



STUDIES IN TRADE AND INVESTMENT

66

**IMPACT OF TRADE
FACILITATION ON EXPORT
COMPETITIVENESS:
A REGIONAL PERSPECTIVE**



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**IMPACT OF TRADE FACILITATION ON
EXPORT COMPETITIVENESS:
A REGIONAL PERSPECTIVE**



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STUDIES IN TRADE AND INVESTMENT 66

Impact of Trade Facilitation on Export Competitiveness: A Regional Perspective

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The full text of this publication is available for download on the website of the Trade and Investment Division of ESCAP (www.unescap.org/tid/).

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Explanatory notes

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The term "billion" signifies a thousand million. The term "trillion" signifies a million million.

A solidus (/) between dates (e.g. 1980/81) indicates a financial year, a crop year or an academic year.

Use of a hyphen between dates (e.g. 1980-1985) indicates the full period involved, including the beginning and end years.

The following symbols have been used in the tables throughout the journal:

An em-dash (—) indicates that the amount is nil or negligible.

A hyphen (-) indicates that the item is not applicable.

A point (.) is used to indicate decimals.

Two dots (..) indicate that data are not available or are not reported separately.

A space is used to distinguish thousands and millions.

Totals may not add precisely because of rounding.

Abbreviations

ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
ASYCUDA	Automated System for Customs Data
CBTA	Cross-Border Transport Agreement
CO	Certificate of Origin
ECA	Economic Commission for Africa
ECE	Economic Commission for Europe
EDI	electronic data interchange
ESCAP	Economic and Social Commission for Asia and the Pacific
FDI	foreign direct investment
GATT	General Agreement on Tariffs and Trade
GCI	Global Competitiveness Index
GDP	gross domestic product
GMS	Greater Mekong Subregion
HS	Harmonized System
ICC	International Chamber of Commerce
ICT	information and communications technology
MOU	memorandum of understanding
OECD	Organization for Economic Cooperation and Development
ppp	purchasing power parity
SAARC	South Asian Association for Regional Cooperation
SAFE	WCO SAFE Framework of Standards
SPS	sanitary and phytosanitary measures
SRILPRO	Sri Lanka National Trade Facilitation Committee
TBT	technical barriers to trade
TEU	twenty-foot equivalent unit
THC	terminal handling charges
UNCTAD	United Nations Conference on Trade and Development
WCO	World Customs Organization
WTO	World Trade Organization

ENHANCING EXPORT COMPETITIVENESS THROUGH TRADE FACILITATION IN ASIA

*By Peng Bin**

Introduction

The factors that affect export competitiveness are complex. From a firm's perspective, an appropriate trading environment in which the firm can conduct its business plays an important role in the creation of competitiveness. Thus, a trade-enabling environment, based on (a) adequate trade policies; (b) an efficient trade and customs administration system; and (c) good infrastructure, is critical for enterprises to compete effectively in the global economy.

By improving the trading environment, trade facilitation can make a positive impact on export competitiveness. It can assist enterprises in reducing trade transaction costs and time and in attracting more foreign direct investment (FDI). With the use of existing trade facilitation indicators and export competitiveness indices, this study intends to identify the major issues Asian developing countries must address if they are to enhance export competitiveness through trade facilitation.

The paper is composed of four sections. Section 1 examines the definition and scope of trade facilitation. Section 2 presents the concept of export competitiveness and relevant indices. Section 3 discusses the role of trade facilitation in enhancing export competitiveness. Section 4 identifies the major issues that developing countries in Asia should address in terms of trade facilitation to enhance export competitiveness; the section also provides some policy recommendations.

A. Definition and scope of trade facilitation

Trade facilitation has received wide attention in both the public and private sectors since the 1990s, with the acceleration of trade liberalization in the world. It is usually seen as an effective tool for reducing trade transaction costs and time through the elimination of non-tariff barriers and improvements to the trade administration system, in particular simplification, standardization, and harmonization of trade documents and formalities. The ultimate objective is to ensure that traded goods flow across borders in a smooth, timely and less costly manner. There is no standard definition of trade facilitation, and its scope varies according to the different definitions. The following are a selection of stylized definitions of trade facilitation:

* Trade and Investment Division, ESCAP. The author acknowledges with appreciation the valuable comments made by Ms. Shamika Sirimanne and Mr. Prabir De.

- (a) United Nations Conference on Trade and Development (UNCTAD): The simplification and harmonization of international trade procedures that include the activities, practices and formalities involved in collecting, presenting, communicating, and processing data required for the movement of goods in international trade (UNCTAD, 2001, 180);
- (b) Economic Commission for Europe (ECE): Trade facilitation aims at developing a consistent, transparent, and predictable environment for international trade transactions. It is based on internationally accepted norms and practices resulting from the simplification of formalities and procedures, standardization and improvement of physical infrastructure and facilities, harmonization of applicable laws and regulations (ECE, 2002);
- (c) Asia-Pacific Economic Cooperation (APEC): Trade facilitation refers to the simplification and rationalisation of customs and other administrative procedures that hinder, delay or increase the cost of moving goods across international borders. Or to put it another way, cutting red tape at the border for importers and exporters so that goods are delivered in the most efficient and cost effective manner (APEC, 2007, 1);
- (d) Organization for Economic Cooperation and Development (OECD): Trade facilitation covers all the steps that can be taken to smooth and facilitate the flow of trade. The term has been used widely to cover all sorts of non-tariff barriers, including product testing and impediments to labour mobility (OECD, 2005a, 2).

In the Asia-Pacific region, APEC spearheads the regional cooperation on trade facilitation. Such cooperation between the member countries is based on and monitored by the *APEC Trade Facilitation Action Plan* (APEC, 2002a), which initially covered four areas, namely, (a) movement of goods (with a focus on customs and other border procedures); (b) standards; (c) business mobility; and (d) e-commerce. In *APEC's Second Trade Facilitation Action Plan*, the areas of cooperation on trade facilitation were Porter, Michael E., Xavier Sala-i-Martin and Klaus Schwab extended to domestic regulatory reform, work on business ethics and secure trade (APEC, 2007, 5). The extension of the areas covered by the Plan, particularly the inclusion of domestic regulatory reform, reflects the evolution of trade facilitation, widening the scope from simply regulation at the border to the whole regulatory system.

Although the ongoing World Trade Organization (WTO) negotiations on trade facilitation focus only on three General Agreement on Tariffs and Trade (GATT) articles, namely: (a) article V (Freedom of transit); (b) article VIII (Fees and formalities connected with importation and exportation); and (c) article X (Publication and administration of trade regulations), trade facilitation is covered by a wide range of additional WTO/GATT provisions and agreements. These include, among others: (a) article VII (Valuation for customs purposes) and article IX (Marks of origin) of GATT 1994; (b) the Agreement on Implementation of Article VII of the General Agreement on Tariffs and Trade 1994 (Customs Valuation

Agreement);¹ (c) the Agreement on Pre-shipment Inspection;² (d) the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement);³ (e) the Agreement on Technical Barriers to Trade (TBT Agreement);⁴ and (f) the Agreement on Import Licensing Procedures.⁵ According to the “Checklist of issues raised during the WTO Trade Facilitation Symposium” (WTO, 1998), circulated by the WTO secretariat for the negotiations on trade facilitation, the central issues of trade facilitation include, among others:

- (a) Physical movement of consignments (transport and transit);
- (b) Import and export procedures and requirements, including customs and border-crossing problems;
- (c) Payments, insurance and other financial requirements which affect cross-border movement of goods;
- (d) Electronic facilities.

In a broad sense, the measures to facilitate trade include not only the simplification, standardization and harmonization of trade procedures and formalities, but also the improvement of institutional frameworks, the establishment of appropriate legal systems, and the adoption of streamlined and transparent trade policies and regulations. National trade-related laws and regulations need to be: (a) aligned with international conventions and agreements; (b) transparent; and (c) easily accessible by traders. Furthermore, a system to support trade facilitation, including appropriate transport, port and information infrastructure, logistics services, and testing and laboratory facilities, is also necessary. The improvement of these “software” and “hardware” aspects contributes to the establishment of a business-friendly trading environment. Pursuing such an integrated approach to improve the trading environment is particularly important for most developing countries, where enterprises suffer from both regulatory and infrastructural problems when engaging in international trade.

B. Export competitiveness and relevant indices

Competitiveness is an issue not only at the enterprise level, but also at the country level. The International Institute for Management Development defines competitiveness as “the ability of a nation to create and maintain an environment that sustains more value creation for its enterprises and more prosperity for its people” (IMD, 2009, 475). The Institute found that the ability of an enterprise to compete was influenced by the external environment in which the enterprise operates.

¹ See *Legal Instruments Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, done at Marrakesh on 15 April 1994* (GATT Secretariat Publication, Sales No. GATT/1994-7).

² Ibid.

³ Ibid.

⁴ Ibid.

⁵ Ibid.

Similarly, the World Bank views export competitiveness as an issue closely connected with the trading environment, which is affected by a series of physical and non-physical factors, such as the quality of logistics services, transport infrastructure, government institutions, procedures and formalities. The World Bank indicates that export competitiveness rests on three complementary pillars: (a) an incentive framework; (b) the reduction of trade-related costs; and (c) the overcoming of market and government failures. Key factors which affect trade-related costs include logistics and transport infrastructure, as well as institutional quality.⁶

Several indices have been developed by international and regional organizations to assess country competitiveness. Most of the indices demonstrate that competitiveness depends on many factors, such as, among others, internal and external, physical and non-physical, economic, political, administrative, social and educational considerations. Some of the factors are highly relevant to the issues addressed by trade facilitation.

The World Economic Forum developed the Global Competitiveness Index (GCI) to identify the competitive strengths of a country and the barriers that impede its economic progress. The first GCI, developed by Jeffrey Sachs and John McArthur in 2001, was aimed at measuring the capacity of national economies to achieve sustained economic growth over the medium term. It was made up of three factors, namely, technological capacity, the quality of public institutions and the quality of the macroeconomic environment. Xavier Sala-i-Martin developed the new GCI, which comprises three subindices and 12 pillars, including, among other considerations, institutions and infrastructure (Porter, Sala-i-Martin and Schwab, 2007). The results of the GCI suggest that the subpillar “public institutions”, which includes: (a) ethics and corruption; (b) burden of government regulation; (c) efficiency of legal framework; and (d) transparency of government policymaking, has a strong bearing on competitiveness. By the same token, the subpillar “specific infrastructure”, including the quality of roads, railways and ports, is also among the determinant factors of competitiveness. The results of the 2007 GCI indicate that excessive bureaucracy, red tape, overregulation, corruption, dishonesty in dealing with public contracts, and a lack of transparency and trustworthiness impose significant costs to businesses and have negative impacts on economic development.

The Business Competitiveness Index, also of the World Economic Forum, is used to identify, from a microeconomic perspective, the competitive strengths and weaknesses of a country’s business environment (Porter, Ketels and Delgado, 2007). The factors measured to determine the quality of the microeconomic business environment include: (a) freedom from corruption; (b) efficiency of legal framework; (c) quality of port infrastructure; and (d) prevalence of trade barriers. The findings of the Index indicate that government is in a special position to affect many aspects of the business environment, and plays an important role in the creation of competitiveness.

⁶ See the website of the World Bank Export Competitiveness Thematic Group (<http://go.worldbank.org/JRMCE00RD0>).

Similarly, in its *IMD World Competitiveness Yearbook*, the International Institute for Management Development stresses the importance of the external environment for the creation of competitiveness. In the *Yearbook*, the Institute suggests that there are four key determinants for the creation of a competitive environment, namely: (a) economic performance; (b) government efficiency; (c) business efficiency; and (d) infrastructure. The government efficiency factor is composed of five subfactors and supported by 72 sub-criteria, which are used to assess the extent to which government policies contribute to competitiveness. Under the institutional framework subfactor, the sub-criteria include: legal and regulatory framework, transparency, public service, bureaucracy, and bribing and corruption. Under the business legislation subfactor, the sub-criteria include customs authorities, protectionism (tariff and non-tariff), international transactions, and ease of doing business (IMD 2007).

The Economic Commission for Africa (ECA) has developed the Trade Competitiveness Index to assess a country's trade competitiveness; it is divided into three components: (a) the Trade-enabling Environment Index;⁷ (b) the Productive Resource Index; and (c) the Infrastructure Index. Under the Trade-enabling Environment Index, the Institutional Quality Index is used to examine administrative quality. The ECA (2004) report shows that the top-scoring countries in terms of trade-enabling environment are usually the most competitive countries; such countries have diversified export products and higher export shares of manufactured goods. The low-scoring countries tend to be hampered by a combination of political and institutional weaknesses. Inadequate infrastructure, excessive bureaucratic procedures and corrupt institutions may increase the transaction costs and render the enterprises less competitive.

The World Bank developed the Logistics Performance Index to assess a country's logistics environment, which has a substantial impact on the ability of enterprises to carry out cross-border trade. The Index covers the following seven areas of logistics performance:

- Efficiency and effectiveness of customs and other border procedures
- Quality of transport and information-technology infrastructure for logistics
- Ease and affordability of arranging shipments
- Competence in the local logistics industry (of, among others, transport operators and customs brokers)
- Ability to track and trace shipments
- Domestic logistics costs (such as local transportation, terminal handling, warehousing)
- Timeliness of shipments in reaching destination⁸

⁷ The Trade-enabling Environment Index reflects the overall economic and political environments' conduciveness to trade (see ECA, 2004).

⁸ See <http://info.worldbank.org/etools/tradesurvey/mode1a.asp>.

The results of the Logistics Performance Index demonstrate that the cost and quality of logistics are determined not only by the infrastructure, but also by the performance of regulatory agencies. High logistics costs and low levels of service constitute a substantial barrier to trade and FDI.

As noted above, the trading environment has a significant impact on competitiveness, both for a country and for a firm. In other words, creating an appropriate trading environment is vital for a firm to compete in international markets, and for a country to develop its trade sector. The factors which affect the trading environment are numerous; the following are widely accepted as essential to the creation of competitiveness: (a) the institutional quality; (b) the quality of trade regulation (such as trade and customs administration, transport and quarantine); (c) the procedures and formalities involved; and (d) the infrastructure quality.

C. Impact of trade facilitation on export competitiveness

An international trade transaction is a process in which a buyer and seller negotiate, establish and implement international commercial contracts. Regulated through national trade-related laws and regulations as well as through international agreements, an international trade transaction involves a number of players, such as traders, regulatory agencies, intermediary service providers, and trade promotion institutions. In fulfilling the commercial contract, traders must go through a set of procedures, meet administrative and documentary requirements and bear the relevant costs.

The transaction costs that traders bear vary among countries and products. OECD (Walkenhorst and Yasui, 2003) estimated that the direct and indirect trade transaction costs involved in export and import procedures might amount to a maximum of 15 per cent of the value of traded goods, divided roughly evenly between the export and import sides.⁹ ECE observed that the direct and indirect costs of trade documentation alone could accumulate to 5 to 10 per cent of the value of the goods, depending on the nature of the goods and the specific supply chain scenario.¹⁰

Transaction costs have a direct impact on competitiveness. Through the simplification and harmonization of trade procedures and formalities, trade facilitation contributes to the reduction of trade transaction costs and thereby to the improvement of competitiveness. According to an APEC estimate, trade facilitation could reduce trade transaction costs by about 5.8 per cent in industrialized APEC economies, by 6.2 per cent in newly industrialized APEC economies, and by 7.7 per cent in industrializing APEC economies. In most cases, an improvement in customs procedures may lead to the largest reduction of transaction costs (APEC, 2002b).

⁹ The direct costs refer to the expenses relating to supplying information and documents to the authorities or paying for trade-related services. The indirect costs are induced costs, such as those arising from procedural delays or lost business opportunities.

¹⁰ See "United Nations Trade Documents Toolkits", at the Economic Commission for Europe website, 2005, available at <http://unece.unog.ch/etrade/tkhome.aspx>.

The time delays caused by the lack of trade facilitation also hamper export competitiveness. Delays in customs increase warehouse and storage costs, among others. Such delays can also affect the quality of goods and/or lead to the cancellation of orders and claims of damage compensation. According to Djankov, Freund and Pham (2006), one additional day in export time is equivalent to about a 1 per cent increase in distance, and a 10 per cent increase in the time it takes to move goods from factory to ship would reduce the exports of time-sensitive goods by 6 per cent. Most of the delays are due to administrative hurdles, such as numerous customs procedures, tax procedures, clearances and cargo inspections.

Through the implementation of trade facilitation measures, the time needed to complete administrative procedures, such as preparing, submitting and processing trade documents, would be significantly reduced. UNCTAD (2005b) conducted a study on the effect of the establishment of a single-window system in Guatemala. The country introduced its first single-window facility for export procedures in 1986, which led to a reduction of the time required to process and issue export licenses, cutting it from 10-12 days down to 6-8 days. Following the implementation of the electronic single-window system in 2000, the time for issuance of export license was reduced to a few minutes.

In addition, trade facilitation may contribute to an increase in FDI. An OECD (2005b) study shows that the facilitated cross-border movement of goods has a positive effect on the ability of a country to attract FDI and better integrate into international production supply chains. The study indicates that customs clearance time is one of the key determinants of foreign investment. The inflow of FDI usually brings capital, technology and business networks to the recipient enterprises/countries, thereby improving the innovative capacity of domestic enterprises and enhancing export competitiveness.

In short, trade facilitation has a positive and multifaceted impact on export competitiveness. On the one hand, a facilitated trading environment contributes to the reduction of the cost and time of trade transactions, thereby enabling exporters to provide goods at a competitive price and in a timely manner. On the other, a country with a facilitated trading environment is in a better position to attract FDI, and the capital, technology and business networks brought about by FDI would help domestic enterprises better integrate into the global markets.

D. Major issues in improving export competitiveness through trade facilitation in Asia

In recent years, Asian developing countries have experienced rapid growth in exports. Statistics compiled by the International Monetary Fund show that the most outstanding performance in exports was realized by countries such as China, India, Malaysia, Thailand and Viet Nam. The value of the exports of China reached \$969.3 billion in 2006, 15 times higher than that of 1990. During the same period, the value of exports from India increased to about \$120.3 billion, up from about \$17.8 billion.

However, enterprises in Asian developing countries still face various physical and non-physical constraints in conducting international trade. According to the World Bank (2009), enterprises in most Asian developing countries spend much more time dealing with export procedures and documents than do their business rivals in developed countries. Enterprises in landlocked countries, far from seaports, must also deal with transit procedures and documents which render cross-border trade even more difficult, costly and time-consuming. For example, in some Central Asian countries, the costs to export are above \$3,000 per container, about three times the average costs in OECD countries. In terms of transaction time, the situation is even worse. The average time spent on export procedures in Central Asia is six times longer than that in OECD countries. In some Central Asian countries, it takes firms more than 80 days to complete export procedures

Table 1. Trading across borders in developing Asia, 2009

<i>Country/region</i>	<i>Documents for export (number)</i>	<i>Time for exports (days)</i>	<i>Cost to export (US\$ per container)</i>
Afghanistan	12	74	3 000
Azerbaijan	9	48	3 075
Bangladesh	6	28	970
Bhutan	8	38	1 210
Cambodia	11	22	732
China	7	21	460
India	8	17	945
Indonesia	5	21	704
Kazakhstan	11	89	3 005
Kyrgyzstan	13	64	3 000
Lao PDR	9	50	1 860
Malaysia	7	18	450
Maldives	8	21	1 348
Mongolia	8	49	2 131
Nepal	9	41	1 764
Pakistan	9	24	611
Philippines	8	16	816
Sri Lanka	8	21	865
Tajikistan	10	82	3 150
Thailand	4	14	625
Uzbekistan	7	80	3 100
Viet Nam	6	24	734
OECD	4.5	10.7	1 069

Source: World Bank, *Doing Business 2009* (Washington, D.C., the International Bank for Reconstruction and Development/The World Bank, 2008).

and formalities. The extremely high cost and delays in doing business in Central Asia are attributable not only to a disadvantageous geographic location (transit), but also in large part to administrative hurdles, poor logistics and cumbersome procedures and documents.

It has been observed that the export performance of developing countries is based on two factors: (a) foreign market access; and (b) supply capacity (UNCTAD 2005a). To increase their access to foreign markets, developing countries must overcome a number of barriers, such as technical regulations and standards, sanitary and phytosanitary measures, as well as other discretionary measures. In terms of supply capacity, developing countries should reduce transport costs as well as factors affecting the cost of production and transaction, which are strongly related to the institutional framework. UNCTAD concluded that “better institutions are likely to be associated with more efficient administration and in particular regulation” (2005a, 62).

Actually, there are various constraints that Asian developing countries need to overcome in order to enhance export competitiveness. Some constraints are rooted in the poor capacity to produce appropriate goods to meet international market needs, while others are related to an inadequate trading environment, which can be improved through the implementation of trade facilitation measures. With regard to improving the trading environment through trade facilitation, Asian developing countries may wish to consider addressing the following issues.

1. Institutional framework

As noted above, the quality of the institutional framework is a key factor in the supply capacity; however, the inadequacy of institutional frameworks is a common problem facing developing countries in Asia. This is reflected in, among other things: (a) inappropriate and unpredictable trade policies and regulations; (b) inefficient trade and customs administration systems; (c) cumbersome trade procedures and documents; and (d) rent-seeking and unofficial payments. In its *Global Competitiveness Report 2007-2008* (Porter, Sala-i-Martin and Schwab 2007), the World Economic Forum indicated that enterprises in developing Asia face inefficient legal frameworks and a heavy burden of government regulation, and spend a lot of time dealing with regulatory agencies. Furthermore, the business costs of corruption are relatively high.

To improve the institutional framework, Asian developing countries might consider: (a) reviewing trade policies and regulations; (b) streamlining institutional structure; (c) strengthening coordination among regulatory agencies as well as between public and private sectors; and (d) simplifying and harmonizing trade procedures and documents by using international standards and tools. For instance, ECE has developed a set of trade facilitation tools to align documents, including the United Nations Layout Key for Trade Documents and the United Nations Trade Data Elements Directory.

Information and communications technology (ICT) plays an important role in the improvement of trade efficiency. Given the spread of ICT in trade transactions, trade and customs administration, Asian developing countries might consider improving information

infrastructure and implementing, to the extent possible, ICT-based trade facilitation measures, such as electronic data interchange (EDI), the Automated System for Customs Data (ASYCUDA), and the single-window process. Most developing countries have included the improvement of information infrastructure in their e-trade strategies. For example, the first phase of the uTradeHub project of the Republic of Korea is to build and enhance core information infrastructure.¹¹

2. Trade logistics

The quality of trade logistics, particularly port logistics, has an enormous impact on trade. Most Asian developing countries have underdeveloped logistics systems, which undermines their export competitiveness. The enterprises in such countries face poor transport infrastructure, a lack of logistics competence, and high domestic logistics costs. The *Global Competitiveness Report 2007-2008* (Porter, Sala-i-Martin and Schwab, 2007) indicates that the quality of port infrastructure in most Asian developing countries is below average, except in a few countries, such as China, Malaysia and Thailand. The exports from some landlocked countries, such as Kyrgyzstan and Nepal, are constrained largely by the problems related to port infrastructure. Improving port logistics is a crucial task for many Asian developing countries.

To address the challenges, Asian developing countries need to improve transport and port infrastructure, as well as logistics administration, particularly with regard to transport and customs administration. At the same time, they must develop a logistics service industry. Landlocked countries in particular must make special efforts to these ends, as they have the most serious logistics issues.

3. Technical barriers to trade and sanitary and phytosanitary measures

Quality is one determinant of a product's export competitiveness. The exporter must provide goods which meet the technical requirements set by the importer's country. However, technical regulations and standards as well as sanitary and phytosanitary measures constitute significant obstacles. Developed countries often apply stringent technical standard requirements on exports from developing countries; such standards are often higher than those in place in developing countries, and are usually regarded as an effective measure/barrier against exports from other countries. The inconsistent technical standards between trading partners and the overuse of technical measures negatively affect the ability of enterprises in developing countries to become international suppliers. Henson and others (1999) found that sanitary and phytosanitary measures in developed nations served to strongly constrain the ability of developing countries to export food products. Such measures were ranked as the most significant constraint on the export of agricultural and food products to the European Union, ranking ahead of transport costs, tariffs and quotas (see Maskus, Wilson and Otsuki, 2000).

¹¹ See Korea International Trade Association, 2008, "uTradeHub: Korea's strategy for trade facilitation", www.unescap.org/tid/projects/egmtf_s1Koh.pdf.

To address the challenges, Asian developing countries should: (a) align, to the greatest extent possible, national technical standards and regulations to comply with international standards; and (b) undertake cooperation with trading partners on mutual recognition of conformity assessment to reduce trade costs. For example, members of the Association of Southeast Asian Nations have concluded mutual recognition agreements, and have participated in multilateral cooperation on technical barriers to trade and sanitary and phytosanitary measures.¹² Improving standards infrastructure, such as testing and laboratory facilities, is also vital in supporting exports.

In terms of enhancing export competitiveness through trade facilitation, different countries have different needs and priorities. Resources are limited; trade facilitation measures must fit into a country's needs and priorities in order to maximize effectiveness. For example, trade facilitation in landlocked countries might focus on improving logistics and reducing logistics costs. Trade facilitation is complex and multidisciplinary, and requires: (a) sustainable and strong political support; (b) appropriate strategies and action plans; (c) clear division of duties and close coordination between regulatory agencies; and (d) good partnerships between public and private sectors.

¹² For example, the implementation of the World Trade Organization Agreement on Technical Barriers to Trade and the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures.

Annex I

Global Competitiveness Index 2007-2008

<i>Subregion</i>	<i>Economy</i>	<i>Rank</i>	<i>Score</i>
East Asia	China	34	4.57
	Mongolia	101	3.60
Southeast Asia	Cambodia	110	3.48
	Indonesia	54	4.24
	Malaysia	21	5.10
	Philippines	71	3.99
	Thailand	28	4.70
	Viet Nam	68	4.04
South Asia	Bangladesh	107	3.55
	India	48	4.33
	Nepal	114	3.38
	Pakistan	92	3.77
	Sri Lanka	70	3.99
Central Asia	Armenia	93	3.76
	Azerbaijan	66	4.07
	Kazakhstan	61	4.14
	Kyrgyzstan	119	3.34
	Uzbekistan	62	4.13
	Tajikistan	117	3.37

Source: Michael E. Porter, Xavier Sala-i-Martin, Klaus Schwab, eds., *the Global Competitiveness Report 2007-2008* (World Economic Forum, 2007).

Annex II

Quality of institutions in developing Asia, Global Competitive Index 2007-2008

<i>Country</i>	<i>Rank</i>	<i>Score</i>
Azerbaijan	83	3.64
Bangladesh	126	2.87
Cambodia	100	3.36
China	77	3.71
India	48	4.32
Indonesia	63	3.90
Kazakhstan	80	3.67
Kyrgyzstan	127	2.86
Malaysia	20	5.18
Mongolia	120	3.09
Nepal	119	3.10
Pakistan	81	3.66
Philippines	95	3.42
Sri Lanka	68	3.85
Tajikistan	88	3.60
Thailand	47	4.33
Uzbekistan	56	4.10
Viet Nam	70	3.78

Source: Michael E. Porter, Xavier Sala-i-Martin, Klaus Schwab, eds., *the Global Competitiveness Report 2007-2008* (World Economic Forum, 2007).

Annex III

Logistics Performance Index in developing Asia, 2007

Country	Logistics Performance Index		Customs		Infrastructure		International shipments		Logistics competence		Tracking and tracing		Domestic logistics costs		Timeliness	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Afghanistan	150	1.21	150	1.30	150	1.10	150	1.22	150	1.25	150	1.00	40	3.13	150	1.38
Azerbaijan	111	2.29	96	2.23	116	2.00	90	2.50	128	2.00	96	2.38	87	2.88	124	2.63
Bangladesh	87	2.47	125	2.00	82	2.29	96	2.46	103	2.33	88	2.46	50	3.08	54	3.33
Bhutan	128	2.16	134	1.95	127	1.95	134	2.06	116	2.18	108	2.27	13	3.36	126	2.57
Cambodia	81	2.50	104	2.19	81	2.30	95	2.47	82	2.47	80	2.53	27	3.21	74	3.05
China	30	3.32	35	2.99	30	3.20	28	3.31	27	3.40	31	3.37	72	2.97	36	3.68
India	39	3.07	47	2.69	42	2.90	39	3.08	31	3.27	42	3.03	46	3.08	47	3.47
Indonesia	43	3.01	44	2.73	45	2.83	44	3.05	50	2.90	33	3.30	92	2.84	58	3.28
Kazakhstan	133	2.12	139	1.91	138	1.86	129	2.10	126	2.05	117	2.19	96	2.81	120	2.65
Kyrgyzstan	103	2.35	102	2.20	112	2.06	106	2.35	100	2.35	93	2.38	99	2.80	109	2.76
Lao People's Democratic Republic	117	2.25	121	2.08	121	2.00	103	2.40	106	2.29	139	1.89	146	2.13	102	2.83
Malaysia	27	3.48	23	3.36	28	3.33	26	3.36	26	3.40	28	3.51	36	3.13	26	3.95
Mongolia	136	2.08	131	2.00	129	1.92	91	2.50	144	1.80	136	2.00	70	3.00	142	2.25
Myanmar	147	1.86	124	2.07	145	1.69	146	1.73	135	2.00	149	1.57	79	2.92	147	2.08
Nepal	130	2.14	141	1.83	144	1.77	131	2.09	124	2.08	102	2.33	22	3.25	110	2.75
Pakistan	68	2.62	69	2.41	71	2.37	65	2.72	63	2.71	76	2.57	90	2.86	88	2.93
Philippines	65	2.69	53	2.64	86	2.26	63	2.77	70	2.65	69	2.65	19	3.27	70	3.14

Annex III (continued)

Country	Logistics Performance Index		Customs		Infrastructure		International shipments		Logistics competence		Tracking and tracing		Domestic logistics costs		Timeliness	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Sri Lanka	92	2.40	91	2.25	106	2.13	112	2.31	85	2.45	75	2.58	47	3.08	113	2.69
Tajikistan	146	1.93	140	1.91	125	2.00	136	2.00	141	1.90	146	1.67	138	2.33	146	2.11
Thailand	31	3.31	32	3.03	32	3.16	32	3.24	29	3.31	36	3.25	25	3.21	28	3.91
Uzbekistan	129	2.16	137	1.94	124	2.00	133	2.07	118	2.15	123	2.08	82	2.91	112	2.73
Viet Nam	53	2.89	37	2.89	60	2.50	47	3.00	56	2.80	53	2.90	17	3.30	65	3.22

Source: Jean-François Arvis, Monica Alina Mustra, John Panzer, Lauri Ojala, Tapio Naula, *Connecting to Compete: Trade Logistics in the Global Economy—The Logistics Performance Index and Its Indicators* (Washington, D.C., World Bank, 2007), table A1.

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ENHANCING ASIA'S TRADE: TRANSPORT COSTS MATTER

*By Prabir De**

Introduction

Direct evidence on border costs shows that tariff barriers are now low in most countries. On average (trade-weighted), they are less than 5 per cent for rich countries and, with a few exceptions, between 10 and 20 per cent for developing countries (WTO 2006a, and WTO and ITC 2007). While the world has experienced a drastic fall in tariffs over the last two decades, several barriers that penalize trade remain. Some are referred to as “soft” barriers, others as hard barriers. Soft barriers are addressed through trade and business facilitation measures, and “hard” barriers, which are considered to comprise physical or infrastructure barriers, are addressed through transport facilitation measures. The costs arising from these two broad types of trade barriers can be clubbed together and referred to collectively as trade costs.

Trade costs are often cited as an important determinant of trade volume. High trade costs create obstacles to trade and impede the realization of gains from trade liberalization.¹ Most studies on trade costs show that integration is the result of reduced costs of transportation in particular and other improved services in general. Supply constraints are the primary factors that have limited the capacity of many developing and least developed countries to exploit the trade opportunities arising from trade liberalization. An optimal gain from trade, therefore, depends not only on tariff liberalization but also on the quality of infrastructure and related services associated with cross-border trading.

Trade costs have large welfare implications. Current policy-related costs are often valued at more than 10 per cent of national income (Anderson and van Wincoop 2004). Obstfeld and Rogoff (2000) commented that all the major puzzles of international macroeconomics hang on trade costs. Some studies, for example Francois and others (2005), have estimated that for each 1 per cent reduction of trade transaction costs, world income could increase by \$30 billion to \$40 billion.² The gains from streamlining customs procedures have exceeded those resulting from trade liberalization, such as tariff reduction.

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¹ A growing literature in this regard has documented the impact of trade costs on the volume of trade (see Duval 2007). Seminal studies carried out on this topic in recent years include Hummels (1999, 2007), Limão and Venables (2001), Anderson and van Wincoop (2004), and Brooks (2008).

² See also APEC (2002), Walkenhorst and Yasui (2003).

One Asia Pacific Economic Cooperation (APEC) study (2002) estimated that gains from effective trade facilitation would account for about 0.26 per cent of real gross domestic product (GDP) of APEC members (about \$45 billion) for 2006, while the gains from trade liberalization would represent 0.14 per cent of real GDP (about \$23 billion). The same study also indicated that efforts to achieve the APEC commitment to reduce trade-related transaction costs by 5 per cent by 2006 could raise the APEC GDP by 0.9 per cent (\$154 billion a year in 1997 prices) and lift real consumption to 5.5 per cent above what it would be otherwise.³ Wilson, Mann and Otsuki (2002) estimated that raising trade facilitation performance across the region to half the level of the APEC average could result in a 10 per cent increase—worth roughly \$280 billion—in intra-APEC exports.

The cost of international transport is a crucial determinant of a country's trade competitiveness. The doubling of a country's transport costs leads to a drop in its trade of 80 per cent or even higher (Limão and Venables 2001). In many cases, the effective rate of protection provided by the international transport costs⁴ was found to be higher than that provided by tariffs. Thus, transportation costs represent a greater barrier than tariffs, and, in turn, a more binding constraint to greater participation in international trade.⁵ Complementary trade policies focusing on inland and international transport costs have, therefore, gained immense importance in enhancing international trade and integration.

How are Asian countries faring in reducing trade costs? Which barriers weigh heavier: tariffs or transport costs? Is the influence of inland transportation costs on Asian trade stronger than that of international transportation costs? How do the estimates of freight rates compare across Asian countries? Do indirect methods, such as adjacency effects, facilitate or impede cross-border trade? The purpose of this study, which is based on direct and indirect evidence related to trade barriers, is to explore responses to these questions, thereby enhancing the understanding of the role trade costs play in enhancing trade competitiveness. Such an understanding could facilitate initiatives to integrate production across Asia as well as those aimed at promoting deeper trade integration in the region.

First we explore why it is so important to study transportation costs in the context of Asia. Which has a higher incidence on trade in Asia—tariffs or freight costs? This is debated in section A. Since international transport costs, to a great extent, depend on ocean freight rates, the next step is to understand the relative importance of ocean freight rates in trade in Asia. Section B provides an illustration of the trends in such rates in selected Asian countries, leading into estimates of freight costs across countries and

³ See APEC (2002).

⁴ In the case of a cross-border shipment of goods, transport costs comprise two major elements: (a) international transport costs, which include costs associated with the shipment of goods from one country to another; and (b) the inland (domestic) transport costs, which include the costs of inland transportation of merchandise in both exporting and importing countries.

⁵ According to the World Bank (2001), for 168 of 216 trading partners of the United States of America, transport costs barriers outweighed tariff barriers. For the majority of countries in sub-Saharan Africa, Latin America and the Caribbean, and a large part of Asia, the transport cost incidence for exports is five times higher than the tariff cost incidence.

commodities. We then attempt to measure the movement of Asian countries in the tariff-freight plane in a comparative static framework. Section C draws on the aforesaid discussion for a formal assessment of the relationship between trade costs and trade flows. Econometric results are presented and discussed in that section, followed by conclusions in section D.

A. Trade flows in Asia: the rise of intermediate and capital goods

It is important to study trade costs in context of Asia, because the costs of the vast majority of traded goods are exogenous. Countries in Asia suffer higher trade costs, which leads to high prices of imported goods. At the same time, trade in the region covers an increasing number of intermediate and capital goods, and expensive imports resulting from high trade costs can escalate the cost of production.

Overall trade volume in Asia has been rising at a very rapid pace, with China and India standing out (Brooks and Hummels 2009; Brooks 2008). Goods from Asia represented about 18 per cent of world trade when China began liberalizing its economy in 1978, and about 26 per cent when India adopted serious economic reform in 1991. By 2006, about 30 per cent of world exports originated in Asia (table 1), and about 50 per cent of Asia's exports were being sent to countries within the region (figure 1). Within Asia, East Asia

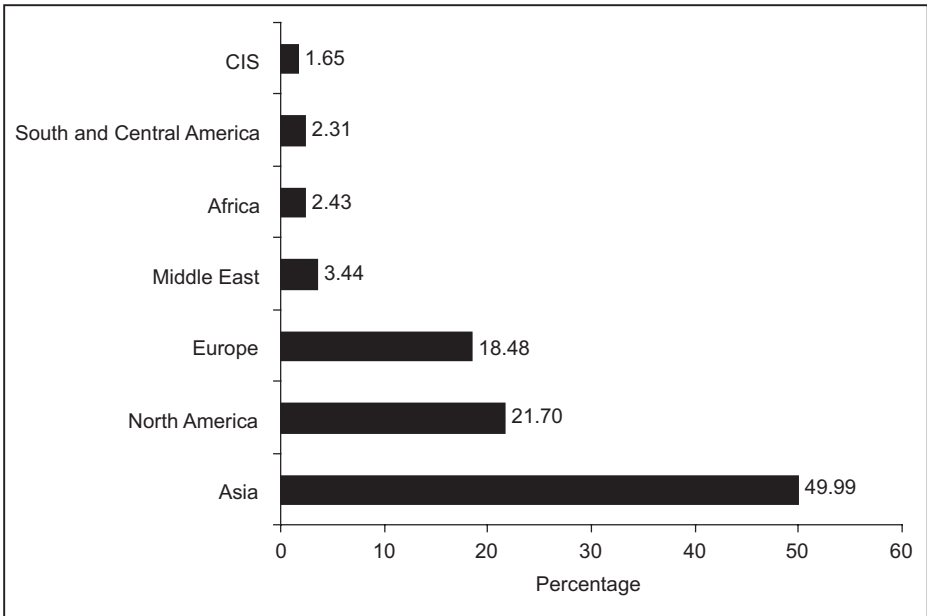
Table 1. Merchandise exports of Asia, by region

<i>Exports to</i>	<i>Exports (US\$ billion)</i>		<i>Share in world exports (percentage)</i>		<i>AAGR (percentage)</i>
	<i>2000</i>	<i>2006</i>	<i>2000</i>	<i>2006</i>	<i>2000-2006</i>
World	6 454.00	12 083.00	100.00	100.00	14.54
North America	1 224.98	1 678.32	18.98	13.89	6.17
South and Central America	195.80	429.90	3.03	3.56	19.93
Europe	2 633.93	4 962.98	40.81	41.07	14.74
European Union (25)	2 437.36	4 532.49	37.77	37.51	14.33
Commonwealth of Independent States	145.73	425.59	2.26	3.52	32.01
Africa	147.80	363.30	2.29	3.01	24.30
Asia	1 837.30	3 577.70	28.47	29.61	15.79
East Asia Summit	1 808.85	3 529.27	28.03	29.21	15.85
ASEAN+3	1 689.32	3 263.32	26.17	27.01	15.53
ASEAN	432.03	769.99	6.69	6.37	13.04

Source: WTO (2007).

Abbreviations: AAGR, average annual growth rate; ASEAN, Association of Southeast Asian Nations.

Figure 1. Destination of exports from Asia, 2006
(Percentage of regional trade flows in Asia's total merchandise exports)



Source: WTO (2007b).

Summit countries hold a strong position in terms of level and growth in trade in goods (table 1).

The growth in exports from China to Asia and world is unparalleled—increasing by 19 per cent annually between 2000 and 2006, thereby driving exports throughout entire Asia. Due to the increase in trade interdependency in Asia, efforts to lower trade costs and provide a better enabling environment for trade have gained momentum.⁶

The trade composition in Asia is evolving quickly as well. While Asia's share of the trade in food and fuels decreased marginally during the period 2002-2006, there was a subsequent sharp expansion in the exports of most manufactures as countries in Asia increasingly specialized in trade in intermediate and capital goods. Table 2 shows that by 2006, about 33 per cent of world exports in manufactures (\$2.68 trillion) originated in Asia, up from about 29 per cent (\$1.36 trillion) in 2002. In some products, Asia is becoming the single major source. For example, about 68 per cent of world trade in integrated circuits (\$267 billion in 2006) comes from Asia; this is up from about 58 per cent in 2002. Office and telecom equipment and textiles and clothing are the two major commodity groups dominating Asia's exports to the world. In this context, increasing trade infrastructure efficiency becomes an even more important factor in sustaining Asia's trade growth.

⁶ See, for example, the review of trade costs in ADB (2006) and Brooks and Hummels (2009).

Table 2. Merchandise exports of Asia by product, 2006

	<i>Exports to world (US\$ billion)</i>		<i>Share in world exports (percentage)</i>			<i>Intra-Asia exports (percentage)</i>		
	2002	2006	2002	2006	Up/ down	2002	2006	Up/ down
Total merchandise exports	1 624.51	3 277.79	25.79	27.82	Up	49.05	49.99	Up
Agricultural products	108.64	179.08	18.53	18.96	Up	61.32	57.06	Down
Food	85.75	135.93	18.19	18.01	Down	59.74	54.48	Down
Fish	19.81	30.27	35.78	36.67	Up	62.29	50.64	Down
Other food products	65.94	105.67	15.85	15.72	Down	58.98	55.57	Down
Raw materials	22.90	43.14	19.95	22.74	Up	67.25	65.25	Down
Fuels and mining products	114.26	334.66	14.53	14.70	Up	82.44	79.84	Down
Ores and other minerals	16.68	53.37	25.69	26.61	Up	70.56	79.26	Up
Fuels	76.74	215.30	12.56	12.16	Down	85.90	81.04	Down
Non-ferrous metals	20.84	65.98	18.82	21.56	Up	79.17	76.45	Down
Manufactures	1 360.31	2 683.21	28.62	32.50	Up	45.36	45.73	Up
Iron and steel	34.12	105.83	23.62	28.30	Up	73.77	57.89	Down
Chemicals	106.46	235.80	15.92	18.90	Up	64.92	64.61	Down
Pharmaceuticals	9.84	21.17	5.88	6.81	Up	34.35	30.00	Down
Other chemicals	96.62	214.63	19.27	22.91	Up	68.03	68.03	—
Other semi-manufactures	95.58	188.42	20.53	23.71	Up	45.77	41.78	Down
Machinery and transport equipment	800.00	1 565.21	31.27	35.87	Up	44.93	45.71	Up
Office and telecom equipment	423.74	801.40	49.93	55.22	Up	50.18	51.00	Up
EDP and office equipment	166.13	283.10	50.70	54.99	Up	39.50	39.04	Down
Telecommunications equipment	112.26	251.51	41.25	46.22	Up	36.56	35.47	Down
Integrated circuits	145.34	266.78	58.40	68.00	Up	72.90	78.33	Up
Transport equipment	176.85	334.34	19.78	22.83	Up	21.59	23.50	Up
Automotive products	123.69	223.55	19.70	22.00	Up	19.40	21.50	Up
Other transport equipment	53.16	110.80	19.98	24.70	Up	26.71	27.53	Up
Other machinery	199.41	429.47	24.44	29.66	Up	54.49	53.15	Down
Textiles	67.48	104.36	43.73	47.74	Up	56.09	47.16	Down
Clothing	92.84	162.84	45.72	52.29	Up	24.63	22.34	Down
Other manufactures	163.83	320.75	29.36	33.89	Up	35.93	41.62	Up
Personal and household goods	40.81	73.69	32.99	37.51	Up	21.81	20.42	Down
Scientific and controlling instruments	25.64	84.44	20.88	35.12	Up	51.60	61.35	Up
Miscellaneous manufactures	97.39	162.62	31.27	31.92	Up	37.73	40.99	Up

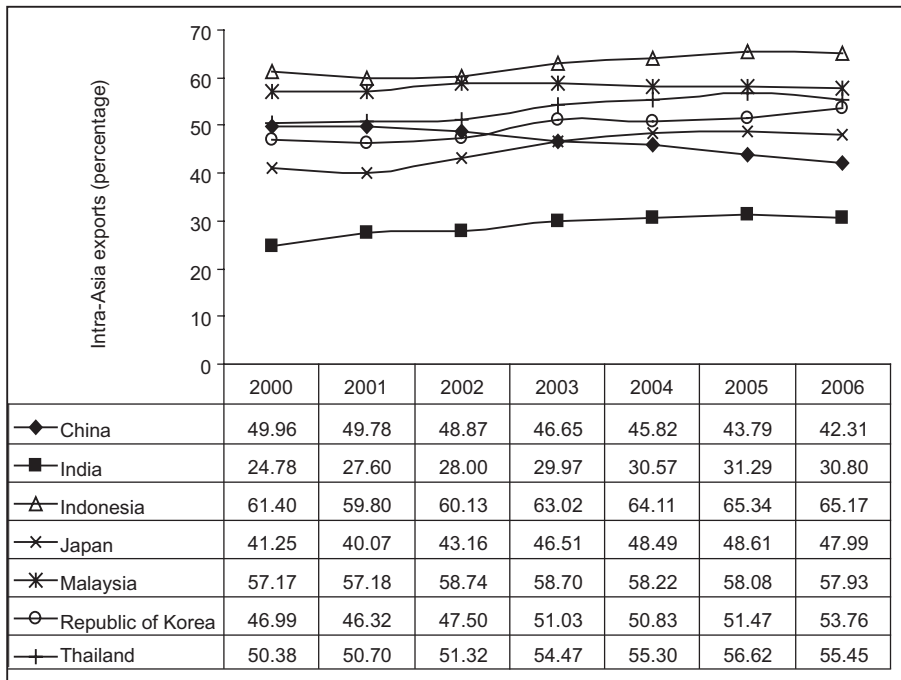
Source: WTO (2007b).

Abbreviation: EDP, electronic data processing.

Intra-Asia trade in manufactures is also quite large (46 per cent in 2006). Unlike intra-Asian trade in other major areas, such as agriculture, fuels and minerals, trade in manufactures increased slightly between 2002 and 2006. The notable increases were in office and telecom equipment, chemicals, and transport equipment. A majority of this vast intraregional trade consists of intermediate and capital goods, feeding a country's production or import demand. As such, variations in trade cost elements could be crucial for the region's competitiveness in manufactures.⁷ A reduction in trade costs is likely to help Asian countries get their goods to market more quickly and cheaply, and more effective transport infrastructure would facilitate the integration of international trade and production.

Given the structural differences in regional economies in Asia, trade is not evenly distributed. Asia's increased trade in goods, including manufactures, (and the corresponding production) is dominated mainly by seven countries: China, India, Indonesia, Japan, Malaysia, Republic of Korea and Thailand. The share of intraregional trade in total exports of these countries is high, from about 31 per cent (India) to 65 per cent (Indonesia) in 2006 (figure 2). Intra-Asia exports of India, Indonesia, Japan, Republic of Korea and Thailand

Figure 2. Trends in intra-Asia exports



Source: Calculated based on data from IMF (2006).

Note: Figures for 2006 are estimates.

⁷ See also Kuroiwa (2006).

Table 3. Exports of selected Asian countries

	<i>Exports</i> (United States dollars)				<i>Average annual growth rate, 2000-2006 (percentage)</i>	
	<i>To world</i>	<i>To Asia</i>	<i>To world</i>	<i>To Asia</i>	<i>To world</i>	<i>To Asia</i>
	<i>2000</i>	<i>2000</i>	<i>2006</i>	<i>2006</i>	<i>2000-2006</i>	<i>2000-2006</i>
China	249.21	124.51	969.28	410.13	48.16	38.23
India	42.63	10.56	119.00	36.65	29.86	41.16
Indonesia	62.12	38.14	113.21	73.78	13.71	15.57
Japan	478.36	197.31	642.35	308.24	5.71	9.37
Malaysia	98.15	56.11	160.66	93.07	10.61	10.98
Republic of Korea	172.26	80.94	326.86	175.73	14.96	19.52
Thailand	68.96	34.74	130.78	72.51	14.94	18.12

Source: Calculated based on data from IMF (2006).

Note: Data for 2006 are estimates.

increased substantially between 2000 and 2006. In those same countries, growth in intra-Asia exports exceeded the growth of exports to the world (table 3).

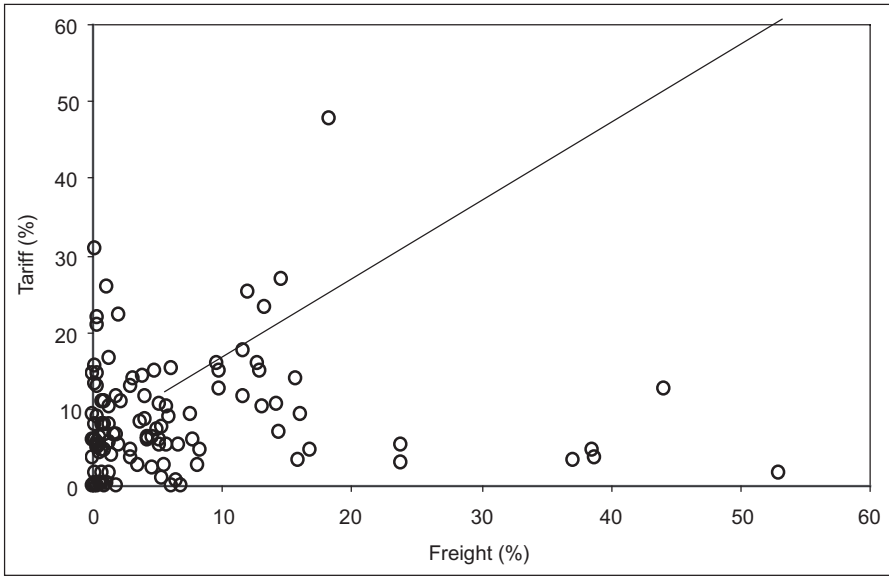
Although comparatively low in absolute terms, the trade interdependence of India with Asia is a case in point. Growth in exports from India to Asia (up 41 per cent between 2000 and 2006) was much higher than the growth in the country's exports to the world (30 per cent)—the highest such increase among the seven countries. India is thus showing comparatively greater integration to Asia.

As a region, Asia accounts for about one third of the world's manufacture exports. When viewed by individual manufacturing sector (excluding pharmaceuticals), the region's contributions to world exports range from 19 per cent (chemicals) to 68 per cent (integrated circuits). With this rising trade, Asia as a whole has reduced tariffs in manufactures, but overall, tariffs in Asia are still a crucial barrier to trade.⁸ Furthermore, unlike in developed economies, transport costs continue to penalize trade in Asia, and as noted above, trade is more likely to increase through the reduction of transport costs, rather than through the reduction of tariffs.⁹ In all sectors, with the exception of transport equipment (classified as project goods used for infrastructure development), trade is influenced by tariffs, transport costs and infrastructure quality.¹⁰ This is further exemplified in figure 3, which clearly indicates that tariffs and freight rates in Asia are comparatively high.

⁸ According to De (2007), a 10 per cent reduction in tariffs would increase bilateral trade by about 2 per cent in Asia.

⁹ See, for example, De (2007, 2008a, 2008b, 2009a, 2009b).

¹⁰ For transport equipment, bilateral tariffs play a less significant role as trade is more demand-driven (De 2008b).

Figure 3. Tariff and freight incidence in Asia, 2005

Source: De (2006a).

Note: Both tariff and freight rates are the trade-weighted average for bilateral merchandise trade among seven Asian countries (China, India, Indonesia, Japan, Malaysia, Republic of Korea and Thailand) in 2005.

Therefore, Asia, on the demand side, has been experiencing a sharp rise in merchandise trade and showing greater regional trade interdependence with respect to a large variety of goods. However, on the supply side, rising trade costs continue to impede trade. With the rise of regionalism (and also bilateralism) in Asia, trade policymakers have increasingly recognized the importance of trade and transport facilitation initiatives that help improve trade efficiency and reduce trade costs as well as deepen the integration of the economies of the region. Next we examine how changes in trade cost components affect merchandise trade in Asia, and assess the corresponding implications for the facilitation of trade and transport.

B. Asian countries in the tariff-freight plane¹¹

Ocean freight, a major component of international transport costs, varies widely in Asia. In this section we examine the levels and variations of freight and tariff rates (at the disaggregated commodity level) of seven Asian countries, namely, China, India, Indonesia, Japan, Malaysia, Republic of Korea and Thailand. To this end, we (a) estimate freight rates and their composition, which later allows us to estimate the transport costs, and

¹¹ The analytical part of this section draws on De (2009a).

(b) observe the movement of countries on a tariff and transport cost plane within a comparative static framework, in order to understand the relative importance of trade costs components in trade flows.

1. Aggregated freight rate

The cost of transporting merchandise between countries is a combination of two major components: inland and international transport costs. Understanding the unit freight rate in each of the two legs of the journey—inland and international—helps us calculate the variations in cost of transportation across commodities in Asia.

We first estimate the country-wise freight rate, which is a weighted average of all commodity groups across all trading partners for both the international and inland segments of the shipment of a container from one country to another (equations (1) and (2)).

$$F_{ij} = \frac{\sum_k Q_{ij}^{kl} f_{ij}^{kl}}{\sum_k Q_{ij}^{kl}} \quad (1)$$

$$F_i = 1/n (F_{ij}), \quad (2)$$

where F_i represents the weighted-average freight rate per container of country i , which is averaged over all commodity groups across all trading partners of country i ; F_{ij} denotes the weighted-average freight rate per container for country i for the import of commodity k from country j ; Q_{ij}^{kl} stands for the import of commodity k in twenty-foot equivalent units (TEU) by country i from country j ; f_{ij}^{kl} represents freight rate per TEU of the import of commodity k by country i from country j ; l is the commodity traded (at the 4-digit level of the Harmonized System (HS)) between partners i and j ; where $l \in k$, and n is the number of bilateral trading partners of i . We collect f_{ij}^{kl} for inland and international transportation separately. F_i is estimated from the 4-digit HS code for the imports of country i from its partner for 2000 and 2005.¹² Commodity freight rates for inland and international shipment were collected from Maersk Sealand (2007), whereas country imports at 4-digit HS were collected from the United Nations Commodity Trade Statistics Database (Comtrade) (2007).¹³ Table 4 provides estimated freight (F_i) per container for selected Asian countries for 2005.

¹² See annex I, which provides the commodity classification for k commodity groups adopted in this paper. In general, the United Nations Commodity Trade Statistics Database does not provide information on weight at 2-digit HS—only at 4-digit HS. Thus, we must classify the commodity groups at 4-digit HS.

¹³ Systematic data on Asia's imports by origin and commodity are not available. The problem becomes more acute with respect to data on trade by weight in TEUs. As a result, we turned to Maersk Sealand, which provides freight rates for commodities at a bilateral level. Since the United Nations Commodity Trade Statistics Database does not provide trade data in TEU, we converted the data on weight in kilograms into weight in TEU. The conversion rate used was 12,000 kg \cong 1 TEU to represent a loaded 20-foot container (popularly known as an FCL, or "fully loaded container").

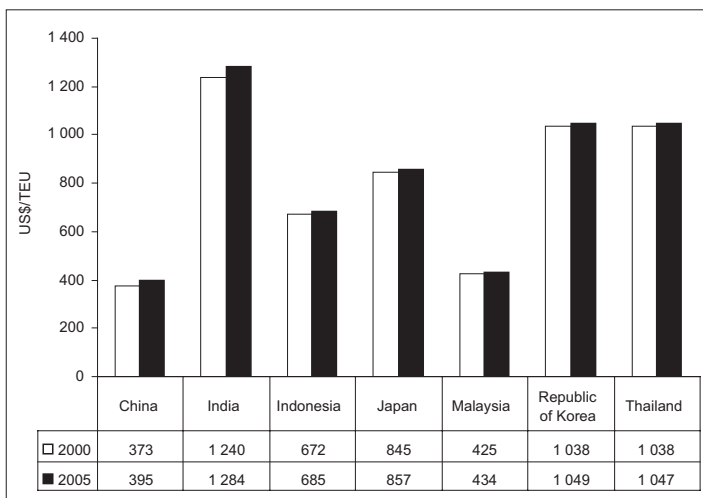
First, we find that the estimated freight rate varies across countries. The freight per container is highest in India (\$3,488 per TEU in 2005), and lowest in Malaysia (\$1,284 per TEU). At \$1,409 per TEU, China has the second-lowest freight rates. India experiences the highest rates for both inland and international freight (figures 4 and 5). China offers the lowest inland rates (\$395 per TEU in 2005) and Thailand the lowest international rates (\$704 per TEU in 2005)—significantly lower than those of other Asian countries.

Table 4. Estimated freight rate

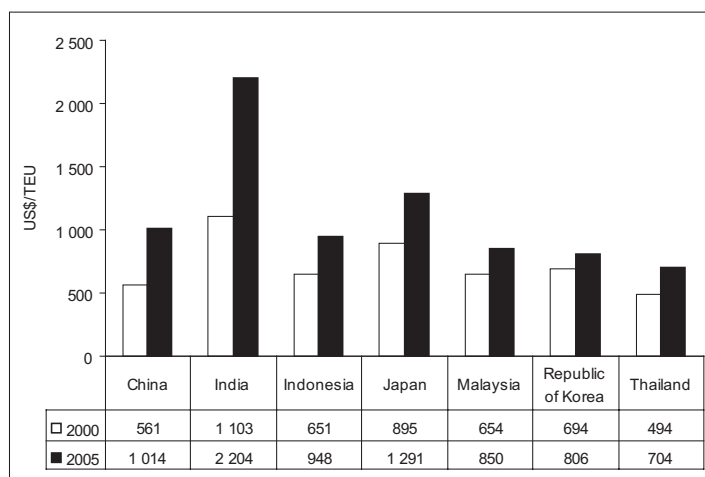
Country	Total freight rate (United States dollars/ Twenty-foot equivalent unit)		Share in total freight rate			
			Inland freight rate (percentage)		International freight rate (percentage)	
	2000	2005	2000	2005	2000	2005
China	934	1 409	40	28	60	72
India	2 343	3 488	53	37	47	63
Indonesia	1 323	1 633	51	42	49	58
Japan	1 740	2 148	49	40	51	60
Malaysia	1 079	1 284	39	34	61	66
Republic of Korea	1 732	1 855	60	57	40	43
Thailand	1 532	1 751	68	60	32	40

Source: Based on data from the United Nations Commodity Trade Statistics Database and author's calculations.

Figure 4. Inland freight per container



Source: De (2009a).

Figure 5. International freight per container

Source: De (2009a).

Second, Asian countries experienced an absolute rise in both inland and international freight per container during the period 2000-2005, even though the changes in weighted average freight vary across countries. The rise in inland freight per container is marginal compared to that of international freight, which also demonstrated much wider variation among countries. For example, India experienced a steep rise in international freight—from \$1,103 per TEU to \$2,204 per TEU—the highest among all the Asian countries considered in this study (figure 5). In contrast, the increase to international freight in the Republic of Korea appeared much smaller.

Third, the estimated costs of inland freight in the Republic of Korea and Thailand are higher than that of their international freight; the reverse is true in the other Asian countries considered in this study. Why is the international freight per container so expensive in India? Perhaps it is due to the high terminal handling charges (THC)¹⁴ (\$795 per TEU) and other ocean freight charges¹⁵ (\$1,408 per TEU) at ports.¹⁶

¹⁴ By this term we mean the cost of handling containers at ports. According to De (2007), about 60 per cent of total shipping costs for movement of cargo between origin and destination countries is charged by shipping lines as base ocean freight, whereas 28 per cent is container handling charges, recovered by the terminal or port operators.

¹⁵ Other ocean freight charges represent several explicit and implicit auxiliary shipping charges. For example, they comprise all shipping charges other than basic ocean freight, such as peak season surcharge, congestion surcharge, bunker adjustment factor, Yen Appreciation Surcharge, fuel adjustment factor and delivery order, which often increase the cost of shipping between countries. For example, in 2004 exporters had to pay, on average, \$35 per 20-foot container for the bunker adjustment factor, which was imposed by the shipping lines as a fuel surcharge, and an average of \$30 per 20-foot container for the Yen Appreciation Surcharge for cargoes going to Japan (De 2007).

¹⁶ See annex II for average terminal handling charges, by country.

2. Estimated transport cost

Next, we use equation (3) to estimate the commodity distribution of inland transport cost (*InlTC*) for imports of country *i* from country *j*. Equation (4) is used to estimate the commodity distribution of international transport costs (*IntTC*).

$$InlTC_i^k = \frac{\sum_l Q_{ij}^{kl} f_{ij}^{inland}}{\sum_l Q_{ij}^{kl} f_{ij}^{total}} * 100 \quad (3)$$

$$IntTC_i^k = \frac{\sum_l Q_{ij}^{kl} f_{ij}^{international}}{\sum_l Q_{ij}^{kl} f_{ij}^{total}} * 100, \quad (4)$$

where $InlTC_i^k$ and $IntTC_i^k$ represent inland and international transport costs, respectively, for country *i* for commodity *k*; Q_{ij}^{kl} stands for import of commodity group *k* in weight (here, in TEU) by country *i* from country *j*; f_{ij}^{inland} represents inland freight rate per TEU for the import of commodity *k* by country *i* from country *j*; $f_{ij}^{international}$ represents international freight rate per TEU for the import of commodity *k* by country *i* from country *j*; f_{ij}^{total} represents total freight rate per TEU for the import of commodity *k* by country *i* from country *j*; *l* is the commodity traded at 4-digit HS, falling under the commodity group *k* ($l \in k$). The transport cost is estimated for *k* commodity groups for imports of country *i* from its partner for 2000 and 2005.

The commodity composition of inland and international freight rates are estimated as a percentage of total transport costs. Here also, inland and international freight rates were collected from Maersk Sealand (2007), whereas country imports at 4-digit HS were collected from the United Nations Commodity Trade Statistics Database (2007). Tables 5 and 6 provide the estimated commodity distribution of inland and international transport costs across seven Asian countries for 2005.¹⁷ A number of broad observations can be made based on these tables.

Although the share of inland transport cost in total transport cost is similar across commodities and countries, the cost of inland transportation (weighted average across all commodity groups) is high in Thailand and the Republic of Korea compared to other Asian countries. In terms of international transport cost, about 73 per cent of total transportation costs for China's imports from its partners are from the international leg of the journey, whereas such costs seem to be about 40 per cent in Thailand and 44 per cent in the Republic of Korea.

Second, the international transport cost percentage shares in Indonesia, Japan, the Republic of Korea and Thailand are lower than the Asian average of 60.32 per cent, thereby indicating a relatively better performance compared to China, India and Malaysia.

¹⁷ Since there was not much change in the composition of transport costs between 2000 and 2005, we discuss only the broad features of transport cost for the year 2005. Interested readers may contact the author regarding information for the year 2000.

However, in the case of inland transport cost percentage shares, Indonesia, the Republic of Korea and Thailand score higher than the Asian average of 39.68 per cent.

Third, the cost of inland transportation is higher for bulky products, such as fuels, mining and forest products (except in China), transport equipment, machinery and mechanical appliances and automobiles, than for less-bulky products, such as office and telecom equipments, electronic integrated circuits and chemicals. However, the reverse is true with regard to international transport, where costs to move bulky products are comparatively less than those for less-bulky products.

Table 5. Commodity distribution of inland transport costs, 2005
(Percentage of total transport costs)

<i>Commodity group</i>	<i>China</i>	<i>India</i>	<i>Indonesia</i>	<i>Japan</i>	<i>Malaysia</i>	<i>Republic of Korea</i>	<i>Thailand</i>	<i>Commodity total^a</i>
Transport equipment	42.26	35.37	42.45	44.11	34.21	60.28	62.15	54.84
Automobiles and components	40.97	35.77	42.35	44.08	34.36	58.39	61.02	45.85
Chemicals	36.65	36.49	41.20	43.47	31.31	58.62	60.09	37.59
Electrical and Electronics	39.53	36.59	42.76	43.74	35.17	57.03	61.18	42.59
Electronic integrated circuits	39.52	36.26	43.39	45.47	33.97	59.18	62.01	36.97
Food products	27.45	34.66	36.45	42.96	30.81	52.63	52.62	42.16
Fuels, mining and forest products	23.24	37.43	42.13	38.69	32.01	55.52	59.24	38.59
Iron and steel	37.93	35.93	42.60	47.73	35.94	59.33	60.47	44.47
Leather	34.40	35.00	42.23	43.53	30.88	55.92	59.89	44.50
Machinery and mechanical appliances	41.06	35.77	43.14	44.93	35.94	58.78	60.69	46.57
Metal	40.31	35.79	42.80	43.16	34.93	56.24	58.88	39.74
Office and telecom equipment	39.76	35.49	43.14	42.56	35.86	57.10	61.39	38.48
Paper and pulp	37.76	34.17	41.77	42.53	31.99	56.41	60.88	41.51
Pharmaceuticals	36.53	36.60	43.29	43.89	32.10	59.76	58.76	45.78
Rubber and plastics	36.31	36.05	42.25	42.91	36.23	58.31	61.27	40.74
Textile and clothing	38.32	35.75	41.25	43.40	34.00	56.27	59.65	43.63
Country total ^a	27.00	36.08	41.59	39.61	33.45	56.35	59.67	39.68

^a Weighted average.

Table 6. Commodity distribution of international transport costs, 2005
(Percentage of total transport costs)

Commodity group	China	India	Indonesia	Japan	Malaysia	Republic of Korea	Thailand	Commodity total ^a
Transport equipment	57.74	64.63	57.55	55.89	65.79	39.72	37.85	45.16
Automobiles and components	59.03	64.23	57.65	55.92	65.64	41.61	38.98	54.15
Chemicals	63.35	63.51	58.80	56.53	68.69	41.38	39.91	62.41
Electrical and Electronics	60.47	63.41	57.24	56.26	64.83	42.97	38.82	57.41
Electronic integrated circuits	60.48	63.74	56.61	54.53	66.03	40.82	37.99	63.03
Food products	72.55	65.34	63.55	57.04	69.19	47.37	47.38	57.84
Fuels, mining and forest products	76.76	62.57	57.87	61.31	67.99	44.48	40.76	61.41
Iron and steel	62.07	64.07	57.40	52.27	64.06	40.67	39.53	55.53
Leather	65.60	65.00	57.77	56.47	69.12	44.08	40.11	55.50
Machinery and mechanical appliances	58.94	64.23	56.86	55.07	64.06	41.22	39.31	53.43
Metal	59.69	64.21	57.20	56.84	65.07	43.76	41.12	60.26
Office and telecom equipment	60.24	64.51	56.86	57.44	64.14	42.90	38.61	61.52
Paper and pulp	62.24	65.83	58.23	57.47	68.01	43.59	39.12	58.49
Pharmaceuticals	63.47	63.40	56.71	56.11	67.90	40.24	41.24	54.22
Rubber and plastics	63.69	63.95	57.75	57.09	63.77	41.69	38.73	59.26
Textile and clothing	61.68	64.25	58.75	56.60	66.00	43.73	40.35	56.37
Country total ^a	73.00	63.92	58.41	58.39	66.55	43.65	40.33	60.32

^a Weighted average.

3. Estimated ad valorem transport costs

In this section, we estimate the ad valorem transport costs (both international and inland) for the shipment of a container from one country to another. This is crucial for evaluating the size of the barriers, which later helps us assess the impact of transport costs on regional trade, controlling for other variables. Equation (5) is used to estimate the commodity distribution of ad valorem inland transport cost (*AdvInITC*) for the import of country *i* from country *j*; equation (6) is used to estimate the commodity distribution of ad valorem international transport costs (*AdvIntTC*).

$$AdvInITC_i^k = \frac{\sum_l Q_{ij}^{kl} f_{ij}^{inland}}{\sum_l M_{ij}^{kl}} * 100 \quad (5)$$

$$AdvIntTC_i^k = \frac{\sum_l Q_{ij}^{kl} f_{ij}^{international}}{\sum_l M_{ij}^{kl}} * 100, \quad (6)$$

where $AdvIntTC_i^k$ and $AdvIntTC_i^k$ represent inland and international ad valorem transport costs, respectively, for country i for commodity k ; Q_{ij}^{kl} stands for the import of commodity group k in weight (here, in kilograms) by country i from country j ; f_{ij}^{inland} represents the inland freight rate per kilogram for the import of commodity k by country i from country j ; $f_{ij}^{international}$ represents the international freight rate per kilogram for the import of commodity k by country i from country j ; M_{ij}^{kl} stands for the import of commodity group k in value (here, in United States dollars) by country i from country j ; l is the commodity traded at 4-digit HS, falling under the commodity group k ($l \in k$). The transport cost is estimated for k commodity groups for imports of country i from its partner for the years 2000 and 2005. The commodity composition of inland and international transport costs is estimated as a percentage of total import. Inland and international freight rates were collected from Maersk Sealand (2007), whereas country imports at 4-digit HS were collected from the United Nations Comtrade database (2007). Tables 7 and 8 show the level and distribution of transport costs for each importer by commodity across seven Asian countries for the year 2005.¹⁸

Table 7. Ad valorem inland transport cost (trade-weighted), 2005
(Percentage of import value)

Commodity group	China	India	Indonesia	Japan	Malaysia	Republic of Korea	Thailand	Commodity total ^a
Transport equipment	3.59	0.05	4.71	3.18	0.14	8.29	7.38	3.06
Automobiles and components	0.36	1.04	1.14	1.37	0.51	0.97	1.26	0.82
Chemicals	3.06	6.93	7.20	5.87	9.77	6.35	9.18	7.02
Electrical and electronics	0.08	3.44	1.33	0.33	0.15	0.33	0.39	0.33
Electronic integrated circuits	0.01	24.98	0.12	0.02	0.03	0.01	0.02	0.09
Food products	6.89	27.21	16.17	5.14	16.02	5.22	7.21	7.35
Fuels, mining and forest products	21.33	7.13	15.71	32.75	29.58	45.67	37.02	22.29
Iron and steel	3.29	11.09	7.87	7.23	14.01	13.92	10.39	12.49
Leather	0.39	1.96	1.67	0.48	0.37	1.25	1.27	0.61
Machinery and mechanical appliances	0.31	0.78	1.21	1.41	0.59	0.77	0.99	0.72
Metal	1.71	4.29	6.26	4.08	6.72	4.74	3.24	2.24

¹⁸ Since there is not much change between 2000 and 2005, we discuss only the broad features of transport costs for 2005. Interested readers may contact the author for data relating to 2000.

Table 7. (continued)

<i>Commodity group</i>	<i>China</i>	<i>India</i>	<i>Indonesia</i>	<i>Japan</i>	<i>Malaysia</i>	<i>Republic of Korea</i>	<i>Thailand</i>	<i>Commodity total^a</i>
Office and telecom equipment	0.09	7.37	1.20	0.25	0.29	0.24	0.45	0.62
Paper and pulp	7.37	15.10	5.27	6.20	10.11	13.47	11.33	8.77
Pharmaceuticals	0.04	0.12	0.79	0.66	0.87	0.58	0.84	0.53
Rubber and plastics	1.89	6.07	3.64	3.11	6.69	2.49	2.44	2.74
Textile and clothing	0.70	5.58	2.30	0.56	1.13	1.61	2.32	0.90
Country total ^a	2.40	6.70	6.34	4.28	7.87	5.11	5.71	5.45

^a Weighted average.

Table 8. Ad valorem international transport cost (trade-weighted), 2005
(Percentage of import value)

<i>Commodity group</i>	<i>China</i>	<i>India</i>	<i>Indonesia</i>	<i>Japan</i>	<i>Malaysia</i>	<i>Republic of Korea</i>	<i>Thailand</i>	<i>Commodity total^a</i>
Transport equipment	4.90	0.09	6.39	4.03	0.26	5.46	4.50	2.52
Automobiles and components	0.52	1.86	1.55	1.74	0.98	0.69	0.80	0.97
Chemicals	5.29	12.07	10.27	7.63	15.00	4.48	6.10	8.95
Electrical and electronics	0.12	5.96	1.78	0.42	0.27	0.25	0.25	0.44
Electronic integrated circuits	0.01	43.92	0.16	0.02	0.05	0.01	0.01	0.15
Food products	18.20	51.30	28.19	6.82	35.99	22.71	15.50	12.83
Fuels, mining and forest products	70.45	11.91	21.57	51.90	55.26	36.59	25.47	32.34
Iron and steel	5.39	19.78	10.60	7.92	26.54	9.55	6.79	9.60
Leather	0.75	3.64	2.29	0.63	0.82	0.99	0.85	0.76
Machinery and mechanical appliances	0.45	1.40	1.59	1.73	1.04	0.54	0.64	0.83
Metal	2.53	7.70	8.37	5.37	19.39	5.24	2.26	12.50
Office and telecom equipment	0.14	13.39	1.58	0.34	0.53	0.18	0.28	0.98
Paper and pulp	12.14	29.08	7.35	8.38	21.48	10.41	7.28	12.35
Pharmaceuticals	0.06	0.21	1.03	0.85	1.83	0.39	0.59	0.63
Rubber and plastics	3.31	10.77	4.97	4.13	11.77	1.78	1.54	3.98
Textile and clothing	1.12	10.04	3.28	0.73	2.19	1.25	1.57	1.17
Country total ^a	6.50	10.10	8.90	11.09	13.56	7.83	3.86	9.80

^a Weighted average.

Some broad observations can be made based on the data in these tables:

- (a) Ad valorem international transport cost exceeds ad valorem inland transport cost in all countries, with the exception of Thailand. The ad valorem international transport cost for all goods was lowest in Thailand (3.86 per cent) and highest in Malaysia (13.56 per cent). Malaysia also showed the highest inland transportation cost (7.87 per cent) with regard to all goods; China had the lowest (2.40 per cent);
- (b) Ad valorem transportation cost varies across commodities. Both inland and international transportation costs are lower for manufactured goods than for traditional commodities. Fuels, mining and forest products incur the highest transportation costs in both cases. In Malaysia in particular, transport costs for the import of chemical, fuels, mining and forest products, iron and steel and metal are comparatively much more expensive than those for manufactures;
- (c) Ad valorem transportation cost varies across countries. For example, India experiences significantly higher-than-average transportation costs, both inland and international, for the import of food products, electronic integrated circuits, electrical and electronics, office and telecom equipment, textile and clothing and paper and pulp. International transportation cost for the import of transport equipment is higher in Indonesia than in other Asian countries. However, the Republic of Korea and Thailand become costlier than Indonesia in transport equipment when inland transport cost is considered.

The variation in ad valorem international transportation costs across countries and commodities reflects differences in terminal handling charges and auxiliary shipping charges (tables 9 and 10). On average, auxiliary shipping charges are much higher than THCs, both across commodities and countries. Both charges are highest in India, by a wide margin; there, manufactures, such as electronics, and office and telecom equipment, which make up a large percentage of total imports, are costlier than traditional commodities. Malaysia imports a large amount of traditional items, such as food products, chemicals, paper and pulp, and fuel, mining and forest products, thus showing comparatively higher ocean charges.

The combined incidence of THCs and auxiliary shipping charges on high-value manufactures, such as electronic integrated circuits, office and telecom equipment, and electrical and electronics, is higher than that on traditional commodities and mining and forest products.

Table 9. Terminal handling charges (weighted average), 2005
(United States dollars/Twenty-foot equivalent units)

<i>Commodity group</i>	<i>China</i>	<i>India</i>	<i>Indonesia</i>	<i>Japan</i>	<i>Malaysia</i>	<i>Republic of Korea</i>	<i>Thailand</i>	<i>Commodity total^a</i>
Electronic integrated circuits	238	768	316	459	316	252	240	626
Office and telecom equipment	231	720	298	412	278	251	243	510
Fuels, mining and forest products	542	817	360	550	370	316	308	468
Food products	422	986	476	408	386	363	386	409
Electrical and electronics	228	734	303	364	276	247	232	384
Chemicals	272	824	357	425	402	249	267	368
Textile and clothing	249	785	361	360	322	264	248	349
Paper and pulp	245	1 010	351	471	380	327	258	325
Pharmaceuticals	260	784	341	361	353	243	249	324
Leather	311	775	312	336	369	255	262	321
Rubber and plastics	274	885	360	452	274	270	253	320
Metal	214	795	303	380	299	251	272	298
Automobiles and components	212	906	325	381	313	244	238	296
Machinery and mechanical appliances	205	750	303	366	270	238	242	282
Iron and steel	245	839	324	371	279	235	236	279
Transport equipment	187	793	318	340	283	225	233	228
Country total ^a	437	795	358	521	337	295	279	403

^a Weighted average.

Table 10. Auxiliary shipping charges (weighted average), 2005
(United States dollars/Twenty-foot equivalent units)

<i>Commodity group</i>	<i>China</i>	<i>India</i>	<i>Indonesia</i>	<i>Japan</i>	<i>Malaysia</i>	<i>Republic of Korea</i>	<i>Thailand</i>	<i>Commodity total^a</i>
Electronic integrated circuits	336	1 419	565	557	514	466	398	1 126
Office and telecom equipment	337	1 541	592	731	486	530	412	1 034
Electrical and electronics	346	1 422	600	726	511	537	428	737
Fuels, mining and forest products	697	1 263	567	793	537	518	409	665

Table 10. (continued)

Commodity group	China	India	Indonesia	Japan	Malaysia	Republic of Korea	Thailand	Commodity total ^a
Food products	569	1 359	701	717	573	573	552	646
Textile and clothing	355	1 451	601	744	507	545	456	646
Leather	404	1 535	611	763	586	565	436	622
Pharmaceuticals	392	1 371	543	722	550	458	482	587
Chemicals	377	1 341	606	676	535	485	425	523
Metal	341	1 436	599	735	496	558	455	517
Machinery and mechanical appliances	333	1 484	587	672	491	491	432	516
Automobiles and components	329	1 328	593	694	502	497	427	510
Rubber and plastics	383	1 322	563	675	478	474	405	485
Iron and steel	368	1 379	586	557	482	478	445	485
Paper and pulp	373	1 386	590	674	528	477	411	477
Transport equipment	326	1 481	597	733	539	460	401	437
Country total ^a	577	1 408	590	770	512	511	425	602

^a Weighted average.

4. The weight-to-value ratio of trade and transport costs

The changing composition of Asia's trade has been a striking phenomenon and an important issue. Driven by China, Asian countries are gradually specializing in trade in intermediate and finished goods, which increases their import demand. However, to evaluate transport needs, it is useful to compare the trade growth with transport cost. The weight-value ratio for the regional trade among Asian countries was calculated using equation (7),¹⁹

$$w_{it} = \sum_k S_{ikt} w_k, \quad (7)$$

where w_k is the median weight-value ratio for each HS 4-digit commodity k in imports (exports) for the year 2005; S_{ikt} is the share of product k in the trade bundle of country i at time t ; and w_{it} is the aggregate weight-value ratio for country i 's imports for the year t . We report the weight-value ratio (measured in TEU per \$10,000) for each country's imports in table 11. The following patterns are worth noting:

- (a) Asian countries were engaging in more trade in automobiles and transport equipment. As a result, transport equipment across all the Asian countries showed a high weight-value ratio, particularly with regard to Japan;

¹⁹ Here, the methodology follows Hummels (2009).

Table 11. Estimated weight-value ratio, 2005
(Twenty-foot equivalent unit/10,000 United States dollars)

Commodity groups	China	India	Indonesia	Japan	Malaysia	Republic of Korea	Thailand
Transport equipment	417.436	12.086	192.917	1 301.104	246.684	148.328	130.887
Automobiles and components	1.957	2.330	1.443	2.330	19.922	11.318	2.266
Chemicals	0.815	0.557	1.066	0.693	18.682	0.611	0.882
Electrical and Electronics	2.216	0.458	7.098	3.202	4.164	4.244	1.848
Electronic integrated circuits	0.092	1.732	9.523	0.508	4.636	0.592	0.195
Food Products	20.728	8.964	0.975	0.349	5.676	0.916	1.957
Fuels, mining and forest products	0.049	0.052	0.435	0.143	1.926	0.190	0.156
Iron and steel	0.365	0.206	0.055	0.142	0.523	0.090	0.072
Leather	2.217	3.799	13.233	0.541	7.087	1.433	4.656
Machinery and mechanical appliances	0.031	0.967	0.039	0.081	0.136	0.035	0.046
Metal	0.118	1.063	0.444	0.207	0.158	0.082	0.112
Office and telecom equipment	0.020	0.010	0.428	0.017	0.039	0.009	0.047
Paper and pulp	0.406	1.419	0.770	1.097	0.261	0.674	0.482
Pharmaceuticals	0.449	0.375	0.033	0.051	0.476	0.031	0.097
Rubber and plastics	0.019	0.003	0.057	0.006	0.009	0.120	0.052

- (b) China imports a comparatively high amount of transport equipment, electrical and electronics, automobiles and components, food products, and leather, which are basically heavier raw materials and intermediate products used as inputs for high-value production and exports. In contrast, with the exception of transport equipment, automobiles and components, and electrical and electronics, Japan imported largely low-weight finished products;
- (c) All the Asian economies considered here (except Japan) are importers of high-weight semi-finished capital goods and raw materials.

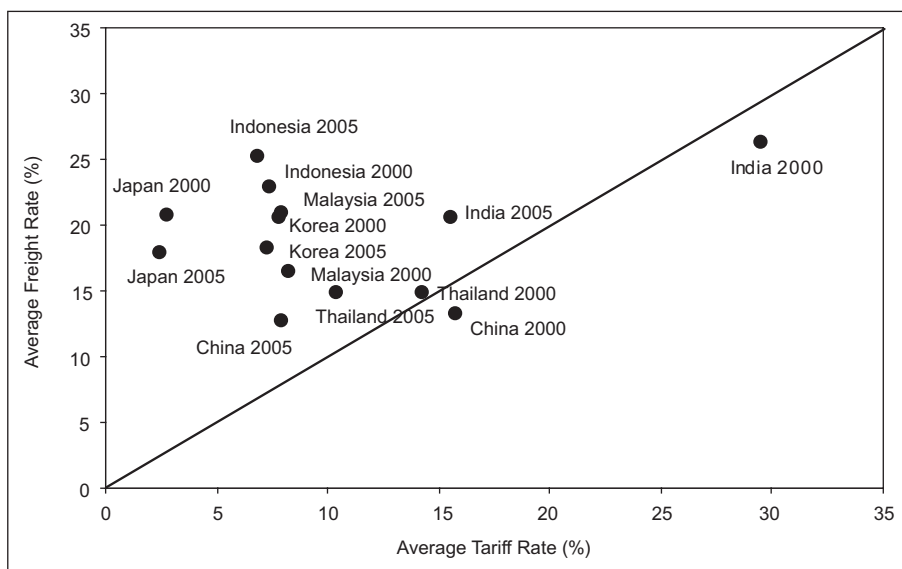
The cost of transportation of heavier goods would certainly be higher than that of lighter goods. In other words, the weight-value ratio of a product is the major determinant of the transport cost. Hummels and Skiba (2004) commented that a 10 per cent increase in product weight-value leads to a 4 per cent increase in ad valorem shipping cost. Since most of the Asian countries are net importers of weight, and two are geographically large (China and India), it would be important to understand the relationship between transport cost and weight-value ratio, which in turn allows us to evaluate the transportation needs in Asian countries more precisely. We found that the heavier the good, the greater the

transportation cost—except in Japan. Japan, being a developed country, has a relatively superior transport infrastructure and also imports much less weight; this leads to less transport congestion and subsequently less ad valorem transportation costs.

Further evidence on the transport barrier is provided in figure 6, which plots the trade-weighted average tariffs and international transport costs of countries in a cross-section pooled framework for the years 2000 and 2005. (Annex III provides the same for nine commodity groups.) There is an absolute fall in tariffs between 2000 and 2005, indicating that most of the countries were successful in reducing average applied tariffs. International transport costs are shown to be much higher than tariff rates, since all countries appear above the 45-degree line for 2005. However, all countries, except Indonesia and Malaysia, reduced such costs between 2000 and 2005. Lastly, transportation cost has a higher incidence than tariffs in aggregate terms (see annex III).

All these changes are reflected in the slight upward-left shift of the countries' locus in the tariff-freight plane over time, which changes the trajectory representing the locus. Figure 7, shows the change in both the slope and intercept between 2000 and 2005. This suggests a relatively higher incidence of transport cost, as well as a reduction in the relative distances among the countries in the tariff-freight plane.²⁰

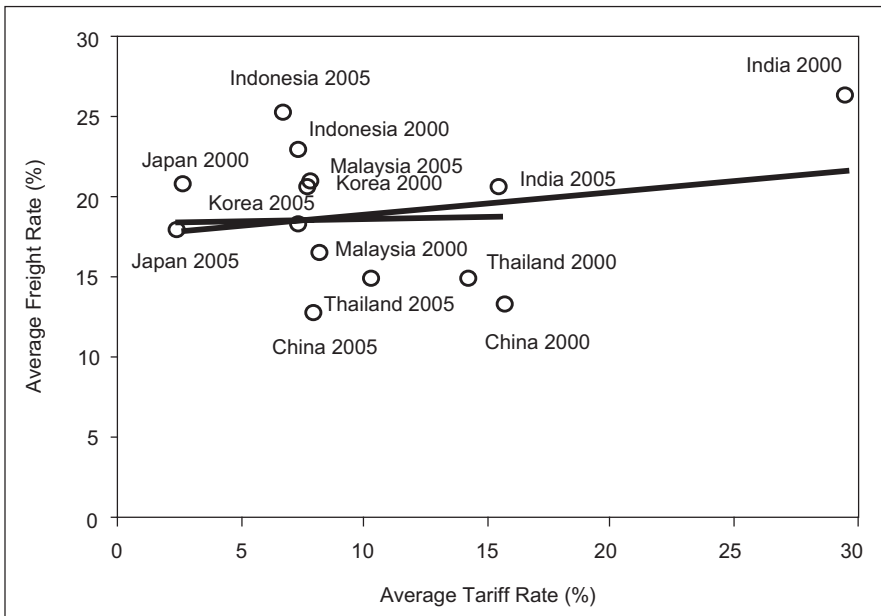
Figure 6. Countries in the tariff-freight plane, 2000 and 2005



Source: De (2006a).

²⁰ This is further confirmed by the estimated coefficient of variations, which declined in both tariff and freight rates. The coefficient of variations of tariffs decreased from 0.67 in 2000 to 0.44 in 2005, whereas that of freight declined from 0.22 in 2000 to 0.21 in 2005.

Figure 7. Countries in the tariff-freight plane, 2000 and 2005



Source: De (2006a).

In short, Asian countries, with the exception of Japan, experienced a comparatively greater incidence of transportation costs, where variation across countries and commodities is driven by differences in ocean freights. The higher the ocean freight rates, the higher the transportation cost. The evidence also indicates that tariffs as a barrier are not yet dead. In the next section, we further analyse how tariffs and transport costs impede trade and competitiveness.

C. Assessing barriers to trade in selected Asian countries

Having estimated the ad valorem transport costs, we now assess the impact of trade costs (barriers to trade) on trade flows (and competitiveness) in the context of seven Asian countries. In other words, we will test how changes in trade cost components affect import demand. First we estimate the impact of transport costs and other barriers on regional trade and competitiveness, controlling for other variables, in the framework of a gravity model. We deal with those barriers (components of trade costs) which are imposed by both price (e.g. freight and tariff rates) and non-price (infrastructure) factors.

(a) The model

Of all the components of transaction cost, transport cost has been studied the most extensively. Generally, there are two approaches to transport modelling in trade: (a) one

in which transport is modelled implicitly with the traded goods;²¹ and (b) one which involves explicit transport sector modelling. The former relates to price factors, while the latter deals predominantly with non-price factors. As trade costs are heavily dependent on both types of factors, we explore both approaches here.

In order to understand the impact of trade costs on trade flows, the following baseline constant elasticity of substitution (CES) equation is considered.

$$X_{ij} = Y_i Y_j \left(\frac{T_{ij}}{P_i P_j} \right)^{1-\sigma}, \quad (8)$$

where X_{ij} denotes country i 's imports from country j ; Y_i and Y_j represent aggregate sizes of import demand and export supply of countries i and j respectively;²² T_{ij} accounts for trade costs components; P_i and P_j reflect the implicit aggregate equilibrium prices; and σ is the elasticity of substitution parameter between all goods in the consumption utility function.²³

We assume from equation (8) that T_{ij} can be divided into several components, namely, infrastructure quality, tariff barriers, transport costs and other border effects. Assuming a monopolistically competitive market, the term $(1-\sigma)$ should be negatively related to the volume of trade.

We assume that the shipment of a container from country j to country i incurs three major costs: (a) inland transportation costs at exporting country j (T_j^{Inl}); international transportation costs (port to port) between j and i (T_{ij}^{Int}); and inland transportation costs at importing country i (T_i^{Int}). Therefore, equation (8) can be rewritten as

$$X_{ij} = Y_i \left(\frac{T_j^{Inl} + T_{ij}^{Int} + T_i^{Int}}{P_i P_j} \right)^{1-\sigma}. \quad (9)$$

In terms of the demand side of import, the final estimable equation is expressed as follows:²⁴

$$\ln X_{ij} = \alpha_0 + \alpha_i + \alpha_j + \beta_1 \ln Y_i + \beta_2 \ln T_{II_i} + \beta_3 \ln T_{II_j} + \beta_4 \ln Port_i + \beta_5 \ln Port_j + \beta_6 \ln T_j^{Inl} + \beta_7 T_{ij}^{Int} + \beta_8 T_i^{Inl} + \beta_9 \ln TR_{ij} + \beta_{10} \ln ER_j + \beta_{11} D + \beta_{12} D_1 + \beta_{13} D_2 + \varepsilon_{ij}. \quad (10)$$

²¹ Transport is implicit in the "iceberg" model (Samuelson 1954)—the most widely used. That model assumes that a part of the transported good is consumed in transportation.

²² These terms are used to represent the supply capability of the exporter and the demand availability of the importer for a given period of time in a static sense.

²³ We assume that all goods are differentiated by the place of origin and that each country is specialized in the production of only one good. Therefore, the supply of each good is fixed ($n_i = 1$), but it allows preferences to vary across countries subject to the constraint of market clearing (constant elasticity of substitution).

²⁴ This equation closely follows equation (18) of Hummels (1999). Here, export supply capability (Y_j) is not included since we are considering imports in a bilateral pair.

On the impact of non-price barriers to trade, we have

$$\ln X_{ij} = \alpha_0 + \alpha_i + \alpha_j + \beta_1 \ln Y_i + \beta_2 \ln TII_i + \beta_3 \ln TII_j + \beta_4 \ln Port_i + \beta_5 \ln Port_j + \beta_6 D + \beta_7 D_1 + \beta_8 D_2 + \varepsilon_{ij}, \quad (11)$$

whereas, on price barriers to trade, we consider

$$\ln X_{ij} = \alpha_0 + \alpha_i + \alpha_j + \beta_1 \ln Y_i + \beta_2 \ln T_j^{Int} + \beta_3 T_{ij}^{Int} + \beta_4 T_i^{Int} + \beta_5 \ln TR_{ij} + \beta_6 \ln ER_j + \beta_7 D + \beta_8 D_1 + \varepsilon_{ij}. \quad (12)$$

With respect to explicit tariff and freight rates, we revise equation (12) as follows:

$$\ln X_{ij} = \alpha_0 + \alpha_i + \alpha_j + \beta_1 \ln Y_i + \beta_2 \ln (T_{ij} + TR_{ij}) + \beta_3 \ln ER_j + \beta_4 D + \beta_5 D_1 + \varepsilon_{ij}. \quad (13)$$

To understand the variability of inland and international transport costs, we use

$$\ln X_{ij} = \alpha_0 + \alpha_i + \alpha_j + \beta_1 \ln Y_i + \beta_2 \ln (T_{ij}^{Int} + T_i^{Int}) + \beta_3 \ln (TR_{ij}) + \beta_4 \ln ER_j + \beta_5 D + \beta_6 D_1 + \varepsilon_{ij} \quad (14)$$

and

$$\ln X_{ij} = \alpha_0 + \alpha_i + \alpha_j + \beta_1 \ln Y_i + \beta_2 \ln (T_{ij}^{Int}) + \beta_3 \ln (TR_{ij}) + \beta_4 \ln ER_j + \beta_5 D + \beta_6 D_1 + \varepsilon_{ij}, \quad (15)$$

where i and j are importing and exporting countries, respectively; X_{ij} represents the bilateral import of country i from country j of commodity k ; Y_i denotes the total import of country i from country j ; TII represents the country's infrastructure quality, measured through an index; $Port$ represents performance of a country's port; T_{ij} stands for transport costs (ad valorem) for bilateral trade between countries i and j ; TR_{ij} stands for the bilateral average (ad valorem) tariff by country i for imports from country j ; and ER_i represents the annual average exchange rate in exporting country i . D is capital-to-capital distance between bilateral trading pairs. Dummies 1 and 2 refer to adjacency and electronic data interchange, respectively.²⁵ We avoid placing proxies for other indirectly measured border effects such as language similarity or regional free trade agreements. The parameters to be estimated are denoted by β , and ε_{ij} is the error term. Annex IV provides the methodology adopted to derive TII and $Port$.

The model considered here uses data for the years 2000 and 2005 at 4-digit HS for imports of seven Asian countries, namely, China, India, Indonesia, Japan, Malaysia, Republic of Korea and Thailand. The model considers data at a bilateral level for all the variables for each country's individual partners. By focusing on tariffs and transport costs, we cover a major portion of trade costs. Bilateral trade, transport costs, and tariffs are taken at 4-digit HS for the years 2000 and 2005. The pooled data set comprises about 57,629

²⁵ Electronic data interchange (EDI) is normally used by customs and port authorities to facilitate trade, and is an indication of e-governance. An efficient port uses EDI (the nomenclature varies across countries) for faster movement of goods and services.

observations, 16 identical commodity groups for each year and seven countries all through.²⁶ Annex VI provides the data sources.

The decision to use either a fixed or random effects model was based on the Hausman χ^2 test. For the fixed-effect specifications, we used the least squares dummy variable model, while the random-effect models are estimated using the generalized least squares method, correcting for possible heteroscedastic errors and panel-specific serial correlation. The Durbin-Watson test was applied; no presence of serial correlation was detected. Of the two models, the fixed-effect model (two-way) appeared most significant. Before estimating the models, we obtained a matrix of correlation coefficients among the explanatory variables to rule out any possibility of multicollinearity problems. Where such problems were detected, we excluded some variables.²⁷

(b) Results

Tables 12 and 13 present estimation results for the two combined years (2000 and 2005), all commodity groups, for two scenarios (price and non-price variables). We expect that the price (barrier) variables will be negatively correlated with the volume of imports, and non-price (barrier) variables will be positively related to imports, respectively. The estimated coefficients show elasticity, which is useful as an indicator of the effect of trade barriers on trade volumes. The model performs well, as most of the variables had the expected signs. Given the cross-sectional nature of the data at 4-digit HS for the years 2000 and 2005, the estimated models (1 to 4 in table 12) explained about 86 per cent of the variations in the direction of trade flows when price variables were considered, and 87 per cent when non-price variables were analysed (table 13).

The size of the importers' market has a positive impact on the volume of imports, while barriers—price as well as non-price—impede imports. The most interesting result is the strong influence that the ad valorem price factor ($T_{ij} + TR_{ij}$) had on trade: the higher the price barriers between each pair of partners, the less they trade. In other words, a 10 per cent ad valorem price (transport and tariff) increase lowers trade by 2 per cent. Tariff and transport costs, considered separately, also influence the trade flow in the same direction, with more or less same magnitude. The coefficients of price variables in most of the cases are statistically significant at the 1 per cent level, and are always negative, except in model 3. International transport cost, when considered separately, had a positive sign and was significant at the 5 per cent level, thereby indicating that it is more important to address inland rather than international transportation costs. It may be said that, under the given conditions, as Asian trade increases overall,²⁸ trade among Asian countries will

²⁶ About 8.36 per cent of the total observations in the pooled framework show illogical values (missing, negative or extremely high); most such values (27 per cent) were observed in the category of fuels, mining and forest products (see annex V).

²⁷ Annex VII presents partial correlations among the dependent and independent variables (in natural logs).

²⁸ In 2005, about 51.2 per cent of Asia's exports were conducted within the region, and about 27 per cent of world exports came from Asia (WTO, 2007).

Table 12. Log-linear least squares estimates of import demand: price effects

	Model 1		Model 2		Model 3		Model 4	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
T_{ij} (Transport)							-0.044**	4.840
TR_{ij} (Tariff)			-0.253***	-16.190	-0.250***	-15.550	-0.239***	-15.120
$T_{ij} + TR_{ij}$ (Transport + tariff)	-0.202***	-21.340						
$T_{ij}^{int} + T_{ij}^{inl}$ (International transport + inland transport of importer)			-0.223***	-32.920				
T_{ij}^{int} (International transport)					0.051**	4.790		
ER_j (Exchange rate)	0.009*	2.360	0.006	1.680	0.010*	2.820	0.010*	2.800
Y_j (Importer market size)	0.503***	576.090	0.485***	396.870	0.484***	362.820	0.484***	361.320
D (Distance)	-0.725***	-12.883	-0.709***	-14.128	-0.674***	16.809	-0.720***	-15.187
D_1 (Adjacency dummy)	0.280***	10.570	0.276***	10.490	0.239***	9.000	0.236***	8.900
Number of observations	57 929		57 929		57 929		57 929	
R^2	0.862		0.864		0.862		0.862	

Notes: Dependent variable is log of import of goods (at 4-digit HS) in bilateral pair.

Cross-section pooled for the years 2000 and 2005.

Country and time fixed effect are included in the model.

* Significant at the 10 per cent level; ** significant at the 5 per cent level; *** significant at the 1 per cent level.

Table 13. Log-linear least squares estimates of import demand: non-price effects

	<i>Coefficient</i>	<i>t-value</i>
Port _i (Performance of importer's port)	0.12**	3.73
Port _j (Performance of exporter's port)	0.41***	13.24
TII _i (Trade mobility infrastructure of importer)	0.39***	17.62
TII _j (Trade mobility infrastructure of exporter)	0.59***	32.13
Y _j (Importer market size)	0.35***	53.70
D (Distance)	-0.655***	17.237
D ₁ (Adjacency dummy)	0.39***	14.56
D ₂ (Electronic data interchange dummy)	0.61***	18.98
Number of observations		57 929
R ²		0.865

Notes: Dependent variable is log of import of goods (at 4-digit HS) in bilateral pair. Cross-section pooled for the years 2000 and 2005.

Country and time fixed effect are included in the model.

* Significant at the 10 per cent level; ** significant at the 5 per cent level; *** significant at the 1 per cent level.

grow even if international transport costs rise. This also suggests that there are huge infrastructure bottlenecks inside countries in Asia (barring perhaps Japan) that call for immediate attention. Costlier inland transportation prohibits and taxes trade as much as tariffs do. If not checked, it is likely to wipe out the benefits attributed to the advancements in international shipping. Therefore, infrastructure has a strong role to play in reducing trade costs and raising competitiveness in Asia.

Contrary to expectations, in all models, the exchange rate in the exporting country appeared with positive coefficient. Possible explanations include the following: (a) currency depreciation had little effect on aggregate trade flow during the period of our study; or (b) there was appreciation against the United States dollar. In all models, distance had the correct sign, and was statistically significant. The adjacency dummy, which is a proxy of indirectly measured barriers, has a positive sign in all the models, which indicates that sharing a border does matter to trade in Asia.

In the case of non-price variables, the estimated results indicate that the trading infrastructure of exporting countries is much more important than that of importing countries; this coefficient is statistically significant at the 1 per cent level. Similarly, the port performance of exporting countries has a comparatively higher positive effect on trade flow than does the port performance of importing countries. The adjacency dummy has the expected sign and is also significant. Interestingly, the electronic data interchange dummy also has a positive effect on trade flow.

The direction of the influence of price and non-price factors on trade flow has been researched extensively. However, the combined effect of explicit barriers, such as transport

and tariffs, on Asian trade was unknown. As mentioned above, estimated coefficients indicated that a 10 per cent increase in price barriers such as tariffs and transport costs would lower Asian aggregate trade by 2 per cent. We would expect an analysis of disaggregated data to reveal variations in the effects of barriers. To this end, we examined estimates at the commodity levels for the effects of price and non-price factors (annexes VIII and IX, respectively) on trade flows.

Tariffs were shown to be highly significant (negative) barriers in 10 of the 16 commodity groups included in the study. Tariffs are no longer a barrier to trade flow in some commodity groups, such as fuels, mining and forest products; metal; and paper and pulp, which have statistically significant coefficients. These commodity groups are “all weather” and demand driven, and feed the manufacturing sector in Asia. The category of automobiles and components also had a positive coefficient, but it was not statistically significant. The extensive production network of the automobile sector in Asia had forced tariffs down, thus they were gradually losing significance as a barrier; however, high tariffs still existed on certain automobile parts. Tariffs were still penalizing trade in the office and telecom sector in Asia. Overall, based on the estimated coefficients, a 10 per cent decrease in tariffs would lead to a 2 to 6 per cent rise in trade in 10 commodity groups in Asia.

Among the price factors, the estimated coefficients of transport costs are significant and negative in most of the sectors: electrical and electronics, pharmaceuticals, leather, machinery and mechanical appliances, metal, paper and pulp, chemicals, textiles and clothing, food, and office and telecom equipment. In the remaining sectors, namely, automobiles and components; transport equipment; and fuels, mining and forest products, the estimated coefficients of transport costs components have a positive sign but are not always significant. A careful scrutiny of the differentials of the estimated coefficients in the former group of commodities clearly indicates that inland transportation costs are more significant than international transport costs, except perhaps in the automobiles and components sector. Therefore, larger or medium-sized countries, such as China, Japan, India, Indonesia, Malaysia, the Republic of Korea and Thailand, which are producers and/or exporters of manufactures such as electrical and electronics, pharmaceuticals, leather, machinery and mechanical appliances, or office and telecom equipment, still had not been able to reap many trade benefits due to the presence of comparatively higher price barriers, such as higher tariffs and transport costs.

The adjacency dummy shows mixed results: having a common border is advantageous for trade in only some commodity groups (such as textiles and clothing, leather, food, and fuels, mining and forest products). Contrary to the finding above, a depreciation of the exchange rate might lead to an increase in trade flows in certain commodities, such as office and telecom equipment, automobiles and components, chemicals, electrical and electronics, and fuels, mining and forest products. Trade in commodity groups such as leather might not increase in response to a further depreciation of currency.

The ad valorem combined effect of tariffs and transport is highly significant and negative in the cases of textile and clothing, office and telecom equipment, machinery and mechanical appliances, electrical and electronics, and leather. Of the significant estimates, the size of the effects varies widely. The estimated coefficients show that a 10 per cent reduction in ad valorem tariffs and transport costs would lead to a rise of about 2 to 9 per cent in bilateral trade flows of manufactures (except automobiles and transport equipment) in Asia. The usual caveat is that R^2 reported in annex VIII explains only a small part (a third or less) of the variation in trade flows. Perhaps the inappropriateness of the structural model or omitted variable bias could be the plausible reasons for poor fit.

When we consider non-price effects on trade flows, we get comparatively better results in all sectors except transport equipment (see annex IX). There is strong empirical evidence that non-price components, namely, a country's infrastructure quality and the performance of its ports, are important for international trade patterns of 15 prominent sectors in Asia. The importing country's infrastructure quality is the most important determinant of cross-country variations of trade flows.

Among dummies, the results of electronic data interchange and adjacency are mixed. In some sectors, the estimated coefficient of the electronic data interchange dummy was positive, in others, negative. Trade in the textile and clothing and chemical sectors had benefited from electronic data interchange at ports. The estimated coefficients of the adjacency dummy (positive and significant) show that trade in office and telecom equipment, and rubber and plastic had benefited from common borders. Interestingly, the estimated coefficients of exchange rate in most sectors show a negative correlation with trade flows, thereby suggesting that further depreciation of the currency would lead to a rise in trade flows except in the sectors of paper and pulp, and leather. This contradicts the results calculated using aggregate trade data (equation (10)).

D. Conclusion

The fundamental conclusion of this paper is that transportation cost is relatively more important than tariffs, *ceteris paribus*, in enhancing Asia's trade. The analysis carried out in this study provides sufficient evidence to ascertain that variations in tariffs and transport costs, along with the quality of infrastructure facilities, have significant influence on regional trade flows in Asia. This paper also offers evidences of price and non-price effects on trade barriers.

In terms of specific aspects, the following conclusions have been drawn:

- (a) Asia experienced a sharp increase in merchandise trade and was showing greater trade interdependence on a large variety of goods, particularly in intermediate and capital goods. However, rising trade costs (attributable to higher tariffs and freight rates) continued to impede trade in Asia;
- (b) Freight (ocean) cost is one of the major components of international transport costs. It has an impact on trade equivalent to customs tariffs or the exchange

rate. Freight costs vary across regions; inefficient transport services that result in longer delivery times could account for some of this variation. In Asia, the freight rate of container shipments (at the bilateral level) increased significantly. The freight rate for every bilateral pair increased between 2000 and 2005, with variations in levels as well as in growth. Differences across countries and regions in ocean freight rates could be a source of absolute and comparative advantage and affect trade in very much the same way high tariffs do;

- (c) The estimated commodity distribution of freight rates indicated that the incidence of inland transportation costs was much higher than that of international transportation costs in Asia. In other words, trade in Asia could be suffering more from bottlenecks in infrastructure quality associated with the movement of goods inside the country rather than international infrastructure involved in shipping goods between the ports of two countries;
- (d) The incidence of freight creates havoc in Asia's trade. Generally speaking, the estimated freight rates are lower for manufactured goods than for traditional commodities. In Indonesia, the freight rates are exceptionally high when country-to-country freight rates are considered. However, the port-to-port freight in Indonesia is relatively low, indicating that Indonesia incurs high costs related to inland transportation;
- (e) There was an absolute fall in tariffs between 2000 and 2005, indicating that most of the countries in Asia were successful in reducing average applied tariffs. While slight, there was an upward shift of the countries' locus, even though marginal, in the north-western direction in the tariff-freight plane over time. This suggests a relatively higher incidence of freight in Asia, as well as a reduction of relative distances among the Asian countries in the tariff-freight plane;
- (f) Having estimated the ad valorem freight rates, we then assessed the impact of trade costs (barriers to trade) on trade flows, looking particularly at price factors (freight and tariff rates) and non-price factors (infrastructure). The estimated model explained about 86 per cent of the variations in the direction of trade flows when price variables were considered, and 87 per cent when non-price variables were considered in the model. The importers' market size has a positive impact on the volume of imports, and the impact of the barriers (both price and non-price) on imports is negative. The most interesting result was the strong influence that the ad valorem price factor ($T_{ij} + TR_{ij}$) had on trade: the higher the price barriers between countries in a pair, the less they traded. In other words, a 10 per cent increase in the ad valorem price (transport and tariff) lowered trade by 2 per cent. Tariff and transport costs, each considered separately, also influence the trade flow in the same direction, to more or less the same extent;
- (h) The estimated coefficient of international transportation costs indicated that it was more important to address inland rather than international transportation

cost if the goal was to enhance Asian trade in selected commodities. There were indications of huge domestic infrastructure bottlenecks in countries in Asia (barring perhaps Japan) that call for immediate attention in order to enhance trade flows in Asia. Costlier inland transportation limits and taxes trade in the way tariffs do. If not checked, it is likely to negate the benefits gained from advancements in international shipping and tariff reductions. Therefore, infrastructure has an important role to play in reducing trade costs in Asia;

- (i) Tariffs were shown to have a relatively large and negative impact on trade when we considered individual sectors. Trade in all sectors, with the exception of transport equipment, is influenced by tariffs, transport costs and infrastructure quality. In the case of transport equipment, bilateral tariffs had a less significant role, as trade in that sector is more demand driven in Asia;
- (j) The ad-valorem combined effect of tariff and transport is highly significant and negative in the cases of textiles and clothing, office and telecom equipment, machinery and mechanical appliances, electrical and electronics, and leather. The size of the effects varies widely. Estimated coefficients show that a 10 per cent reduction in ad valorem tariffs and transport costs would lead to an increase of about 2 to 9 per cent in bilateral trade flows of manufactures (except automobiles and transport equipment) in Asia.
- (k) Larger or medium-sized countries, such as China, Japan, India, Indonesia, Malaysia, the Republic of Korea and Thailand, which are producers and exporters of manufactures such as electrical and electronics, pharmaceuticals, leather, machinery and mechanical appliances, and office and telecom equipments, still had not been able to reap benefits due to the presence of comparatively higher price barriers, such as higher tariffs and transport costs.

Given these broad findings, we can say that with the rise of regionalism (and also bilateralism) in Asia, any attempt towards deeper integration of the economies of the region holds high promise only if accompanied by initiatives that help improve trade efficiency and reduce trade costs. Reductions in inland transportation costs should be a priority in any new policy for Asia's infrastructure development, since a decrease in inland transportation costs, as an outcome of improved infrastructure, will stimulate trade. The challenge for Asian countries is thus to identify improvements in logistics services and related infrastructure that can be achieved in the short-to-medium term and that would have a significant impact on the competitiveness of Asian countries.

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Annex I

Classification of commodity groups

	<i>Corresponding 2/4 -digit HS (2002)</i>	<i>Remarks</i>
Agriculture products	01-24, 50-53	Taken at 4-digit HS excluding HS 01 and HS 06
Food	16-23	
Fuels, mining and forest products	25-27, 44	Taken at 4-digit HS, excluding HS 45
Manufactures	28-43, 45-49, 54-70, 72-92, 94-96	Taken at 4-digit HS, excluding HS 44, 50-53, 71, 93
Chemical	28-36, 38	Taken at 4-digit HS, excluding HS 37
Pharmaceuticals	30	
Rubber and plastics	39-40	
Leather	41-43, 64	
Paper and pulp	47-48	
Textile and clothing	54-63	Taken at 4-digit HS, excluding HS 64-67, 71
Iron and steel	72-73	
Metal	68-70, 74-81	
Machinery and mechanical appliances	82-84	Taken at 4-digit HS, excluding HS 8415, 8418, 8471, 8473
Electrical and electronics	85, 90, 91, 92, 95	Taken at 4-digit HS, including HS 8415, 8418, 8471, 8473
Office and telecom equipment	8517-8548	
Electronic integrated circuits	8542	
Transport equipment	86-89	
Automobiles and components	87	

Annex II

Components of international transport cost (United States dollars/Twenty-foot equivalent unit)

	<i>Terminal handling charges^a</i>		<i>Ocean freight charges^b</i>	
	<i>2000</i>	<i>2005</i>	<i>2000</i>	<i>2005</i>
China	223	437	338	577
India	374	795	729	1 408
Indonesia	235	358	416	590
Japan	339	521	556	770
Malaysia	245	337	409	512
Republic of Korea	238	295	456	511
Thailand	184	279	310	425

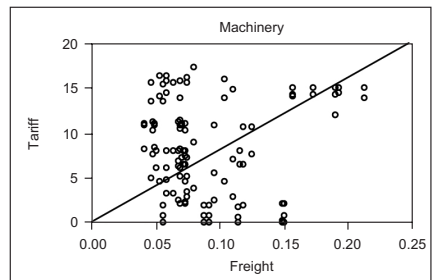
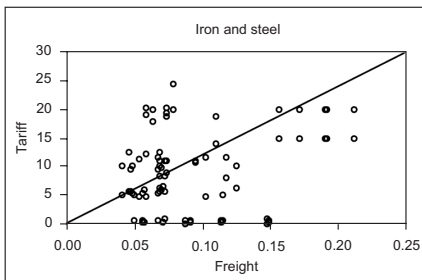
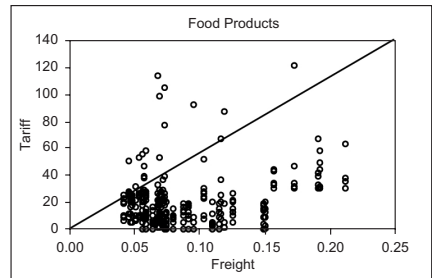
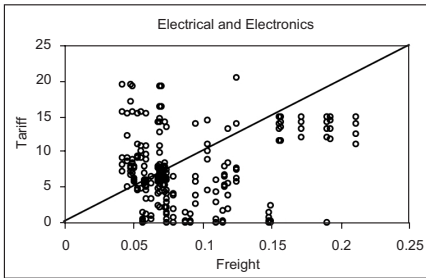
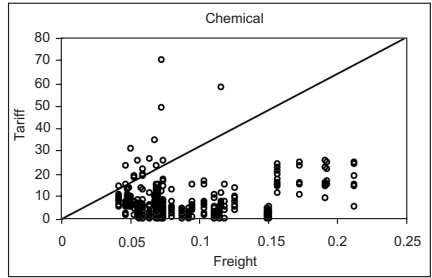
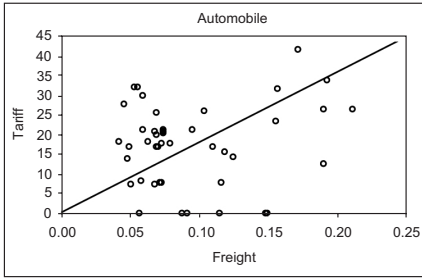
Source: Calculated based on data from Maersk Sealand (2007).

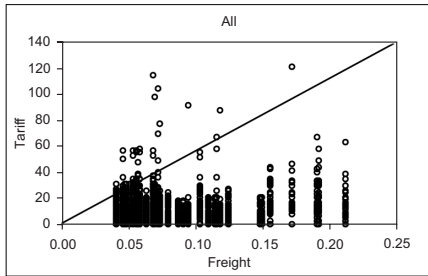
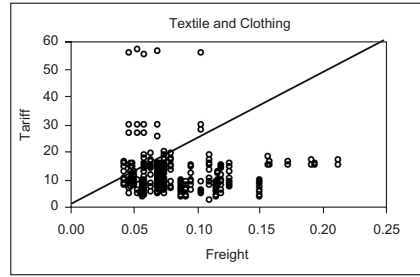
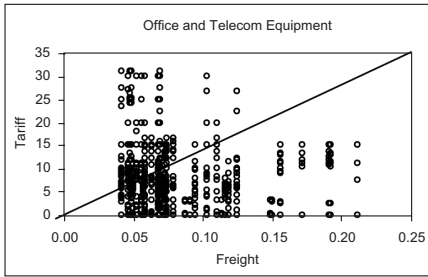
^a Average (weighted) over all commodities.

^b Other than terminal handling charges.

Annex III

Incidence of ad valorem tariff and freight by commodity groups, 2005





Annex IV

Building an infrastructure index

To assess country characteristics and domestic (inland) transport costs, we focus on infrastructure measures—the country’s ability to enhance the merchandise trade. Infrastructure is treated here as a proxy for those costs, because it responsible for the movement of goods across and within countries.

To assess the impact of infrastructure facilities on bilateral trade, we have constructed the Trade Infrastructure Index, comprising nine infrastructure variables for each individual country. The Index is designed to measure the costs of travel across a country. In theory, the export and import prices are border prices, and thus it would seem that own and trading partner infrastructures as defined here should not affect these rates. However, interactions between the variables are possible. The simplest example is that an increase in land distance would increase transport cost. The Index is based on principal component analysis, and it measures the relative position of a country considering a set of observables. Briefly, the Index is a linear combination of the unit free values of the individual facilities, such that

$$I_{ij} = \sum W_{kj} X_{kij},$$

where I_{ij} is the infrastructure index of the i^{th} country in j^{th} time, W_{kj} is weight of the k^{th} facility in j^{th} time; and X_{kij} = unit free value of the k^{th} facility for the i^{th} country in the j^{th} time point.

While indexing the infrastructure stocks of the countries, we considered the following nine variables, which are directly involved in moving merchandise between countries: (a) railway length density (km per 1,000 km² of surface area); (b) road length density (km per 1,000 km² of surface area); (c) air transport freight (million tons per km); (d) air transport, passengers carried (percentage of population); (e) aircraft departures (percentage of population); (f) country’s percentage share in world fleet; (g) container port traffic (twenty-foot equivalent units per terminal); (h) fixed-line and mobile phone subscribers (per 1,000 people); and (i) electric power consumption (kwh per capita).

Table IV.1. Estimated weights: principal component analysis

Infrastructure Indicator	Factor loadings ^a	
	2000	2005
Air transport freight (million tons per km)	0.76	0.80
Air transport, passengers carried (percentage of population)	0.83	0.88
Aircraft departures (percentage of population)	0.86	0.91
Country’s percentage share in world fleet	0.31	0.36
Container port traffic (TEUs per terminal)	0.50	0.53

Table IV.1. (continued)

<i>Infrastructure Indicator</i>	<i>Factor loadings^a</i>	
	2000	2005
Electric power consumption (kwh per capita)	0.79	0.90
Fixed-line and mobile phone subscribers (per 1,000 people)	0.86	0.93
Railway length density (km per 1,000 km ² of surface area)	0.85	0.92
Road length density (km per 1,000 km ² of surface area)	0.82	0.90
Explanatory variable (percentage of total)	0.65	0.67

^a Unrotated.

Abbreviation: TEU, twenty-foot equivalent units.

Table IV.2. Estimated trade infrastructure index, 2000 and 2005

	2000	2005
China	1.66	1.87
India	0.51	0.58
Indonesia	0.41	0.45
Japan	4.12	4.23
Malaysia	1.62	1.70
Republic of Korea	3.01	3.18
Thailand	0.86	0.91

Source: International Association of Ports and Harbours.

Note: Average of country's top three largest container ports.

Table IV.3. Performance of ports: number of containers (twenty-foot equivalent units) handled per hour, 2000 and 2005

	2000	2005
China	19	39
India	11	27
Indonesia	9	12
Japan	27	35
Malaysia	38	52
Republic of Korea	32	44
Thailand	12	30

Source: International Association of Ports and Harbours.

Note: Average of country's top three largest container ports.

Annex V

Excluded values by country and commodity

Table V.1. By country

	<i>Total excluded observations</i>	<i>Total number of observations</i>
China	263	8 594
India	1 029	7 558
Indonesia	311	8 699
Japan	505	7 852
Malaysia	2 052	8 881
Republic of Korea	354	7 682
Thailand	328	8 663
Total	4 842	57 929

Table V.2. By commodity group

<i>Commodity group</i>	<i>Total excluded observations</i>	<i>Total observations</i>
Transport equipment	61	604
Automobiles and components	92	839
Chemicals	324	9 748
Electrical and electronics	1 007	5 775
Electronic integrated circuits	20	84
Food products	200	2 719
Fuels, mining and forest products	1 066	3 885
Iron and steel	165	3 741
Leather	26	1 001
Machinery and mechanical appliances	723	7 481
Metal	296	7 060
Office and telecom equipment	278	2 488
Paper and pulp	40	1 766
Pharmaceuticals	0	404
Rubber and plastics	88	3 334
Textile and clothing	456	7 000
Total	4 842	57 929

Annex VI

Sources of data

<i>Particular</i>	<i>Source</i>
Bilateral trade	United Nations Commodity Trade Statistics Database (UN Comtrade); International Monetary Fund, Direction of Trade Statistics (DOTS) Database
Bilateral tariff	World Bank, World Integrated Trade Solution (WITS); United Nations Conference on Trade and Development, Trade Analysis and Information System (TRAINS)
Gross domestic product, gross domestic product per capita, surface area, population	World Bank, <i>World Development Indicators 2008</i> (Washington, D.C., World Bank, 2008).
Infrastructure variables: (a) railway length; (b) road length; (c) air transport freight; (d) air transport passengers carried; (e) aircraft departures; (f) container traffic; (g) fixed-line and mobile phone subscribers; (h) Internet users; and (i) electric power consumption Freight	World Bank, <i>World Development Indicators 2008</i> (Washington, D.C., World Bank, 2008); CIA International database. Data from Maersk Sealand, Denmark

Annex VII

Pair-wise correlation coefficients

	X_{ij}	Y_i	TR_{ij}	T_{ij}^{Int}	T_{ij}	T_i^{Int}	ER_j	$Port_i$	$Port_j$	TII_i	TII_j
X_{ij}	1										
Y_i	0.926*	1									
TR_{ij}	-0.627*	-0.646*	1								
T_{ij}^{Int}	0.363*	0.405*	-0.159*	1							
T_{ij}	-0.467*	0.511*	-0.278*	0.858*	1						
T_i^{Int}	-0.061*	-0.011*	-0.007	0.357*	0.484*	1					
ER_j	0.021*	0.023*	0.029*	0.024*	0.015*	-0.057*	1				
$Port_i$	-0.881*	-0.956*	0.551*	-0.407*	-0.511*	0.031*	0.026*	1			
$Port_j$	-0.410*	-0.461*	0.299*	-0.304*	-0.308*	-0.010*	-0.427*	0.433*	1		
TII_i	-0.889*	-0.965*	0.560*	-0.428*	-0.538*	0.053*	-0.023*	0.978*	0.459*	1	
TII_j	-0.045*	0.001	0.021*	-0.137*	-0.088*	-0.096*	-0.177*	-0.000	0.705*	0.005	1

Notes: Taken in log scale.

* Significant at the 5 per cent level.

Annex VIII

Log-linear least squares estimates of import demand: price effects

	Model 1		Model 2		Model 3		Model 4	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
<i>Automobiles and components</i>								
$T_{ij} + TR_{ij}$ (Transport + tariff)	0.175	0.590						
T_{ij}^{int} (International transport)			-0.687**	-3.120				
T_{ij} (Transport)					0.284*	1.860		
$T_{ij}^{int} + T_{ij}^{inl}$ (International transport + inland transport of importer)							0.234*	1.410
TR_{ij} (tariff)			0.493	1.200	0.386	0.940	0.395	0.960
Y_j (Importer market size)	1.206***	10.180	1.206***	10.090	1.224***	10.100	1.216***	10.020
ER_j (Exchange rate in the exporting country)	-0.100*	-2.010	-0.100*	-1.990	-0.101*	-2.010	-0.101*	-2.000
D_i (Adjacency dummy)	-0.678*	-2.160	-0.569*	-1.780	-0.629*	-1.960	-0.634*	-1.970
Number of observations	839		839		839		839	
R^2	0.162		0.173		0.166		0.165	
<i>Chemicals</i>								
$T_{ij} + TR_{ij}$ (Transport + tariff)	-0.374***	-10.88						
T_{ij}^{int} (International transport)			-0.384***	-13.87				
T_{ij} (Transport)					-0.355***	15.18		
$T_{ij}^{int} + T_{ij}^{inl}$ (International transport + inland transport of importer)							-0.362***	-14.72
TR_{ij} (Tariff)			-0.237**	-4.710	-0.231**	-4.590	-0.235**	-4.660
Y_j (Importer market size)	0.951***	32.660	0.969***	33.300	0.959***	33.150	0.959***	33.100
ER_j (Exchange rate in the exporting country)	-0.032*	-2.540	-0.028*	-2.210	-0.030*	-2.380	-0.026*	-2.100
D_i (Adjacency dummy)	-0.239**	-3.070	-0.232**	-2.980	-0.232**	-2.980	-0.241**	-3.100
Number of observations	9 748		9 748		9 748		9 748	
R^2	0.133		0.142		0.146		0.145	
<i>Electrical and electronics</i>								
$T_{ij} + TR_{ij}$ (Transport + tariff)	-0.648***	-7.790						
T_{ij}^{int} (International transport)			-0.268**	-4.090				
T_{ij} (Transport)					-0.083*	-1.570		
$T_{ij}^{int} + T_{ij}^{inl}$ (International transport + inland transport of importer)							-0.110*	-1.880

Annex VIII (continued)

	Model 1		Model 2		Model 3		Model 4	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
<i>Electrical and electronics</i>								
TR _{ij} (Tariff)			-0.545**	-6.550	-0.579***	-6.990	-0.578***	-6.970
Y _j (Importer market size)	1.530***	36.360	1.531***	36.410	1.533***	36.430	1.534***	36.460
ER _j (Exchange rate in the exporting country)	-0.110***	-6.590	-0.111***	-6.620	-0.108***	-6.470	-0.109***	-6.500
D ₁ (Adjacency dummy)	-0.154	-1.400	-0.160	-1.450	-0.159	-1.440	-0.155	-1.410
Number of observations	5 775		5 775		5 775		5 775	
R ²	0.258		0.259		0.257		0.257	
<i>Food</i>								
T _{ij} + TR _{ij} (Transport + tariff)	-0.320**	-4.070						
T _{ij} ^{int} (International transport)			-0.337***	-5.770				
T _{ij} (Transport)					-0.305***	-5.850		
T _{ij} ^{int} + T _{ij} ^{inl} (International transport + inland transport of importer)							-0.320	-5.960
TR _{ij} (Tariff)			-0.109*	-1.630	-0.109*	-1.640	-0.105*	-1.570
Y _j (Importer market size)	0.454***	7.740	0.511***	8.620	0.502***	8.510	0.503***	8.530
ER _j (Exchange rate in the exporting country)	-0.094***	-4.080	-0.093***	-4.070	-0.092***	-4.020	-0.090***	-3.920
D ₁ (Adjacency dummy)	0.348**	2.270	0.327**	2.140	0.332**	2.180	0.323**	2.120
Number of observations	2 719		2 719		2 719		2 719	
R ²	0.175		0.184		0.184		0.183	
<i>Fuels, mining and forest products</i>								
T _{ij} + TR _{ij} (Transport + tariff)	0.497***	12.170						
T _{ij} ^{int} (International transport)			0.394***	11.140				
T _{ij} (Transport)					0.414***	12.190		
T _{ij} ^{int} + T _{ij} ^{inl} (International transport + inland transport of importer)							0.442***	12.740
TR _{ij} (Tariff)			0.181*	2.200	0.202*	2.460	0.215*	2.620
Y _j (Importer market size)	0.406***	7.470	0.419***	7.630	0.414***	7.590	0.421***	7.720
ER _j (Exchange rate in the exporting country)	-0.048*	-2.170	-0.049*	-2.220	-0.048*	-2.180	-0.044*	-1.980
D ₁ (Adjacency dummy)	0.493**	3.450	0.488**	3.390	0.496**	3.460	0.474**	3.310
Number of observations	3 885		3 885		3 885		3 885	
R ²	0.148		0.143		0.149		0.152	

Annex VIII (continued)

	Model 1		Model 2		Model 3		Model 4	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
<i>Iron and steel</i>								
$T_{ij} + TR_{ij}$ (Transport + tariff)	-0.691***	-11.70						
T_{ij}^{int} (International transport)			-0.563***	-13.46				
T_{ij} (Transport)					-0.594***	-15.44		
$T_{ij}^{int} + T_{ij}^{inl}$ (International transport + inland transport of importer)							-0.581***	-14.62
TR_{ij} (Tariff)			-0.47**	-4.39	-0.44**	-4.11	-0.45**	-4.19
Y_j (Importer market size)	1.41***	30.04	1.43***	30.66	1.41***	30.44	1.41***	30.37
ER_j (Exchange rate in the exporting country)	-0.02	-1.15	0.00	0.11	0.00	-0.05	0.00	0.24
D_1 (Adjacency dummy)	-0.67***	-5.48	-0.61**	-4.96	-0.61**	-4.97	-0.62***	-5.10
Number of observations	3 741		3 741		3 741		3 741	
R^2	0.243		0.257		0.267		0.263	
<i>Leather</i>								
$T_{ij} + TR_{ij}$ (Transport + tariff)	-0.707***	-5.470						
T_{ij}^{int} (International transport)			-0.587***	-4.900				
T_{ij} (Transport)					-0.400***	-4.160		
$T_{ij}^{int} + T_{ij}^{inl}$ (International transport + inland transport of importer)							-0.432***	-4.150
TR_{ij} (Tariff)			-0.237*	-2.030	-0.238*	-2.030	-0.236*	-2.010
Y_j (Importer market size)	0.513***	5.570	0.511***	5.550	0.517***	5.590	0.519***	5.610
ER_j (Exchange rate in the exporting country)	0.087*	2.130	0.079*	1.930	0.082*	1.990	0.079*	1.920
D_1 (Adjacency dummy)	0.336	1.290	0.376	1.440	0.362	1.380	0.369	1.400
Number of observations	1 001		1 001		1 001		1 001	
R^2	0.147		0.145		0.139		0.139	
<i>Machinery and mechanical appliances</i>								
$T_{ij} + TR_{ij}$ (Transport + tariff)	-0.419***	-7.360						
T_{ij}^{int} (International transport)			-0.349***	-6.740				
T_{ij} (Transport)					-0.263***	-6.190		
$T_{ij}^{int} + T_{ij}^{inl}$ (International transport + inland transport of importer)							-0.335***	-7.250
TR_{ij} (Tariff)			-0.118*	-2.060	-0.152*	-2.690	-0.148*	-2.630
Y_j (Importer market size)	1.626***	49.440	1.626***	49.410	1.623***	49.220	1.621***	49.220

Annex VIII (continued)

	Model 1		Model 2		Model 3		Model 4	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
<i>Machinery and mechanical appliances</i>								
ER _j (Exchange rate in the exporting country)	-0.049**	-3.700	-0.055**	-4.090	-0.053**	-3.950	-0.055**	-4.140
D _i (Adjacency dummy)	-0.508***	-6.010	-0.500***	-5.910	-0.497***	-5.880	-0.487***	-5.760
Number of observations	7 481		7 481		7 481		7 481	
R ²	0.278		0.278		0.278		0.279	
<i>Metal</i>								
T _{ij} + TR _{ij} (Transport + tariff)	-0.142**	-3.730						
T _{ij} ^{int} (International transport)			-0.156***	-4.840				
T _{ij} (Transport)					-0.169***	-6.310		
T _{ij} ^{int} + T _{ij} ^{inl} (International transport + inland transport of importer)							-0.167***	-5.930
TR _{ij} (Tariff)			0.107*	1.990	0.090*	1.670	0.092*	1.720
Y _j (Importer market size)	1.071***	30.130	1.082***	30.310	1.088***	30.550	1.085***	30.480
ER _j (Exchange rate in the exporting country)	-0.038*	-2.600	-0.038*	-2.590	-0.038*	-2.580	-0.036*	-2.480
D _i (Adjacency dummy)	-0.095	-1.020	-0.120	-1.280	-0.124	-1.330	-0.127	-1.360
Number of observations	7 060		7 060		7 060		7 060	
R ²	0.172		0.174		0.176		0.175	
<i>Office and telecom equipment</i>								
T _{ij} + TR _{ij} (Transport + tariff)	-0.451***	-6.920						
T _{ij} ^{int} (International transport)			-0.234**	-3.920				
T _{ij} (Transport)					-0.327***	-5.160		
T _{ij} ^{int} + T _{ij} ^{inl} (International transport + inland transport of importer)							-0.348***	-5.010
TR _{ij} (Tariff)			-0.262***	-5.110	-0.256***	-5.020	-0.258***	-5.050
Y _j (Importer market size)	1.780***	34.410	1.780***	34.330	1.779***	34.390	1.782***	34.440
ER _j (Exchange rate in the exporting country)	-0.092**	-4.600	-0.092**	-4.570	-0.093**	-4.650	-0.094**	-4.700
D _i (Adjacency dummy)	0.054	0.400	0.059	0.430	0.058	0.430	0.065	0.480
Number of observations	2 488		2 488		2 488		2 488	
R ²	0.405		0.403		0.406		0.405	
<i>Paper and pulp</i>								
T _{ij} + TR _{ij} (Transport + tariff)	-0.912***	-9.150						

Annex VIII (continued)

	Model 1		Model 2		Model 3		Model 4	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
<i>Paper and pulp</i>								
T_{ij}^{int} (International transport)			-0.783***	-9.990				
T_{ij} (Transport)					-0.754***	-11.060		
$T_{ij}^{int} + T_{ij}^{inl}$ (International transport + inland transport of importer)							-0.757***	-10.750
TR_{ij} (Tariff)			0.615***	5.720	0.643***	6.010	0.630***	5.880
Y_j (Importer market size)	1.098***	15.490	1.146***	16.210	1.116***	15.950	1.119***	15.970
ER_j (Exchange rate in the exporting country)	0.160***	5.920	0.158***	5.880	0.154***	5.760	0.160***	5.970
D_1 (Adjacency dummy)	0.212*	1.190	0.137	0.770	0.140	0.790	0.120	0.680
Number of observations	1 766		1 766		1 766		1 766	
R^2	0.198		0.211		0.220		0.217	
<i>Pharmaceuticals</i>								
$T_{ij} + TR_{ij}$ (Transport + tariff)	-0.03	-0.12						
T_{ij}^{int} (International transport)			-0.07	-0.29				
T_{ij} (Transport)					-0.06	-0.33		
$T_{ij}^{int} + T_{ij}^{inl}$ (International transport + inland transport of importer)							-0.06	-0.29
TR_{ij} (Tariff)			-0.18	-0.69	-0.18	-0.68	-0.18	-0.68
Y_j (Importer market size)	0.84***	6.63	0.83***	6.50	0.83***	6.51	0.83***	6.54
ER_j (Exchange rate in the exporting country)	0.05	0.97	0.05	0.96	0.05	0.95	0.05	0.95
D_1 (Adjacency dummy)	0.03	0.08	0.04	0.12	0.04	0.12	0.04	0.12
Number of observations	404		404		404		404	
R^2	0.171		0.172		0.173		0.172	
<i>Rubber and plastics</i>								
$T_{ij} + TR_{ij}$ (Transport + tariff)	-0.02	-0.28						
T_{ij}^{int} (International transport)			0.12*	2.16				
T_{ij} (Transport)					0.26***	5.28		
$T_{ij}^{int} + T_{ij}^{inl}$ (International transport + inland transport of importer)							0.21***	3.96
TR_{ij} (Tariff)			0.06	0.59	0.07	0.65	0.07	0.61
Y_j (Importer market size)	1.24***	25.31	1.26***	25.63	1.28***	26.19	1.27***	25.96
ER_j (Exchange rate in the exporting country)	-0.03*	-1.77	-0.03*	-1.80	-0.03*	-1.81	-0.03*	-1.74

Annex VIII (continued)

	Model 1		Model 2		Model 3		Model 4	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
<i>Rubber and plastics</i>								
D _i (Adjacency dummy)	-0.02	-0.16	-0.05	-0.42	-0.08	-0.64	-0.07	-0.59
Number of observations	3 334		3 334		3 334		3 334	
R ²	0.198		0.199		0.204		0.201	
<i>Textile and clothing</i>								
T _{ij} + TR _{ij} (Transport + tariff)	-0.43***	-5.64						
T _{ij} ^{int} (International transport)			-0.28***	-5.97				
T _{ij} (Transport)					-0.22***	-5.58		
T _{ij} ^{int} + T _{ij} ^{intl} (International transport + inland transport of importer)							-0.22***	-5.21
TR _{ij} (Tariff)			-0.55***	-7.87	-0.51***	-7.07	-0.52***	-7.24
Y _i (Importer market size)	0.95***	27.44	0.99***	28.41	0.98***	28.27	0.97***	28.21
ER _j (Exchange rate in the exporting country)	-0.01	-0.79	-0.01	-0.75	-0.01	-0.77	-0.01	-0.69
D _i (Adjacency dummy)	0.22*	2.30	0.17*	1.78	0.18*	1.94	0.18*	1.89
Number of observations	7 000							
R ²	0.197		0.206		0.205			
<i>Transport equipment</i>								
T _{ij} + TR _{ij} (Transport + tariff)	0.26*	1.99						
T _{ij} ^{int} (International transport)			-0.16	-0.80				
T _{ij} (Transport)					-0.08	-0.42		
T _{ij} ^{int} + T _{ij} ^{intl} (International transport + inland transport of importer)							0.30**	2.62
TR _{ij} (Tariff)								
Y _i (Importer market size)	0.82***	5.68	0.84***	5.73	0.82***	5.63	0.84***	5.80
ER _j (Exchange rate in the exporting country)	-0.04	-0.66	-0.04	-0.72	-0.04	-0.70	-0.03	-0.58
D _i (Adjacency dummy)	0.24	0.70	0.21	0.60	0.24	0.70	0.23	0.65
Number of observations	604							
R ²	0.098		0.092		0.092		0.102	

Notes: Dependent variable is log of import of goods (at 4-digit HS) in bilateral pair.

Cross-section pooled for the years 2000 and 2005.

Country and time fixed effects are included in the model.

For corresponding HS codes, see annex I.

* Significant at the 10 per cent level; ** significant at the 5 per cent level; *** significant at the 1 per cent level.

Annex IX

Log-linear least squares estimates of import demand: non-price effects

	Coefficient	t-values	Coefficient	t-values
	<i>Automobiles and components</i>		<i>Chemical</i>	
Y_j (Importer market size)	0.833***	4.310	0.745***	15.050
$Port_i$ (Performance of importers' port)	0.367	0.390	0.064	0.270
$Port_j$ (Performance of exporters' port)	1.414**	2.700	0.989***	7.430
TII_i (Trade mobility infrastructure of importer)	10.433	1.400	5.851**	3.000
TII_j (Trade mobility infrastructure of exporter)	1.128**	3.040	0.646***	6.800
ER_j (Exchange rate in the exporting country)	-0.157**	-2.720	-0.081***	-5.430
D_j (Adjacency dummy)	-0.425	-1.300	-0.066	-0.800
D_2 (Electronic data interchange dummy)	-0.104	-0.210	0.218*	1.760
Number of observations	839		9 748	
R^2	0.175		0.129	
	<i>Electrical and electronics</i>		<i>Food</i>	
Y_j (Importer market size)	1.267***	18.480	0.860***	9.070
$Port_i$ (Performance of importers' port)	0.527*	1.550	-0.018	-0.030
$Port_j$ (Performance of exporters' port)	1.135***	6.270	-0.256	-0.950
TII_i (Trade mobility infrastructure of importer)	4.516*	1.670	5.703*	2.190
TII_j (Trade mobility infrastructure of exporter)	0.909***	6.970	0.654**	3.420
ER_j (Exchange rate in the exporting country)	-0.164***	-7.980	-0.165**	-5.640
D_j (Adjacency dummy)	0.034	0.290	0.077	0.480
D_2 (Electronic data interchange dummy)	-0.113	-0.640	-0.299	-1.080
Number of observations	5 775		2 719	
R^2	0.259		0.186	
	<i>Fuels and mining</i>		<i>Iron and steel</i>	
Y_j (Importer market size)	1.019***	11.040	0.765***	9.640
$Port_i$ (Performance of importers' port)	0.272	0.580	0.101	0.260
$Port_j$ (Performance of exporters' port)	0.328	1.330	-0.817***	-3.940
TII_i (Trade mobility infrastructure of importer)	10.552**	2.850	-3.093	-1.010
TII_j (Trade mobility infrastructure of exporter)	1.268***	7.160	1.368***	9.110
ER_j (Exchange rate in the exporting country)	-0.107**	-3.830	-0.019	-0.800
D_j (Adjacency dummy)	0.118	0.770	-0.168	-1.290
D_2 (Electronic data interchange dummy)	0.197	0.850	-0.367*	-1.860
Number of observations	3 885		3 741	
R^2	0.137		0.240	

Annex IX (continued)

	Coefficient		t-values	
	<i>Leather</i>		<i>Machinery and appliances</i>	
Y_j (Importer market size)	0.833***	5.200	0.945***	17.680
$Port_j$ (Performance of importers' port)	0.423	0.510	0.292	1.120
$Port_j$ (Performance of exporters' port)	0.721*	1.590	1.449***	-10.480
TII_j (Trade mobility infrastructure of importer)	-1.417	-0.210	4.648*	-2.240
TII_j (Trade mobility infrastructure of exporter)	-0.819*	-2.540	1.678***	16.630
ER_j (Exchange rate in the exporting country)	0.099*	2.000	-0.093***	-5.930
D_1 (Adjacency dummy)	0.043	0.160	-0.037	-0.420
D_2 (Electronic data interchange dummy)	0.153	0.360	-0.034	-0.250
Number of observations	1 001		7 481	
R^2	0.128		0.302	
	<i>Metal</i>		<i>Office and telecom equipment</i>	
Y_j (Importer market size)	1.036***	17.570	1.381***	16.560
$Port_j$ (Performance of importers' port)	0.605*	2.100	-0.464	-1.090
$Port_j$ (Performance of exporters' port)	0.348*	2.230	-0.171	-0.780
TII_j (Trade mobility infrastructure of importer)	9.314**	4.050	2.138	0.640
TII_j (Trade mobility infrastructure of exporter)	0.165	1.470	0.770**	4.880
ER_j (Exchange rate in the exporting country)	-0.061**	-3.430	-0.048*	-1.900
D_1 (Adjacency dummy)	-0.058	-0.590	0.360*	2.510
D_2 (Electronic data interchange dummy)	0.104	0.700	-0.159	-0.730
Number of observations	7 060		2 488	
R^2	0.173		0.406	
	<i>Paper and pulp</i>		<i>Pharmaceuticals</i>	
Y_j (Importer market size)	1.130***	9.670	0.627**	2.990
$Port_j$ (Performance of Importers' Port)	0.010	0.020	-0.679	-0.650
$Port_j$ (Performance of Exporters' Port)	0.589*	1.900	1.499*	2.620
TII_j (Trade Mobility Infrastructure of Importer)	-2.353	-0.510	6.190	0.740
TII_j (Trade Mobility Infrastructure of Exporter)	0.074	0.340	0.864*	2.120
ER_j (Exchange rate in the exporting country)	0.116**	3.360	-0.027	-0.430
D_1 (Adjacency dummy)	0.260	1.340	0.147	0.410
D_2 (EDI dummy)	-0.338	-1.160	0.197	0.370
No of observations	1 766		404	
R^2	0.163		0.186	

Annex IX (continued)

	Coefficient	t-values	Coefficient	t-values
	<i>Rubber and plastic</i>		<i>Textile and clothing</i>	
Y_j (Importer market size)	0.807***	10.290	1.088***	18.990
$Port_i$ (Performance of importers' port)	0.268	0.680	0.665*	2.260
$Port_j$ (Performance of exporters' port)	0.361*	1.770	0.644**	4.100
TII_i (Trade mobility infrastructure of importer)	-3.672	-1.180	10.769***	4.600
TII_j (Trade mobility infrastructure of exporter)	0.871***	5.910	0.041	0.360
ER_j (Exchange rate in the exporting country)	-0.005	-0.220	-0.069**	-3.980
D_1 (Adjacency dummy)	0.300*	2.270	0.061	0.610
D_2 (Electronic data interchange dummy)	-0.029	-0.150	0.269*	1.800
Number of observations	3 334		7 000	
R^2	0.212		0.200	
<i>Transport equipment</i>				
Y_j (Importer market size)	0.552*	2.370		
$Port_i$ (Performance of importers' port)	0.261	0.240		
$Port_j$ (Performance of exporters' port)	-0.777	-1.250		
TII_i (Trade mobility infrastructure of importer)	9.630	1.120		
TII_j (Trade mobility infrastructure of exporter)	0.635*	1.500		
ER_j (Exchange rate in the exporting country)	-0.087	-1.290		
D_1 (Adjacency dummy)	0.393	1.030		
D_2 (Electronic data interchange dummy)	-0.199	-0.360		
Number of observations	604			
R^2	0.098			

Notes: Dependent variable is log of import of goods (at 4-digit HS) in bilateral pair.

Cross-section pooled for the years 2000 and 2005.

Country and time fixed effects are included in the model.

For corresponding HS codes, see annex I.

* Significant at the 10 per cent level; ** significant at the 5 per cent level; *** significant at the 1 per cent level.

REGIONAL COOPERATION ON TRADE AND TRANSPORT FACILITATION

*By Florian A. Alburo**

Introduction

Global industry and trade today involve production processes that are, more often than not, staged in multiple countries. This is very different from the traditional vertically integrated factories, where all stages take place on the same factory floor. When the products of these international processes are exported, the factors that influence their competitiveness are usually related to the boundaries of the exporting countries.

When stages of production take place among many countries (or in different parts of the same country), trade and transport act as bridges. Trade integration links the stages together, and networking among firms strengthens those linkages. Transport is crucial to the integration of these production processes because the components of production need to arrive in time for one stage and leave in time for the next. When transport facilities falter along the chain, the production processes suffer.¹ Finally, when production stages take place in different countries, cooperation among the countries becomes necessary to ensure that border formalities are satisfied, that bottlenecks are anticipated and addressed, and that components and parts are moved efficiently.

This paper attempts to identify regional cooperation measures that support trade and transport facilitation and thereby enhance export competitiveness. This will be done by examining some experiences in Asia and the Pacific that illustrate how cooperation has developed or is developing.

Accordingly, in section A we attempt to determine the degree of importance of trade and transport as components in the movement of goods across countries. In section B, we develop a simple heuristic device to examine in more detail some trade and transport factors essential to regional economic integration, and distinguish between the two types of factors. We argue that trade and transport factors are mutually reinforcing in enhancing the competitiveness of a country that is part of the global production chain, given that goods in production stages across countries require the entry of components and parts (as imports), and the exit of a processed product to the next production stage (as exports).

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¹ One clear example is the disruption of component cargoes between the United States and Canada that occurred after the attacks of 11 September 2001. Trucks crossing the Ambassador Bridge were delayed due to more rigid inspection procedures, and automakers in Detroit had to suspend production.

While products vary in terms of the ratio of domestic to cross-border stages, the minimal differences caused by such variations do not affect the importance of trade and transport factors.

Section C elaborates on some modalities of regional cooperation in trade and transport facilitation. A number of regional cooperation initiatives in transport are well established and described. Such cooperation is important in order to ensure the efficient movement of goods across borders. Cooperation modalities used by countries that have common borders as well as by those that are landlocked might require adaptation.

In the final section we discuss some directions for increasing regional cooperation in trade and transport facilitation.

A. Importance of trade and transport facilitation

One important driver behind globalization is the continued decline in the cost of transportation and communications, which has reduced the overall international prices of traded goods and accentuated the contestability of global markets. Technology in transport and communications (for example, the Internet and post-Panamax vessel configuration) has increased efficiency even further in almost all kinds of traded product.

Furthermore, the increasing liberalization of trade through reductions in tariff and non-tariff measures across all trading nations has made international commerce more integrated. Although many new non-tariff barriers may have been introduced to compensate for tariff fallout, by and large, the gains from liberalization have not been eroded, increasing the overall openness of even less developed economies.

What has been partly neglected in efforts to support overall openness and transport and communications improvement are other associated rules, processes and procedures that still hinder goods that must cross a border—in other words, border restrictions.² These range from customs clearance to the delivery of goods to the final buyers and sellers. The extent to which these impose additional costs, on top of transport, impinges on the competitiveness of traders in global markets.

Greater liberalization, low transport and communications costs, and technological efficiencies have fostered the exchange of goods and vertical specialization among countries, and have reduced distance as a trade constraint. Both bulky and heavy products, and high-value but light products have benefited from the improvements. These improvements seem to have marked an irreversible trend towards economic integration that has reshaped the structure of trade and industry and ushered in a period of a single global economy.

The recent spikes in oil prices, however, have raised the possibility that certain threshold transport costs or geographic distances may be sufficient to wipe out the competitive

² See, for example, Wilson and others (2002) and Wilson (2007).

advantages of some countries, recalibrate the location of production bases, and set off new global adjustments. This is especially true of bulk products that travel long distances, products that have low value-to-freight costs, or products with a high ratio of freight costs to selling price. Rubin and Tal (2008), who have examined these developments, argue that the tariff equivalents of escalating oil/energy prices effectively bring back the period before the Kennedy Round of the General Agreement on Tariff and Trade (GATT) negotiations of the mid-1960s. Furthermore, the pace of globalization could slow down or more regional trade might emerge to substitute for the long-haul movement of goods (Krugman 2008; Jacks, Meissner and Novy 2008).

Clearly, increasing transport costs are a concern for countries that export, since they scale the degree of competitiveness. Yet in most cases, such costs are exogenously determined (for example, through liner conferences), are sensitive to fuel and thus oil consumption, and may induce behavioural changes on the part of vessels and other cargo carriers. Therefore, transport facilitation focuses on various measures that affect principally the transport of goods into the port of loading or from the port of discharge, including, among other things, measures concerning service roads, exchanges among different modes of transport, traffic flow and other infrastructure.

The relevance of particular transport facilitation measures depends on a number of factors, which can also affect the eventual border transportation. One is the product composition of traded goods. For example, in addition to more specialized cargo vehicles, highly sensitive goods require smooth infrastructure (such as well-paved roads). Bulk cargo, however, may use traditional transport networks or other modes (for example, log exports may be transported through river channels).

A second factor is the location of the exporting and importing countries. Clearly, coastal countries have inherent advantages of accessibility, and are able to transport products directly to other country markets. These advantages are rarely found in landlocked or even in juxtaposed countries, depending on how far they are from ports. Not only are transport costs higher inland, but additional transport-related costs might be involved in bringing products into the international marketplace.

Finally, certain country characteristics would also affect how transport facilitation measures are applied. These include country openness, public investment expenditures, foreign direct investment, investment incentives and the existence of export processing zones, among others. In short, transport facilitation measures depend on the extent to which (a) a country is integrated into the rest of the world, and (b) a country's bilateral and regional interests are reflected in cross-border trade.

The magnitude of the transport and trade impediments faced by a country ultimately determines their effect on competitiveness. Unfortunately, few estimates of such impediments are comparable, cover the same measures, or apply to all types of trading economies.³

³ The culled estimates of trade and transport costs in OECD (2003) show a range of 1 to 15 per cent of the value of traded goods.

One way of quantifying the extent of transport and trade impediments (other than those pertaining to overseas transport) is by the loss of time that traders incur when moving their goods across borders. In a cross-border study of Bangladesh and India, comparisons were made between an "ideal" time for undertaking transport and trade functions, and the actual time. The differences between the two reflect losses in terms of time, which can then be quantified relative to the costs of trading the goods. The table shows the loss of time in bringing cargoes from Petrapole (India) to Benapole (Bangladesh). The average loss is more than three times (300 per cent) the standard time required.

Loss of time in crossing borders, India-Bangladesh

<i>Border activities</i>		<i>Ideal time (hours)</i>	<i>Loss of time (hours)</i>
Phase 1	Loading, unloading, border crossing (exit)	5.9	17.8
Phase 2	Transportation	2.4	3.2
Phase 3	Parking, customs clearance, border crossing (entry)	21.3	78.1
Total		29.6	99.1

Source: Das and Pohit (2004).

Note: Between Petrapole (India) and Benapole (Bangladesh).

With regard to the Petrapole-Benapole border activities, close to 80 per cent of the loss of time is related to parking, customs clearance and crossing the border. Those issues must be addressed by trade facilitation rather than transport-related measures. For example, delays related to the actual border crossing reflect inadequate warehouses, a lack of safety measures at the border, congestion, poor entry formalities, and other factors. The amount of time spent loading and unloading is also related to trade facilitation measures, specifically: (a) loading cargo at the point of departure or exit (for example, Kolkata); (b) unloading cargo carriers from the exiting country at the border; and (c) reloading cargo into carriers of the arrival country. To the extent that there are restrictions on cross-border movement of cargo vehicles, these border activities lead to time losses (not to mention cargo losses arising from the transfer of goods) on the part of the exporting country (up to the border) and on the part of the importing country (from the border).

B. Trade and transport factors in economic integration

It is important to locate the discussion of trade and transport facilitation, that is, to define a set of measures that can potentially lower the international prices of exports and imports. We exclude freight transport costs, as these are exogenously determined and usually refer to ocean transportation. In a small country assumption, there is little that either private traders or governments can do to effectively reduce these kinds of transportation costs.

The context for transport factors, in terms of affecting a country's export competitiveness, is essentially the value chain from (to) the point of production to (from) the point of loading (discharge) at the port. Transport facilities can be improved anywhere along the way, with consequent effects on production costs for exporters and importers. Trade factors are those measures that are applied at or near borders and that are associated with the eventual sale (purchase) to (from) another country.

Measures for transport facilitation, however, encompass a wider area, from transport infrastructure to containers or storage yards at ports. Transport infrastructure involves the development of multi- and intermodal exchanges that promote the faster and more convenient movement of goods. It is useful, then, to begin with a master transport plan for the country, which would presumably lay out how trade fits in with the overall economy, what infrastructure is needed and what specific transport facilities are important.

Transport facilitation at the national level (as distinguished from regional cooperation, discussed in the next section) can be viewed in terms of functionality, for example, addressing bottlenecks in freight mobility or enhancing the turnaround time of cargo vehicles. Such measures address transport elements such as landside access, ramps, feeders, connectors to main corridors into gateways or directly into ports, airports and rail stations. Determining which of these elements must be tweaked to improve the movement of goods requires specific information and an understanding of the mechanisms through which trade is impinged.

The increasing development of hinterlands as integral to a trade-oriented development strategy is contingent on transport facilitation measures. In particular, such development may call for the creation of dry port facilities, where processing takes place before final loading at the port (ESCAP, 2007). Logistics services providers, for example, serve the need for the consolidation and deconsolidation of containerized goods. As such facilities develop, they eventually generate economic activities and become "freight villages" or growth poles. They help reduce congestion at regular ports, increase the proximity of outlying areas to the trade stream, and promote trade access. It must be ensured that transport connections are in place to provide the seamless movement of tradable products from distant places into the dry port stations, which act as halfway houses between the point of production and the border gateway. Transport facilitation has contributed to the evolution of such dry ports—once simply tools for decongestion, dry ports are now often hubs for broader development and a more inclusive trade strategy.

While transport facilitation measures are focused largely on the services and infrastructure surrounding existing ports, support for the development of logistics services through the establishment of dry ports, distriparks, or freight villages is gaining ground.⁴ Government initiatives in the form of transport infrastructure, the location of Government

⁴ This is seen as short of the traditional creation of export processing zones, which usually locate near ports and are seen as special areas. The idea behind the development of logistics centres outside the confines of processing zones is to bring about broader development. See also Il-Soo (2007).

border agencies, and the involvement of the private sector in servicing auxiliary needs are essential in providing not only trade-related functions but also other development activities that integrate peripheral communities to the global marketplace. Transport facilitation is a critical component to this emerging link to economic integration.

Trade facilitation can be defined as the simplification and harmonization of international trade procedures including activities, practices and formalities in collecting, presenting, communicating, and processing data required for the movement of goods in international trade. This means that, for both exports and imports, the process of loading as well as discharge to and from international carriers should be simplified and easy to undertake. Several points regarding trade facilitation context at the national level must be understood and taken into consideration.

First, an important element in national trade facilitation is the transparency of information regarding rules, regulations and procedures associated with trading in the global market. Information must be open and completely accessible, either publicly posted or available on the Internet. Process flowcharts that define each step in the procedures, the various requirements, and the length of time required to complete the process should be published. Where these steps are not yet widely known, the application of national trade facilitation measures could be beneficial. This is, in fact, the substance of article X of GATT 1994 on the publication and administration of trade regulations.

Second, where there are multiple Government agencies with border responsibilities, some synchronization, if not harmonization, of procedures and requirements would reduce the time for securing the clearance and release of goods from warehouses. And going back further in the process, the issuances of necessary licenses, permits, and certification for particular products must be tied closely to the entire process. It is equally essential to synchronize any required physical inspections, to ensure they are undertaken only once instead of repeatedly. Trade facilitation measures are meant to promote harmonization and simplification of the various requirements of Government agencies. Some of these measures include locating all such agencies in a single area (a "one-stop action centre"), and encouraging agencies to use a single document.

Third, private sector firms and entities with border functions would also have to fit in the overall procedures. Private sector firms with border functions include (a) banks (to process payments for duties and taxes), (b) warehouses (to temporarily store goods which are undergoing clearance procedures), (c) freight forwarders (to handle paper requirements), (d) customs house agents or brokers (to act on behalf of the consignor or consignee), and (e) truckers/haulers (to handle the retrieval and delivery of goods). Trade facilitation measures include incentives to locate some of these entities (such as banks) within the physical premises of borders. Incentives can also be set in order to improve private sector coordination with Government agencies with regard to these functions.

Fourth, where these systems are electronically integrated through information and communications technology (ICT), trade facilitation can be optimized as software compatibilities are pursued. This would most likely affect Government agencies, assuming

there is an overall Government ICT system in place. Private sector modules, however, may be different. The scope for trade facilitation measures in this area is to promote a common format and language.

Finally, the definition of trade facilitation above appears too narrow and neglects some hardware complements. Indeed, concerns about “behind-the-border” issues range from soft components to technology, and from equipment to the buildings that house border services. In the case of more sophisticated manufactures, entry into and exit out of countries can be contingent on satisfying international standards. As trade in such goods is increasing, accredited laboratories will have to be set up, technical staff need to be trained, and sustained maintenance assured. Trade facilitation measures are aimed at keeping a strong connection between the software and hardware components of the process of goods movement across borders.⁵

One constraint on trade facilitation is the complex institutional setting, involving (a) many agencies, public and private, each with its own mission and function, (b) modular information systems, (c) separate standards and requirements for traded products, and (d) the close guarding of turf. This makes coordination difficult to achieve, in turn impeding efforts to create a seamless process of moving products into and out of a country. Even when an environment for processing the entry and exit of goods is fully automated, there are bound to be institutional frictions. There are, however, various measures to address these constraints. It has been suggested that, at the minimum, countries should create national trade facilitation committees (or national focal points for trade facilitation) with memberships that comprise all government agencies with border responsibilities, including those related to transport and other infrastructure (ESCAP, 2002). Such an inter-agency committee, among other things, (a) develops the trade facilitation framework, (b) identifies measures for which member agencies are responsible and will undertake, (c) maintains an active forum where trade bottlenecks and barriers are indicated, and (d) monitors and evaluates the effectiveness of measures. The decision to institutionally attach such a committee to one Government agency, for example, the ministry of trade or another ministry, is sometimes controversial.

Another variant is the designation of a specific Government agency as the “hub” for the facilitation of traded goods. The obvious candidate to act as the portal for all other institutions that matter to trade is customs. Customs has traditionally been the gateway for all trade into or out of countries, is customarily located at the border, and has no other functions other than those at the border. Locating at customs the other institutions that have border responsibilities facilitates goods-clearance processes. In terms of institutional relationships, customs coordinates inter-agency participation at the border; some agencies

⁵ The scope of trade facilitation in the World Trade Organization negotiations is limited to the clarification and improvement of relevant articles (articles V, VIII and X) and their priorities for members.

may even cede their border authority to customs in terms of processing agency-related procedures.⁶

Finally, the creation of a separate border agency that brings together all the agencies with border functions is expected to reduce the delays in inter-agency transactions, as well as the associated incompatibilities in information systems (JBC International 2005). The integrated border management model was followed in the creation of the European border agency. It is difficult to imagine applying this type of institutional organization in the developing world, given that in addition to handling customs and immigration, Government agencies also have non-border functions that tend to conflict with border interests (Albuero, 2008). There are also inherent institutional weaknesses among Government agencies, especially in the developing world, and it is doubtful if a reorganization into one institution could overcome those weaknesses.

Enhancing export competitiveness through transport and trade facilitation involves not only reforming systems, rules, regulations and processes, but also implementing institutional modifications and addressing the various physical and infrastructural requirements to ensure the smooth flow of goods. Since globalization has enabled the production of exports to be divided into different stages in different countries, export competitiveness also hinges on improving import processes.

C. Regional cooperation in trade and transport facilitation

The previous section briefly laid out several factors that influence the facilitation of trade and transport at the national level, and that are important for enhancing the movement of goods across the value chain. But goods move beyond national borders, into another territory before reaching their final destination. Those countries of arrival also have national standards, processes and regulations that must be followed. If the criteria of the countries of arrival and exit are not comparable, log jams are likely to occur. Cooperation is therefore needed between trading partners or, more generally, among all traders.

On the transport side, there are numerous areas in which the easy movement of cargo could be enhanced, especially in contiguous territories marked by sovereign boundaries. For example, there are international conventions to harmonize technical specifications with regard to both road and rail transport. In road transport these specifications cover,

⁶ This was illustrated in the aftermath of the attacks of 11 September 2001, which led to the creation of the United States of America Department of Homeland Security. At the port level, the border function of the United States Department of Agriculture Animal and Plant Health Inspection Service (USDA-APHIS) was initially ceded to the Department of Homeland Security authority. There have since been calls to revert the authority back to USDA. See "Statement of James L. Taylor, Deputy Inspector General, U.S. Department of Homeland Security before the Subcommittee on Horticulture and Organic Agriculture, Committee on Agriculture, U.S. House of Representatives" (Department of Homeland Security, 2007), available at agriculture.house.gov/testimony/110/h71003/Jim_Taylor.pdf, and Kate Campbell, "Bill would move ag inspections back to USDA", *California Farm Bureau Federation*, 28 March 2007, available at www.cfbf.com/agalert/AgAlertStory.cfm?ID=788&ck=C15DA1F2B5E5ED6E6837A3802F0D1593.

among other aspects, gross vehicle weights, overhead clearance, horizontal and vertical alignment, road lighting, auxiliary facilities installation, road safety standards, road design and road markings. The application of technical parameters for rail transport varies according to whether the rail lines are for passenger traffic only or for both passenger and goods traffic, and includes parameters regarding vehicle loading gauge, minimum distance between track centers, authorized mass per axle (railway cars and wagon carriages), maximum gradient, minimum platform length of principal stations, and minimum siding strength.

In many developing and least developed countries, including several in Asia, domestic laws are not consistent with the provisions of these conventions. After all, for most of them, international traffic constitutes only a small fraction of total traffic. Nevertheless, aligning domestic laws with international conventions would be expected to increase the competitiveness of traded products. Such conventions include (a) those that address road traffic, road signs and signals, international carriage of goods, international carriage of passengers and luggage, international road transit (TIR), and transit cargoes, (b) those that cover the recognition of driver's licenses, commodity classification, liability insurance, and registration of vehicles, and (c) customs conventions related to transport, such as the temporary importation of commercial or private road vehicles and containers, the harmonization of frontier controls of goods, and the movement of dangerous goods (see annex for examples). The extent to which countries in Asia are signatories or have acceded to these conventions is limited at best; much remains to be done to encourage more countries to subscribe to such conventions, with a view to improving the transport of goods across borders and promoting regional cooperation on trade and transport facilitation to enhance competitiveness.

In addition to acceding to international conventions, countries could enter into bilateral or regional (subregional) agreements regarding transport cooperation. Such agreements might address areas of cooperation covered in the conventions, in the context of a specific group of countries or a specific region. In Asia, several cooperation agreements have been forged, outlining transport and transport-related facilitation measures jointly undertaken by the signatory countries. These agreements tackle both physical and non-physical barriers to the mobility of goods and people. Non-physical barriers keep traffic volumes low, rendering investments in transport infrastructure unfeasible. Compounding the problem, poor infrastructure itself and physical barriers also keep volume low. Such cooperation agreements include:

- (a) The Asia land transport infrastructure development project, under the aegis of ESCAP, which focuses on the development of the Asian Highway and the Trans-Asian Railway, particularly in regard to the connectivity of national road networks and regional railway networks, respectively;
- (b) The Association of Southeast Asian Nations (ASEAN) Framework Agreement on the Facilitation of Goods in Transit,⁷ which calls for the development of an

⁷ Adopted at the 6th ASEAN Summit, Hanoi, 15 and 16 December 1998 (see www.aseansec.org/8872.htm).

ASEAN transportation network. Although this was meant for transit transport, subsequent frameworks include the ASEAN Framework Agreement on Multimodal Transport⁸ and the ASEAN Framework Agreement on the Facilitation of Inter-State Transport.⁹ The latter recognizes the mutual right of transit and the right to load and discharge third countries' goods destined for or coming from contracting parties (art. 5, paras. 1 (a) and (b)). This is significant, as a key transport constraint has always been the need to transfer goods from the carriers of the exporting country to the carriers of the importing country. Analogous provisions can also be found in the Basic Multilateral Agreement on International Transport for Development of the Europe-the Caucasus-Asia Corridor¹⁰ and the Economic Cooperation Organization Transit Transport Framework Agreement.¹¹

More recently (2005), there is the Greater Mekong Subregion Agreement on the Facilitation of the Cross-border Transport of Goods and People¹² covering many aspects of transport facilitation. That agreement essentially covers most of the issues addressed by the international conventions relating to technical requirements for cross-border transport cooperation. Its 16 annexes and 3 protocols include provisions for (a) transit traffic (e.g. customs inspection, bond deposit, escorts, and phytosanitary and veterinary inspections), (b) road vehicle requirements for cross-border traffic, (c) exchange of commercial traffic rights, (d) infrastructure (e.g. road and bridge design standards, signage and signals), (e) single-stop/single-window customs inspection, and (f) cross-border movement of persons (those engaged in transport operations). The Agreement is applicable to mutually agreed routes and points of entry and exit (sect. B, art. 8).

Regional, subregional or even bilateral cooperation often plays a part in transport facilitation, for example in the case of customs inspection modalities that increase the speed of the movement of goods across borders. To this end, there are a number of international conventions and standards that countries can adopt with respect to specific steps related to (a) the processing of trade documents, and (b) the communication and processing of data required for the movement of goods. Such conventions and standards include the Revised Kyoto Convention on the Simplification and Harmonization of Customs Procedures,¹³ the Convention on Facilitation of International Maritime Traffic, the International Convention for the Safety of Life at Sea (and the recent International Ship and Port Facility

⁸ Adopted at the 11th ASEAN Transport Ministerial Meeting, Vientiane, 17 November 2005 (see www.aseansec.org/17877.htm).

⁹ Signed at the 14th ASEAN Transport Ministers Meeting, Manila, 6 November 2008.

¹⁰ United Nations, *Treaty Series*, vol. 2075, No. I-35956.

¹¹ Endorsed at the 8th Meeting of the Council of Ministers, Almaty, 9 May 1998 (see www.ecosecretariat.org/ftproof/Documents/Agreements/TTFA%20Final.doc).

¹² See www.adb.org/GMS/agreement.asp.

¹³ Adopted at the ninety-third and ninety-fourth sessions of the Council of the World Customs Organization, Brussels, 24-26 June 1999 (see www.wcoomd.org/kybodycontent.htm).

Security Code¹⁴), the Customs Convention on the International Transport of Goods under Cover of TIR Carnets, the Customs Convention on Containers, the ATA Carnet for the Temporary Admission of Goods, and the UN/CEFACT standards for trade facilitation such as the United Nations Layout Key and the United Nations Trade Data Elements Directory.¹⁵

Another area for regional cooperation that has received a significant amount of attention is the use of active information exchanges, both among border authorities themselves and between such authorities and the private sector, in order to undertake procedures in advance of cargo arrival. Such exchanges are expected to reduce the processing time once the goods arrive. For example, information exchanges provide authorities with advance information that can be used to (a) facilitate risk management, (b) issue an advance ruling on the classification of goods and the necessary procedures and taxes due, (c) allow submission of a pre-arrival declaration, and (d) determine release requirements. Exchanges between the private sector (for example, inspection agencies) and Government authorities would support the necessary security checks and evaluation prior to the arrival of the goods. And in the context of the Security and Facilitation in a Global Environment Framework of Standards¹⁶ of the World Customs Organization, procedures can be undertaken even before cargoes leave their country of exit. Two pillars (Customs-to-Customs network arrangements and Customs-to-Business partnerships) provide the basis for the Framework, establishing standards and facilitating understanding.

Continuous monitoring and evaluation of the process of moving goods from border to border allows a more systematic understanding of determinants, which may vary depending on the kinds of products that are moving, the country of origin, the value, and the stage in the declaration process. The tracking of the whole flow yields insights on which part is causing delays. The application and frequent measurement of time-release studies using a common framework (as specified by the World Customs Organization) would provide a better picture of the effectiveness of trade facilitation measures. Indeed, the lack of an analytical foundation for trade facilitation might be a weak spot in designing strong policy and cooperation mechanisms for raising competitiveness in exports.

D. Directions

In both trade and transport facilitation, there appears to be a wide range of opportunities for implementing national and regional measures that enhance the ability of export sectors to be internationally competitive—particularly national initiatives aimed at reinforcing regional cooperation to increase the mobility of trade. All can draw on international

¹⁴ SOLAS/CONF.5/34, annex 1.

¹⁵ See the annex for a list of policy variables and trade facilitation measures, particularly with respect to customs procedures, and the corresponding convention or reference standards to which countries have subscribed or acceded.

¹⁶ The Framework was endorsed by the Council of the World Customs Organization during its annual sessions in Brussels, 23-25 June 2005 (see www.vam.hu/loadBinaryContent.do?binaryId=15833).

conventions as a reference for action, and it is important that national policies and legislation are aligned with such conventions. Although it would seem a straightforward matter to apply the conventions as policy directions, at a national level the establishment of priorities still depends largely on individual country environments.

An important, if not critical, precondition for trade and transport facilitation is the existing international economic environment. Countries which are less open tend to be less able to integrate with international commerce or more likely to oppose international trade. In such an environment, policy priorities should include (a) mounting a campaign to promote exports, (b) encouraging (if not providing incentives to) domestic entrepreneurs to look beyond national markets, and (c) supporting networks of international firms. Institutional capacities to follow through on such actions would have to be built up through technical assistance to relevant Government and private sector groups or national committees that pursue international commerce.

In a more open environment, trade and transport facilitation is viewed as reflecting a strong commitment to advancing the cause of exporters and their increased competitiveness, and, in turn, increasing benefits to the country. In such a context, putting definitive facilitation measures in place is recognized as imperative. Measures that should be considered as priorities include (a) the development of a trade and transport plan linking infrastructure facilities to trade (and vice versa), (b) the identification of cooperation with trading partners in bilateral and regional settings while maintaining interests in a multilateral framework, and (c) the implementation of a programme to enhance the competitiveness of specific export sectors through linkages with the trade and transport plans.

Finally, it is equally important to implement, maintain and continue an evaluation and monitoring system to provide the necessary feedback on the impacts of various trade and transport facilitation measures. Analytical evaluations of these measures are significant signals to the trade stakeholders that a country is committed not only to integrating with the world markets, but also to instituting the necessary policies and reforms that would enhance its competitiveness in global commerce.

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Annex

Policy indicators for customs procedures

<i>Indicator</i>	<i>Basis</i>
A. General customs environment	
Provision of adequate resources (qualified personnel, equipment and facilities) to administer control services	ECE, International Convention on the Harmonization of Frontier Controls of Goods, ^a
National legislation to cater for computerized procedures	WCO, Revised Kyoto Convention, ^b General Annex, chapter 7, standard 7.4
Acceptance of electronically transmitted cargo manifest	ICAO, Convention on International Civil Aviation, annex 9
Conformity of customs computer systems to internationally accepted standards	WCO, Revised Kyoto Convention, General Annex, chapter 7, standard 7.2
Establishment of data interchange between customs and trade users	WCO, Revised Kyoto Convention, General Annex, chapter 7, standard 7.4
Exchange of information between customs and other government agencies using ICT	WCO, Revised Kyoto Convention, General Annex, chapter 7
Use of UN/EDIFACT or other standard electronic format	UN/CEFACT Recommendation No. 25
Use of international trade data elements (ISO 7372)	ECE, United Nations Trade Data Elements Directory
Adoption of computerized customs clearance system	..
Adoption of post-clearance audit scheme	WCO, Revised Kyoto Convention, General Annex, chapter 6, standard 6.6
Continuous simplification of tariff structure	..
Continuous review and elimination of unnecessary technical barriers to trade	WTO Agreement on Technical Barriers to Trade ^c
Adoption of system to provide customs clearance service 24 hours a day	..
Adoption of procedures and organizational framework to secure border enforcement to protect intellectual property rights	WTO Agreement on Trade-Related Aspects of Intellectual Property Rights ^c (TRIPs)
B. Pre-arrival	
Acceptance of declaration before arrival of goods	WCO, Revised Kyoto Convention, General Annex, chapter 3, standard 3.25
Pre-arrival clearance of goods	..

<i>Indicator</i>	<i>Basis</i>
Adoption of procedures and organizational framework to accept requests and provide advance classification ruling	..
C. Declaration/Lodgment	
Limitations on requests for copies of documents, specifically negotiable bill of lading	UN/CEFACT Recommendation No. 12
Alignment of documents with United Nations Layout Key (ISO 6422)	WCO, Revised Kyoto Convention, General Annex, chapter 3, standard 3.11
Provisional declaration when all required information are not available	WCO, Revised Kyoto Convention, General Annex, chapter 3, standard 3.13
Outright exportation	WCO, Revised Kyoto Convention, Special Annex, Recommended Practice C.1.2
Electronic customs declaration in all services	..
Establishment of national single window	UN/CEFACT Recommendation No. 33
D. Assessment/examination	
Clearly defined, transparent and uniformly administered rules of origin	WTO Agreement on Rules of Origin ^c
Acceptance of sanitary and phytosanitary measures of other members as equivalent	WTO Agreement on the Application of Sanitary and Phytosanitary Measures ^c
Coordination and harmonization of controls of Customs and other regulatory bodies	WCO, Revised Kyoto Convention, General Annex, chapter 3, transitional standard 3.35
Clearance by summary examination whenever possible	WCO, Revised Kyoto Convention, General Annex, chapter 3
Detailed examination by selective methods	WCO, Revised Kyoto Convention, General Annex, chapter 3
Certification of origin required only when necessary	WCO, Revised Kyoto Convention, Special Annex, chapter 2, recommended practice 2
Acceptance of declaration of origin	WCO, Revised Kyoto Convention, Special Annex, chapter 2, recommended practice 12
Adoption of procedures and organizational framework to secure consistent and uniform application of the WTO valuation agreement within each economy	WTO Agreement on Implementation of Article VII of the GATT 1994 ^c

<i>Indicator</i>	<i>Basis</i>
Adoption of selectivity to identify high-risk and low-risk shipments and application of risk assessment techniques in cargo examination and document review	WCO, Revised Kyoto Convention, General Annex, chapter 6
Establishment of infrastructure to manage risk	WCO, Revised Kyoto Convention, General Annex, chapter 6
Establishment of risk management training system	WCO, Revised Kyoto Convention, General Annex, chapter 6
Adoption of system to analyse risk	WCO, Revised Kyoto Convention, General Annex, chapter 6
Adoption of compliance measurement strategy to support risk management	WCO, Revised Kyoto Convention, General Annex, chapter 6
E. Payment	
Single comprehensive bond to cover customs, immigration and health obligations	ICAO, Convention on International Civil Aviation, annex 9
Self-assessment of duty and tax liability	WCO, Revised Kyoto Convention, General Annex, chapter 3, transitional standard 3.32
Deferred payment of duties and taxes (at least 14 days after release)	WCO, Revised Kyoto Convention, General Annex, chapter 4, standard 4.9
Consolidation of duty and tax payment for authorized operators	..
Separation of duty and tax payment from the clearance process	..
Advance deposit for duty and tax purposes	..
Establishment of a de minimis level and adoption of informal entry system	WCO, Revised Kyoto Convention, chapter 4, transitional standard 4.13
F. Release	
No delay in release in goods for minor information omissions	WCO, Revised Kyoto Convention, chapter 3, standard 3.40
Provisional release of goods upon presentation of incomplete customs requirements and adequate guarantee for payment of duties and other taxes	ICAO, Convention on International Civil Aviation, annex 9 (4.27), Recommended Practice
Temporary release on bonds or securities by banking institutions	WCO, Revised Kyoto Convention, chapter 3, standard 41
Adoption of procedures to deal with applications for suspension of release of counterfeit goods	WTO Agreement on Trade-related aspects of Intellectual Property Rights (TRIPs)

<i>Indicator</i>	<i>Basis</i>
G. Special procedures for authorized persons	
Release of goods on provision of minimum information for authorized persons	WCO, Revised Kyoto Convention, chapter 3, transitional standard 3.32
Clearance of goods at declarant's premises for authorized persons	WCO, Revised Kyoto Convention, chapter 3, transitional standard 3.32
Periodic export declaration for authorized persons	WCO, Revised Kyoto Convention, chapter 3, transitional standard 3.32
Periodic import declaration for authorized persons	WCO, Revised Kyoto Convention, chapter 3, transitional standard 3.32
H. Special procedures for specific types of trade	
Simplified customs documentation and procedures for air cargo up to specified value or weight	ICAO, Convention on International Civil Aviation, annex 9 (4.26)
Accession to the ATA Carnet/Istanbul Convention (temporary imports)	..
Adoption of simplified clearance procedures for express consignment	<i>WCO Guidelines for the Immediate Release of Consignments by Customs^d</i>
I. Treatment of transit goods	
Freedom of transit	WTO, GATT article V
Minimize unnecessary controls of compliance with technical and quality standards.	ECE, International Convention on the Harmonization of Frontier Controls of Goods, annex 5, articles 4 and 5
Limited inspection	ECE, International Convention on the Harmonization of Frontier Controls of Goods, annex 5, article 10
Exemption from customs duties and taxes	WCO, Revised Kyoto Convention, Specific Annex E, chapter 1, standard 1.3
Specification of maximum sum per TIR carnet that may be claimed from the guaranteeing association (limited to \$5,000, except for alcohol and tobacco, \$200,000)	ECE, Customs Convention on the International Transport of Goods under Cover of TIR Carnets
No escort of goods in transit or itinerary	WCO, Revised Kyoto Convention, Specific Annex E, chapter 1, standard 1.15
No medicosanitary/veterinary/phytosanitary inspection for goods in transit if no contamination risk	ECE, International Convention on the Harmonization of Frontier Controls of Goods, annex 3, article 5
Declarant allowed to choose form of security if required to provide one	WCO, Revised Kyoto Convention, General Annex, chapter 5, standard 5.3

<i>Indicator</i>	<i>Basis</i>
General security allowed to cover several transit operations for regular declarants	WCO, Revised Kyoto Convention, General Annex, chapter 5, standard 5.5

Source: CIE and SATMP (2006).

^a United Nations, *Treaty Series*, vol. 1409, No. I-23583.

^b Adopted at the ninety-third and ninety-fourth sessions of the Council of the World Customs Organization, Brussels, 24-26 June 1999 (see www.wcoomd.org/kybodycontent.htm).

^c See *Legal Instruments Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, done at Marrakesh on 15 April 1994* (GATT Secretariat Publication, Sales No. GATT/1994-7).

^d World Customs Organization, *Guidelines for the Immediate Release of Consignments by Customs* (Brussels, WCO, 2007).

Abbreviations: ECE, Economic Commission for Europe; GATT, General Agreement on Tariffs and Trade; ICAO, International Civil Aviation Organization; ISO, International Organization for Standardization; UN/CEFACT, Centre for Trade Facilitation and Electronic Business; UN/EDIFACT, United Nations Rules for Electronic Data Interchange for Administration, Commerce and Transport; WCO, World Customs Organization; WTO, World Trade Organization.

INSTITUTIONAL QUALITY AND COMPETITIVENESS IN THE GREATER MEKONG SUBREGION

*By Sarah Mueller**

Introduction

The Greater Mekong Subregion (GMS) consists of Cambodia, Lao People's Democratic Republic, Myanmar, Thailand, Viet Nam and the Yunnan Province of China. In 1992, the GMS countries, with the assistance of the Asian Development Bank (ADB), formed the GMS Economic Cooperation Programme—an initiative to enhance economic relations within the subregion. One of the Programme's aims is to facilitate subregional trade and investment, with the ultimate goal of increasing the living standards in the region.

The Economic and Social Commission for Asia and the Pacific (ESCAP) has contributed to the GMS Programme in various ways, for example with the establishment of the GMS Business Forum in 2000. The forum is an ESCAP-ADB joint initiative intended to (a) promote networking among business associations and enterprises in the subregion, and (b) enhance public-private partnerships by establishing a direct and regular channel for communication between the private sector and the GMS Governments.

Economic reforms over the past two decades have led to an improved business climate and strong economic growth in the countries of the subregion. Despite high growth rates and increased trade volumes, three out of the six GMS countries are considered least developed countries and much of the population remains poor. To sustain economic growth and raise the standard of living, further reforms are needed. Globalization and vertical diversification along the production chain offer new opportunities that can be tapped if the right conditions are met.

The improvement of national competitiveness is often cited as a measure that can increase the attractiveness of a country. In fact, competitiveness seems to have become a general economic buzzword, comprising any policy that allows a country to earn more foreign exchange, and raise productivity and living standards. This paper will discuss the various definitions and understandings of competitiveness and how competitiveness can be measured. An institutional approach is used to analyse the competitiveness of the GMS countries, drawing from a large amount of data and several indicators, and analysing other aspects related to a competitiveness-conducive institutional environment. Lastly, a number of suggestions are provided on how to improve certain aspects of the countries' competitiveness, and policy recommendations are given.

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A. Defining and measuring competitiveness

1. Defining competitiveness in a national and regional context

Although “competitiveness” is a term used often in both economic literature as well as political debate, there is no consensus on what competitiveness in a national or regional context really means. While different types of “competitiveness” indices are issued by various institutions and politicians pledge reforms intended to increase a country or a region’s competitiveness, some exponents dispute the mere existence of the concept of national competitiveness.¹ Two basic approaches can be identified: one microeconomic, and the other institutional.

The microeconomic approach explains competitiveness as a predominantly firm-level phenomenon.² This approach is less contentious, as it is based on the well-defined microeconomic theory of the firm. A firm can sell more products than a rival if its products are either of lower cost (price or cost competitiveness) or of superior quality (quality competitiveness). Being under constant competitive pressure to defend or increase their market share, firms have to continually strive to improve their processes and products, invent new products and adapt flexibly to a changing environment. Innovation, the application of new technologies and ideas, and product differentiation play a crucial role in a firm’s ability to compete and use its resources successfully.

Globalization and the new information and communication technologies (ICTs) add to this phenomenon. Foreign direct investment drives the diffusion of knowledge and technology. Transnational companies endow affiliates with not only capital or intermediary goods but also with technology, know-how and skills, among other things, which directly and indirectly lead to an overall increase of productivity in the firm and in other entities involved. To summarize the essence of the firm-level-based view: a firm’s competitiveness depends on how efficiently it uses its resources. In economic terms, this idea is expressed in the labour and capital productivity.

An extension of the firm-level explanation to one of regional or national competitiveness is often made by defining a nation’s competitiveness as the competitiveness of its private sector; in other words, the sum of the productivities of individual firms. This aggregate view is mirrored in the total factor productivity of a country, an empirical estimate that reflects income growth that is not explainable by either capital or labour force.³

The second approach can be termed institutional. Although also based on a microeconomic foundation, it takes a much broader view and explains competitiveness as an institution-formed phenomenon. Unlike the aggregate-economy view, it refrains from mere growth accounting. This approach considers not only economic growth but also

¹ See, for example, Krugman (1994), who has called national competitiveness a “dangerous obsession”.

² This is an often-used approach; see, for example, Porter (2004a); Yap (2004); and ADB (2003).

³ For further explanations of the total factor productivity, see, for example, Thompson (1998).

the overall economic environment and development, and often focuses on sustainability issues and standard of living.

The institutional approach treats competitiveness as a dynamic and complex concept. It analyses the institutional determinants of competitiveness, including, among others, economic policy, legislative environment, technological infrastructure and transparency in Government and administration. In this respect, it is a more policy-oriented approach and allows for specific recommendations on how to improve competitiveness. This characteristic makes it a very useful or “workable” approach, which is why many international organizations define competitiveness in this sense. The Organization for Economic Cooperation and Development (Hatzichronoglou, 1996), for example, uses a definition which understands competitiveness as the ability to generate relatively high factor income and factor employment levels on a sustainable basis, irrespective of whether competitiveness refers to companies, industries, regions, nations or supranational regions.

The institutional approach stresses the importance of a partnership among the main economic actors. The function of the Government is to create an environment conducive to economic activity and to be an enabler and facilitator of the private sector. A similar holistic approach is used by ADB (2003), which describes a competitive economy as a “well-functioning market economy”, and the Economic Commission for Africa (ECA), the approach of which will be discussed in the next section.

As mentioned above, competitiveness in a national context is a rather contentious concept. Difficulties seem to exist, particularly with the interpretation that countries compete for resources and markets just in the way businesses do. Competition in a certain industry or sector may exist, but it makes no sense to say that whole economies compete and that there is only one winner, although this is a popular interpretation, in particular with the press. For instance, *The Times of India*, in its issue of 9 December 2006, used “Trade war: China trounces India 4-1” as the title of an article that provided statistical information on the two countries’ trade relations.⁴ Assuming such a competition implies that international trade is a zero-sum game, and does not reflect that trade can in fact be beneficial for all parties involved. One can, however, argue that nations compete in offering a good business environment.⁵

Another argument is that businesses can close down, while countries cannot. Furthermore, the goals of businesses and countries are different, as noted by Hatzichronoglou (1996). Businesses aim at surviving (or expanding their share) in the market and generating revenues. The accomplishments of countries are measured in terms of the welfare of their people. Looking at market shares alone does not necessarily reveal information on productivity. From a macroeconomic point of view, the real exchange rate and unit labour costs reflect price competitiveness. There is no automatic link between these measurements and productivity, as they may fluctuate or they may not be justified by underlying fundamentals.

⁴ See http://timesofindia.indiatimes.com/Trade_war_China_trounces_India_4-1/articleshow/748420.cms.

⁵ This position is also taken by Porter (2004b).

This point is often voiced when referring to the trade surplus of China, which can partially be attributed to the low value of the yuan. In other words, devaluing a currency might be beneficial for exports but it does not make a country more productive per se.

If a country wants to achieve economic growth and increase the living standards and welfare of its people, then looking at the factors that facilitate growth is crucial. It is necessary to choose a concept that allows for specific policy recommendations.

With this in mind, the more pragmatic institutional approach is used in this paper, focusing on the Government's role in creating a conducive business environment. In order to respond to the criticism that this approach covers "everything under the sun" and therefore describes nothing other than a general growth strategy, the paper will focus specifically on the trade-related aspect of competitiveness. In particular, it will analyse the factors that enable the smooth succession of trade transactions. This aspect of competitiveness is sometimes called trade or export competitiveness. The United Nations Industrial Development Organization (2002) highlights the policy perspective by stating that export competitiveness requires close and frictionless contact with foreign sources and customers, as well as good governance, including conducive rules, regulations and bureaucracy.

2. Competitiveness indices

A large number of competitiveness indices or rankings are published by various institutions, both at the national and international levels. This section provides a short overview of four indices that focus on cross-country comparisons, and highlights the institutional and trade-related factors they take into consideration, as well as their commonalities.

(a) The Global Competitiveness Report of the World Economic Forum

Since 2001, the World Economic Forum has published an annual growth competitiveness index that is aimed at assessing and monitoring the competitiveness of a large number of countries. The methodology of the index has been adapted several times in order to cover a broader measure of competitiveness. It is now published as the Global Competitiveness Index. The World Economic Forum defines competitiveness as the set of institutions, policies, and factors that determine the level of productivity of a country. To measure this, the index draws data from executive opinion surveys and, to a smaller extent, from hard data, that is, from national accounts.

The definition used in the Index covers 12 drivers crucial for productivity, which are clustered according to the importance they have for countries in different stages of economic development. Those drivers are: institutions, infrastructure, macroeconomic stability, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market sophistication, technological readiness, market size, business sophistication and innovation.

The overall Index is a weighted average of all 12 sub-indices. The sub-index for institutions includes criteria on public and private institutions. Public institutions are assessed in terms of five criteria: (a) respect for property rights; (b) ethics of Government behaviour and the prevalence of corruption; (c) independence of the judiciary and the extent to which the Government gives the private sector freedom to operate or engages in interventionist discretionary practices; (d) Government inefficiency, as reflected in the waste of public resources and a heavy regulatory burden; and (e) the ability to provide an environment for economic activity characterized by adequate levels of public safety. With regard to private institutions, two criteria are assessed, namely: (a) the ethical behaviour of firms; and (b) the accountability of firms, including the efficacy of corporate boards and the strength of auditing and accounting standards. The Global Competitive Index also includes some trade-related aspects, including measures for “burden of customs procedures”, and “prevalence of trade barriers”, as well as statistical data, such as the share of imports and exports as a percentage of the gross domestic product (GDP) or trade-weighted average tariffs.

(b) *IMD World Competitiveness Yearbook*

The Lausanne-based World Competitiveness Centre has been publishing the *IMD World Competitiveness Yearbook* for 20 years. The *Yearbook* is a “typical” representative of the institutional approach insofar as the underlying assumptions are that: (a) wealth is primarily created at the enterprise level, and (b) enterprises operate in a national environment which influences their ability to compete domestically or internationally. Accordingly, the *Yearbook* analyses and ranks the ability of countries to create a conducive environment for enterprise activities.

The methodology is similar to the one used in the Global Competitiveness Index. The *Yearbook* identifies four drivers of competitiveness: economic performance, Government efficiency, business efficiency, and infrastructure. These four factors are each divided into five sub-factors, analysing a total of 20 different aspects of the main drivers. The overall result is an average of all sub-factors and is compiled in yearly scoreboards.

(c) *Trade Competitiveness of ECA*

One index that specifically measures trade competitiveness is the Trade Competitiveness Index of ECA. In the *Economic Report on Africa 2004* (ECA, 2004), trade competitiveness is defined as the intrinsic ability to compete successfully in the global economy and sustain improvements in real output and wealth. In terms of methodology, the Trade Competitiveness Index has a similar structure as the Global Competitive Index and the *IMD World Competitiveness Yearbook*. It consists of three sub-indices that cover different aspects of trade competitiveness:

- (a) The Trade-enabling Environment Index, which reflects the trade conduciveness of the overall economic and political environment;
- (b) The Productive Resource Index, which measures the availability of direct inputs to production, such as land and labour;

- (c) The Infrastructure Index, which measures the availability of the indirect inputs that enable the movement of goods and services.

The three sub-indices are consolidated (with equal weight) from 31 indicators. Institutional factors are compiled in the Trade-enabling Environment Index, which measures both the macroeconomic environment and the institutional quality. Institutional quality is measured in five areas: (a) corruption; (b) rule of law, (c) Government stability; (d) bureaucratic quality; and (e) democratic accountability.

(d) *Trade Performance Index of the International Trade Centre*

The International Trade Centre (UNCTAD/WTO) has created the Trade Performance Index to measure export performance and competitiveness by sector and by country (ITC, 2002). It currently covers 184 countries and 14 different export sectors.

This Index uses a different methodology than the previously discussed indicators. It is a purely quantitative approach that does not analyse institutional factors of competitiveness. It measures the level of competitiveness and diversification of export sectors through comparisons with other countries, and highlights the comparative situation of a country's sectors. For each country and sector, three indicators are computed: generic profile, position, and export performance. The generic profile is compiled using descriptive indicators including, among others, value of exports, share in national exports and imports and revealed comparative advantage. The indicator on position includes data on, among other things: per capita exports, share in world market, product diversification and market diversification. The indicator on export performance relates to change and includes data on such things as percentage change in world market share, change in product diversification and change in market diversification. The Trade Competitiveness Index does not contain any information on institutional aspects. It could be argued that it measures the results of competitiveness rather than competitiveness per se.

3. Synthesis

The Global Competitiveness Index, the *World Competitiveness Yearbook* and the Trade Competitiveness Index are based on the institutional approach. All three analyse the legal framework of a country. The Global Competitiveness Index, for instance, includes data on property rights, judicial independence, the efficiency of legal framework and the effectiveness of antitrust policy. The Trade Competitive Index contains measures for the rule of law, and the *Yearbook* analyses business legislation. Furthermore, they all discuss the conduciveness of Government regulations to business activity, that is, the burden of Government regulation, or the number of procedures as well as the time required to import or export. Both the Global Competitiveness Index and the *Yearbook* try to estimate market efficiency; for example, the former includes a measure on the effectiveness of antitrust policy and the latter measures business regulations in terms of competition as well as the efficiency of labour and financial markets. All three indices include measures on the macroeconomic environment, including, among other things, exchange rates, interest rates and GDP.

Other factors that are included, such as infrastructure and education, are also conducive to creating an environment that enables economic activity; for example, good universities enable: (a) a high-quality workforce that can work in production at the higher end of the value chain, and (b) high-quality scientific research to support innovation. However, the present paper will focus mainly on the Government-defined rules and regulations that directly specify the playing field for economic activity and trade.

B. Competitiveness of the countries in the Greater Mekong Subregion

1. General economic overview: drivers of growth

The Mekong River is the twelfth longest river in the world, with an estimated length of almost 4,200 km. It unites a range of very diverse countries in Southeast Asia. Originating in Tibet, it runs through the Yunnan Province of China, Myanmar, Thailand, Lao People's Democratic Republic and Cambodia, until it reaches the South China Sea in Viet Nam.

Three of the countries of the Greater Mekong Subregion, namely, Cambodia, Lao People's Democratic Republic and Myanmar, are considered least developed countries. All but Thailand are economies in transition, being in the process of transforming from a socialist, planned economy type to a market economy.

The subregion has experienced significant economic progress (both in relation to Asia and to the world) since the beginning of the 1990s. Figure 1 shows the impressive annual GDP growth rates over the last decade. In most countries, annual output grew at more than 5 per cent year-on-year.

The underlying causes for this success include high foreign direct investment and growing exports. The countries of the Greater Mekong Subregion have become more open over the last decade, which is clearly reflected in the increase of foreign direct investment and value of exports since 1995, as given in table 1.

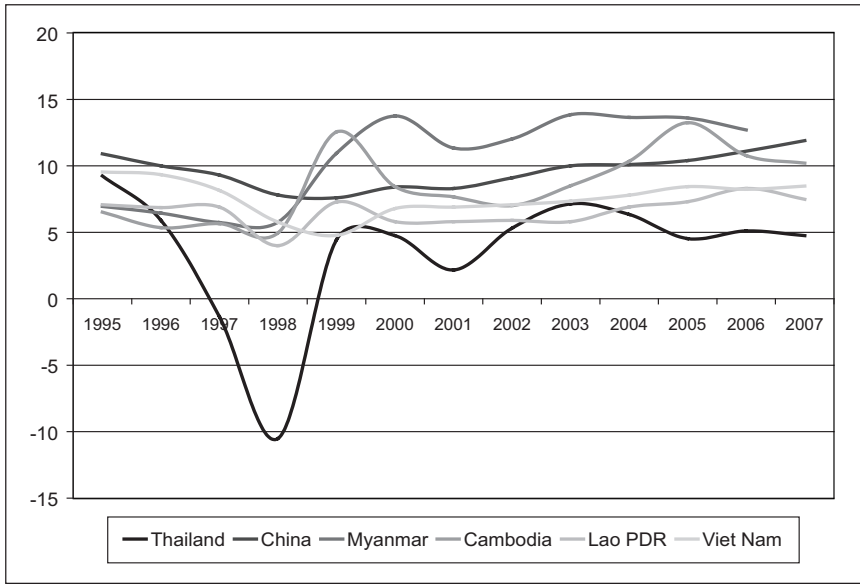
The region has also shown sectoral development, with the services and industry sectors gaining importance relative to the agricultural sector, as can be seen in figure 2.

The following subsections will provide a short economic overview for each country/province.

(a) Cambodia

Cambodia is one of the three least developed countries of the Greater Mekong Subregion. It has a total population of 14.4 million people, most of whom work in the agricultural sector. The 2006 GDP per capita was \$1,633 (purchasing power parity, or ppp) (ADB, 2008). The latest data, from 2004, indicate that 61.7 per cent of the total population lives on less than \$2 (ppp) per day. Cambodia was ranked 136th in the human

Figure 1. Economic growth in the Greater Mekong Subregion, 1995-2007
(Annual output growth, in percentage)



Source: Based on data from Asian Development Bank, "Key Indicators for Asia and the Pacific 2008", available at www.adb.org/Documents/Books/Key_Indicators/2008/Country.asp.

Table 1. Growing foreign direct investment and exports^a

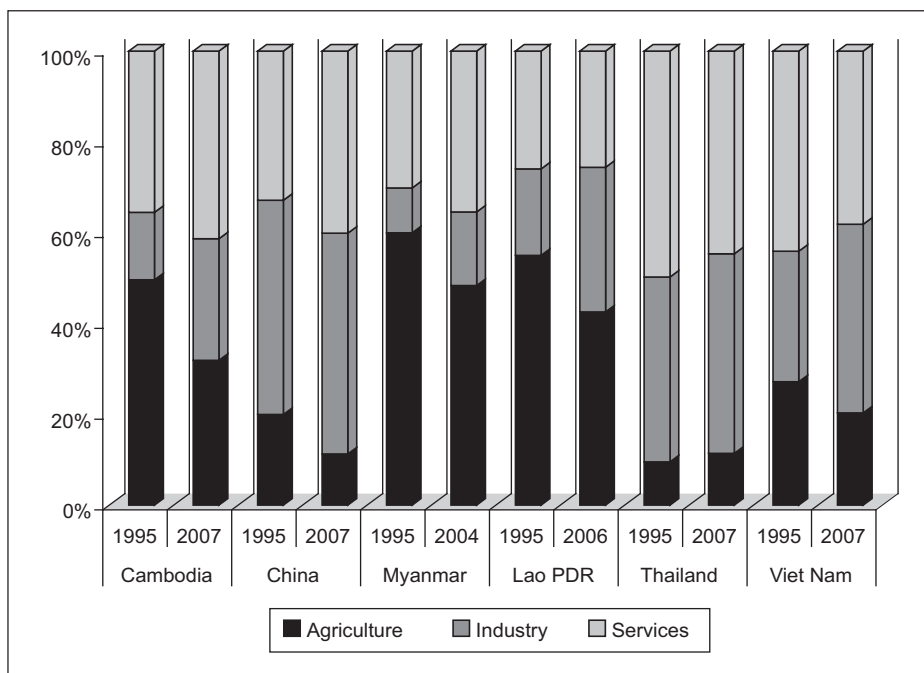
	Foreign direct investment stock			Total exports		
	1990	2000	2007	1990	2000	2007
Cambodia	37.7	1 579.9	3 821.5	85.8	1 397.1	4 089.2
China	20 690.6	193 348.0	327 087.0	62 091.0	249 203.0	1 218 015.0
Lao People's Democratic Republic	12.6	555.9	1 179.8	79.0	330.0	923.0
Myanmar	281.1	3 864.8	5 432.6	222.6	1 618.8	4 531.1 ^b
Thailand	8 242.3	29 915.0	85 749.4	589.8	2 773.8	5 255.0
Viet Nam	1 649.6	20 595.6	40 235.3	2 404.0	14 483.0	48 561.0

Sources: Based on data from Asian Development Bank, "Key Indicators for Asia and the Pacific 2008", available from www.adb.org/Documents/Books/Key_Indicators/2008/Country.asp and the United Nations Conference on Trade and Development, Foreign direct investment statistics, available at <http://stats.unctad.org/FDI/>.

^a All numbers in current millions of United States dollars, with the exception of export data for Myanmar, in million kyats.

^b Data for 2006.

Figure 2. Changing structure of output
(Percentage of gross domestic product)



Source: Based on data from Asian Development Bank, "Key Indicators for Asia and the Pacific 2008", available from www.adb.org/Documents/Books/Key_Indicators/2008/Country.asp.

development index, with an index value of 0.575 for 2006, the lowest of all GMS countries (UNDP, 2008). The country's economy has been growing with an average annualized rate of 9.5 per cent in real terms since recovering from the Asian financial crisis in 1997-1998; in 2007, the annual growth rate of GDP was 10.2 per cent. That same year, the agricultural sector accounted for 31.9 per cent of GDP; industry, 26.8 per cent; and services, 41.3 per cent. The highest sector-specific growth lies in the services sector, with a growth rate of 10.1 per cent in 2007 (ADB, 2008). Tourism is an important industry of the Cambodian economy. In 2004, roughly one million tourists arrived in the country and total tourism receipts were \$840 million.⁶

Cambodia joined the World Trade Organization (WTO) in October 2004. In 2007, the trade deficit amounted to about \$1.3 billion; trade (imports and exports) was equal to 27 per cent of GDP. The most important export destinations were, in descending order, the United States of America; Hong Kong, China; Germany; the United Kingdom of Great

⁶ All data on tourism (apart from the information for Yunnan Province of China) is from the World Tourism Organization, "Tourism indicators", available at www.unwto.org/facts/eng/indicators.htm.

Britain and Northern Ireland; and Canada, the principal export commodities being rubber and timber. Most of the imports to Cambodia come from Thailand; Hong Kong, China; China; Viet Nam and Singapore (ADB 2008).

Cambodia's national currency, the riel, has been relatively stable since 2000, showing only a slight appreciation against the United States dollar. Cambodia has also shown a substantive increase in net investment inflows (direct and portfolio investments), up from \$134.7 million in 2000 to \$853.8 million in 2007 (UNCTAD, 2008).

(b) *Yunnan Province of China*

Yunnan is one of the largest provinces in China, covering an area of 394,100 km². In 2006, it had a population of 44.83 million. Its nominal GDP per capita in 2008 was 12,587 yuan, equal to about \$1,842. The latest available data indicate that at 1994, about 7 million people lived below the poverty line.⁷

Yunnan is rich in energy and mineral resources and is also known as the country's kingdom of non-ferrous metals. Of the 168 kinds of ores that had been discovered in China by the end of 1994, 142 of were found in this province.⁸ The main industries include tobacco, machinery, metallurgy, agricultural products, chemicals and building materials.⁹ Tourism is also important for the economy of Yunnan. The number of visitors (domestic and foreign) rose from 28.7 million in 1998 to 52.4 million in 2002, earning an estimated \$419 million in foreign currency.¹⁰

Due to its rich endowment in natural resources, as well as its economic reforms, Yunnan has experienced high economic growth rates since the 1980s. Rapid industrialization led to an annual increase of 13.7 per cent of industrial output between 1991 and 1995 (ESCAP 2002a). In 2004, the GDP of Yunnan rose by 8.1 per cent. The share of GDP of the primary, secondary, and tertiary industries were 21.1 per cent, 42.8 per cent and 36.1 per cent respectively. In 2002, the total two-way trade of Yunnan reached \$2.23 billion and the province signed foreign direct investment contracts involving \$333 million, of which \$112 million were actually utilized during the year.¹¹

⁷ www.stats.yn.gov.cn/TJJMH_Model/default.aspx, as cited in <http://en.wikipedia.org/wiki/Yunnan>, accessed on 25 August 2009.

⁸ Yunnan Province of China, "Mineral resources", accessed from www.eng.yn.gov.cn/yunnanEnglish/145526961005920256/20050620/360647.html on 14 January 2009.

⁹ GMS Business Forum website, accessed from www.gmsbizforum.com/index.php?option=com_content&task=view&id=56&Itemid=38 on 14 January 2009.

¹⁰ Yunnan Province Department of Commerce website, accessed from http://eng.bofcom.gov.cn/bofcom_en/5190407366637518848/20061114/83923.html on 14 January 2009.

¹¹ www.stats.yn.gov.cn/TJJMH_Model/default.aspx, as cited in <http://en.wikipedia.org/wiki/Yunnan>, accessed on 25 August 2009.

Trade with Myanmar accounts for 80 per cent of the border trade of Yunnan Province of China. The Lao People's Democratic Republic and Viet Nam each account for 10 per cent. The United States; Germany; Hong Kong, China; the United Kingdom and Japan are other important trading partners.¹² Cross-border trade is less significant at the national level. The most important export partners of China are the United States; Hong Kong, China; and Japan. The bulk of imports come from Japan, the Republic of Korea, the United States and Germany. China joined WTO in 2001.

(c) *Lao People's Democratic Republic*

The Lao People's Democratic Republic is the only landlocked GMS country; it borders with China, Myanmar, Thailand and Viet Nam. Considered a least developed country, it has a population of 5.87 million; statistics from 2002 show that almost three quarters of the population live on less than \$2 per day (ppp). Based on data from 2006, the Lao People's Democratic Republic has a human development index value of 0.608, ranking at 133 worldwide (UNDP, 2008).

GDP per capita was \$2,032 (ppp) in 2006 (ADB, 2008). The main economic sector is agriculture, accounting for 42.6 per cent of GDP in 2006 and employing roughly two thirds of the labour force. Industry accounts for 31.8 per cent and services for 25.6 per cent. International tourism receipts in 2005 amounted to \$147 million, with an estimated 250,000 people visiting the country. In real terms, the economy has been growing by an average annualized rate of 6.7 per cent since 2000; in 2007 the rate was 10.2 per cent.

The Lao People's Democratic Republic is gradually becoming more open to foreign trade. In 1990, exports and imports were equal to 30.5 per cent of GDP; that share rose to almost 50 per cent in 2007 (ADB, 2008). The country applied for WTO membership in 1997 and is currently participating in accession negotiations. With the exception of 1991 and 2002, the country registered current account deficits between 1990 and 2005. It seems there may be the first signs of a turnaround; small current account surpluses were registered for 2006 and 2007.

The main export commodities of the Lao People's Democratic Republic are wood products, garments, electricity and coffee, the bulk of which go to Thailand (36.4 per cent), followed by Viet Nam (11.0 per cent), China (6.3 per cent) and Germany (3.6 per cent). Thailand is even more present with respect to the imports of the Lao People's Democratic Republic: 70.6 per cent of the country's imports originate in Thailand, 8.6 per cent in China and 5.5 per cent in Viet Nam.

¹² GMS Business Forum website, accessed from www.gmsbizforum.com/index.php?option=com_content&task=view&id=56&Itemid=38 on 14 January 2009.

(d) Myanmar

Myanmar is the largest country, by geographical area, in mainland Southeast Asia. It borders with Bangladesh, China, India and Thailand. It has a coastline of almost 2,000 km, and a population of 57.7 million. The most current data show that, at 1997, roughly two thirds of the labour force of Myanmar was employed in the agricultural sector. In 2007, agriculture accounted for 48.7 per cent of the economy; industry accounted for 16.2 per cent, and services 35.4 per cent. The GDP per capita of Myanmar was \$750 (ppp) in 2004. In real terms, the economy has been growing at an annualized average rate of 13.6 per cent during the last five years. Despite being a resource-rich and fertile country that boasts high economic growth rates, the bulk of the population remains poor. The human development index value of Myanmar (0.585) is the second-lowest of the subregion (UNDP, 2008).

Myanmar is a founding member of WTO. At the same time, it has been facing stiff economic sanctions from the United States and the European Union. As a result, Myanmar is relatively isolated; its main trading partners are located in Asia. The value of its exports and imports was equal to 0.3 per cent of GDP in 2004. The export commodities of Myanmar are teak and other hardwood, pulses and beans, rice, and base metals and ores. Much of the country's exports go to Thailand, India, China and Japan, with Thailand accounting for 44.7 per cent in 2005. That same year, 35 per cent of imports originated in China; followed by Thailand (20.7 per cent), Singapore (16.8 per cent) and Malaysia (4.4 per cent). Despite calls from the main opposition party not to visit the country, tourism has steadily been becoming a more important source of income. While in 1990 only about 21,000 people traveled to Myanmar, that number rose to 242,000 in 2004, generating an income of \$84 million.

(e) Thailand

Thailand is the richest country of the Greater Mekong Subregion as measured in GDP per capita, which reached \$2,703 (ppp) in 2006 (ADB, 2008). The country's population is 65.8 million. It is also the most sophisticated economy; only 11.4 per cent of the GDP is generated by the labour-intensive primary sector, while industry and services account for 43.9 and 44.7 per cent, respectively. Thailand was hit badly by the Asian financial crisis and experienced negative growth rates in 1997 (-1.4 per cent) and 1998 (-10.5 per cent). It recovered in 1999 and has since been growing at an average annualized rate of 5 per cent. In terms of human development, Thailand is also comparatively better off; the current human development index value of the country is 0.786, placing it at the top of the Greater Mekong Subregion.

Thailand has the highest number of tourists in the subregion, generating a steadily growing income from this industry. The most current data show that the country was visited by over 11.7 million tourists in 2004. A substantial increase in trade has been recorded over the past 15 years. In 1995, exports and imports equalled 75 per cent of GDP. In 2007, the number was significantly higher, equalling 120 per cent of GDP. The

country's principal export commodities are computers, vehicle parts and accessories, electrical appliances, integrated circuits and plastic products. In 2007, 12.7 per cent of exports from Thailand went to the United States, followed closely by Japan (11.9 per cent), China (9.8 per cent) and Singapore (6.3 per cent). Imports to Thailand in 2007 originated mostly in Japan (20.3 per cent), China (11.6 per cent), the United States (8.6 per cent) and Malaysia (6.2 per cent).

(f) *Viet Nam*

Viet Nam is the largest GMS country in terms of its population, which topped 85.2 million in 2007 (ADB, 2008). GDP per capita was \$2,363 (ppp) in 2006. 2004 data suggest that about 43.2 per cent of the population lives below \$2 (ppp) per day. The human development index value of Viet Nam is 0.718, ranking the country at 114 worldwide and second within GMS.

Similar to Thailand, Viet Nam has managed to move away from a reliance on the labour-intensive agricultural sector to a more capital-intensive production structure. In 2007, the primary sector in Viet Nam accounted for 20 per cent of the GDP; the secondary and tertiary sector, 41.6 per cent and 38.1 per cent, respectively. The economy of Viet Nam has seen an average annualized growth rate of over 7.8 per cent in the last five years. The country has also become an increasingly popular tourism destination; 250,000 people visited Viet Nam in 1990. This figure rose to almost 3 million in 2004.

In November 2006, the General Council of WTO approved the membership of Viet Nam, allowing it to become the organization's 150th member. In 2007, Viet Nam had deficit in its trade balance in the magnitude of 14.6 per cent of GDP. Principal export commodities are textiles, marine products, rice, coffee, and wood and wood products (ADB, 2008). The country's most important export markets are the United States (22.8 per cent), Japan (11.5 per cent), Australia (7.5 per cent) and China (6.3 per cent). The bulk of its imports come from China (20.4 per cent), Singapore (11.8 per cent), Japan (9.6 per cent) and the Republic of Korea (7.7 per cent).

2. Competitiveness of GMS countries

Section A.1 of this paper provided an overview of the concept of competitiveness and how it is measured in a number of indices. The three indices based on the institutional approach, namely the Global Competitiveness Index, the *World Competitiveness Yearbook* and the Trade Competitiveness Index of ECA, aim to quantify similar aspects of competitiveness, although scope and methodology vary. This paper focuses on the institutional aspect, analysing the general "rules" that shape the environment for economic activity in general and for trade in particular. The present section will compile the results of various studies and reports that are available for the countries of the Greater Mekong Subregion. As identified previously, the general institutional drivers of competitiveness are: (a) bureaucratic quality, (b) effectiveness of the legal framework, and (c) market efficiency. This section will also attempt to identify additional specific measurements referring to trade-related efficiency.

The purpose of this paper is not to create another indicator for competitiveness, but rather to compile information and compare what existing indicators and measurements can tell us. Indicators from the Global Competitive Index are used, where available, for the GMS countries. A number of other indicators that are compiled by other institutions, but not necessarily aggregated into a competitiveness-related indicator, will be added to complete the picture.

Data for Cambodia, Thailand and Viet Nam are available from various sources. Data on the Lao People's Democratic Republic and Myanmar are available to a lesser extent. For Yunnan Province of China, data from China often has to serve as proxy, due to the lack of provincial information.

(a) *Global Competitiveness Index: institutional factors for GMS*

Table 2 shows a compilation of the institutional results of the *Global Competitiveness Report 2008-2009* for Cambodia, China, Thailand and Viet Nam. Unfortunately, data for the Lao People's Democratic Republic and Myanmar is not provided in the Report. This paper examines nine aspects that relate closely to the four categories identified above (bureaucratic quality, effectiveness of legal framework, market efficiency, and specific measures referring to trade-related efficiency). For reference, averages for both the Association of Southeast Asian Nations (ASEAN) and Asia are included in the table.

The ratings provide a mixed picture. Of the four listed countries, China scores best in the categories of bureaucratic quality and market efficiency, Thailand scores best in the legal-framework category and Viet Nam scores well in the trade-related area. Problems in the following areas can be identified:

- Burden of customs procedures, effectiveness of anti-monopoly and intensity of local competition (Cambodia)
- Number of procedures required to start a business and burden of customs procedures (China)
- Burden of customs procedures and prevalence of trade barriers (Thailand)
- Burden of government regulations and burden of customs procedures (Viet Nam)

These results are in line with those of Transparency International's annual Corruption Perception Index (2008), which ranks the GMS countries at the lower spectrum of Asia. The Lao People's Democratic Republic, Viet Nam, Cambodia (ranked 166th of 180 countries) and Myanmar (ranked 178th) score below 3 (range is 0 to 10), meaning that corruption in these countries is perceived to be "endemic" by the surveyed stakeholders.

(b) *Further indices that measure institutional quality*

As the Global Competitive Index does not include data on the Lao People's Democratic Republic or Myanmar, further measurements for institutional quality are needed. The World Bank offers data that aims to quantify and/or rank institutional quality.

Table 2. Global Competitive Index for selected countries

		<i>Cambodia</i>	<i>China</i>	<i>Thailand</i>	<i>Viet Nam</i>	<i>ASEAN average^a</i>	<i>Asia average^b</i>
Bureaucratic quality	Burden of government regulation (1 = burdensome, 7 = not burdensome)	3.0	3.9	3.5	2.7	3.6	3.5
	Transparency of government policymaking (1 = never informed, 7 = always informed)	4	4.5	4.2	4.2	4.4	4.2
Legal framework	Efficiency of legal framework (1 = inefficient, 7 = efficient)	3.1	3.9	4.1	3.8	4.1	3.8
Market Efficiency	Effectiveness of anti-monopoly policy (1 = not effective, 7 = effective)	2.9	4	3.9	3.4	4.0	3.9
	Intensity of local competition (1 = limited, 7 = intense)	4	5.6	5.3	5.1	5.1	4.9
	Number of procedures required to start a business	10	13	8	11	11	8.8
Trade-related efficiency	Prevalence of trade barriers (1 = insignificant, 7 = significant)	4.1	4.5	4.2	4.0	4.6	4.5
	Business impact of rules on FDI (1 = discouraging, 7 = encouraging)	5.2	5.4	5.3	5.5	5.4	5.1
	Burden of customs procedures (1 = cumbersome, 7 = efficient)	2.8	4.5	4.1	3.3	4.1	3.9

Source: Michael E. Porter, Klaus Schwab, eds., *The Global Competitiveness Report 2008-2009* (World Economic Forum, 2008).

^a Refers to a simple average of Brunei Darussalam, Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand and Viet Nam.

^b Refers to a simple average and includes the countries of the Association of Southeast Asian Nations, as well as Armenia; Australia; Azerbaijan; Bangladesh; China; Georgia; Hong Kong, China; India; Japan; Kazakhstan; Kyrgyzstan; Mongolia; Nepal; New Zealand; Pakistan; Republic of Korea; Russian Federation; Sri Lanka; Taiwan Province of China; Tajikistan; Timor-Leste and Turkey.

Abbreviations: ASEAN, Association of Southeast Asian Nations; FDI, foreign direct investment.

(i) *World Bank Doing Business data*

A good source for information on the bureaucratic quality of a country is the Doing Business Data Time Series (see www.doingbusiness.org) of the World Bank. Doing Business is a compilation of the measured costs of business regulations and their enforcement. It is aimed at identifying the nature of regulatory reforms required to improve the business environment. The topics covered are: (a) starting a business, (b) dealing with construction permits, (c) employing workers, (d) registering property, (e) getting credit, (f) protecting investors, (g) paying taxes, (h) trading across borders, (i) enforcing contracts, and (j) closing a business. The total number of countries included in the 2009 rankings is 181. Doing Business data are available for all GMS countries but Myanmar.

Table 3. Cost of doing business: 2009 country rankings
(Out of 181 countries)

	<i>Cambodia</i>	<i>China</i>	<i>People's Lao Democratic Republic</i>	<i>Thailand</i>	<i>Viet Nam</i>
Ease of doing business	135	83	165	13	92
Starting a business	169	151	92	44	108
Dealing with construction permits	147	176	110	12	67
Employing workers	134	111	85	56	90
Registering property	108	30	159	5	37
Getting credit	68	59	145	68	43
Protecting investors	70	88	180	11	170
Paying taxes	24	132	113	82	140
Trading across borders	122	48	165	10	67
Enforcing contracts	136	18	111	25	42
Closing a business	181	62	181	46	124

Source: World Bank, "Economy Rankings", Doing Business 2009 Time Series Data (see www.doingbusiness.org).

This is in line with results published in the *Global Competitiveness Report*; when asked about the most problematic factors¹³ for doing business in their countries, respondents selected:

- Corruption, inefficient government bureaucracy and inadequate supply of infrastructure (Cambodia)

¹³ From a list of 15 factors, respondents were asked to select the five most problematic for doing business in their country.

- Access to financing, policy instability and inefficient government bureaucracy (China)
- Government instability/coups, policy instability and inefficient government bureaucracy (Thailand)
- Inflation, inadequate supply of infrastructure and inadequately educated workforce (Viet Nam)

Viet Nam stands out, as respondents did not identify any factors within the categories of bureaucratic quality, effectiveness of legal framework, market efficiency or trade-related efficiency.

(ii) *Worldwide Governance Indicators*

The World Bank's Worldwide Governance Indicators are a statistical aggregation of a large number of information sources (for the 2008 data, 340 individual variables measuring different dimensions of governance were taken from 35 sources and 32 different organizations, including the *World Competitiveness Yearbook*). Six aspects of governance are covered: voice and accountability, political stability and absence of violence, Government effectiveness, regulatory quality, rule of law, and control of corruption. The rank of a country is described by its percentile rank, indicating the percentage of countries worldwide that rank below that country. The higher a country's percentile rank, the more countries rank below, that is, the better off the country is in relation to others.

The Worldwide Governance Indicators are given for all GMS countries. Table 4 shows the percentile rankings in three categories, described as follows:

- (a) Regulatory quality, which measures the ability of the Government to formulate and implement sound policies and regulations that permit and promote private sector development;

Table 4. Worldwide Governance Indicators, World Bank

	<i>Regulatory quality</i>		<i>Government effectiveness</i>		<i>Rule of law</i>	
	<i>2007</i>	<i>2000</i>	<i>2007</i>	<i>2000</i>	<i>2007</i>	<i>2000</i>
Cambodia	31	43	21	19	14	19
China	46	39	61	55	42	40
Lao People's Democratic Republic	15	7	21	23	17	19
Myanmar	1	4	2	8	5	9
Thailand	56	67	62	61	53	64
Viet Nam	36	23	41	39	39	37

Source: World Bank, *Worldwide Governance Indicators 1996-2007* (Washington, D.C., 2008), accessed from http://info.worldbank.org/governance/wgi/sc_chart.asp on 13 January 2009.

- (b) Government effectiveness, which measures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies;
- (c) Rule of law, which measures the extent to which agents have confidence in and abide by the rules of society, in particular the quality of contract enforcement, the police and the courts, as well as the likelihood of crime and violence.¹⁴

(iii) *Trade-related measurements*

Trade transaction costs play an important factor in determining a country's trade competitiveness, especially as the traditional tariff-based barriers have come down significantly over the last decade. Various studies estimate that the average gains from facilitating trade in the Asia-Pacific region are likely to be greater than potential gains from further tariff liberalization.¹⁵ Hindering the smooth flow of trade transactions leads to higher costs and ultimately to reduced trade volumes. For instance, a World Bank study has found that, on average, each additional day that a product is delayed prior to being shipped reduces trade by at least 1 per cent (Djankov, Freund and Pham, 2006). Common trade barriers include: (a) standards and certification, (b) customs procedures, (c) food safety or health requirements, (d) distribution constraints, (e) high internal taxes or charges, (f) import quotas or prohibitions, (g) inadequacies in intellectual property protection, (h) cargo handling and port procedures, (i) subsidies or tax benefits for domestic firms, and (j) import licensing. Major obstacles to trade could be minimized by reducing, among other things: (a) non-tariff barriers, such as inadequate trade regulations and their enforcement via complex and lengthy procedures, (b) complicated documentation and signature requirements, (c) inappropriate fees, and (d) cumbersome formalities and unclear rules. All these examples demonstrate how institutional factors are crucial in competitiveness and how the Government plays a decisive role in facilitating not only economic activity in general but trade in particular.

(iv) *World Bank Doing Business Data: Trading across Borders*

The Trading across Borders data refers to the procedural requirements for exporting and importing a standardized cargo of goods.¹⁶ The indices were generated by receiving data from local freight forwarders, shipping lines, customs brokers and port officials. Table 5 lists the main indicators, including: (a) the number of documents required to export/import goods, (b) the time necessary to comply with all procedures required to export/import goods, and (c) the cost associated with all the procedures required to export/

¹⁴ See <http://info.worldbank.org/governance/wgi/faq.htm#2>.

¹⁵ See, for example, Wilson, Mann and Otsuki (2003).

¹⁶ To make the data comparable across countries, several assumptions about the business and the traded goods are used. For precise information, see the Doing Business website (www.doingbusiness.org/MethodologySurveys/TradingAcrossBorders.aspx).

Table 5. Doing Business: Trading across Borders data, 2009

Region or Economy	Export			Import		
	Documents for export (number)	Time for export (days)	Cost to export (United States dollars per container)	Documents for import (number)	Time for import (days)	Cost to import (United States dollars per container)
East Asia and the Pacific	6.7	23.3	902	7.1	24.5	948
Cambodia	11	22	732	11	30	872
China	7	21	460	6	24	545
Lao People's Democratic Republic	9	50	1 860	10	50	2 040
Thailand	4	14	625	3	13	795
Viet Nam	6	24	734	8	23	901

Source: World Bank, "Trading across Borders", Doing Business (World Bank, 2009) available at www.doingbusiness.org/exploretopics/tradingacrossborders.

import goods. The table lists results for the five GMS countries that are covered by the survey. For reference, the averaged results for the whole of East Asia and the Pacific are listed as well.

(v) *Availability of trade-related information*

Trade-transaction costs can be significantly lowered by improving the transparency of trade and customs regulations and hence reducing associated risks. Widely and freely available trade information: (a) reduces the discretionary application of existing rules and regulations, and (b) reduces transaction costs and time, as traders can easily calculate applicable rates, without having to spend both time and money trying to find the relevant information.

As required in General Agreement on Tariffs and Trade (GATT) article X, para. 1, WTO members must publish all:

laws, regulations, judicial decisions and administrative rulings . . . pertaining to the classification or the valuation of products for customs purposes, or to rates of duty, taxes or other charges; or to requirements, restrictions or prohibitions on imports or exports or on the transfer of payments therefor, or affecting their sale, distribution, transportation, insurance, warehousing inspection, exhibition, processing, mixing or other use.

It is not specified where and how this information is to be published, apart from that it shall be published "promptly in such a manner as to enable governments and traders to become acquainted with them".

One practical solution could be that, in addition to providing the paper-based information available locally, all WTO members publish such regulations on a website easily accessible to all stakeholders involved in the trade transaction. Ideally, regulations or practices, including all relevant amendments, not duly published, should be considered void.¹⁷ This would be crucial not only for WTO members, but also—and maybe predominantly so—for non-members.

A Government can increase the attractiveness of its private sector by transparently informing the business community about (customs) regulations and procedures. When making a business decision (regarding issues such as sourcing inputs from a supplier in another country), unclear information about customs regulations is a considerable risk that flows into the decision-making process. Businesses from a country with unclear procedures and rules might lose their competitive edge to competitors that compare equally in terms of qualities, but that are based in a more transparent regulatory environment.

Two requirements can be identified: (a) information on customs regulations should be up-to-date and freely accessible; and (b) they should be understandable to the trading community at large. Online solutions seem to provide the best answer to the first requirement, as online information can be easily updated and is available to traders regardless of where they are located. With respect to making the information understandable, it should be provided not only in the official language of a country, but also in English, so that traders from other countries can understand and interpret it.

Table 6 lists the type of information available—albeit sometimes only partially—on websites of the government agencies responsible for foreign trade and/or customs. It does not include information provided by private sector institutions, such as chambers of commerce or business associations. Checkmarks indicate that the information is (at least to some extent) available. Yunnan Province of China has a large number of websites with provincial information; however, in many cases, information is provided in Chinese only.¹⁸

The type of information provided is classified along the categories of GATT article X:

- Classification or valuation of products for customs purposes
- Rates of duty, taxes or other charges
- Requirements (procedural and documentary), restrictions or prohibitions on imports or exports or on the transfer of payments therefor, or affecting their sale, distribution, transportation, insurance, warehousing inspection, exhibition, processing, mixing or other use

¹⁷ The ongoing World Trade Organization trade facilitation negotiations have broached these suggestions.

¹⁸ See, for example, the Administration Bureau of Industry and Commerce (www.ynaic.gov.cn), and the Yunnan Exit-Entry Inspection and Quarantine Bureau (www.ynciq.gov.cn).

Table 6. Online trade and customs information

GMS member	Data source	Type of information					
		A	B	C	D	E	F
Cambodia	Ministry of Commerce (www.moc.gov.kh)				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
	General Department of Customs and Excise (www.customs.gov.kh)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Yunnan Province of China	Department of Commerce of Yunnan Province (www.bofcom.gov.cn)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
China	China Customs (www.customs.gov.cn)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
	Ministry of Commerce (http://english.mofcom.gov.cn)				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Lao People's Democratic Republic	Ministry of Industry and Commerce (www.moc.gov.la/default.asp)				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
	Department of Domestic and Foreign Investment (www.invest.laopdr.org)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Myanmar	Ministry of Commerce (www.commerce.gov.mm)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Thailand	Department of Foreign Trade (www.dft.moc.go.th)	Info available in Thai only					
	Ministry of Commerce (www.moc.go.th) ^a						<input checked="" type="checkbox"/>
	Customs Department (www.customs.go.th)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
Viet Nam ^b	General Department of Viet Nam Customs (Ministry of Finance) (www.customs.gov.vn/default.aspx?tabid=454)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Ministry of Industry and Trade (www.moit.gov.vn/web/guest/home_en)				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>

Source: Author's compilation, as of January 2009.

Notes: A = Classification or valuation of products for customs purposes;

B = Rates of duty, taxes or other charges;

C = Requirements (procedural and documentary), restrictions or prohibitions on imports or exports or on the transfer of payments therefor, or affecting their sale, distribution, transportation, insurance, warehousing inspection, exhibition, processing, mixing or other use;

D = Law/legislation repository;

E = Downloadable electronic versions (or samples) of forms commonly used in F;

F = Import/export transactions, and/or the possibility for online submission;

G = Contact information (Ministry of Commerce, other ministries, private sector representatives).

^a The Department of Export Promotion (www.thaitrade.com) provides info on export procedures.

^b E-Customs is currently available on a trial basis for registered partners.

Three additional categories of information that are not included in article X, but that are useful to traders, are:

- Law/legislation repository
- Downloadable electronic versions (or samples) of forms commonly used in import/export transactions, and/or the possibility for online submission
- Contact information (Ministry of Commerce, other ministries, private sector representatives)

The overview in table 6 shows that the governments of all GMS members offer at least some types of online information. Most notably, with the exception of the Lao People's Democratic Republic, all provide information according to the GATT article X provisions. However, two observations are important: (a) although some information is available in most cases, it is not always complete, up-to-date, comprehensive or presented in a user-friendly way; and (b) information is scattered among different sources (such as Customs and/or the Ministry of Trade/Commerce). To obtain a complete picture, traders have to go to several official websites, which are often not systematically linked to one another. In some cases, the information is also partially available from other Government sources (for example, the customs code might also be available in a general law repository).

C. Policy recommendations to increase competitiveness

The previous section has drawn on existing work on competitiveness and governance aimed at establishing the institutional quality, that is, establishing the rules that shape the environment for economic activity in the countries of the Greater Mekong Subregion. The data collected suggests that there is indeed room for improvement in all four institutional drivers discussed. Results from the Global Competitiveness Index suggest that inefficient Government bureaucracy and policy instability are major constraints. Results from the Doing Business database and the Worldwide Governance Indicators show that corruption and inefficient Government bureaucracy—regulatory quality, including the rule of law—seem to be most harmful for businesses. The Trading across Borders data for East Asia and the Pacific show that there is still ample room for reducing the number of documents, the time and the money needed to export or import goods from or to GMS countries. Last but not least, trade information available online should be improved in all countries, especially in the main areas mentioned in the provisions of article X of GATT .

The GMS countries have become more open over the last decade, a development which was accompanied by a surge of economic growth. To sustain this growth, it is crucial to further facilitate the integration of their economies into world trade and to ensure that the institutional environment fosters economic activity. A closer look at the direction of trade of the GMS countries shows that a relatively large share of trade is taking place with countries in North America, Europe and with the developed countries of the Asia-Pacific region. Two clusters of traders can be identified: cluster A, which includes the Lao People's Democratic Republic and Myanmar, has a larger share of cross-border and

intra-GMS trading, while cluster B, which comprises Cambodia, China, Thailand and Viet Nam, has a larger share of trade with countries outside of the subregion (except China, with which all countries trade). The prominent role of both intra- and interregional trade shows that it is important that the countries of the subregion follow a two-pronged strategy: continuing to promote global exports while also promoting regional exports.

1. Trade facilitation at the country level

In order to increase the competitiveness of the countries of the Greater Mekong Subregion, non-tariff barriers should be reduced to a minimum. Examples of such non-tariff barriers include inadequate business regulations and their enforcement through: (a) lengthy procedures, (b) complicated documentation and signature requirements, (c) inappropriate fees, (d) cumbersome formalities, and (e) unclear rules. Such impediments increase trade transaction costs and the associated business risk, and adversely affect investment, employment, growth and development capacity. Appropriate regulations, effective Government institutions and efficient operations for facilitating trade are of particular relevance and importance for the GMS countries.

Trade facilitation can be described as the simplification, harmonization and standardization of trade procedures to reduce the cost as well as the time of trade transactions. Trade facilitation aims at improving a country's capacity to trade in a timely and cost-effective manner. Expected results include more efficient and cost-effective exports, less costly imports of raw materials for the manufacturing sector, more opportunities for small and medium-size enterprises to participate in international trade, and increased trade flows which lead to more foreign exchange earnings.¹⁹

Each country of the subregion can work towards implementing trade facilitation measures on an individual basis. Such measures include, for example, the revised Kyoto Convention on the Simplification and Harmonization of Customs Procedures,²⁰ which provides for the application of new technologies, the implementation of advanced customs control procedures based on risk assessment and the willingness of customs authorities to cooperate closely with the private sector. Another example is the trade facilitation recommendations of the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT).²¹ Taking into account the findings from the previous sections, measures to improve the competitiveness of each country should focus on: (a) establishing and enforcing clear and comprehensive trade and customs legislation, (b) improving trade procedures, including the simplification, standardization and harmonization of trade documents, and (c) good governance for effective trade controls and enforcement.

¹⁹ For more information on trade facilitation, with special reference to the Asian and Pacific region, see, for example, ESCAP 2002b and 2004.

²⁰ Adopted at the ninety-third and ninety-fourth sessions of the Council of the World Customs Organization, Brussels, 24-26 June 1999 (see www.wcoomd.org/kybodycontent.htm).

²¹ See www.unece.org/cefact/.

To systematically plan, implement and coordinate trade facilitation activities in a country, in its Recommendation No. 4, second edition, UN/CEFACT recommends the establishment and support of national trade facilitation bodies with balanced private and public sector participation in order to:

- (a) Identify issues affecting the cost and efficiency of their country's international trade;
- (b) Develop measures to reduce the cost and improve the efficiency of international trade;
- (c) Assist in the implementation of those measures;
- (d) Provide a national focal point for the collection and dissemination of information on best practices in international trade facilitation;
- (e) Participate in international efforts to improve trade facilitation and efficiency. (ECE, 2001, para. 3)

According to a survey conducted by ESCAP in October 2006, countries in the Greater Mekong Subregion have undertaken some efforts in this respect. The Lao People's Democratic Republic has established a National Transport Committee that is spearheaded by the Ministry of Communication, Transport, Post and Construction and the Ministry of Commerce. Viet Nam has established a National Transport Facilitation Committee led by the Ministry of Transport as well as the Viet Nam Center for Trade Facilitation and E-business (VnPRO). China has also established a National Transport Facilitation Committee, led by the Ministry of Communication.²² Furthermore, the Government of Cambodia has committed to and fulfilled several actions, including the creation of a Special Inter-Ministerial Task Force, and has formed a cross-agency reform team that includes all agencies involved in investment climate and trade facilitation issues (Sovicheat, 2006).

UN/CEFACT, in its Recommendation No. 33, further recommends the establishment of a single window, that is, a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfil all import, export, and transit-related regulatory requirements (ECE, 2005, 3). Standardized and automated customs declarations, for example, not only expedite the transaction process and enable the application of modern risk-management techniques, but also reduce interference by individuals and thereby lower the chance of having to pay "tea money" to accelerate a process.

The ESCAP survey also asked about the status of the implementation of single windows. The Lao People's Democratic Republic is currently developing a Single Window Administration, an initiative spearheaded by the Ministry of Industry and Commerce, the Ministry of Communication, Post, Transport and Construction, and the Ministry of Finance. Viet Nam has expressed plans to establish such a body and has proposed a national committee for the establishment of single window mechanisms. This committee includes

²² Cambodia, Myanmar and Thailand did not provide responses for the survey.

the General Department of Customs (Ministry of Finance) as well as the ministries of trade, agriculture, health, transport, industry, culture and information. Thailand currently seems to be the most advanced in the implementation of a single-window system, with its Thailand Single Window e-Logistics Environment initiative, which is scheduled to be operational in 2009. A pilot project, launched in 2005, included the implementation of e-licensing and e-certificates systems for exporting fruits and automobiles. Once it has been gradually extended to more products and later all imports, exports and transport activities, the single window system in Thailand will be integrated into the ASEAN Single Window initiative, which is discussed in the next section. Furthermore, in 2007, the Department of Customs has initiated a paperless customs environment using e-Export, e-Import, e-Manifest and e-Container, based on ebXML messaging services and XML messages (Keretho, 2008).

2. Continue implementation of existing initiatives at the subregional level

In addition to initiatives that the GMS countries can carry out on their own, a number of subregional initiatives have been undertaken over the past years and are in various stages of implementation. Coordination at the subregional level, especially in the area of trade facilitation, is crucial as interoperability and harmonization lie at the very heart of such initiatives. The region can tap its potential as a growth area by collaborating and creating synergies among the efforts of individual countries.

This section briefly discusses two initiatives: the ASEAN Single Window Initiative and the trade and transport facilitation initiative under the GMS Economic Cooperation Programme. The implementation of these initiatives can be considered vital for increasing the competitiveness of the GMS region.

(a) ASEAN Single Window initiative

In December 2005, the members of ASEAN, namely, Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam, agreed to establish and implement the ASEAN Single Window. According to the agreement, the ASEAN Single Window is the environment where national single windows of member countries operate and integrate. The national single window system is defined as one which enables:

- (a) A single submission of data and information;
- (b) A single and synchronous processing of data and information;
- (c) A single decision-making for customs release and clearance. A single decision-making shall be uniformly interpreted as a single point of decision for the release of cargoes by the customs on the basis of decisions, if required, taken by line ministries and agencies and communicated in a timely manner to the customs. (ASEAN, 2005, art. 1)

The timeline for the ASEAN Single Window projected that Brunei Darussalam, Indonesia, Malaysia, Philippines, Thailand and Singapore would operationalize their national single windows by 2008, and that Cambodia, Lao People's Democratic Republic, Myanmar and Viet Nam would operationalize their national single windows by no later than 2012.

(b) *Trade and transport facilitation under the GMS Programme*

Trade and transport facilitation are complementary and highly interlinked, as they both target the removal of obstacles to a smooth and efficient flow of goods across national borders. They overlap in many places, for example, in the physical inspection of cargo at border crossings; the inspection of common documentation, such as customs declarations, bills of consignments, packing lists; or in the collection of statistical data. Within the GMS Economic Cooperation Programme, a number of initiatives specifically target these issues.

(i) *Trade Facilitation Working Group*

The Subregional Trade Facilitation Working Group was established under the GMS Economic Cooperation Programme to serve as an advisory body on issues related to facilitating trade in the subregion. The objectives of the working group are:

- (a) To provide a venue for identifying constraints (e.g. regulatory, legal) that affect procedures, processes, practices and tools for facilitating trade-related transactions in the subregion;
 - (b) To provide a vehicle for cooperation related to the improvement and coordination of procedures and processes related to the subregion;
 - (c) To provide a vehicle for improving the availability and consistency of trade-related information, and the application of information-technology to trade facilitation;
 - (d) To provide a venue for institutional cooperation among participating countries in formulating and implementing appropriate trade facilitation strategies and mechanism [sic]. (Subregional Trade Facilitation Working Group, 2008)
- (ii) *GMS Agreement on the Facilitation of the Cross-border Transport of Goods and People*²³

One initiative that works towards a smooth transaction process at the border is the GMS Cross-Border Transport Agreement. The Agreement was originally a trilateral agreement between and among the Governments of the Lao People's Democratic Republic,

²³ Agreement between and among the Governments of the Kingdom of Cambodia, the People's Republic of China, the Lao People's Democratic Republic, the Union of Myanmar, the Kingdom of Thailand, and the Socialist Republic of Viet Nam for the Facilitation of Cross-Border Transport of Goods and People See www.adb.org/GMS/agreement.asp.

Thailand and Viet Nam, which signed in 1999. Cambodia acceded in 2001, China in 2002 and Myanmar in 2003, by which date the agreement came into force. The Agreement is a comprehensive multilateral instrument that covers all the relevant aspects of cross-border transport facilitation, including:

- (a) Single-stop/single-window customs inspection;
- (b) Cross-border movement of persons (i.e., visas for persons engaged in transport operations);
- (c) Transit traffic regimes;
- (d) Requirements that road vehicles will have to meet to be eligible for cross-border traffic;
- (e) Exchange of commercial traffic rights
- (f) Infrastructure, including road and bridge design standards, road signs and signals.²⁴

(iii) *Promotion of the application of international standards for trade security*

In recent years, the major actors in international trade have started to focus on security risks that originate in the trade transaction process, especially with regard to container trade. The United States, for example, has implemented a number of measures to reduce such risks, such as, among many others, the 24-hour Advance Cargo Manifest Rule which requires sea carriers to provide the United States Customs and Border Protection agency with detailed descriptions of the contents of any container bound for the United States, 24 hours before the container is loaded on board a vessel. Carriers found in violation of the rule for individual containers may be denied permission to unload and be fined. In 2007, the United States was the most important export destination of all GMS countries, with the exception of Lao People's Democratic Republic and Myanmar. This underlines how important it is for the countries of the subregion to adhere to international standards regarding the international supply chain. It is necessary to see that while such measures might result in some added costs, they also are complementary to the trade facilitation measures described above.

In 2005, the World Customs Organization (WCO) endorsed a strategy to secure the movement of global trade in a way that does not impede but, on the contrary, facilitates the movement of that trade. The strategy, called the Framework of Standards to Secure and Facilitate Global Trade²⁵ (or SAFE Framework) is based on four core areas: (a) harmonization of advance electronic cargo information before goods are exported, through the use of the WCO-developed Customs Data Model; (b) establishment of a consistent risk management system to identify high-risk cargo and address security

²⁴ See www.adb.org/GMS/agreement.asp.

²⁵ The Framework was endorsed by the Council of the World Customs Organization during its annual sessions in Brussels, 23-25 June 2005 (see www.vam.hu/loadBinaryContent.do?binaryId=15833).

threats; (c) use of non-intrusive detection equipment when examining high-risk consignments of cargo or containers at port of origin or departure; and (d) enhanced trade facilitation for legitimate trade by promoting the provision of benefits to businesses that meet minimum supply chain security standards and best practices. These facilitation benefits could include, for example, minimal customs intervention at the border which would have cost benefits for international traders.

(iv) Improvement in trade information

Another area which could lead both to an improvement of the trade transaction process and an increase of trade volume is the improvement of information regarding trade and customs regulations. This area is closely interlinked with the above proposed measures to facilitate trade. In fact, the World Trade Organization, which uses a narrow definition of trade facilitation—covering only issues related to GATT articles V (Freedom of transit), VIII (Fees and formalities connected with importation and exportation), and X (Publication and administration of trade regulations)—includes trade information as one of the constituting issues.

As already discussed, GATT article X requires the publication of all:

laws, regulations, judicial decisions and administrative rulings of general application . . . pertaining to the classification or the valuation of products for customs purposes, or to rates of duty, taxes or other charges, or to requirements, restrictions or prohibitions on imports or exports or on the transfer of payments therefore, or affecting their sale, distribution, transportation, insurance, warehousing inspection, exhibition, processing, mixing or other use.

Currently, this type of information might be available only in the local language or in local publications, such as official gazettes which are published in hard copy by the Government. Table 6, however, shows that all GMS countries are demonstrating efforts to make information publicly and electronically available. These efforts could be increased to provide more comprehensive information on all aspects named in article X of GATT.

In the first stage, the information at the national level has to be made as complete as possible and include all information which is currently missing. In the second stage, the information provided should be synchronized over all media. Currently, information has to be collected from various—often not interlinked—websites and at times the information from the different sources is contradictory. Access to and dissemination of information could be significantly improved if there existed either: (a) a central website, or (b) clear cross-references between all domains that host trade-related information. At a later stage, a study could be conducted regarding the feasibility of creating a central website that includes information for all the GMS countries, or of using existing forums—for instance the GMS Business Forum website—for that purpose.

D. Concluding remarks

The Greater Mekong Subregion is home to about 300 million people, a large number of them living in poverty. Economic progress in the region has been significant over the last two decades, originating in reforms and the steadily growing openness of the countries of the region. To sustain this growth pattern it is crucial to continue this integration of the countries into the world market.

In an increasingly integrated global trade, the competitiveness of a country plays a crucial role. Not only competitiveness on the supply side—that is, the quality or price of the goods and services being produced—but also, and maybe predominantly, the competitiveness of the institutions that shape the trade transaction process.

The aim of this paper was to explore indicators on the quality of the institutional framework that relate to the trade competitiveness of the countries of the subregion. It has been shown that there are still areas where improvement is necessary—and possible. To increase their competitive edge in world trade, the countries should focus on reducing the non-physical bottlenecks to trade, as identified in this paper. Facilitating trade, both at the national and subregional levels, through the improvement of the bureaucratic quality of the relevant institutions, and guaranteeing the effectiveness of the legal framework will result in increased trade flows, employment opportunities, foreign exchange earnings and, ultimately, an improvement in the standard of living.

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THE IMPLICATION OF CUSTOMS MODERNIZATION ON EXPORT COMPETITIVENESS IN CHINA

*By Zhang Shujie and Zhao Shilu**

Introduction

Customs administrations shoulder regulatory responsibilities aimed at ensuring the security of international transactions; they also facilitate, to the greatest extent possible, international trade, particularly in today's competitive world. In fact, their functions go beyond trade facilitation per se. A customs administration can be said to perform four roles: policy advisor, policy implementer, trade facilitator and security provider.

The present study, based on the experiences of China Customs, aims to identify good practices in enhancing export competitiveness through customs modernization. The paper examines the link between customs operations and export competitiveness, reviews overall principles and patterns for customs modernization, and proposes relevant models. It then examines the modernization of China Customs, including its objective, strategy, major initiatives and measures, as well as the overall impact of a modernized customs on export expansion. Finally, some conclusions and suggestions are provided.

A. Export competitiveness: Why customs?

International trade is a key driver of economic growth, development and prosperity. Globalization and regional integration further heighten the importance of incorporating international trade policies in national development strategies. Developing countries must integrate national economy into global markets if they are to reap the benefits brought about by trade liberalization and globalization. In terms of exports and their important role in economic development, many developing countries, especially those that have adopted outward-oriented development policies, have been striving to improve their trading environment and export competitiveness through the implementation of trade and transport facilitation measures.

The concept of export competitiveness encompasses differing definitions and interpretations from varying perspectives. Porter (1990) developed the "diamond model of national competitiveness" from the perspective of industrial cluster development, to identify four interlinked advanced factors for competitive advantage: (a) strategy, structure and rivalry of firms; (b) demand conditions; (c) related supporting industries; and (d) factor conditions. Porter argues that government, by formulating and implementing policies, can have a significant impact on the interaction among the four factors. The World Bank

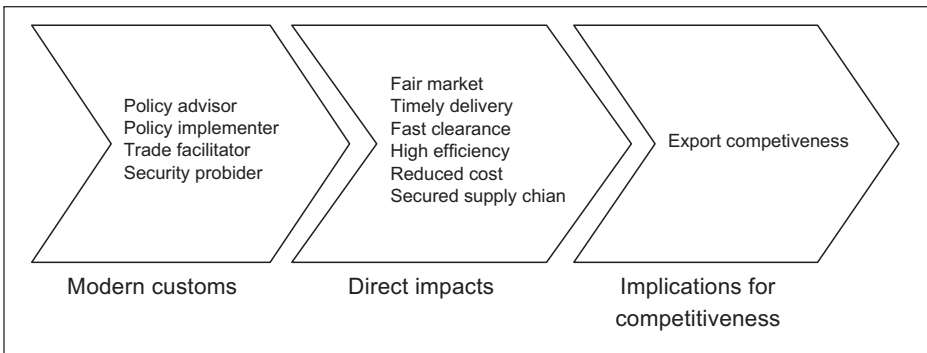
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(2007) has identified three pillars necessary to building an export competitiveness strategy: (a) establishing an incentive framework; (b) reducing trade-related costs; and (c) overcoming market and government failures. The efficiency of customs work has a significant impact on the reduction of trade related costs and the performance of trade administration. Along these lines, the International Chamber of Commerce (1999) has stated that customs administration is crucial to ensuring national competitive advantage in trade in three dimensions: clearance time, predictability and transparency.

A close link between export competitiveness and customs administration can be identified, as customs—one of the key government agencies—is uniquely positioned to control and regulate international trade. The World Customs Organization (WCO) (2008) notes that along with other government agencies, customs: (a) ensures the achievement of national economic, fiscal and social development objectives, (b) monitors the movement of goods, conveyances and people across frontiers, (c) ensures compliance with international trade agreements and gathers accurate trade statistics, and (d) contributes directly to national and international efforts to combat customs offences, particularly organized crime. Given such unique authorities and expertise, customs plays a central role in the security and facilitation of cross-border trade.

Based on the above discussion, a simple model regarding customs and export competitiveness can be developed. Generally speaking, the roles of customs include policy advisor, policy implementer, trade facilitator and security provider. The proper fulfilment of these roles may foster fair market order, ensure timely delivery and reduce cost, thereby helping business to streamline the supply chain and gain a competitive edge in the global value chain.

Figure 1. The role of customs in enhancing export competitiveness



B. Customs modernization: drivers and principles

Organizations must re-engineer themselves to accommodate an ever-changing environment if they are to fulfil their mandates. This is particularly true for customs

administrations. For customs administration, modernization is not just an option—it is a necessity. At the threshold of twenty-first century, the International Chamber of Commerce (1999) urged Governments to modernize customs administration, as such modernization was seen as an important catalyst to economic development. The Chamber indicated that countries that recognized the competitive advantage of customs modernization would reap the lion's share of the rewards. The international customs community responded vigorously to this initiative, and two milestones demonstrated the concerted commitment to modernize customs administrations. First, in 1999 WCO adopted the revised Kyoto Convention on the Simplification and Harmonization of Customs Procedures¹ which is seen as the blueprint for modern and efficient Customs procedures in the twenty-first century. The second milestone was the adoption of the Framework of Standards to Secure and Facilitate Global Trade² (SAFE Framework), which is aimed at achieving worldwide trade security and facilitation through customs-to-customs cooperation and customs-to-business partnership. To establish an effective and efficient customs system, WCO has identified the key external drivers which characterize the global trade landscape and context for customs modernization (see table 1).

Table 1. External drivers and implications for customs

<i>Drivers</i>	<i>Implications for customs</i>
<ul style="list-style-type: none"> • Increased and more complex international trade • New trade and logistics models, such as just-in-time distribution • Increased security threats and organized crime • Higher expectations from both the public and private sectors • Ongoing trade facilitation negotiations 	<ul style="list-style-type: none"> • Increasing workload and complex requirements, such as rules of origin • Pressure on supply chains, higher demand for fair trade practices • Vulnerable supply chain, balance between trade security and facilitation • Increased effectiveness and efficiency to meet the needs of the stakeholders • Need to adjust their policies and method of working in advance and be prepared for the implementation of the outcomes of trade facilitation negotiation

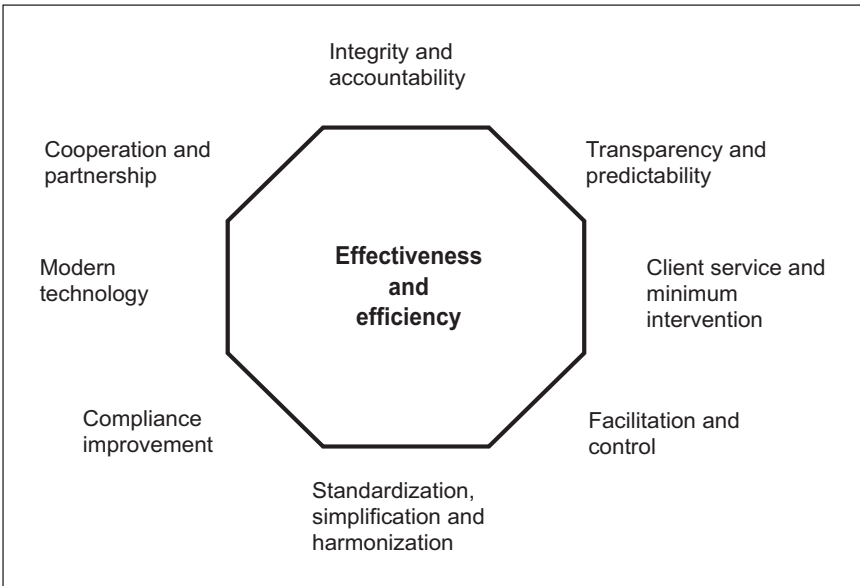
Source: World Customs Organization (WCO), *Strategic Plan 2006/2007–2008/2009 and Customs in the 21st Century: Enhancing Growth and Development through Trade Facilitation and Border Security* (WCO, 2008).

¹ Adopted at the ninety-third and ninety-fourth sessions of the Council of the World Customs Organization, Brussels, 24-26 June 1999 (see www.wcoomd.org/kybodycontent.htm), entered into force in 2006.

² The Framework was endorsed by the Council of the World Customs Organization during its annual sessions in Brussels, 23-25 June 2005 (see www.vam.hu/loadBinaryContent.do?binaryId=15833).

It is obvious that modernization initiatives benefit customs administrations themselves as well as national development. De Wulf and Sokol (2004) as well as the International Chamber of Commerce (1997) have put forward insightful proposals on cross-cutting issues of customs modernization. The European Commission (2007) also laid down clear criteria on a modern customs administration, which were described in its *Customs Blueprints*. Given the unique settings, needs and priorities of each customs administration, the roadmap and process can vary. There are, however, some common criteria. Through extensive discussions and surveys, WCO (2005) identified the 13 elements of a modern customs administration; the elements can be regrouped into eight dimensions from the perspective of good governance (see figure 2).

Figure 2. Modern customs: good governance



Source: Based on World Customs Organization, *Customs Capacity Building Diagnostic Framework* (WCO, 2005).

The framework reflects the needs of stakeholders well, especially the expectations of traders. At the core is the effectiveness and efficiency of customs administration and service. In customs modernization, there are two areas in particular in which balance must be struck: (a) between effectiveness and efficiency; and (b) between security and facilitation. From this perspective, the Revised Kyoto Convention is mainly focused on trade facilitation, while the SAFE Framework addresses global trade security. While figure 2 may appear to reflect an “ideal” set of elements, it actually illustrates the current trend of customs administrations globally. The modernization of China Customs takes place in this broader context, but in its own way, as described below.

C. Customs modernization to enhance export in China

The circumstances in which China Customs operates, since the beginning of twenty-first century in particular, have been characterized by opportunities and challenges. The accession of China to the World Trade Organization (WTO) in 2001 has led to the reduction of tax rates and the reform of the trade regulatory system. Due to the implementation of national opening-up and reform policy, over the past two decades foreign trade in China has witnessed a dramatic growth, and the structure of traded goods has also changed. The central Government has high expectations of customs performance, especially with regard to revenue collection and trade facilitation. However, more complex trade rules and control requirements make customs operations more challenging. Statistics (Liu, 2008) show that during the period from 2000 to 2007, the total volume of imports to and exports from China increased 358 per cent, while the customs staff and budget increased only by 25 and 30 per cent, respectively. In this context, both the public and private sectors place high expectations on customs administration for fast, transparent and consistent processing. However, customs faces a number of challenges, such as growing trade volume, the risk of smuggling, and rampant commercial fraud, and it is becoming increasingly difficult to handle the growing trade volume with limited resources. The pressure of stricter requirements, greater workload and higher expectations spurred China Customs to optimize resources and eliminate bottlenecks in administration. The external demands and internal needs make customs modernization a must.

1. Snapshot of the modern customs regime

As the competent Government agency that supervises and manages all import and export goods entering into or exiting from the customs territories of China, China Customs, as stipulated in the Customs Law of the People's Republic of China,³ has four mandates: (a) control inward and outward bound means of transport, goods and articles; (b) collect customs duties and other taxes and fees; (c) prevent smuggling; and (d) compile customs statistics and deal with other customs affairs. Accordingly, the main functions performed by China Customs include: customs clearance, revenue collection, control of processing trade and bonded areas, customs statistics compilation, audit-based control, anti-smuggling activities and port management coordination. With 41 customs regions, over 4,000 checking points and over 50,000 staff nationwide (China, 2008), China Customs is a ministerial-level Government agency (in many other countries, the customs administration is at the director-general level). Such status and organizational structure allows it to play a strong role in national policymaking and implementation.

The China Customs drive for modernization began in 1994. In 1998, China Customs decided to establish a modern customs regime, and formulated a two-step strategy to this end. By 2003, the goals of the first-step development strategy, which focused on the

³ Adopted on 22 January, 1987 at the 19th session of the Standing Committee of the 6th National People's Congress, and amended at the 16th Meeting of the Standing Committee of the Ninth National People's Congress on July 8, 2000.

reform of the customs clearance system, had been substantially achieved, and a modern customs regime, which featured better coordination among the different functions, was established (China, 2004). In 2004, within the overall framework of the Eleventh Five-Year Plan for National Economic and Social Development of China, China Customs adjusted and fine-tuned its second-step initiatives and launched the Second-step Development Strategy for the Establishment of the Modern Customs Regime (2004-2010) (China 2004). The target of the plan for the period from 2004 and 2007 was to enhance the modern customs regime to ensure that it: (a) supports the national agenda to establish a well-off society, (b) complies with the requirements of the socialist market economy, (c) is aligned with the international standards and practices in the customs area, and (d) strikes a balance between effective control and efficient control. China Customs has aimed to carry out the reforms in a comprehensive and coordinated manner. One of the core elements of the second-step reforms is to establish a risk management mechanism, thus making China Customs a “scientifically-based, service-oriented, efficiency-focused, integrity-minded, harmonious and smart” customs service.⁴ The core elements and main initiatives of both steps are presented in table 2.

Table 2. Modernizing China Customs: the two-step strategy

<i>Phase</i>	<i>Core element</i>	<i>Main initiatives</i>	<i>Target</i>
I (1998-2003)	Customs clearance system reform	<ul style="list-style-type: none"> • Modern customs legislation • Modern customs compliance management, computerization and application of information and communications technology • Modern customs processing • Enhanced logistics control and supervision • Post-clearance audit • Enhanced internal administration • Public relations 	“Limbs” function well (functions are carried out effectively and efficiently)
II (2004-2010)	Establish and enhance a risk management system	<ul style="list-style-type: none"> • Comprehensive revenue collection regime • Efficient anti-smuggling enforcement • Modern customs control • Updated management of customs bonded areas • Smarter customs statistics • New model of post-clearance audit • Management of entry ports 	Smart in “mind” (risk management is implemented at all levels, modern technology plays a more important role)

Source: China, *Second-step Development Strategy for the Establishment of the Modern Customs System (2004-2010)* (China, 2004)

⁴ See <http://english.customs.gov.cn/publish/portal191/tab3972/info69445.htm>.

It should be emphasized that a dynamic monitoring mechanism has been woven into the second-step action plan. Special task forces, both at headquarters and at the regional level, have been formed. Key performance indicators (13 sets) and sub-indicators have been established and are reviewed regularly (Liu, 2008). All the reforms have been translated into concrete actions in the annual plan and routine work of China Customs.

Based on the proposed models (figures 1 and 2), the following sections will examine how China Customs helps to promote exports by fulfilling its functions and implementing initiatives during the course of modernization.

2. Roles of policy advisor and implementer

Customs agencies are generally seen as implementers of Government policy. China Customs appears not to be limited to that role. China Customs, taking advantage of its unique position and expertise, has committed itself as an active and accountable policy advisor. It has exercised this role at both the central and local levels. At the central Government level, recent efforts made by China Customs include: (a) participating in the planning of Chinese regional development strategies such as the country's Western Development Drive, the rejuvenation of Northeast China, and the Western Taiwan Straits Economic Zone (China, 2008), (b) serving as one of the lead agencies in international trade negotiations, such as the WTO negotiations on trade facilitation, as well as in regional and bilateral free trade agreements, (c) providing accurate and timely statistics related to international trade, and (d) participating in international trade dispute settlements. To spur local economies in China, local governments also consult closely with China Customs on relevant policies and treatments. All of the country's customs regions have tailored the national facilitative initiatives and measures to fit local demands within the overall customs laws and regulations.

The role customs plays in the control of international trade does focus on the implementation of relevant national policies. Major aspects relating to the promotion of exports include:

- (a) Helping to foster a fair market and encouraging export growth through the appropriate implementation of fiscal policies, such as export drawbacks and duties;
- (b) Carrying out national policies on industries, which further upgrades the export commodity structure and serves the national strategy of encouraging technological upgrading and innovation through effective control and responsive trade policy implementation.

3. Major facilitation measures

In terms of enhancing export competitiveness, the role of customs focuses largely on trade facilitation. While it is quite difficult to identify the policies and measures which are geared towards exports in particular, the following initiatives implemented by China

Customs in its overall modernization enterprise are seen to have an identifiable impact on exports.

Amending and enhancing the legal framework of customs. To prepare for the accession to WTO, China Customs amended its Customs Law. Thorough research was conducted on international standards and best practices, and the amended law incorporated the key principles and standards of the Revised Kyoto Convention, such as balance between efficient operations and effective control, customs security, post-clearance audits and the application of information and communications technology (ICT) (China, 2000). Thus, a comprehensive customs legal framework was established as a solid basis for a modern customs regime.

Streamlining customs procedures. Organizationally, China Customs has streamlined its responsibilities among its headquarters, regional customs offices and customs houses with a view to fostering optimal control outcomes. In terms of operations, China Customs piloted and implemented elements such as: (a) pre-arrival declaration and/or clearance; (b) fast-lane and paperless processing; (c) advance ruling on classification and rules of origin; (d) a new model of the customs transit system; and (e) selective inspection based on risk management, all activities which are all aligned with international trends.

Applying ICT and other modern technology. To build a “smart” customs, China Customs has established “e-customs”, comprising three “Es”: (a) China E-port, which acts as a single-window system; (b) e-processing, through the H2000 Customs Clearance System; and (c) e-headquarters, through the HB2004 Customs Internal Administration System. Electronic processing greatly reduces the time, cost and complexities of international trade. Furthermore, China Customs is among the leading administrations that have introduced modern customs technologies such as non-intrusive inspection equipment, GPS, and smart customs seals. All these technologies help to effectively control logistics and facilitate legitimate cargo.

Upgrading export processing control. Export processing is significant in China; it amounts to over 50 per cent of total exports and imports in East China. Especially in recent years, China has been determined to upgrade export processing, transforming it from industries that are labour- and material-intensive to ones that are technology-intensive and knowledge-based. To cope with the requirements related to handling the products of the newer industries, China Customs has been integrating facilitative measures for special customs-controlled areas to enhance modern logistics, and has been shifting from paper-based to electronic-network controls.

Enhancing customs-to-business partnerships. To embody the principle of compliance and facilitation, in the 1990s China Customs initiated the Categorized Management of Enterprises, which was modified in 2008 to incorporate the scheme of authorized economic operators promoted by WCO. With reference to the Categorized Management of Enterprises, import and export enterprises are classified into five categories according to relevant criteria, including compliance record, internal control and trade volume. Highly reliable

enterprises can enjoy facilitative and preferential treatments. The benefits incurred to businesses are substantial.

Pursuing the balance between facilitation and security. Ensuring trade security and providing trade facilitation are the core issues for customs administrations throughout the world, and China Customs is no exception. Enhanced security in the international supply chain can give traders a more competitive edge in the global market. China Customs was among the first to adopt the WCO SAFE Framework; the concrete action plan has been integrated into the second step of the modernization process. China actively cooperates with the United States of America on the Container Security Initiative, the Megaports Initiative and other security initiatives. The China-European Union Smart and Secure Trade Lane pilot project started in 2007 and is at the forefront of customs-to-customs cooperation. All these efforts are aimed at ensuring that Chinese products reach consumers abroad more efficiently and at lower cost.

4. Implications of customs modernization

By the end of 2007, 85 per cent of the key performance indicator targets of the Second-step Development Strategy had been met. All export goods were being processed under the H2000 Customs Clearance System and the E-port was being widely used among exporters. Risk management covered nearly all customs operations, and about 60 per cent of declarations were being automatically processed by the risk-management platform. In terms of clearance time, 84 per cent of exports shipped by sea and 99.7 per cent of exports shipped by other means of transport could be released within eight working hours. The overall physical inspection rate was reduced to 3.41 per cent (Liu, 2008). Faster, predictable and transparent customs clearance greatly helps traders to lower costs and enhance their supply chain management.

The far-sighted strategy and comprehensive initiatives taken by China Customs help to create a trade-enabling environment. The efficient commodity processing by customs and other Government agencies definitely helps business to increase export competitiveness in an international supply chain. From 2000 to 2007, China experienced great leaps forward in export growth, with average annual increases of 26.04 per cent.⁵ The export commodity structure was greatly optimized, with a substantial increase in the proportion of the weight of manufactured products and high-tech and high value-added products in the total export volume. The country's share of global exports increased from 2.8 per cent in 1996 to 7.3 per cent in 2005 (IMF, 2006). China ranks at 35 among 150 countries in terms of customs performance in the World Bank Logistics Performance Indicator (World Bank, 2007). Furthermore, in terms of the World Bank indicator entitled "trading across borders", the country ranks at 44 (World Bank, 2009), higher than its overall ranking in *Doing Business 2010*.

⁵ Calculated based on trade statistics compiled by China Customs.

D. Conclusions

The China Customs experience shows that customs administrations can play a pivotal role in shaping national export competitiveness. The modernization of customs is a long-term and ever-evolving process that serves to support the national development strategy and respond to the needs of the stakeholders. Customs modernization in China, which has contributed to the enhancement of export competitiveness, can serve as an example for other developing countries in Asia and beyond. General conclusions that can be drawn include the following:

- (a) A close link between the role of customs and export competitiveness can be identified. The role of customs in enhancing export competitiveness is multifaceted; trade facilitation is a main component;
- (b) In customs modernization initiatives, generally, there are no distinct measures aimed specifically at promoting exports. Rather, improving overall effectiveness and efficiency requires comprehensive modernization initiatives;
- (c) Governments have an important stake in the modernization of customs administrations, which constitutes a priority of trade facilitation. Appropriate investment is required for effective and efficient cross-border trade management;
- (d) Customs should incorporate whole-government concepts into its operation by forging closer cooperation with other government agencies;
- (e) Balance between “effective control” and “efficient operations” in customs operations must be upheld. The tension between trade facilitation and security must be properly handled;
- (f) Customs modernization must be well woven into the national development agenda, and responsive to the needs of stakeholders;
- (g) Customs modernization should properly incorporate international standards and best practices, especially those developed by WCO, while adapting appropriately to each country’s unique setting;
- (h) Customs-to-customs cooperation and customs-to-business partnerships should be taken as basic pillars to secure and facilitate global trade.

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TRADE AND TRANSPORT FACILITATION IN CAMBODIA

*By Nop Sophorndara**

Introduction

After decades of war and internal conflict, Cambodia is now an emerging economy and a new democracy. The country's economy is highly dependent on external assistance and a few crucial industries such as agriculture, tourism and, most importantly, garment manufacturing for export.

International trade is the prime engine of Cambodia's economic growth and poverty alleviation, providing opportunities to attract investment, create employment, generate income and reduce poverty. Over the past 10 years, trade has grown between 20 and 32 per cent and contributed substantially to the economic growth of the country. The gross domestic product per capita increased from \$330 in 2003 to \$589 in 2007 and is expected to reach \$1000 by 2015, and possibly even earlier if oil and gas production begins before then. The trade openness ratio also sharply increased from 36 to 120 per cent, indicating Cambodia's rapid economic expansion. Robust growth over the past decade and structural reforms have led to a steady decline in poverty from 47 per cent in 1994 to below 35 per cent in 2007.

Realizing the important role of international trade, the Government of Cambodia has been paying great attention to opening itself up to the world, proven by its participation in the Economic Cooperation Programme in the Greater Mekong Subregion (GMS Programme), as well as in the Association of Southeast Asian Nations (ASEAN), the World Trade Organization (WTO) and other international organizations. International and regional cooperation provides Cambodia with opportunities to negotiate with other members of these organizations in order to reduce or eliminate tariff and non-tariff barriers, to gain greater trade preferences and tariff concessions, to increase economic cooperation, and to gain access to the world's emerging markets for Cambodia's exports.

To ensure the access of Cambodian products to emerging markets, national and international infrastructure corridors have been defined, and the development of transport networks across the country and the region is gathering momentum. Several national, subregional and regional networks provide transport infrastructure linkages through the country to the region. Cambodia is at the heart of the Greater Mekong Subregion (GMS) Southern Economic Corridor, providing a strategic link between Thailand and Viet Nam through regional highways, and, in the future, railway links that are part of the Singapore-Kunming Rail Link Project of ASEAN. Cambodia is a major proponent of the early

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implementation of trade and transport facilitation measures in GMS, in particular along the Southern Economic Corridor at the Poipet-Aranyaprathet and Bavet-Mocbai border crossing points. Cambodia is also an active participant in the Development Triangle initiative with the Lao People's Democratic Republic and Viet Nam, and in the Emerald Triangle initiative with the Lao People's Democratic Republic and Thailand. These triangles will complement and help to accelerate GMS integration and development.

A. Issues and challenges in trade and transport facilitation

Cambodia has achieved substantial progress in transportation and other infrastructure development, and in the liberalization of foreign trade through unilateral efforts and regional and multilateral trade negotiations. With the progressive elimination of tariff barriers, trade and transport facilitation has been playing a vital role in promoting cross-border trade. The promotion of trade and transport facilitation reforms to remove non-tariff barriers and reduce trade transaction costs has been enhancing Cambodia's export competitiveness, enabling enterprises to compete globally and helping the country to gain the benefits of globalization.

Trade liberalization and facilitation have had a great impact on economic growth and poverty reduction through job creation and have increased exports in some sectors, such as the garment and tourism sectors, which constitute an important contributor to economic growth in Cambodia. The growth of Cambodia's clothing industry is slowing down due to sharp competition resulting from the accession of Viet Nam to WTO in 2007 and the scheduled removal in 2009 of safeguard measures against clothing exports from China to the United States of America.

As a new WTO member, Cambodia has an opportunity to change its growth patterns through its commitments to initiate a range of laws and trade policy reforms that would ensure private sector development. With regard to competition, three kinds of challenges have been recognized—challenges related to productivity, diversification and service delivery. These are often accompanied by other constraints such as a weak rule of law and bureaucratic costs.

The Government of Cambodia recognizes that efforts made to secure an open trade environment would not bring full benefits unless enterprises can import and export efficiently. It is therefore clear that trade and transport facilitation is now an important component of the Government's trade policy and the policies for economic development to strengthen trade competitiveness. While some progress has been made in addressing facilitation issues, major challenges remain. One such challenge is to overcome the institutional constraints and bottlenecks that cause delays at borders and ports, which increase the delivered costs of products and reduce their competitiveness. Obstacles to Cambodia's transboundary trade include a lack of: (a) cooperation regarding customs, sanitary and phytosanitary measures (SPS), and technical barriers to trade (TBT), (b) logistics development and (c) business mobility.

Even though it is widely recognized that these barriers have a serious impact on the development potential in Cambodia, it has not been possible to quantify their impacts or plot the progress made in the mitigation of the current level of trade and transport facilitation at national and international levels. To enhance the country's capacity to optimize the opportunities of globalization and to reach international markets efficiently, there is a need to address issues related to: (a) a comprehensive approach to trade and transport facilitation (such as SPS and TBT), (b) the mitigation of institutional, procedural and documentary complexities and inconsistencies, (c) the application of information and communications technology (ICT), (d) logistics development and (e) resource mobilization.

B. Responses and commitments of the Government of Cambodia

1. National trade facilitation initiatives and measures

In response to the above-mentioned constraints and challenges, the Government of Cambodia has adopted certain guiding principles for reforms to ease the burden on business. These guiding principles include:¹

- (a) Shifting from a culture of control to a culture of facilitation;
- (b) Revitalizing markets and encouraging competition;
- (c) Repositioning the State to provide effective governance and accountability to the public and focusing on the use of possible partnerships to deliver services rather than using limited public resources;
- (d) Improving competitiveness and productivity;
- (e) Using private institutions to integrate the rural and informal sectors;
- (f) Improving the institutional framework to reduce risk and transaction costs;
- (g) Focusing on institutional learning by exploring the role of business organizations in order to increase success in private sector development.

The Government has been working closely with development partners to seek funding and to source the expertise needed to ensure confidence and raise productivity in order to increase trade competitiveness and improve the investment climate. The Government of Cambodia has introduced the following eight reform initiatives:²

- (a) Facilitating trade by eliminating overlapping and obsolete roles and responsibilities, reducing the number of required documents, streamlining and automating the trade process by removing non-value added steps, introducing comprehensive automation and a flat fee for services, and utilizing risk management principles in the inspection process;

¹ See World Bank, *Cambodia: Seizing the Global Opportunity: Investment Climate Assessment and Reform Strategy for Cambodia*, Report No. 27925-KH (World Bank, 2004).

² Ibid.

- (b) Removing impediments to export diversification, and facilitating the business registration process, licensing and inspection;
- (c) Strengthening the rule of law, the contract law, the commercial code and other laws and regulations in order to honour WTO commitments, as well as other related activities, such as establishing a commercial court;
- (d) Improving the private-sector value chain by encouraging both foreign direct investment and supplier development in order to remove impediments, attract investment and build the capacity of suppliers;
- (e) Reviewing the role of the Cambodia Import Export Inspection and Fraud Repression Department (Camcontrol) by strengthening its capacity and efficiency to ensure public safety;
- (f) Strengthening governance for increased private participation in infrastructure;
- (g) Strengthening institutional learning through business associations in order to increase market opportunities through sharing market information;
- (h) Improving access to leasing and financing through the establishment of related laws, such as those on secured transaction, leasing, insolvency, and securities and exchange.

The Government of Cambodia recognizes that trade cannot be developed unless goods can flow freely across borders with simple procedures and low transaction costs. Recognizing this important element, the Government has introduced a 12-point plan of action to facilitate trade and improve the investment climate:³

- (a) Establishing a cross-agency trade facilitation/investment climate reform team;
- (b) Establishing a system of transparent performance measurement including private sector monitoring;
- (c) Reviewing the trade process to remove overlapping and unnecessary approvals, followed by the implementation of a single administrative document;
- (d) Introducing a risk management strategy to consolidate and rationalize all the examination requirements of the various border control agencies;
- (e) Launching a strategic review of Camcontrol;
- (f) Implementing a single window process by using automated systems;
- (g) Introducing a WTO-compatible flat fee for services;
- (h) Streamlining the cost of business registration;
- (i) Streamlining the notification process of the Ministry of Labor to start hiring employees;

³ See Cambodia, "Twelve point plan: Government commitments to improve the investment climate and trade", Cambodian Rehabilitation and Development Board, Council for the Development of Cambodia, accessed from www.cdc-crdp.gov.kh/cdc/7cg_meeting/7cg_document/twelve_point_plan.htm.

- (j) Harmonizing company registration and value-added tax and income tax registration by using the same form, which would result in the same amount of tax;
- (k) Implementing a national award programme to promote good corporate citizenship and management in the private sector;
- (l) Monitoring and evaluating the progress made with regard to the reforms and reporting to the Government-Private Sector Forum.

To achieve the 12-point plan of action, the Government of Cambodia worked with the World Bank to receive the organization's \$10-million Trade Facilitation and Competitiveness Project. This Project supports the country's strategy to promote economic growth by reducing the transaction costs associated with trade and investment, introducing transparency in investment processes and facilitating the access of enterprises to export markets.

To implement the reform initiatives and the plan of action, the Government of Cambodia has established the Special Inter-ministerial Task Force for Investment Climate Improvement and Trade Facilitation, the Steering Committee on Private Sector Development, and the following three sub-steering committees :

- (a) Sub-steering Committee on the Investment Climate, chaired by the Minister of Economy and Finance;
- (b) Sub-steering Committee on Trade Facilitation, chaired by the Minister of Commerce;
- (c) Sub-steering Committee on Small and Medium-sized Enterprises, chaired by the Minister of Industry, Mines and Energy.

In addition, both the National Committee on Transport Facilitation, chaired by the Minister of Public Works and Transport, and the Reform Team on Trade Facilitation were established.

The Government of Cambodia established the Government-Private Sector Forum as a consultation mechanism to facilitate trade and to improve the investment climate and private sector development. The Forum is a full cabinet meeting held biannually under the chairmanship of the Prime Minister of Cambodia. It formed the following eight working groups organized by sector:

- (a) Law, tax and governance;
- (b) Export processing and trade facilitation;
- (c) Services, including banking and finance;
- (d) Tourism;
- (e) Manufacturing and small and medium-sized enterprises;
- (f) Agriculture and agro-industry;
- (g) Energy and infrastructure;
- (h) Labour.

Each working group is co-chaired by a Government minister and a representative from the private sector. The working groups discuss an agenda agreed to by the Forum regarding issues and recommendations that relate to either policies, such as laws, sub-decrees, declarations or decisions, or direct operational impediments faced by the private sector, such as road conditions, unofficial fees and damaged infrastructure.

Progress has been made in facilitating trade and transport by reducing the commercial registration fees of the Ministry of Commerce and the time needed for export-import clearance and inspection, and by initiating certain measures to compensate the officials involved in the import-export process for their loss of income from unofficial payments.

The commercial registration fees decreased from \$630 to \$177, and the minimum capital requirement was reduced from \$5,000 to \$1,000. The Council for the Development of Cambodia also removed the deposit that had been required for investors to secure project implementation, and foreign companies are now entitled to 100 per cent ownership of their import and export businesses, excluding land ownership.

Export documents such as the commercial invoice and the export license are no longer required, and the certificate of origin has changed from a pre-export requirement to a post-export requirement. The Ministry of Industry, Mines and Energy no longer requires the certificate of processing. Formal written notification of export is no longer required; notification can now be done by telephone or fax. Customs and Camcontrol now conduct a joint inspection of goods and produce a single joint report, which allows for immediate shipment without the need for a customs declaration being cleared by a chief officer. The economic police permit is also no longer required. These improvements have led to a reduction in the import transaction time from 30 days to 10.5 days on average and in the export transaction time from 6.6 days to 20 hours on average. The average transaction costs for processing exports decreased from \$942 to \$612, and the average import costs fell from \$2,477 to \$673. Informal fees declined from 5 to 2 per cent of the total consignment value.

Since 2006, with assistance from the United Nations Conference on Trade and Development, the Customs and Excise Department has been implementing ASYCUDA (Automated System for Customs Data) World, a customs management system used to facilitate trade and transportation. In May 2008, the ASYCUDA pilot project was launched at Sihanoukville Port. The special economic zone in Bavet was the first to establish a one-stop service window, with five government agencies represented in a single room.

There has also been progress on the development of commercial rules and regulations to support the trade facilitation process, including the passage of the new Customs Law, the Commercial Enterprises and Company Law, the Insolvency Law, the Commercial Arbitration Law, the Secured Transaction Law, the Anti-money Laundering and Counter Financing of Terrorism Law, the Civil Code and the Civil Procedure Code. The draft commercial leasing law was approved by the Council of Ministers, and the draft concessions law was submitted to the National Assembly for debate. These are among a number of key laws aimed at fostering trade and transport facilitation and private sector development.

2. Multilateral, regional and bilateral cooperation on trade facilitation

Recognizing the important role of trade and transport facilitation, which is the key element in promoting the movement of goods and people across its borders, Cambodia has joined various regional and international cooperation initiatives and signed several trade and transport agreements and treaties with countries both in and outside the region.

(a) *Multilateral cooperation on trade facilitation*

In 2004, the Intergovernmental Agreement on the Asian Highway Network⁴ was signed. The first treaty developed under the auspices of ESCAP, it stipulates basic technical standards for roads and route signs. The Agreement came into force in 2005 and 10 countries, namely Armenia, Azerbaijan, Cambodia, China, Japan, Myanmar, Republic of Korea, Sri Lanka, Uzbekistan and Viet Nam, have ratified or approved the Agreement.

The United Nations Convention on the Law of the Sea⁵ was concluded in 1982 and Cambodia acceded to the Convention the following year. According to the provisions of this Convention, “Land-locked States shall have the right of access to and from the sea for the purpose of exercising the rights provided for in this Convention...Land-locked States shall enjoy freedom of transit through the territory of transit States by all means of transport.” However: “The terms and modalities for exercising freedom of transit shall be agreed between the land-locked States and transit States concerned through bilateral, subregional or regional agreements.”

Cambodia is among the contracting parties to the Convention and Statute on Freedom of Transit and the Convention on Transit Trade of Land-locked States and the Customs Convention on the Temporary Importation of Commercial Road Vehicles.⁶ Cambodia is a member of the World Customs Organization (WCO) and acceded to the revised Kyoto Convention on the Simplification and Harmonization of Customs Procedures⁷ in August 2002 and ratified the Convention in February 2006. In addition, Cambodia is a member of the Codex Alimentarius Commission, as well as the Agreement on the Application of Sanitary and Phytosanitary Measures⁸ and the Agreement on Technical Barriers to Trade.⁹

⁴ See Commission resolution 60/4 of 28 April 2004.

⁵ United Nations, *Treaty Series*, vol. 1833, No. 31363.

⁶ United Nations, *Treaty Series*, vol. 327, No. 4721.

⁷ Adopted at the ninety-third and ninety-fourth sessions of the Council of the World Customs Organization, Brussels, 24-26 June 1999 (see www.wcoomd.org/kybodycontent.htm).

⁸ See GATT Secretariat, *Legal Instruments Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, done at Marrakesh on 15 April 1994* (GATT Secretariat Publication, Sales No. GATT/1994-7).

⁹ *Ibid.*

(b) *Regional and subregional cooperation on trade facilitation*

The ASEAN Framework Agreement on the Facilitation of Goods in Transit¹⁰ was signed in December 1998 and entered into force in October 2000. This Agreement provides for the mutual granting of transit transport rights, as well as the right to load and discharge third countries' goods destined for or coming from contracting parties. The ASEAN Framework Agreement on Multimodal Transport¹¹ was signed in November 2005 to facilitate regional and international trade by ensuring an uninterrupted and smooth flow of cargo and by giving better control over the transport chain. The ASEAN countries have been negotiating the ASEAN Framework Agreement on the Facilitation of Inter-State Transport to simplify and harmonize requirements for cross-border transport. The ASEAN Transport Facilitation Working Group is finalizing this Agreement and an early conclusion would further enhance the movement of goods and people in the region.

Through support from the Asian Development Bank (ADB), Cambodia's efforts at prioritizing trade facilitation and investment measures will be guided by the Strategic Framework for Action on Trade Facilitation and Investment in the Greater Mekong Subregion,¹² which covers four priority areas:

- (i) Customs procedures;
- (ii) Inspection and quarantine measures;
- (iii) Trade logistics;
- (iv) Mobility of business people.

Another important initiative is the implementation of the GMS Cross-Border Transport Agreement (CBTA).¹³ The key elements of CBTA are:

- (i) Single-window or single-stop customs inspection;
- (ii) Cross-border movement of persons (that is, visas for persons engaged in transport operations);
- (iii) Transit traffic regimes, including exemptions from physical customs inspection, bond deposit, escort, and phytosanitary and veterinary inspection;
- (iv) Requirements that road vehicles will have to meet to be eligible for cross-border traffic;

¹⁰ Adopted at the 6th ASEAN Summit, Hanoi, 15-16 December 1998 (see www.aseansec.org/8872.htm).

¹¹ Adopted at the 11th ASEAN Transport Ministers Meeting, Vientiane, 17 November 2005 (see www.aseansec.org/17877.htm).

¹² Endorsed at the Special Meeting of the Trade Facilitation Working Group, Manila, 25 and 26 April 2005 (see adb.org/Documents/Events/Mekong/Proceedings/tfwg-strategic-framework.pdf).

¹³ Agreement between and among the Governments of the Kingdom of Cambodia, the People's Republic of China, the Lao People's Democratic Republic, the Union of Myanmar, the Kingdom of Thailand, and the Socialist Republic of Viet Nam for the Facilitation of Cross-Border Transport of Goods and People (see www.adb.org/GMS/agreement.asp).

- (v) Infrastructure, including road and bridge design standards, road signs and signals.

CBTA entered into force in December 2003. The initial implementation of the Agreement commenced at the Bavet-Mocbai border crossing between Cambodia and Viet Nam in 2007. A memorandum of understanding (MOU) on the initial implementation of CBTA at the Poipet-Aranyaprathet border crossing between Cambodia and Thailand has been signed and its implementation is expected to begin in the near future.

The development of the GMS Southern Economic Corridor will improve connectivity between Cambodia and its neighbours, facilitate increased cross-border trade and private investment, and promote tourism and agricultural development. The Corridor is defined by three main road sub-corridors and their areas of influence:

- (i) Central sub-corridor: Bangkok – Phnom Penh – Ho Chi Minh City – Vung Tau;
- (ii) Southern coastal sub-corridor: Bangkok – Trat – Koh Kong – Kampot – Ha Tien – Ca Mau – Nam Can;
- (iii) Northern sub-corridor: Bangkok – Siem Reap – Stung Treng – Rattanakiri – O Yadav – Play Ku – Quy Nhon.

In addition, there is an important inter-corridor link: Dong Kralor – Stung Treng – Kratie – Phnom Penh – Sihanoukville.

The conceptual purposes of the three sub-corridors are varied but complementary. The central sub-corridor links three major population and commercial centres: Bangkok, Phnom Penh and Ho Chi Minh City. The sub-corridor helps to integrate the social, commercial and economic resources of these three centres to form a subregional economic zone. The southern coastal sub-corridor links the commercial, industrial and tourism sectors in eastern Thailand with the coastal region of Cambodia, which has the potential for industrial and commercial growth based on fisheries, energy resources, light industry and trade (based in Sihanoukville). This sub-corridor also includes the southern Mekong Delta in Viet Nam, which is an area of growth for food processing and other light industries. The northern sub-corridor links a succession of existing and potentially world-class tourism sites and could become a major tourist trail stretching from Bangkok via Siem Reap (Angkor Wat), Preah Vihear (the centre of numerous Khmer era temples), Stung Treng (the Mekong River with freshwater dolphins and the Khoune waterfalls in southern Lao People's Democratic Republic) and Rattanakiri (natural park and wildlife in Cambodia) to the Central Highlands and coastal areas (beach tourism and ecotourism) of Viet Nam.

In its study on GMS transport sector strategy, ADB determined that the provision of seamless transport services along a fully connected and integrated GMS transport network would benefit Cambodia in terms of:

- (i) Improving its links and synergies with the GMS transport system;

- (ii) Promoting multimodalism, leading to improved competitiveness through reduced travel times and transport costs;
- (iii) Enhancing public and private sector investments in transport infrastructure (roads, rail, air and waterways) that are needed to complete the GMS transport corridors.

To maximize the benefits of improved transport infrastructure, Cambodia, together with the other GMS countries, has agreed to expedite the implementation of CBTA. This Agreement includes provisions for single-stop/single-window customs inspections at border checkpoints, simplified visa formalities and the exchange of traffic rights. When the Agreement is fully implemented, the GMS countries will enjoy lower transport costs, increased tourism and greater opportunities for cross-border trade and investment.

(c) *Development of triangle cooperation on trade facilitation*

In 2004, the Governments of Cambodia, the Lao People's Democratic Republic and Viet Nam signed the Vientiane Declaration on the Establishment of the Cambodia-Laos-Viet Nam Development Triangle to create a favourable intraregional investment and business environment by promoting linkages among localities and business sectors. To implement the Declaration, the three countries have been actively working on formulating policies and establishing a mechanism to facilitate the cross-border movement of goods, vehicles and people and to promote trade and investment in the area.

(d) *Bilateral cooperation on trade facilitation*

(i) *Cambodia-Viet Nam*

In order to strengthen economic and trade development cooperation, and especially to facilitate the movement of goods and people throughout the territories of Cambodia and Viet Nam, the two countries either have signed the following agreements:

- a. Agreement between the Royal Government of Cambodia and the Government of the Socialist Republic of Vietnam on Road Transportation (1998);
- b. Agreement on the Transit of Goods between the Government of the Socialist Republic of Vietnam and the Government of the Kingdom of Cambodia (1994) and its amendment (2000);
- c. Protocol for the Implementation of the Agreement between the Royal Government of Cambodia and the Government of the Socialist Republic of Vietnam on Road Transportation (2005);
- d. Agreement on the Purchase, Sale and Exchange of Goods and Commercial Services in the Border Area between the Government of the Socialist Republic of Vietnam and the Royal Government of Cambodia (2001);
- e. MOU between the Government of the Socialist Republic of Vietnam and the Royal Government of Cambodia on the initial implementation of CBTA at Bavet, the Kingdom of Cambodia, and Moc Bai, the Socialist Republic of Vietnam, signed at Phnom Penh, March (2006);

(ii) *Cambodia-Lao People's Democratic Republic*

In an effort to promote trade, tourism and investment along their common border, Cambodia and the Lao People's Democratic Republic have signed the following agreements:

- a. Agreement on Road Transport between the Government of the Lao People's Democratic Republic and the Royal Government of Cambodia (1999);
- b. Protocol to Implement the Agreement on Road Transport between the Kingdom of Cambodia and the Lao People's Democratic Republic (2007);

(iii) *Cambodia-Thailand*

Under CBTA, Cambodia and Thailand have signed or initiated the following arrangements:

- a. MOU on the Establishment of the Joint Thailand-Cambodia Committee on Trade between the Government of the Kingdom of Thailand and the Government of the Kingdom of Cambodia (2000);
- b. Bilateral road transport arrangement between Cambodia and Thailand (called for in Kunming, China, in 2005);
- c. MOU between the Government of the Kingdom of Thailand and the Royal Government of Cambodia on the Exchange of Traffic Rights for Cross-Border Transport through the Aranyaprathet-Poipet Border Crossing (2008).

C. Conclusion and way forward

It is encouraging that Cambodia has managed to continue its growth despite the end of the garment quota system of the Multifibre Arrangement. However, the accession of Viet Nam to WTO in 2007 and the scheduled removal in 2009 of safeguard measures against clothing exports from China to the United States will present the garment manufacturers of Cambodia, whose success depends to an important extent on the cost and time it takes to do business in the country, with stiffer competition. Building on past achievements, there are still gains to be made in garment manufacturing. As a participant in the GMS Programme and a member of ASEAN and WTO, Cambodia needs to improve its trade performance by enhancing its productive capacity and competitiveness, which depends upon its use of regional and multilateral trade disciplines and its commitments to improve the regulatory environment. Smuggling across the country's borders with Viet Nam and Thailand is rampant, and this must be defeated in order for Cambodia to realize its full potential as a trading nation. If producers and traders find it easier and more lucrative to use informal trade routes than to use formal trade procedures, especially for the export of Cambodian raw materials, the rules of the GMS Programme, ASEAN and WTO will have little impact. Moreover, there is an urgent need for Cambodia to diversify its exports. In order for this to happen, it is as important to develop the supply capacity of entrepreneurs as it is to ensure the facilitation of trade and transport.

In recent years, progress has been made in trade and transport facilitation, including the establishment of a risk management unit in the Customs and Excise Department, and the approval of the single administrative document, which was piloted in the second half of 2007. All the relevant agencies have signed administrative agreements on procedures and guidelines for the inspection and clearance of imported and exported goods. The implementation of the ASYCUDA system is also making steady progress, and a positive impact has been an increase in customs revenues, the availability of reliable trade statistics and a reduction in the average clearance time. The in-depth reforms of the customs system that the implementation of ASYCUDA requires have themselves accounted for an important part of the gains. The special economic zone in Bavet was the first to establish a one-stop service window, with five government agencies represented in a single room. Such a service window will be established whenever a new special economic zone becomes operational.

The Ministry of Commerce has also made progress in its preparations for a more sectoral approach to trade-related assistance, and it has initiated an internal reform process and reinvigorated the Sub-steering Committee on Trade Development and Trade-related Investments. The Customs and Excise Department has recently updated its customs reform and modernization plan, taking stock of achievements and setting out a course for further progress, which provides the Department itself, as well as donors interested in supporting it, with a way ahead. The close coordination of all trade-related agencies will continue to be central to the role of the Government in promoting trade and transport facilitation and private sector development. This is evident in Cambodia's remaining agenda for legislative work related to its WTO accession. Improvement in areas such as SPS and TBT, customs harmonization, ICT and logistics development, and business mobility is essential for more diversified and rural-based exports. This requires a great deal of cooperation at the national and regional levels.

In conclusion, trade and transport facilitation has been playing a crucial role in enhancing Cambodia's export competitiveness. It is important that the Government continue its trade facilitation reforms, implement the relevant multilateral and regional agreements and honour its commitments to the GMS Programme, ASEAN, WTO and WCO. Special attention needs to be paid to the implementation of CBTA. The Government of Cambodia also needs to make efforts to reform its institutional framework by improving cooperation among the agencies involved in trade regulation and cargo clearance, develop and implement national and regional logistics plans, and attract and mobilize resources to improve physical connectivity. It is also necessary for the Government to support and participate in regional and global business forums and to develop institutional and human capacity.

Cambodia has embarked on the right path with its trade and transport facilitation reforms. Although the country faces many constraints and challenges, with the proper policies and strong commitments, as well as the support of development partners such as the World Bank, ADB, ESCAP and other international organizations and donors, it has the potential and capacity to achieve its development goal.

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ENHANCING EXPORT COMPETITIVENESS THROUGH TRADE FACILITATION: THE EXPERIENCE OF SRI LANKA

By *Suwendrani Manik Jayaratne**

Introduction

Sri Lanka has 65,610 km² of land and a population of 21 million, and is strategically located in the Indian Ocean along major air and sea routes between Europe and East Asia. Its geographical position has provided the country with the natural advantage of becoming an important trading and logistics hub. It also has one of the most liberal trade regimes in the region, with the lowest applied most-favoured nation tariffs in South Asia (World Trade Organization, 2007). After adopting an import-substitution trade policy in the 1960s and 1970s, Sri Lanka liberalized its economy in 1977, becoming the first South Asian country to do so. With that, it switched to more market-oriented policies and export-oriented trade, undertaking unilateral and regional trade liberalization over the years while participating in multilateral negotiations. Fuelled by the fact that Sri Lanka is a small island economy with a limited domestic market and resource base, international trade has been increasing steadily over the years after trade liberalization, playing a significant role in the Sri Lankan economy. In 2008, Sri Lanka exported goods worth \$8,137 million while importing goods worth over \$14 billion, and trade in goods and services together accounted for over 63 per cent of the country's gross domestic product (GDP).

In line with the liberalization of the economy, the Government of Sri Lanka undertook several measures to introduce accompanying policies that would facilitate trade and integrate the economy with the global economy. By appointing the National Trade Facilitation Committee in 1980 as per ECE/CEFACT Recommendation IV,¹ Sri Lanka was a forerunner in implementing trade facilitation in Asia. Through this Committee, Sri Lanka introduced trade and transport facilitation documents aligned with the United Nations Layout Key for Trade Documents, among other best practices. However, the country's status in using information and communications technology (ICT) as a tool to facilitate trade is not satisfactory and lags behind other countries in the region such as Singapore and Malaysia. Although Sri Lanka's competitiveness has increased over the years,² with

* Institute of Policy Studies of Sri Lanka, Sri Lanka. The author would like to thank Janaka Wijayasiri, Research Fellow, Institute of Policy Studies of Sri Lanka, for making valuable comments on early drafts. Any errors/omissions are solely those of the author.

¹ Recommendation IV addresses "national trade facilitation organs: arrangements at the national level to coordinate work on facilitation of trade procedures". See Economic Commission for Europe, United Nations Centre for Trade Facilitation and Electronic Business, *Summary of UN/CEFACT Trade Facilitation Recommendations* (ECE/TRADE/346).

² Rankings are based on *The Global Competitiveness Report* (Geneva, World Economic Forum, 2002-2007).

a Global Competitiveness Index ranking of 70 for 2007-2008 (out of 131 countries), the current status of transport and infrastructure in the country has been a significant disadvantage in terms of export competitiveness.

Much more needs to be done to reduce delays, improve customs and port procedures, link up the relevant agencies, and so forth. Similarly, in the transport sector, the development of roads and railways has been insufficient, and improvements in the efficiency of the ports and the reduction of handling charges are required. The Government of Sri Lanka has nevertheless identified these deficiencies and put forward “Randora”, a national infrastructure development programme under the country’s Ten Year Development Framework 2006-2016, which is likely to ease some of the constraints to trade. This includes the transport sector, and strategies have been proposed to develop railways, to expand the ports at Colombo and Galle, to build new ports in Hambantota and Oluvil and to build national highways. Infrastructure development has been identified as a means of not only improving the access of the poor regions and reducing poverty levels in the country but also facilitating trade with the greater participation of the small and medium-sized enterprises sector in exporting to markets abroad.

A. Current status

One of the major steps initiated by the Government to facilitate trade in Sri Lanka was the establishment of the National Trade Facilitation Committee in 1980. This Committee, which later adopted the name SRILPRO, was given legal status as an advisory committee to the Export Development Board under the Sri Lanka Export Development Act 40 of 1977. SRILPRO was widely represented by both the public and the private sector³ and it laid the foundation for the introduction of key trade facilitation initiatives in the country. Among its main achievements was the introduction of a set of three documents aligned with the United Nations Layout Key for Trade Documents. In spite of these early achievements, SRILPRO died a natural death towards the end of the 1990s. Currently, there is no Government institution responsible for undertaking trade facilitation measures in the country, which is unfortunate given the important role it could play in supporting Sri Lankan trade and commerce.

The performance of Sri Lanka in relation to selected indicators of trade facilitation is given in table 1. The performances of some other South Asian countries, as well as Singapore, a country in the region where trade facilitation initiatives have yielded significant results, are illustrated in the table. Despite the measures undertaken by Sri Lanka so far, the burden of customs procedures in doing business is still high, just surpassing the mean value. This is evident from the amount of paperwork involved in the import and export process. In importing goods, for example, five copies of the customs declaration have to

³ Examples in the public sector include the Ministry of Trade and Shipping, the Department of Customs, the Department of Commerce, the Central Bank of Sri Lanka and the Sri Lanka Ports Authority. Examples in the private sector include the Sri Lanka Freight Forwarders Association, the Sri Lanka Shippers Council and the Sri Lanka Bankers Association.

Table 1. Selected indicators of trade facilitation in Singapore and South Asia

	Mean	Bangladesh	India	Nepal	Pakistan	Singapore	Sri Lanka
Hidden barriers to trade (1)*	4.5	3.8	4.7	..	3.8	6.3	4.9
Burden of customs procedure (2)	3.9	2.3	3.6	2.5	3.4	6.4	4.0
Overall infrastructure quality (3)	3.8	2.2	3.1	1.9	3.4	6.6	3.3
Road quality (4)	3.7	3.1	3.1	3.1	3.6	6.6	3.1
Railroad infrastructure quality (5)	2.9	2.3	4.5	1.3	3.2	5.7	2.8
Port infrastructure quality (6)	4.0	2.4	3.5	3.0	3.7	6.8	4.1
Air transport infrastructure quality (7)	4.6	3.0	4.8	3.4	4.2	6.9	4.5
Transparency of Government policymaking (8)	4.1	3.5	4.4	3.2	3.5	6.1	4.0
Global Competitiveness Index (rank)	–	107	48	114	92	7	70

Source: Michael E. Porter, Xavier Sala-i-Martin, Klaus Schwab, eds., *The Global Competitiveness Report 2007-2008* (Geneva, World Economic Forum, 2007).

Notes: * Data is based on *The Global Competitiveness Report 2004-2005*.

(1) 1 = important problem, 7 = not an important problem

(2) 1 = extremely slow and cumbersome, 7 = rapid and efficient

(3) 1 = underdeveloped, 7 = as extensive and efficient as the world's best

(4) 1 = underdeveloped, 7 = extensive and efficient by international standards

(5) 1 = underdeveloped, 7 = as extensive and efficient as the world's best

(6) 1 = underdeveloped, 7 = as developed as the world's best

(7) 1 = infrequent, limited and inefficient, 7 = as frequent, extensive and efficient as the world's best

(8) 1 = never informed, 7 = always informed

be submitted (warrant, delivery, statistical, exchange and consignee copies). Another two copies are required for the Registrar of Motor Vehicles, one for motor vehicles and one as an excise copy. In addition, up to 11 documents need to be submitted together with the customs declaration depending on the good that is being imported.⁴ For exporting, four

⁴ They are (a) delivery order, (b) bill of lading, (c) invoice, (d) exchange documents, (e) packing list, (f) certificate of origin, (g) import control license (if applicable), (h) certificate of registration and translation for used motor vehicles, (i) load port survey certificate for food items, (j) Sri Lanka Standards Institution quarantine certificate (where applicable) and (k) catalogues/literature (if necessary).

copies of the customs declaration are required (warrant, statistical, security and parties copies) with additional copies needed for bonded cargo and airfreight cargo. Exporting liquor and coconut products requires two additional copies of the customs declaration form (excise copy and Coconut Development Authority copy). Apart from these, export control permits are required when exporting three items.⁵ Licences and permits are also necessary when exporting goods such as tea, antiques, plants and animals, and firearms. Interviews with stakeholders reveal that there are 8 to 10 steps⁶ in the processing of a goods declaration and approximately 8 signatures are required by customs alone.

The survey findings of *The Global Competitiveness Report 2007-2008* also show that businesses in Sri Lanka are not very clearly informed by the Government on changes in policies and regulations affecting the relevant industries. A study carried out by Weerakoon, Thennakoon and Weeraratne (2005), entitled "Multilateral agreement on trade facilitation", reiterates this.⁷ The study shows that laws, regulations, formalities and procedures that have to be followed in Sri Lanka are still complex and irrational. It also demonstrates that collecting trade-related information is time-consuming and costly, especially for new traders: 60 per cent of the respondents found it difficult to access information on laws and administrative rulings.

Although Sri Lanka has the highest road and railroad density in South Asia, the overall quality of the infrastructure in the country is below the average level. Sri Lanka's road network is currently about 117,093 km, which is an increase of 20 per cent from the road network in 1995, when it was approximately 97,377 km. Nevertheless, maintaining and improving the available road network has been a long-felt need. Since 2003, total public expenditure allocated for roads has increased: from 0.7 per cent of GDP in 2003 to 2.26 per cent in 2006. This is encouraging because, prior to this increase, the allocations had been hardly sufficient to cover routine and periodic maintenance.⁸ Nevertheless, road capacity, especially in Colombo and urban areas, has not increased in relation to the increasing number of vehicles. This has led to severe traffic congestion hindering commercial traffic in the city. It has been estimated that traffic congestion reduces vehicle speed up to 12 km per hour in the mornings and evenings. Cargo transport has therefore been restricted, and additional fuel costs that are incurred as a result of congestion are considerable, affecting the prices (and quality) of goods exported. Security checkpoints that have been set up due to the conflict situation in the country have also hindered the free flow of traffic.

⁵ The three items are coral chunks, timber and motor vehicles first registered in Sri Lanka prior to 1 January 1945.

⁶ The steps may include the receiving counter, keying in, payment, accounts updating (for cash declarations), channel selection, grading requirements, warranting and the delivery counter.

⁷ The survey was limited to Colombo District and consisted of a sample of 37 respondents, including exporters/importers, shipping agents/shippers, clearing freight forwarders, logistics providers and government officials.

⁸ As a result, less than 5,000 km (5 per cent) of the total road network has been upgraded in the last 10 years.

Table 2. Freight handled by Sri Lanka Railways, Sri Lankan Airlines and Sri Lanka ports

	1995	2000	2006	2007
Sri Lanka Railways	148.1	88	138	135
– freight ton km (million tons)				
Sri Lankan Airlines	..	34	98	98
– freight (in thousand metric tons)				
Sri Lanka ports				
– total container traffic (in thousand twenty-foot equivalent units)	1 049	1 733	3 079	3 381

Source: Central Bank of Sri Lanka, *Annual Report* (Colombo, 1996, 2000, 2006-2008).

Goods transported are subject to security checks at various points, including at seaports and airports.

The railway network comprises 1,640 km,⁹ which has largely remained at the same level since the country's independence. The use of railways for freight transport is very limited; its current share of freight transport is just 1 per cent. However, ports and shipping play an important role in the economy. Sri Lanka has three deep seaports (Colombo, Trincomalee and Galle) but due to its proximity to main international shipping routes, only the Colombo Port has achieved any commercial importance. About two thirds of the cargo throughput is trans-shipment cargo to and from India. In terms of the infrastructure of the ports, Sri Lanka has made improvements surpassing the average levels. Port services have improved significantly, with total cargo handling recording a growth of over 9 per cent in 2007 and 2008 compared to previous years (table 2). It also recorded the greatest annual number of containers ever handled in its history. Apart from export/import growth, these improvements can be attributed to productivity improvements resulting from increasing berth and yard capacity, the replacement of old cranes with modern ones and the introduction of a new terminal management system. Nevertheless, in the survey carried out by Weerakoon, Thennakoon and Weeraratne (2005), 36 per cent of the respondents experienced losses and additional costs due to delays in clearing that stem from the lack of clearance facilities and equipment, limited working hours at customs and ports, and delays in inspection despite the introduction of the red, amber and green channels. The study noted that delays arising from trade procedures can add significant costs and losses for traders in terms of shipment rejections or the acceptance of shipments at a discount.

It has also been pointed out that the charges imposed by the relevant authorities are large in number and amount; a majority of the respondents considered the fees to be unreasonable. For example, the terminal handling charge in Sri Lankan ports is the

⁹ The railway operates only 1,200 km, however, due to the fact that several sections in the north and the east of the country are closed.

highest in the region, with charges in Bangladesh, China, India, Japan, Malaysia, the Philippines, the Republic of Korea, Singapore, the United Arab Emirates (Dubai) and Viet Nam being lower. It is the belief of traders, shippers and other stakeholders that charges such as terminal handling charges have negatively affected Sri Lanka's export competitiveness, with exporters incurring about \$16.8 million as terminal handling charges.

Rent seeking in institutions involved in the import/export process is also a major issue. It has become an accepted phenomenon among exporters/importers, and some pay up to 50 per cent of the total clearing cost in unofficial payments. According to the survey, 85 per cent of the respondents had to pay bribes as they could not clear the goods without such transactions. However, it is interesting to note that 35 per cent of the respondents believed that corrupt practices had decreased in recent years following duty reductions and procedural improvements.

Although automation is not a panacea to trade facilitation, cumbersome paper work and rent seeking, among other things, can be reduced by the related agencies in the export/import process by adapting to automation. In Sri Lanka, therefore, there is a need to fully implement the electronic data interchange (EDI) system. Even though more developed web-based solutions may be available, both traders and agents are vehemently calling for a fully fledged EDI system to reduce paper work, increase efficiency, save resources and time, reduce rent seeking and improve security in the port. Currently, only the customs declaration can be lodged electronically. After this first step, exporters/importers must physically visit customs and the other relevant Government agencies to clear their goods and make their payments.¹⁰ Many traders and agents lodge customs declarations manually since the services they receive electronically are limited, considering the extra payment they make to use them. Ironically, lodging customs declarations electronically has increased the lodgement costs since there are additional costs involved (payments should be made both to the service provider and to customs).

B. Initiatives to enhance export competitiveness through trade facilitation reforms

Export competitiveness can cover a wide range of aspects that enable the country to produce and sell goods and services in foreign markets of a quality and at prices that ensure long-term viability and sustainability. Improved trade logistics and facilitation could have a significant impact on improving trade competitiveness by: (a) increasing the profitability of existing exports and encouraging expansion in production, (b) reducing the delivery time and cost of imports, benefiting both domestic and export sectors, (c) allowing manufacturers to enter higher value market segments, such as premium garments, which require shorter delivery cycles, and (d) opening up new markets, such as high value horticulture (for example, flowers and fruit) (World Bank, 2008).

¹⁰ An exception is the Tea Board, which is the only agency linked to the system. However, exporters still have to visit the Tea Board if a consignment is selected for sampling.

As previously stated, in terms of competitiveness, Sri Lanka has been ranked 70 out of 131 countries, with its ranking improving over the years. Nevertheless, the overall infrastructure quality in Sri Lanka, as well as infrastructure quality indicators (consisting mainly of infrastructure development in transport),¹¹ has been deemed to have a negative effect on Sri Lanka's competitiveness (table 3).

Table 3. Most problematic factors in doing business in Sri Lanka

<i>Factor</i>	<i>Percentage of responses</i>
Policy instability	13.0
Inflation	11.5
Inefficient government bureaucracy	10.2
Inadequate supply of infrastructure	9.9
Corruption	8.4
Access to financing	8.0
Restrictive labour regulations	8.0
Government instability/coups	7.3
Tax regulations	6.9
Tax rates	6.9
Poor work ethic in national labour force	4.7
Inadequately educated workforce	2.3
Foreign currency regulations	1.4
Crime and theft	1.3

Source: Michael E. Porter, Xavier Sala-i-Martin, Klaus Schwab, eds., *The Global Competitiveness Report, 2007-2008* (Geneva, World Economic Forum, 2007).

In addition to inadequate infrastructure, some of the most problematic factors for doing business in the country include policy instability, inflation and inefficient government bureaucracy. Inadequate infrastructure has consistently been on the list of the top five most problematic factors for doing business in Sri Lanka. Rising fuel costs, wages, and high inflation and interest rates have amplified the need for improved trade and transport facilitation in order to reduce production costs and improve the competitiveness of Sri Lankan exports.

Several initiatives on trade and transport facilitation have had an impact on export competitiveness.

¹¹ Quality of roads, quality of railroad infrastructure, quality of port infrastructure, quality of air transport infrastructure, available seat kilometres, quality of electricity supply and telephone lines.

(a) *Eliminating unnecessary paperwork and procedures.* As in other developing countries, the enterprises in Sri Lanka suffer from time-consuming and costly trade procedures and documents. Simplifying and aligning trade documents and procedures are strongly beneficial to enterprises in conducting international business, thus conducive to national trade competitiveness. The authorities in Sri Lanka eliminated some unnecessary import/export controls and took measures to reduce paperwork by introducing in the 1980s the United Nations Layout Key for Trade and Transport documents.

(b) *Adaptation of the Automated System for Customs Data (ASYCUDA) by Customs and the use of EDI.* In 1992, with the introduction of computer systems, Sri Lanka customs established the Automated Data Procession Division. Since 1994, ASYCUDA has been used to process customs declarations, and in 1998, the system was updated to ASYCUDA++. This has led to some improvement in the processing times of customs declarations.

EDI facilities have been available for Sri Lankan exporters/importers since the establishment of “eServices” (the service provider) in 2002. Although several years have passed since then, full EDI facilities are still not available, with only the Tea Board being linked to the system. Only the first component of the long import/export clearing process has been automated; customs declarations can be lodged electronically by export/import companies using EDI for a payment of \$2.50 to the service provider. Nevertheless, after lodging the customs declarations electronically, the exporters/importers have to visit customs and other related agencies with a hard copy of the customs declaration to get the relevant authorizations (another payment has to be made at customs). The usage of EDI is limited, with only about 30 per cent of garment exporters using it to lodge customs declarations. Despite the additional costs involved, many large-scale garment exporters prefer to use EDI because customs declarations can be lodged 24 hours per day and because it can reduce transport and staff costs. Small-scale garment exporters gain indirectly from EDI; because large-scale producers use the electronic service, there are shorter queues at the Board of Investment. An interview with members of the Joint Apparel Associations Forum revealed that, of the free-on-board costs, transaction costs amount to 8-14 per cent and that transaction costs could be reduced to 4-6 per cent if electronic commerce were properly integrated.

(c) *Introduction of the Sri Lanka Automated Cargo Clearing System in the ports.* According to the most recent rankings of the World Bank’s Trading Across Borders, Sri Lanka’s level of competitiveness increased from ninety-ninth position in 2006/07 to sixtieth position in 2007/08 (table 4).

The single most important factor behind the country’s improvement in the rankings is the reduction in logistics time. The number of days to import a standard container has been reduced by six and the number of days to export a standard container by four. This is mainly due to fast-tracking by the Sri Lanka Automated Cargo Clearing System at the Sri Lanka Ports Authority. The current system available covers the online acceptance of shipping notes and cargo dispatch notes by shipping lines and the Ports Authority, online

Table 4. Procedural requirements for importing and exporting a standardized cargo of goods (2006-2008)

	2006/07	2007/08
Trading Across Borders ranking	99	60
Documents for export (number)	8	8
Time for export (days)	25	21
Cost to export (\$ per container)	797	810
Documents for import (number)	13	6
Time for import (days)	27	21
Cost to import (\$ per container)	789	844

Source: www.doingbusiness.org/exploretopics/tradingacrossborders/.

bill payments, and the online submission of export bills by the Ports Authority to exporters or freight forwarders. This has resulted in a reduced turnaround time, reduced lead times and an accelerated cargo dispatch related to the garment industry. The full implementation of the Automated Cargo Clearing System would cut down the costs for all imports and exports.

(d) *Ports-related developments.* The development of the ports, especially of the Colombo Port, such as an increased yard capacity, the usage of a higher number of cranes and the replacement of old cranes with modern ones, allowing the private sector to engage in terminal operations, and some flexibility in operations with regard to working hours, have improved the efficiency of the ports. This has had a positive impact not only on the garment industry, which is time-sensitive, but also on the entire economy.

Colombo Port handles 95 per cent of Sri Lanka's total international trade, with the majority of traffic being for trans-shipment purposes: since 1995, trans-shipment has accounted for 70 per cent of Colombo's total container traffic (ADB, 2008). The Colombo Port Expansion Project will expand the Port's capacity, thereby promoting the country's competitiveness (ADB, 2008).¹² The project is expected to benefit Sri Lankan exporters by enhancing their competitiveness in the global markets through lower freight costs and faster delivery times. This will especially affect time-sensitive exports such as those in the textile and garment industries.

(e) *Electronic certificate of origin.* In addition to the Government initiative to automate, albeit partially, the trading process, the private sector, in the form of the Ceylon Chamber of Commerce, has taken measures to facilitate trade in the country by introducing "e-CO", a web-based certificate of origin (CO) application system. With this system, exporters can submit applications for COs electronically. This eliminates the need for exporters to physically collect the application form, complete it and bring it to various

¹² Container-handling capacity is to increase from 3.3 million twenty-foot equivalent units (TEUs) in 2006 to 5.7 million TEUs by 2010, 8.1 million TEUs by 2015 and 10.5 million TEUs by 2024.

chambers for endorsement. Now, exporters/agents can access and download a form and apply for a CO electronically, reducing the time and money required to send in the application form and supporting documents required for CO authentication. This has resulted in a lower turnaround time in issuing COs. About 50 exporters are currently making use of this system.

C. Way forward

Sri Lanka was a pioneer in adopting measures to improve trade facilitation in the country and has made modest improvements in certain areas of trade facilitation. Despite the progress made, trade facilitation indicators in Sri Lanka are poorer than in other countries in the Asian and Pacific region, such as Singapore, with much more remaining to be done. With stakeholders in the country recognizing the value of improving and upgrading procedures and facilitating the movement of goods, it is important that the Government takes the initiative to identify trade facilitation needs, prioritize them and undertake measures to implement them. Some areas of trade facilitation that need to be addressed are given below.

- (a) Establish a permanent committee working on trade and transport facilitation in the country. In the 1980s and the 1990s, SRILPRO, with Government backing, undertook crucial initiatives to develop trade facilitation in Sri Lanka. However, there has been no Government agency working on trade facilitation in recent times. Therefore, stakeholders have strongly expressed the need for an inter-ministerial committee to drive the relevant projects. Given its importance to all aspects of the country, it has been suggested that such a committee be headed by the Ministry of Trade.
- (b) Have an import/export clearance process with proper connectivity. The existing automated system in Sri Lanka is a piecemeal system providing capacity only to lodge customs declarations electronically. Of over 30 agencies involved in the import/export process, only the Tea Board is linked to the system, while customs, the Board of Investment and the ports are partially linked. Measures need to be taken to link all the relevant agencies with EDI. Legislation should be introduced in order to bring all the stakeholders under a single protocol. This would reduce the amount of paperwork required, especially by customs, and thereby lower the burden of customs procedures for traders.
- (c) Currently there is a monopoly in providing the services of EDI. Stakeholders are of the view that other service providers should be given access to provide the services in order to bring competition and efficiency to the market. It is also necessary to explore the benefits of using web-based applications such as UNeDocs.
- (d) As previously stated, the current status of transportation infrastructure and services in the country has a negative impact on the export competitiveness of Sri Lanka. A comprehensive infrastructure development programme has been introduced by the Government to develop these areas, spanning the

period 2006-2016. Some of the projects, such as the expansion of the Colombo Port, building new ports and developing highways, have already started. The timely implementation of these projects is necessary in order to develop Sri Lanka as a trading and logistics hub.

- (e) Changing the mindsets of the people involved in the import/export process is important in order to successfully implement the projects. Incentives should be used so that the relevant workers (who would receive fewer unofficial payments) would adopt the projects.
- (f) The Government of Sri Lanka should take measures to introduce new policies and changes to existing policies in order to improve trade facilitation. Although the Customs Ordinance and subsidiary legislation, which are over 100 years old, have been revised 26 times since 1978, further measures should be taken to make the necessary amendments in order to improve trade facilitation.

Annex

Case study on the garment industry in Sri Lanka

The garment industry emerged in the 1970s and developed into a major sector of the economy, protected by the Multifibre Arrangement and fuelled by investment incentives, the low cost of production, and the skilled and trainable workforce the country offered. Contrary to the general opinion that the garment industry in Sri Lanka would fold with the expiration of the Multifibre Arrangement, the industry has shown resilience and continued to grow despite a slowdown in export earnings in 2005 (Wijayasiri and Dissanayake, 2008).

In terms of industrial production, foreign exchange earnings and employment generation, the garment sector contribution to the Sri Lankan economy is still large. Being the largest contributor to the national economy, it contributes 8 per cent to GDP and accounts for 40 per cent of total exports. It is the largest foreign exchange earner, taking in \$3.4 billion (42.6 per cent of Sri Lanka's exchange revenue) in 2008. The industry generates over 300,000 jobs in direct employment and about 1.2 million in indirect employment. The country's garment industry has built an international reputation for quality, reliability and innovation, and caters to a number of internationally reputed brands such as Nike, Gap, Marks & Spencer and Victoria's Secret.

Trade and transport facilitation is especially important to the garment industry for a number of reasons, including:

- (a) *Heavy dependence of the industry on imported material as inputs.* The industry is heavily dependent on imported materials (fabrics and accessories) from East Asia given that the local textile industry does not have the capacity to supply the quantity and quality of textiles required by the export-oriented garment industry. In 2006, \$1.2 billion worth of textiles and accessories were imported as inputs for the industry. Inputs not received on time lead to the inactivity of production lines, which leads to considerable losses.
- (b) *The need to enter higher-value market segments and become a total service provider.* With the phasing out of the Multifibre Arrangement, the garment industry has focused on niche markets, which require shorter delivery cycles. Furthermore, since the garment industry in Sri Lanka has lost some of its competitive advantage in prices, it is necessary to offer better services to its customers. In this context, it is imperative to have the required trade and transport facilitation for Sri Lanka to become a total service provider for its customers.

- (c) *The need to be cost competitive.* With the ending of the measures against China and the possible loss of the Generalized System of Preferences, it is vital that the industry attempts to be competitive in prices as well. Since input costs and labour costs are relatively high in Sri Lanka, it is necessary to reduce administrative and other related costs, especially at customs, the ports, and so forth, in order for the final product to be price competitive.

The garment industry has been vociferous in advocating for more developed trade and transport facilitation in the country, especially for a fully fledged EDI system. The need for better trade and transport facilitation is being felt strongly due to high competition in the market place.

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Annex I

Opening Statement by Ms. Noeleen Heyzer, Under-Secretary-General of the United Nations and Executive Secretary of ESCAP

At the Regional Expert Group Meeting on
Trade and Transport Facilitation for Export Competitiveness
25-26 September 2008, Yangzhou, People's Republic of China

Ms. Wang Yanwen, the honorable Mayor of the Municipal City of Yangzhou,
Mr. Wen Daocai, the honorable Vice Mayor of the Municipal City of Yangzhou,
Mr. Diao Mingsheng, the Permanent Representative of China to ESCAP,
Distinguished Expert Participants,

Ladies and Gentlemen,

It gives me great pleasure to extend to you all a very warm welcome to the Regional Expert Group Meeting on Trade and Transport Facilitation for Export Competitiveness. I would also like to express my deep appreciation to the Government of the People's Republic of China and the Municipal City of Yangzhou for excellent arrangements and hospitality extended to all participants of this meeting.

Ladies and Gentlemen,

Increased trade flows, the complexity of international transactions, as well as rapid changes in transportation and sophisticated information technologies have changed the environment in which businesses operate in the twenty-first century. Inefficiencies in placing orders, delivering goods and making payments for internationally traded goods have a tremendous negative impact on businesses, governments, consumers and ultimately our economies in the Asia-Pacific region.

Time is money. Delays at border crossings, harbors and docks caused by cumbersome procedures and excessive paperwork constitute a heavy burden for business. The hidden costs of trade are high—as much as 15 per cent of the value of goods traded in some cases.

Poor are the most affected—they are the small and medium-sized enterprises in least-developed countries, landlocked countries and small island economies who have less experience in international trade. They are often discouraged by the complex and non-transparent procedures which they need to meet before their products reach the consumers. I see a farmer in Cambodia struggling with poor infrastructure to get his

products to the port. I see a woman entrepreneur in Bangladesh whose merchandise was delayed because she could not obtain numerous stamps and signatures for the import documentation. These entrepreneurs are the backbone of our economies. And their livelihoods depend on a trade enabling environment.

At ESCAP we see trade and transport facilitation as a vital component of policies and institutions to promote trade and investment to achieve inclusive and sustainable economic and social development. It is about creating a consistent, transparent and predictable environment for moving goods across borders smoothly.

Well-targeted trade and transport facilitation measures can bring significant benefits to governments, businesses and consumers. Governments benefit from enhanced revenue collection, better governance and administrative controls, while businesses benefit from faster customs clearance and lower costs of doing business. At the end of the chain is a consumer, who benefits from cheaper goods.

From a country perspective, trade and transport facilitation simply leads to export competitiveness. It also creates favourable conditions for attracting foreign investment. In fact, the benefits of trade facilitation are as significant as those resulting from the reduction of tariffs.

From a regional perspective, trade and transport facilitation can be a catalyst for regional cooperation and intra-regional trade. Trade and transport facilitation is a “win-win” solution for all countries, regardless of the level of economic development or geographical position. That is why, once seen as a backdoor technical issue, the facilitation of international trade has become a crucial element of the trade and development agenda.

ESCAP has a three-tiered approach to help the member countries to tackle inefficiencies and bottlenecks in international trade:

First, we promote the use of global conventions and standards, and innovative e-solutions such as United Nations Electronic Trade Documents—a new-generation standard for simplified trade forms that can be processed manually or electronically.

Second, we provide a community of knowledge and best practice for trade and transport facilitation. We have established a pool of experts—practitioners from countries that have successfully implemented “frontier” reforms in this area—to train policymakers and practitioners across the region.

Third, we conduct analytical work and develop the implementation methodologies and tools. Our work on the economic impact of trade and transport facilitation can provide policymakers with a convincing tool to push for, sometimes difficult, reforms. Our work on tools and methodologies assist practitioners to implement concrete trade and transport facilitation measures.

ESCAP works closely with our global partners such as WTO, WCO, UNCTAD and the Economic Commission for Europe (ECE). Likewise, we collaborate with our regional partners, including the Asian Development Bank (ADB), ASEAN, SAARC and APEC. For example, together with ECE, we are implementing projects for landlocked, transit and least-developed countries to improve the public-private partnership for trade facilitation and to implement a single window system. We are working with WTO to carry out the national needs assessment exercise in the Asia-Pacific region, which is a part of the WTO negotiations on trade facilitation. We have recently initiated a new trade facilitation project with ADB to strengthen analytical work in this field.

Distinguished participants,

Ladies and Gentlemen,

This expert group meeting over the next two days will provide an opportunity to senior policymakers and experts gathered here from trade-related agencies and trade promotion institutions across the region to discuss the linkages between trade and transport facilitation and export competitiveness; identify current bottlenecks and policy challenges; and share experiences of policy and institutional reforms. Drawing from your vast experience, I am sure you will come up with a set of practical and implementable policy recommendations on trade and transport facilitation issues that we in ESCAP can use for future cooperation and engagement across the region. I am looking forward to hearing from you where we can jointly make a difference.

Let us recall the saying “A journey of thousand miles begins with a single step”. All your countries have taken deliberate and calculated steps towards facilitating international trade. This journey might be long, and sometimes challenging. But it does not necessarily need to start from the implementation of sophisticated and costly IT-solutions. It can start from simple measures to harmonize working hours at customs, and establish joint border points. It can start from collecting, analysing and simplifying all the forms and documents necessary to export your top five export commodities. We in ESCAP are ready to assist you on this important journey.

Together, let us build the momentum in regional cooperation to tackle vast bottlenecks and inefficiencies in international trade—so that we can “make trade work for all” in the Asia-Pacific region.

Let me wish you fruitful deliberations and a pleasant stay in the beautiful city of Yangzhou.

Annex II

Opening Statement by Mr. Diao Mingsheng Permanent Representative of the People's Republic of China to ESCAP

At the Regional Expert Group Meeting on
Trade and Transport Facilitation for Export Competitiveness

25-26 September 2008, Yangzhou, People's Republic of China

Your Excellency Ms. Noeleen Heyzer, Under-Secretary-General of the United Nations and Executive Secretary of ESCAP,

Ms. Wang Yanwen, Mayor of the Municipal People's Government of Yangzhou,

Mr. Wen Daocai, Vice Mayor of the Municipal People's Government of Yangzhou,

Honourable guests,

Ladies and Gentlemen,

Good morning,

Today, we gather in Yangzhou, a beautiful, dynamic city in the Southeast of China, to discuss trade and transport facilitation for export competitiveness. First of all, let me extend a warm welcome to all of you, experts coming from East, Southeast and South Asian countries to this important regional meeting.

As we know, trade is regarded as a powerful engine for economic development. Trade expansion, particularly export expansion, can make a substantial contribution to economic development and poverty reduction, thus to the achievement of the Millennium Development Goals. Given the important role that export plays in the development of national economies, exploring effective ways to increase export competitiveness is significant.

With the progressive elimination of tariff barriers, various non-tariff problems such as cumbersome, costly and time-consuming trade procedures and formalities constitute a major obstacle for the enterprises in developing countries in doing international business. In recent years, trade facilitation has drawn growing attention from trade policymakers. On the one hand, trade liberalization alone is not enough for developing countries to develop trade; on the other hand, trade facilitation may generate huge benefits to the government as well as to the business. In some circumstances, trade facilitation may bring about even greater benefits than what trade liberalization can do. Undertaking trade and transport facilitation reforms to remove non-tariff obstacles is essential for enterprises to compete in the international markets.

The enterprises in developing countries suffer from high trade-transaction costs and time delays in doing cross-border trade. The time delays caused by excessive administrative and documentary requirements are very harmful to exports, particularly to the export of time-sensitive goods. An efficient trade and customs administration system based on trade facilitation reforms would help to reduce the transaction costs and time.

It is heartening to note that in recent years the Asian developing countries have made significant progress in facilitating cross-border trade. They have implemented a series of national trade and transport facilitation measures to improve domestic trading environments, and conducted regional cooperation on trade facilitation to promote intra-regional trade and regional integration. For example, China has streamlined its trade-related laws and regulations after the accession to WTO, simplified trade procedures and formalities, and built modern trade and customs administration systems. These measures contributed to the rapid development of trade in China. Besides, China participates actively in regional cooperation, such as APEC, GMS and CAREC, in which trade facilitation constitutes an important component. However, given the complexity of trade facilitation reforms, which require strong political support, appropriate strategies and action plans, sustainable financial and technical inputs, the Asian developing countries have still a long way to go in promoting trade facilitation.

The expert group meeting on trade and transport facilitation for export competitiveness provides us with a unique opportunity to exchange information and experience on trade and transport facilitation. It is our hope that the expert group meeting, through two days of discussions, might come up with some policy recommendations which could be used by trade policymakers in promoting trade and transport facilitation in our region.

I wish you all a successful meeting and a pleasant stay in Yangzhou.

Thank you.

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