



Market access in global and regional trade [☆]

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ABSTRACT

This paper develops a method to measure difficulties in market access over a large set of industries and countries (both developing and developed), during the period 1980–2006. We use a micro-founded heterogeneous-consumers model to estimate the impact of national borders on global and regional trade flows. Results show that difficulties faced by developing countries' exporters in accessing developed markets are 50% higher than those faced by Northern exporters. These difficulties have however experienced a noticeable fall since 1980 in all industries. It is twenty three times easier to enter Northern and Southern markets for a Southern country exporter in 2006 than in 1980. Expressed in tariff-equivalent, the level of protection implied when crossing a border fell from 180% to 89% for this same sample. While tariffs still have an influence on trade patterns, they do not seem to explain an important part of the border effect. Last, our theory-based measure offers a renewal of the assessment of the impact of regional trading arrangements. The EU, NAFTA, ASEAN and MERCOSUR agreements all tend to reduce the estimated degree of market fragmentation within those zones, with the expected ranking between their respective trade impact.

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1. Introduction

“There is a wide agreement that the space-economy may be viewed as the outcome of a trade-off between different types of scale economies

in production and *the mobility costs* of goods, people and information.”, Thisse (2012, *emphasis added*).

The present paper is a contribution to the measurement of the second part of the trade-off emphasized by Jacques Thisse in the quoted paper (a chapter surveying the history of thought of spatial economics). More precisely, we focus on measuring the level and recent evolution of how goods move across space, and in particular how impeded they are by national borders even in the modern era, which seems characterized by a fall of all kinds of transaction costs. If the existence of trade costs seems essential to any economic theory that claims to be “spatial”, their actual level is also crucially important. The extent of market integration (or dis-integration) is central in particular when the theory tries to assess the level of geographical disparity in economic activity. This is true for the Krugman-type models of course, but a larger class of mechanisms predicts that the organization of the world economy will move through a bell shape curve of dispersion-agglomeration-dispersion as trade costs fall. This pattern has consequences in terms of

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income disparities. The agglomeration phase is one where the manufacturing economic activity concentrates in a rich core (call it the North), which diverges from an impoverished periphery (the South). Then, the final dispersion phase that comes with low trade costs ends up enabling peripheral countries to catch up with the developed world.¹ Knowing “where in the bell” is the world economy is therefore quite important to predict what comes next, should we continue to integrate markets further.

Measuring the extent of market integration is also useful in the debate opposing developed and developing economies regarding their respective contribution to the multilateral liberalization of trade flows. Particularly, in the current context of World Trade Organization (WTO) negotiations seemingly stalled, and rising protectionist pressures (since the crisis), a rigorous measure of market access difficulties, encountered by different exporters, can contribute to the policy debate. A good illustration is the case of Least Developed Countries (LDCs), on which current WTO talks are largely focused. Despite complex and wide-ranging preferential access granted by rich countries to LDC's exporters, essentially dropping all tariffs and quotas on manufacturing goods, there are claims that Northern market access remains limited. Those claims are seemingly backed up by the apparently low level of their market shares in rich countries. The share of LDCs in total imports of the most developed countries offers a simple, although very crude, measure of their market access. This import share is rarely above a tiny 1%. As an example, the import share of LDCs in the European Union (EU) market was about 0.4% in 1990, 0.5% in 2000 and 0.55% in 2006. Moreover, the evolution of both the total and manufacturing import shares of the 50 LDCs, between 1989 and 2006, in the EU, the USA and the Japan markets gives credits to the Southern's claims (see Figs. 4–6 in Appendix A).²

However instructive, the market shares cannot be sufficient to draw conclusions on the level of market access experienced by Southern exporters on Northern markets. The first limitation is that we do not know *a priori* what to compare those numbers to. Any assessment of market access based on trade flows needs to specify a benchmark of trade patterns, to which actual international exchanges of goods will be compared. Such a benchmark can only be provided by theory. We use here a theoretical framework to give an empirically estimable gravity-type equation. The theoretical framework is derived from a logit demand system, described in Anderson et al. (1992), combined with a traditional monopolistic competition market structure. Difficulties in market access are measured as a (negative) deviation from this theoretical benchmark. We therefore rely on an indirect measure of protection. Market access difficulties are revealed by distortions in trade flows, after having controlled for supply and demand capacity, and bilateral frictions such as tariffs as dictated by the theoretical framework.³

A second problematic issue with the use of the simple import shares to assess market access is that they usually miss most of the action. When saying that in 2006, the EU countries had on average 0.55% of their imports originating from LDCs, one is in fact only comparing relative access among foreign producers on the EU market. The problem is that, for most products, the large majority of overall demand in a country is met by domestic producers, not foreign. A more sensible index of market access must take into account the

market share of foreign producers in the overall demand. This is what the *border effects* method does. It considers trade flows within countries as well as among countries and compares imports from foreign countries to “imports” from domestic producers. This gives a benchmark based on a situation of the best possible market access, the one faced by domestic producers.

We follow this method of market integration measurement and expand it so that it provides new results on access difficulties of world markets, distinguishing between Northern and Southern exporters, over the period 1980–2006 and a large set of industries. This is made possible by the construction and use of large interconnected data sets. In particular, the collection of production and trade data is an updated extension of Nicita and Olarreaga (2007), aiming to cover more countries and years. A specific feature of our study is to identify, in the border effect, the part to be associated with observed bilateral characteristics, such as tariffs. To this end, we use the UNCTAD's TRAINS and the CEPII's MACMap datasets to control for bilateral tariffs at the industry/time level.⁴ Moreover, we compute both internal and international bilateral distances in a consistent way such that they take into account the geographic distribution of the economic activity within each nation. This avoids mis-measurement in relative distances.

Results show that difficulties faced by developing countries' exporters in accessing developed markets are substantial and higher than those faced by Northern exporters. These difficulties have however experienced a noticeable fall since 1980 in both Southern and Northern markets, and in all industries. It is twenty three times easier to enter those markets for a Southern country exporter in 2006 than in 1980. While tariffs still have an influence on trade patterns, they do not seem to explain a large part of the border effect. Controlling for tariffs, the tariff equivalent of preferences and trade restrictions is still 233% and the difference between Northern and Southern exporters holds. This observed difference could be attributable to differences in infrastructure and trade facilitation such as cumbersome documentation requirements, restrictive administrative regulations, and other unwieldy border procedures, all of which impose high costs on trade. Since mid-2004, these obstacles to trade facilitation have been added to the list of subjects in the Doha multilateral round of trade negotiations. A “by-product” of our method is the provision of new estimates of the impact of Regional Trading Arrangements (RTAs), both involving Northern and Southern countries' combinations, on trade patterns. The benchmark against which trade patterns inside the RTA are compared is the domestic market, supposedly highly integrated.

The remainder of the paper is as follows. In Section 2, we motivate the use of the border effects methodology when measuring market access. In Section 3, we specify the theoretical foundations of our work as well as the derived empirical specification. In Section 4, we expose the data requirements. In Section 5, we provide results for overall market access to Northern and Southern producers and for the impact of regional trade agreements and give details concerning the evolution of this access over recent years as well as differences across industries.

2. Measuring market access with border effects

The measure of market access is linked to the assessment of the impact of national borders on trade. In order to make that assessment, one needs to consider international as well as intra-national trade

¹ The first paper emphasizing the bell shape curve (Krugman and Venables, 1995) was titled “Globalization and the Inequality of Nations”.

² We use the BACI database of international trade (see Section 4 for data details) to compute the annual import shares of the LDCs. The EU market is composed of the first 15 EU members. The 50 LDCs are retained according to the UNCTAD's list (as of 2006).

³ Alternatively, one can try to measure protection directly through the collection of formal trade barriers (see Anderson and van Wincoop, 2004, for a survey of this type of evidence, and the data issues involved).

⁴ UNCTAD's Trade Analysis & Information System (TRAIS) is the key source to the research community for panel data on policy barriers (Anderson and van Wincoop, 2004). The MACMap data set is constructed by the CEPII and described in Bouët et al. (2008). See Section 4 for more details.

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