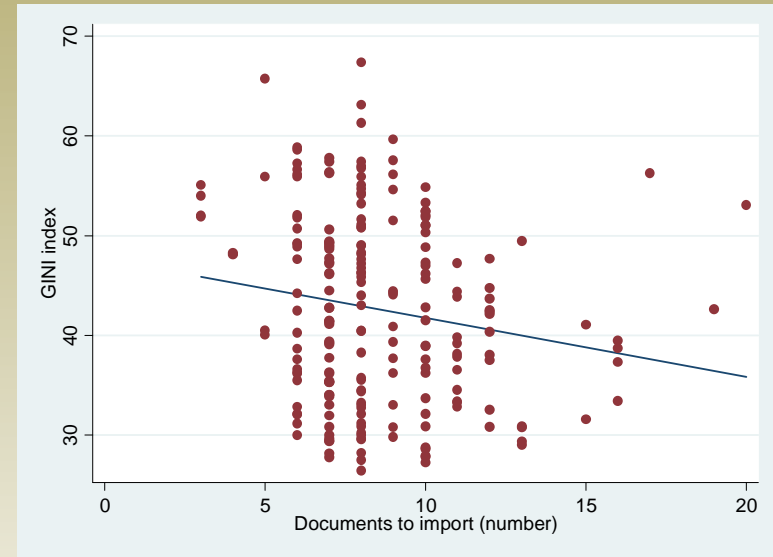
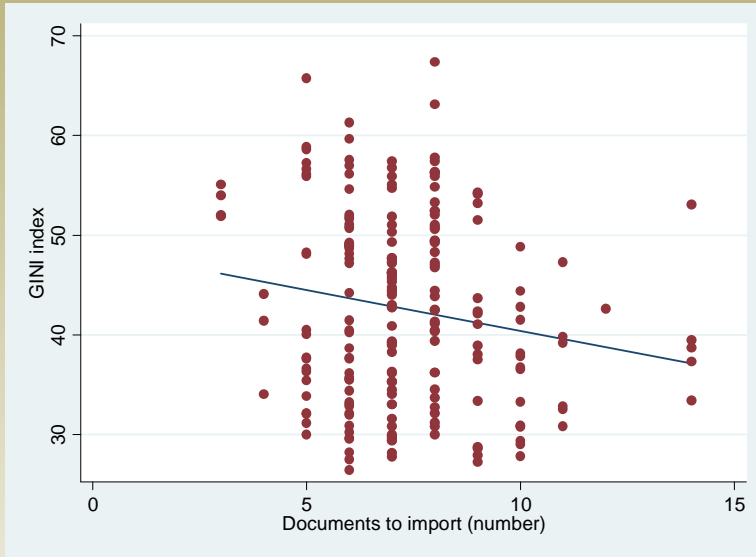


Association between GDP and trade facilitation





Association between Gini index and trade facilitation





Association between the poverty rate and trade facilitation

- We run regressions of poverty indexes, per capita GDP, and the Gini index on trade facilitation indicators and other explanatory variables using panel data of low and middle income countries:

$$y_{it} = \alpha + TF_{it}\beta + X_{it}\theta + v_i + u_{it}$$

- y_{it} is outcome variables (poverty, GDP and inequality index); TF_{it} is the trade facilitation measure.
- We estimate this model using Generalised Method of Moments (GMM) which were developed by Holtz-Eakin, Newey, and Rosen (1988), and Arellano and Bond (1991).



Regression of the poverty rate on trade facilitation

| Explanatory variables | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---------------------------------------|------------------|---------------------|---------------------|---------------------|--------------------|---------------------|
| Documents to export (number) | 0.357 (0.483) | | | | | |
| Documents to import (number) | | 0.773*** (0.272) | | | | |
| Time to export (days) | | | 0.494*** (0.108) | | | |
| Time to import (days) | | | | 0.474*** (0.128) | | |
| Sum of documents to export and import | | | | | 0.501** (0.197) | |
| Sum of time to export and import | | | | | | 0.258*** (0.061) |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes |



Regression of the poverty gap on trade facilitation

| Explanatory variables | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---------------------------------------|------------------|--------------------|---------------------|---------------------|--------------------|---------------------|
| Documents to export (number) | 0.107 (0.220) | | | | | |
| Documents to import (number) | | 0.297** (0.122) | | | | |
| Time to export (days) | | | 0.162*** (0.044) | | | |
| Time to import (days) | | | | 0.163*** (0.052) | | |
| Sum of documents to export and import | | | | | 0.174** (0.088) | |
| Sum of time to export and import | | | | | | 0.087*** (0.025) |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes |



Regression of GDP on trade facilitation

| Explanatory variables | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---------------------------------------|--------------------|-------------------|--------------------|--------------------|-------------------|-------------------|
| Documents to export (number) | -171.3** (76.1) | | | | | |
| Documents to import (number) | | -98.5** (40.4) | | | | |
| Time to export (days) | | | -41.9*** (13.3) | | | |
| Time to import (days) | | | | -58.6*** (16.5) | | |
| Sum of documents to export and import | | | | | -72.0** (29.6) | |
| Sum of time to export and import | | | | | | -27.0*** (7.6) |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes |



Regression of Gini on trade facilitation

| Explanatory variables | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---------------------------------------|------------------|--------------------|---------------------|---------------------|--------------------|---------------------|
| Documents to export (number) | 0.444 (0.320) | | | | | |
| Documents to import (number) | | 0.400** (0.179) | | | | |
| Time to export (days) | | | 0.217*** (0.059) | | | |
| Time to import (days) | | | | 0.245*** (0.071) | | |
| Sum of documents to export and import | | | | | 0.281** (0.130) | |
| Sum of time to export and import | | | | | | 0.121*** (0.033) |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes |



Conclusions

- This paper is an attempt to examine the effect of trade facilitation on poverty, GDP and income inequality in low and middle income countries.
- It finds that trade facilitation can affect per capita GDP, poverty and inequality. More specifically, deterioration in trade facilitation which is measured by an increase in the number of documents and days for exports and import can reduce per capita GDP, albeit at a small magnitude.
- Countries with a larger number of documents and more time for imports and exports tend to have higher poverty (measured by the headcount and poverty gap index) and higher inequality (measured by the Gini index) than other countries.



Thank you very much!
Your comments are welcome!