ELSEVIER
www.elsevier.com/locate/worlddev

World Development Vol. 39, No. 12, pp. 2069–2079, 2011

0305-750X/$ - see front matter

doi:10.1016/j.worlddev.2011.05.013

Trade Policy, Trade Costs, and Developing Country Trade

BERNARD HOEKMAN
World Bank and CEPR, Washington DC, USA

and

ALESSANDRO NICITA *
UNCTAD, Geneva, Switzerland

Summary. — This paper reviews some indices of trade restrictiveness and trade facilitation and compares the trade impact of different types of trade restrictions applied at the border with the effects of domestic policies that affect trade costs. Based on a gravity regression framework, the analysis suggests that tariffs and non-tariff measures continue to be a significant source of trade restrictiveness for low-income countries despite preferential access programs. The results also suggest that behind-the-border measures to improve logistics performance and facilitate trade are likely to have a comparable, if not larger, effect in expanding developing country trade, especially exports.

Key words — TARIFFS, nontariff measures, trade facilitation, logistics, economic development, DOHA Round

1. INTRODUCTION

The trade policy literature has for many years emphasized the importance of taking into account the impact of a variety of sources of trade costs in addition to import tariffs—see For example, Deardorff and Stern (1998) and Anderson and van Wincoop (2004). Recent research on trade and development has emphasized the magnitude of the trade costs associated with administrative red tape and entry barriers, informed by the emergence of new datasets, such as the OECD's Product Market regulation database, the World Bank's "Doing Business" indicators and Logistics Performance Index (LPI), as well as firm-level surveys of the investment climate, and business environment that prevails in countries.

In this paper we assess the impacts of different sources of trade costs on international trade. The objective is to compare the effect of border barriers (import tariffs, adjusted for bilateral preferences, and non-tariff measures) with other sources of trade costs. Our interest is to explore the relative impacts on trade volumes of different sources of policy-induced trade costs.

The plan of the paper is as follows. Section 2 summarizes the current pattern of tariff protection and the aggregate of all non-tariff measures (NTMs) captured in the UNCTAD database on NTMs (WITS). Section 3 discusses how we take into account the extensive system of preferential trade that has been put in place by OECD countries as well as the numerous preferential trade agreements concluded between subsets of WTO members. Section 4 discusses some of the components of the aggregate NTM measure, as well as indicators of trade facilitation performance: the "trading across borders" component of the World Bank's Doing Business report, and the Logistics Performance Index. These indicators reflect regulatory policies that directly affect trade costs but are not captured by the tariff and NTM databases commonly used by analysts. Section 5 presents the results of an empirical assessment of the relative trade impacts of these different sets of policies and the possible trade effects of convergence by developing countries to the average levels of border protection and trade facilitation performance levels prevailing in middle-income countries. We find that the latter will have a substantially larger positive impact on trade volumes than the former. Section 6 concludes.

2. TRADE POLICIES

Trade policies can be broadly divided into tariffs (ad-valorem and specific) and non-tariff measures. Although tariffs are still the most widely used policy instrument to restrict trade, their relative importance has been declining. Trade liberalization, whether unilateral, the result of agreements negotiated under the auspices of the World Trade Organization, or the consequence of preferential trade agreements (PTAs), has greatly reduced the average level of applied tariffs. Conversely, the use of NTMs has been increasing both in terms of the number of products covered and the number of countries utilizing them (World Bank and IMF, 2008). The use of tariffs, specific duties and NTMs in 2006 is illustrated in Figure 1. In general, the use of non-tariff measures increases with the level of economic development of countries. This is particularly true for NTMs, which are increasingly used to regulate trade, especially in high income countries. Similarly, specific duties, although affecting only a relatively small share of total imports, are more prominent in high income countries.

The type of NTMs included in the analysis of this paper is limited by the availability of data. In particular, as a measure of NTMs we use the ad-valorem equivalent of NTMs estimated in (Kee, Nicita, & Olarreaga, 2009). This ad-valorem

* We are grateful to Alan Deardorff, Simon Evenett, Sheila Page, and Ben Shepherd for comments on an earlier draft, and to three referees of this journal for comments that greatly improved the paper. The authors accept sole responsibility for any errors remaining. The views expressed are personal and should not be attributed to the World Bank or the United Nations Conference on Trade and Development. Final revision accepted: March 28, 2011.

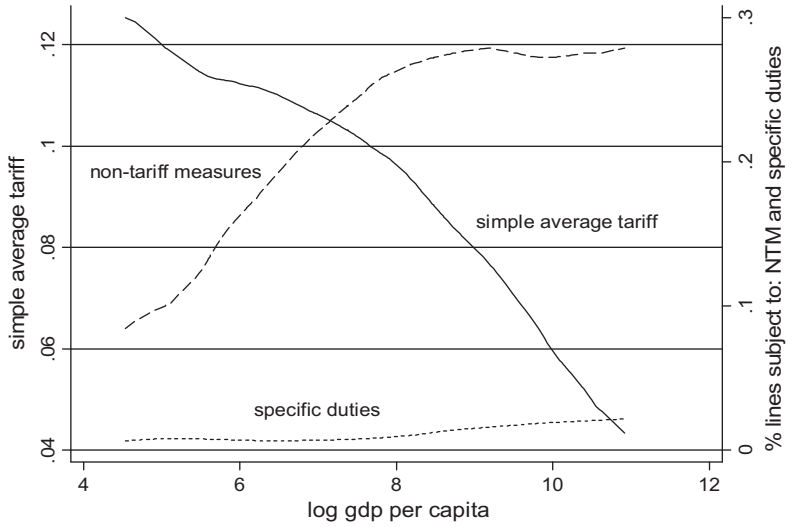

Figure 1. *Use of Tariffs, Specific Duties, and NTMs (% of HS six digit lines), 2006.*

equivalent of NTMs captures the effect of quantitative restrictions, technical product regulations, anti-dumping and countervailing measures, and any monopolistic measure or discretionary licensing. [1]

The ad-valorem equivalent of NTMs can be combined with data on tariffs into an overall trade restrictiveness index (OTRI) to capture the effect of both types of measures (Kee et al., 2009). To isolate the effect of tariffs from the overall index we also calculate the tariff trade restrictiveness index (TTRI). The difference between the TTRI and OTRI is that the OTRI includes the effect of both tariff and NTMs, while the TTRI captures only tariffs, both ad valorem and the ad valorem equivalents of specific tariffs. [2] These indices are calculated on a bilateral basis, using the effectively applied tariff and taking into account all preferential regimes. Both the OTRI and the TTRI are a measure of the uniform tariff equivalent implied by observed trade policies affecting a country's imports—that is, they represent the ad-valorem tariff that would be needed to generate the observed level of trade. [3]

The prevailing average TTRI and OTRI across countries is plotted in Figures 2 and 3. Trade policies are generally more restrictive in lower-income countries, reflecting both lower tariffs in higher-income economies and the fact that their imports are highly skewed toward manufactures, which face relatively low barriers.

Agricultural trade is much more restricted than manufactured products, both in terms of the TTRI and the OTRI, especially in high income countries. This reflects both higher tariffs and greater use of NTMs in agricultural trade. A comparison of Figures 2 and 3 reveals that NTMs contribute substantially to the set of policies restricting global trade, especially in agriculture. Differences in the OTRI and TTRI are also evident across geographic regions (Table 1). In general, East Asian, Central Asian, and East European countries are less restrictive, while countries in South Asia and the Middle East and North Africa are more restrictive. This pattern is similar for the TTRI and the OTRI, and for agriculture and manufacturing.

As a result of unilateral reforms and bilateral and regional agreements, global trade has been substantially liberalized in recent years. Figure 4 presents scatter plots of the TTRI for the years 2000 and 2006. While liberalization has been substantial in most countries, tariff reduction has centered more on manufacturing than agricultural products. Agricultural

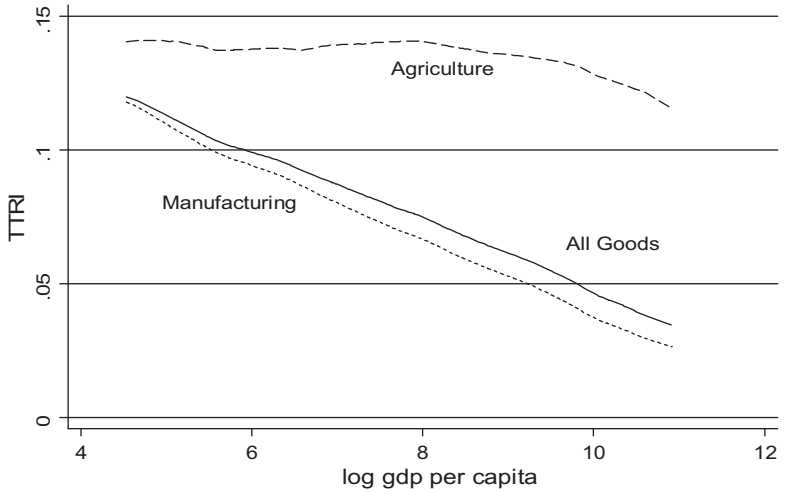

Figure 2. *TTRI and GDP per capita, 2006.*