



Asia-Pacific Research and Training Network on Trade

Trade Costs in the Developing World: 1995 – 2010

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*By Jean-François Arvis, Yann Duval,
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Abstract

The authors use newly collected data on trade and production in 178 countries to infer estimates of trade costs in agriculture and manufactured goods for the 1995-2010 periods. The data show that trade costs are strongly declining in per capita income. Moreover, the rate of change of trade costs is largely unfavorable to the developing world: trade costs are falling noticeably faster in developed countries than in developing ones, which serves to increase the relative isolation of the latter. In particular, Sub-Saharan African countries and low income countries remain subject to very high levels of trade costs. In terms of policy implications, we find that maritime transport connectivity and logistics performance are very important determinants of bilateral trade costs: in some specifications, their combined effect is comparable to that of geographical distance. Traditional and non-traditional trade policies more generally, including market entry barriers and regional integration agreements, play a significant role in shaping the trade costs landscape.

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Keywords: Trade costs; Trade Facilitation; Economic development; Trade policy.

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1. Introduction

In an increasingly globalized and networked world, trade costs matter as a determinant of the pattern of bilateral trade and investment, as well as of the geographical distribution of production. Although tariffs in many countries are now at historical lows, the evidence suggests that trade costs remain high. One well-known estimate based on an exhaustive review of research findings suggests that representative rich country trade costs might be as high as 170% ad valorem—far in excess of the 5% or so accounted for by tariffs (Anderson and Van Wincoop, 2004). Trade costs in the developing world are likely to be even higher, as tariffs and non-tariff barriers remain substantial, as do other sources of trade costs such as poor infrastructure and dysfunctional transport and logistics services markets, both of which contribute to high transport costs facing importers and exporters.

Box 1: What are Trade Costs?

Most theories of international trade include trade costs as the set of factors driving a wedge between export and import prices. Trade costs can be fixed in the sense that they are paid once in order to access a market, or variable in the sense that they must be paid once for each unit shipped. Our focus in this paper is on variable trade costs, but as we note below, the methodology we apply can also be interpreted in terms of fixed costs with alternative theoretical underpinnings.

Anderson and Van Wincoop (2004) provide a comprehensive review of the literature on trade costs. They find a “headline” number of 170% ad valorem for a typical developed country. This number is based on the following breakdown: 21% transport costs, 44% border related trade barriers, and 55% wholesale and retail distribution costs ($2.70 = 1.21 * 1.44 * 1.55$). Of the 44% ad valorem equivalent of border related trade barriers, only 8% relates to traditional trade policies such as tariffs. The remainder is composed of a 7% language barrier, a 14% currency barrier (due to the use of different currencies), a 6% information cost barrier, and a 3% security barrier. All numbers are based on representative evidence for developed countries. We expect the numbers in developing countries to be much higher, but the same basic pattern is likely to be repeated: traditional trade policies like tariffs are dwarfed by the other sources of trade costs, which still represent a significant drag on the international integration of markets.

Trade costs are therefore of great importance from a policy perspective, all the more so since they are an important determinant of a country's ability to take part in regional and global production networks. Many countries are eager to reap the benefits that such networks can bring, including trade- and investment-linked technological spillovers and stronger employment demand in manufacturing. Ma and Van Assche (2011), for example, find that upstream and downstream trade costs are important determinants of China's export processing trade, which is a typical part of a global or regional production network. Understanding the sources of trade costs, and in particular the types of policies that can reduce them, is thus a key part of discussions over production networks going forward.

Despite the importance of trade costs as drivers of the geographical pattern of economic activity around the globe, most contributions to their understanding remain piecemeal. Typically, the trade costs literature focuses on identifying one or more previously understudied elements and demonstrating that they have a significant impact on bilateral trade flows as captured through the standard gravity model of international trade. We refer to that approach as “bottom up”, in the sense that it starts from the fundamental factors believed to influence trade costs and can ultimately produce an estimate of the overall level of trade costs facing exporters and importers by summing the parts together. To date, only Anderson and Van Wincoop (2004) have undertaken such a summing exercise, and their total number cited above—170% ad valorem—is of major economic significance.

More recently, another strand of the literature has turned the gravity model on its head in order to obtain “top down” estimates of trade costs, by inferring them from the observed pattern of production and trade across countries (Novy, 2012). This paper follows such an approach, and extends existing work by focusing on trade costs in the developing world over the period 1995-2010. Existing “top down” measures of trade costs have been computed for major economies for which data on production and trade are readily available, but ours, building on the ESCAP Trade Cost Database developed by some of the authors in 2011, is the first contribution to include a wide range of both developing and developed countries. Our database includes 178 countries, compared with a maximum of 27 covered by Jacks et al. (2011).²

² The ESCAP-World Bank database is available at <http://data.worldbank.org/data-catalog/trade-cost> and <http://www.unescap.org/tid/artnet/trade-costs.asp>.

Our paper also adds to the literature by disaggregating trade into two macro-sectors, agriculture and manufacturing. Existing estimates largely use total trade only, without providing any sectoral details (e.g., Jacks et al., 2011). An exception is Chen and Novy (2011), who use industry-level data, but they only cover European countries and thus do not address the issue of trade costs in the developing world. Although it would obviously be desirable to extend the sectoral classification even further, we explain in Section 3 that data constraints for many developing countries are formidable when it comes to obtaining the disaggregated production data that our approach requires.

Following Chen and Novy (2011), we also provide a decomposition of our “top down” measure of trade costs into a range of component parts. We extend their work by applying such a decomposition of trade costs to data for developing countries, whereas they use data for the European Union only. In addition, we also include a range of other possible sources of trade costs, including air and maritime transport connectivity, logistics, trade facilitation, and behind-the-border regulatory barriers.

Box 2: Trade Costs and Country Dialogue—The Case of the Maghreb

The proposed dataset scales up recent experiments to use trade costs data as a tool for policy making at the World Bank (Arvis and Shepherd, Forthcoming) and UN ESCAP (Duval and De, 2011; Duval and Utoktham, 2011; and Duval and Utoktham, Forthcoming). For instance, two of the authors have been involved in a project designing a program in trade facilitation and regional infrastructure for the countries in the Maghreb in North Africa (Algeria, Libya, Mauritania, Morocco, Tunisia). These countries trade very little between themselves (3-5 % of their trade).

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