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Impact of Trade Facilitation Measures and Regional Trade Agreements on Food and Agricultural Trade in South Asia

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Executive Summary

South Asia has been considered as the least integrated region in the world despite its attempts to liberalize trade using various unilateral, bilateral, regional and multilateral arrangements. It has long been argued that the limited success of South Asia to liberalize regional trade was due to limited tariff reductions and remaining barriers present in trade agreements; less complementarities in production and consumption; and political friction among the countries. More recent studies indicate that smaller trade gains in South Asia is mainly due to the fact that inadequate attention was paid to trade facilitation measures such as efficiency of customs and other border procedures, quality of transport, and cost of international and domestic transport. In this context, the objective of this study is to provide quantitative estimates on gains that can be acquired from improving trade facilitation in South Asia, focusing on exports of food and agricultural commodities.

Sectoral gravity models of exports of five product categories, i.e., all food and agriculture; live animals; vegetables; processed food; and manufactured products, were estimated using conventional explanatory variables (GDP of trading partners and Distance, and selected cultural variables) augmented by trade restrictiveness indices, presence of trade agreements, as well as trade facilitation variable. South Asian Preferential Trade Agreement (SAPTA) has improved agricultural exports.

Trade facilitation variables have significant effects on exports of different products, in varying degrees, depending upon the proxy used. The Logistic Performance Index has large positive effects on value of exports of all the product categories. The estimates for trade costs are negative and significant as expected. Improving trade costs and time delays in South Asian countries up to the average values of best performer in South Asia (least cost is recorded for Pakistan and best LPI is observed in India) bring down trade costs by over 17% and improvement in LPI s by 0.72, resulting in an increase in the value of agricultural trade of 18% and 27% respectively. These results indicate that, by reducing inefficiencies at the borders in South Asia, significant trade gains can be achieved.

1. Introduction

It is evident that countries with inadequate trade infrastructure are less capable of benefiting from the opportunities of expanding global trade. In most countries, the difficulty is not due to presence of high-tariffs, but due to the persistence of administrative, bureaucratic, and physical bottlenecks along their export and import supply chains (Ikenson, 2008), which are commonly called as Trade Facilitation measures. Trade Facilitation has become a significant part of the current debate on trade liberalization policy.

In a narrow sense, trade facilitation addresses the logistics of moving goods through ports or customs at the border. A broader definition includes the environment in which trade transactions take place, including the transparency of regulatory environments, harmonization of standards, and conformance to international or regional regulations. Wilson *et al.* (2003) identified four indicators that measure four different categories of Trade facilitation efforts. They are (i) Port efficiency: designed to measure the quality of infrastructure of ports and airports, (ii) Custom environment: designed to measure direct custom costs as well as administrative transparency of customs and border crossings, (iii) Regulatory environment: designed to measure the country's approach to regulations, and (iv) E-business usage: designed to measure the extent to which an economy has the necessary domestic infrastructure (telecommunications, financial intermediaries, logistics firms) and is using networked information to improve efficiency and transform activities to enhance economic activity. Consequently, World Bank (2007) considers improvements in all aspects of supply chain performance as trade facilitation.

The results of the studies done in this area indicate that the expected expansions in trade due to improvements in trade facilitation are quite significant. According to Djankov *et al.* (2006), each additional day that a product is delayed prior to being shipped reduces trade by at least one percent and delays have an even greater impact on developing country imports and exports of time sensitive goods, such as perishable agricultural products. According to UNCTAD (2001), a one percent reduction in the cost of maritime and air transport could increase Asian GDP by \$3.3 billion and a one percent improvement in productivity in wholesale and retail services could increase GDP an additional \$3.6 billion. According to Freund and Weinhold (2000), a 10 percent increase in relative number of Web hosts in one country would have increased trade flows by one percent in 1998 and 1999. Flink *et al.* (2002) find that 10 percent decrease in communication costs is associated with an 8 percent increase in bilateral trade. Otsuki *et al.* (2001) finds that 10 percent tighter EU standard on aflatoxin contamination levels would reduce African exports by 4.3 percent for cereals and 11 percent for nuts and dried fruit.

More specifically, the studies indicate that smaller trade gains in South Asia is mainly due to the fact that not sufficient attention has been paid to trade facilitation measures. World Bank (2007) identifies a number of constraints in South Asia in terms of trade facilitation: (i) limited road density, rail lines, and mobile tele-density per capita, (ii) lengthy customs and port clearance times, (iii) poor transport and communications, (iv) the fact that trucks of one country are not allowed across the border to deliver cargo, (v) regulatory constraints introduced at the gateways and border crossings, (vi) costly domestic transport owing to the distance between the production area and the major ports, and (vii) fragmented trucking industries and old and inefficient truck fleets.

Modeling of trade facilitation measures such as red tape procedures (customs clearance), health and safety regulation, competition laws, technical standards (licensing and

certification regimes, environmental standards) is of growing interest. They are mostly evaluated using gravity models, which provide a benchmark for trade under frictionless conditions. In their simplest form, trade between a pair of countries is a positive function of trade potential and mutual trade attraction. The unobservable trade costs, *i.e.*, trade equivalents, are mostly modeled usually using dummy variables. Continuous variables like Trade Restrictiveness Index by the World Bank and Freedom Index, proposed by the Heritage Foundation, have also been incorporated in gravity models. Philippidis and Sanjuan (2007) used dummy variables for technical standards, health and safety costs, licensing laws and red-tape procedures. Santis and Vicarelli (2007) included multilateral trade resistance index in the gravity equation and estimated it using panel data techniques. Wilson *et al.* (2003) used country-specific data for port efficiency, customs environment, regulatory environment, and e-business usage as measures for trade facilitation.

No attempt has been made so far to quantify the likely trade expansion effects, especially in food and agricultural sectors that can be acquired through strengthening of trade facilitation measures particularly in South Asian countries.

The objective of this study is to assess the extent to which trade facilitation in South Asia help to improve trade flows in South Asian countries and their trading partners.

The specific objectives of the study are:

- (i) To document the pattern of food and agriculture trade of South Asian countries focusing on export destinations and import sources.
- (ii) To document the status of trade facilitation in South Asia vis-à-vis other regions in the world and to document attempts made to improve intra-regional trade in South Asia through Regional Trading Agreements.
- (iii) To review previous studies on gains from intra-regional liberalization of trade in South Asia.
- (iv) To estimate a gravity equation to assess gains through improvement in trade facilitation measures vis-à-vis other factors affecting international trade.

The paper is organized as follows. Section 2 presents patterns of food and agricultural trade of South Asia, tariff and non-tariff barriers to trade and the regional trading agreements in South Asia. Section 3 presents the status of trade facilitation in South Asia using standard trade facilitation indicators. Section 4 summarizes estimates provided by other studies quantifying the impacts of RTAs and trade facilitation. Section 5 presents gravity model and data and data sources. Results of estimation and simulation are presented in section 6. Section 7 provides conclusions and policy implications.

2. Intra-Regional Food and Agriculture Trade in South Asia

2.1 Trade Flows in South Asia

The South Asian countries are more involved in trading with countries outside the region than countries within the region (Table 1). Their largest trading partners are the major industrial nations in the European Union (EU), along with the United States, China and the United Arab Emirates (UAE). A substantial portion of the region's trade also takes place with countries in the Asia-Pacific region, including Australia, New Zealand and the high-income East Asian countries (Hong Kong, Japan, Korea, Singapore, and Taiwan).

Table 2 and 3 show the trading partners of India, which is the largest country in the region in terms of population, geographical size and economic size. Being the largest trading partner of Afghanistan, Bangladesh, Bhutan, and Sri Lanka, India also is the trade hub in the region. The EU, China, and Saudi Arabia account for 16.07 percent, 9.40 percent and 7.21 percent, respectively of the value of total imports, while for exports the EU, United States and United Arab Emirates account for 23.61 percent, 14.96 percent and 9.52 percent, respectively.

Table 2 shows the major trading partners of India according to the value of exports and imports of food and agricultural commodities. Indonesia (18.99 percent), Argentina (10.88 percent) and Canada (8.28 percent) are the major suppliers of India's imports. On the export side, the European Union (18.32 percent) the United States (9.44 percent), and UAE (5.77 percent) are the major export destinations for Indian agricultural and food products. However, India's trade is not highly concentrated by source or destination in comparison with many developed countries.

Table 9 also demonstrates that among the South Asian countries, percentage trade contribution to the GDP is much higher in Maldives followed by Sri Lanka, Nepal, Bangladesh, Pakistan and India. The contribution of agriculture to trade is high in Sri Lanka and followed by Maldives, Pakistan, Nepal, India, and Bangladesh.

2.2 Trade Restrictions by South Asian Countries

Notwithstanding the attempts made to liberalize trade, South Asian countries maintain a great many trade barriers against each other. These include high customs duties, non-tariff barriers like technical and health certifications and standards and also quantitative restrictions. Tariff barriers are in several forms ad valorem, specific tariff quotas and ad valorem equivalents of specific tariffs. Table 4 illustrates how the applied tariff imposed by each South Asian country on their partners.

The types of Non Tariff restrictions imposed by the South Asian countries are multi-fold. Bangladesh has imposed non-automatic licensing and prohibitions as a quality control measures on goods that are imported. For the importation of goods on the restricted list, a Letter of Credit Authorization (LCA) form is needed. Prohibitions are imposed to ban products like drugs and related goods, live animals and animal products etc. Bangladesh also imposed technical measures such as standard and certification on processed food items, Marking, labeling and packaging requirements.

Bhutan also imposed non-automatic licensing in a way of import permits for the importation of some agricultural products. Technical measures such as Sanitary and phytosanitary (SPS) certificates, marking and labeling requirements also act as non-tariff barriers.

India imposed antidumping measures as a price control measure to protecting domestic production. India has also imposed prior authorization for sensitive product categories specially focusing genetically modified food. India prohibited in importing certain items that can damage to the environment or wildlife and human by import restrictions of certain animal products, fresh fruits and vegetable coated with edible and non-edible wax. The Bureau of Indian Standards is responsible for developing mandatory standards and certifications enforced by the appropriate government authority. The goods that are entered to India should fulfill the marking requirements and labeling requirements of India.

Maldives has imposed non-automatic licensing, quotas and prohibitions due to human health, safety, security, environmental concerns and religious reasons as a quality control

measure. Sanitary certificates on live animals and phyto-sanitary certificate on live plants. Labeling is also became a significant requirement specially importing food items.

Sri Lanka is also engage in setting prohibition on some meat products. Agricultural products are subjected to licensing and prior authorization is necessary for some imports for example GM foods. Marking and labeling requirements for some products also defined according to the country prerequisite.

2.3 Regional Trade Agreements in South Asia

Intraregional trade is less than 5% of its total trade in South Asia (World Bank, 2009). The South Asian region has attempted to strengthen regional economic integration through regional, sub-regional and bilateral arrangements. The following paragraphs describe the trade agreements in South Asia.

South Asian Preferential Trading Agreement (SAPTA) and South Asian Free Trade Area (SAFTA).

The framework agreement on SAPTA was finalized and signed in 1993 by SAARC member countries (Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka). The SAPTA came into force in December 1995 after conclusion of first round of negotiations in April 1995. Four rounds of trade negotiations had taken place under the aegis of the SAPTA and it has graduated into South Asian Free Trade Area (SAFTA) in 2004, which came into effect in 2006 with the objective of creating a FTA to include eight South Asian countries. Afghanistan was given the membership of SAARC in year 2005. It was agreed that SAPTA is a stepping-stone to higher levels of trade liberalization and economic co-operation among SAARC member countries. The Agreement reflected the desire of the member states to promote and sustain mutual trade and economic cooperation within the SAARC region through the exchange of concessions.

Indo- Sri Lanka Free Trade Agreement (ISFTA)

The Indo-Sri Lanka Free Trade Agreement was signed in 1998 having the objective of promoting economic relations between India and Sri Lanka through the expansion of trade and the provision of fair conditions of competition for trade between India and Sri Lanka. The aim was to remove barriers to trade in attaining harmonious development and expansion of world trade. The contracting parties also agreed to establish a Free Trade Area for the purpose of free movement of goods between their countries through elimination of tariffs on the movement of goods.

2.3.1 Indo-Sri Lanka Free Trade Agreement (ISFTA)

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