Trade Facilitation for Inclusive & Sustainable Growth: Recent Research and Future Research Agenda

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Outline

1. Measuring Trade Costs in the Developing World
2. Does Trade Facilitation Benefit Small Firms in Global Value Chains?
3. Conclusion and Directions for Future Research

1. Measuring Trade Costs in the Developing World

- Defined broadly, trade facilitation is any policy action (other than cutting tariffs) that reduces international trade costs
  - Trade costs = the wedge between exporter and importer prices
  - Not just tariffs and international transport, bust also:
    - Geography
    - Social and cultural costs (language)
    - Logistics performance
    - "Narrow" trade facilitation (customs and border procedures)
    - Product standards (SPS and TBT)
    - Regulatory differences
    - … and the list goes on

- Some trade facilitation initiatives (such as APEC's TFAPs 1 and 2) define success in terms of reducing trade costs by a particular amount, like 5% in 5 years…

- But there is no measurement methodology incorporated in the commitment, so how can success be judged?

1. Measuring Trade Costs in the Developing World

- Before we can know which trade facilitation policies work best, we need a comprehensive measure of trade costs
  - All inclusive, i.e. captures all factors that drive a wedge between export and import prices
  - Includes non-observables, and factors that are difficult to observe (standards and regulatory barriers)
  - Easy to calculate based on existing data
  - Available for a wide range of countries, and preferably over time

- UNESCAP – World Bank Trade Costs Database aims to provide such a measure
  - Presentation and results in Arvis, Duval, Shepherd, and Utoktham working papers (World Bank PRWP 2013 and ARTNET WP 2012)
  - Focus on the developing world
  - Coverage of manufactured goods, agriculture, and total trade (sum)
  - 1995-2010 in the original edition. New update to 2011 just put online.
  - All data freely available through the World Bank data website.

1. Measuring Trade Costs in the Developing World

- Where does an all inclusive measure of trade costs come from, and how do we calculate it?

- Consider the canonical AvW (2003) gravity model:

$$X_{ij} = \frac{Y_i Y_j}{Y_w} \left(\frac{t_{ij}}{\Pi_i P_j} \right)^{1-\sigma}$$

- By writing down four equations (Xii, Xij, Xjj, and Xji) we can divide through and eliminate the multilateral resistance terms.

- The result after rearrangement is an expression for trade costs in terms of trade and production data:

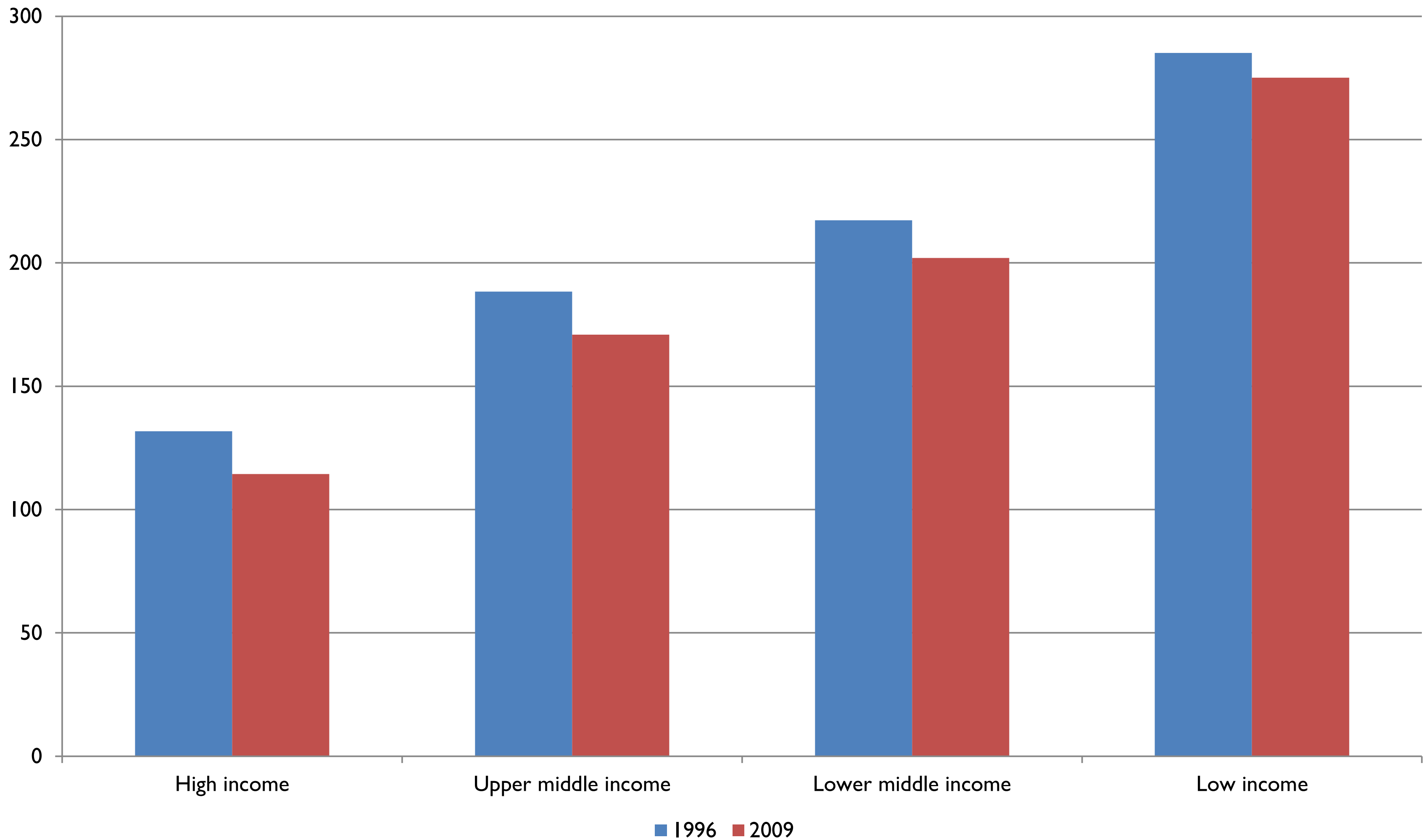
$$\tau_{ij} = \tau_{ji} = \left(\frac{t_{ij} t_{ji}}{t_{ii} t_{jj}} \right)^{\frac{1}{2}} - 1 = \left(\frac{X_{ii} X_{jj}}{X_{ij} X_{ji}} \right)^{\frac{1}{2(\sigma-1)}} - 1$$

1. Measuring Trade Costs in the Developing World

- Advantages of this method (due to Novy, 2013):
  - It does not assume balanced trade or symmetrical trade costs
  - It can be derived from a wide variety of theory-based gravity models
  - The trade costs index is in ad valorem terms, and can easily be compared with tariffs and other measures
  - It is easy to calculate with minimal data requirements, at the price of some assumptions regarding production data
  - Application provides at least partial coverage for 178 countries, and three sectors, over the 1995-2011 period

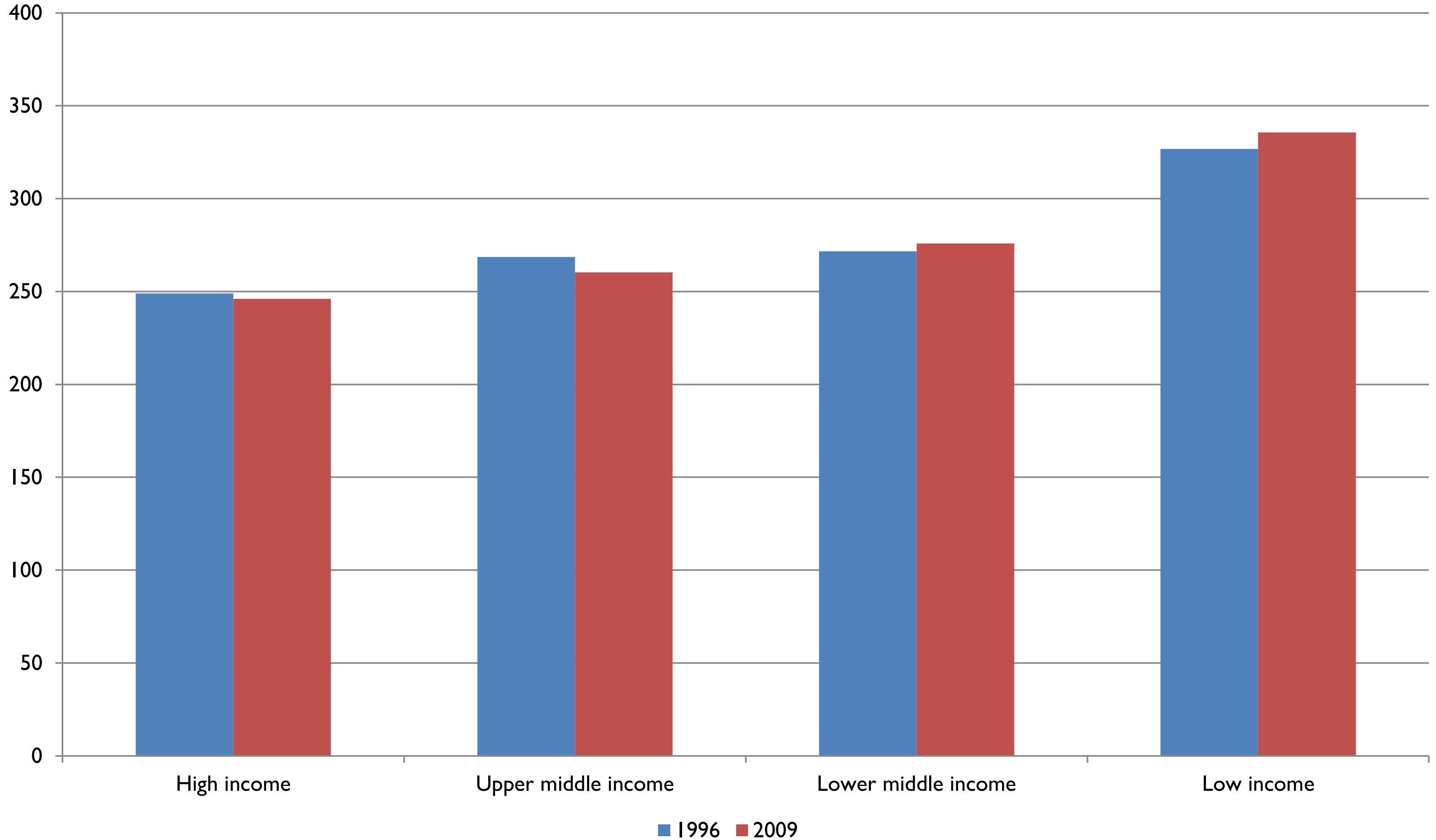
- Disadvantages of this method:
  - The index is expressed bilaterally (i.e., it is the same regardless of direction)
  - It expresses international trade costs relative to domestic trade costs, so interpreting changes and making causal links is difficult
  - Ad valorem equivalents are sensitive to a parameter assumption, but index numbers are relatively insensitive.

1. Measuring Trade Costs in the Developing World



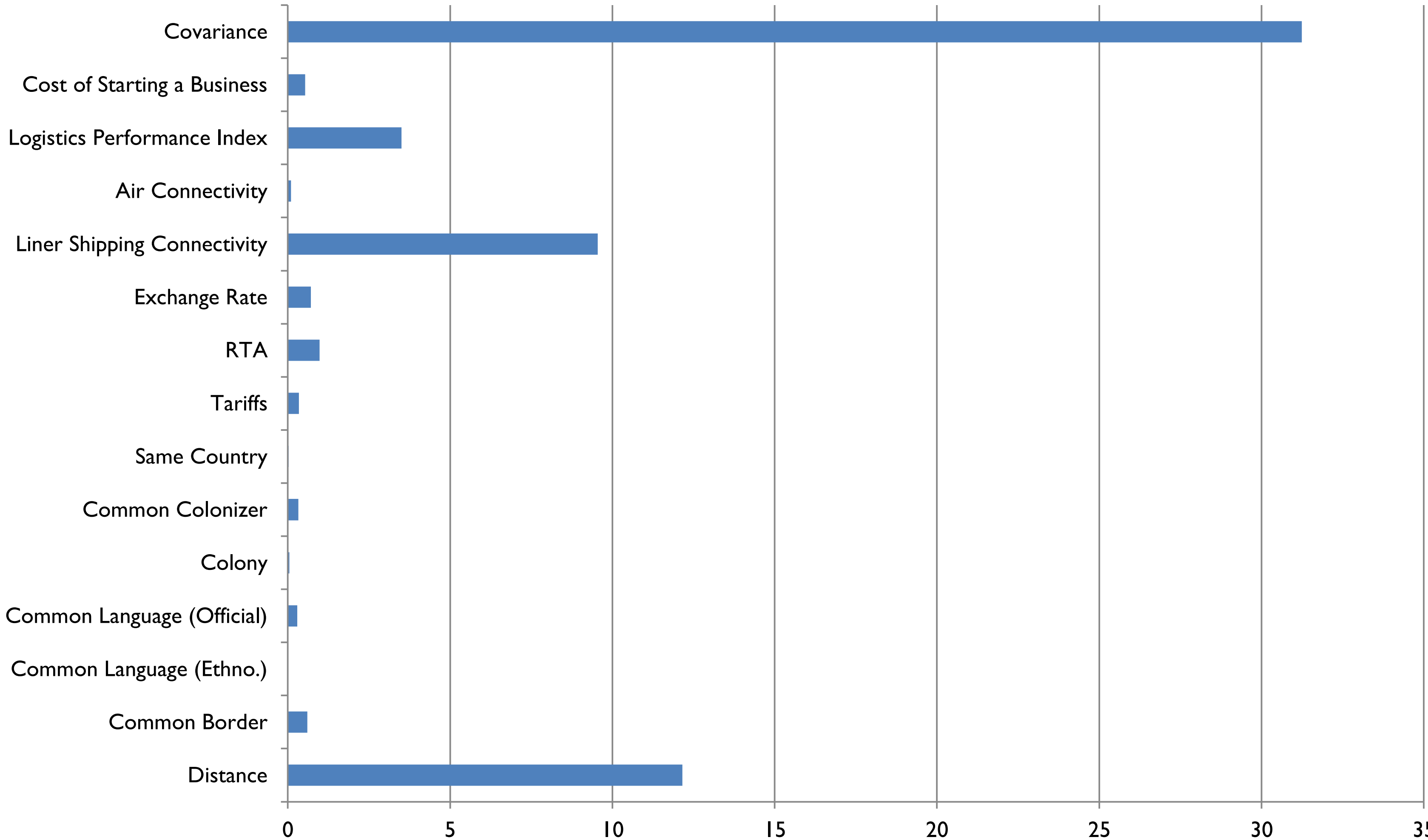
Manufacturing

1. Measuring Trade Costs in the Developing World



Agriculture

1. Measuring Trade Costs in the Developing World



Semi-Partial R2 = the proportion of the observed variation in trade costs that is accounted for by each independent variable, after controlling for the influence of the other independent variables

2. Trade Facilitation and Small Firms

- There is an argument circulating among some (particularly in Geneva) to the effect that a WTO Trade Facilitation Agreement would only benefit (developed country) large firms, and not (developing country) small firms

- Under which circumstances might the argument hold?

- Is there any empirical support for this contention?

- The answers are in a CEPR Discussion Paper with Bernard Hoekman (2013)

2. Trade Facilitation and Small Firms

- For the benefits of lower trade costs to be appropriated as rents by large lead firms in global value chains, one of two conditions would need to hold:
  - A severe lack of competition among lead firms, such that they act as oligopsonists with respect to small, local suppliers
  - Very high switching costs, so that local suppliers are effectively locked into dealing with one lead firm and cannot change without incurring substantial (perhaps prohibitive) costs

- Although some lead firms are very large and suppliers can often be very small, there is no quantitative evidence of oligopsonist behavior in global value chains

- Switching costs may well be large due to the need to adapt to lead firm standards, but there is again no quantitative evidence on their size, or whether they indeed inhibit small firms from changing from one lead firm to another

2. Trade Facilitation and Small Firms

- Empirical approach:
  - Firm-level data from the World Bank Enterprise Surveys, covering 119 developing countries and 11 manufacturing sectors, for selected years over the 2006-2011 period
  - Model exports as a function of firm-level variables, including the average time taken to export (i.e., the time taken for direct exports between arrival at the main point of exit and clearance by customs)
  - Export times are reported separately by each firm, so not national averages (LPI) or based on hypotheticals (Doing Business)
  - Interact the trade facilitation variable with dummies for firm size categories (micro, small, medium, and large)

- If the size hypothesis is correct, we would expect to see statistically significant interaction terms showing that only large firms export more as a result of better trade facilitation

2. Trade Facilitation and Small Firms

- Main findings:
  - Export time is negatively and statistically significantly associated with lower exports
  - The size interaction terms are generally not statistically significant, so trade facilitation benefits large and small firms alike
  - Results generally hold up when we limit the sample to three sectors in which global value chains are particularly prominent:
    - Garments
    - Food
    - Electronics

- Conclusion: Firms of all sizes stand to benefit from measures that reduce trade costs, including potentially a WTO Trade Facilitation Agreement

3. Conclusion and Directions for Further Research

- Conclusions:
  1. Trade costs need to be measured properly before we can assess the impact of trade facilitation policies
  2. A first attempt reveals that trade costs are higher in developing countries and in agriculture, and that they are falling more slowly in developing countries
  3. Better trade facilitation, and lower trade costs, are therefore crucial for developing countries
  4. Although vigilance is required for competition issues in the context of global value chains, the empirical evidence suggests that firms of all sizes benefit from better trade facilitation

- Future research can usefully focus on three main questions:
  1. Measurement of trade costs at a more detailed sectoral level
  2. Identification and exploitation of nuances in policy effectiveness by sector
  3. Increased use of firm-level data to exclude other country-level effects, but with an appropriate instrument for trade facilitation