

Trade and Trade Facilitation in the Greater Mekong Subregion



Edited by

Pradeep Srivastava
Utsav Kumar



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Foreword

Regional cooperation is central to the vision of the Asian Development Bank (ADB) of an Asia and Pacific region free of poverty and to the promotion of inclusive growth. Under ADB's Strategy 2020, regional cooperation and integration is among the five core areas of ADB operations. The Greater Mekong Subregion (GMS) Economic Cooperation Program is the first and foremost regional cooperation initiative of ADB. Established in 1992 and now entering its 3rd decade, the GMS program has built a reputation as a flexible, member country-owned, results-oriented, and investment-driven vehicle for promoting regional cooperation. As of June 2012, ADB, along with other development partners and GMS governments, had supported \$15 billion in investment projects in the GMS and provided \$289 million in technical assistance. ADB is the lead development partner and coordinator of the GMS program.

While improving subregional connectivity through investments in transport infrastructure projects has been a hallmark of the GMS program, there was early recognition of the need to address at the same time the policies and institutions related to trade and transport facilitation (TTF). The GMS Cross-Border Transport Agreement was a pioneer initiative in its comprehensive coverage in a single document of the necessary elements of both trade and transport facilitation, including the seamless transit of goods along GMS regional corridors. More recently, the member countries also adopted the GMS Plan of Action for TTF at the 16th Ministerial Meeting in Ha Noi in 2010. The new GMS Strategic Framework 2012–2022, endorsed at the 4th GMS Summit in Myanmar in 2011, emphasizes the importance of appropriate institutional and policy reforms, such as TTF, to complement physical investments.

Experience with TTF has shown this to be a challenging area, involving institutional reforms, coordination between government agencies, and a need to overcome diverse and deep, vested interests. The Australian Agency for International Development (AusAID) and ADB have been supporting the challenging and ambitious TTF agenda in the GMS program as development partners, including funding the regional technical assistance supporting the work presented here. I take this opportunity to express our appreciation for the partnership with AusAID.

Promoting regional integration through increased trade along the GMS corridors, complemented by improved TTF, has been a vital part of the GMS strategy. Success in this regard has so far been mixed, however. Better physical connectivity has increased opportunities for poorer communities in the interior regions to link with new markets, both domestically and across borders. On the other hand, the private sector continues to use other institutional arrangements for cross-border trade, showing that the TTF initiatives like the Cross-Border Transport Agreement have yet to fulfill their potential to lower trading costs.

This book brings together important analytical work carried out in 2011–2012 as part of ADB technical assistance supporting TTF in the GMS. The studies look at various aspects of TTF in the GMS, with a view to understanding the potential for enhancing TTF measures along the GMS corridors, as well as the constraints. The findings are intended for use by policy makers and other stakeholders in GMS member countries. They will also be of interest to development practitioners seeking to improve TTF in other parts of Asia and the rest of the world.

The book has benefited from useful comments and suggestions from Ronald Butiong, Julian Clarke, and Yuebin Zhang, who served as peer reviewers. Constructive comments and suggestions were also received from participants at the ADB–AusAID workshop in Phuket, Thailand, on 18 October 2011, where four studies from this book were discussed, and at the 4th GMS Economic Corridors Forum in Mandalay, Myanmar, on 28 June 2012, where the findings from the last chapter were presented to the GMS member countries. The production of the book was managed by Georgania Nepomuceno.

It is hoped that the findings from the research presented here will stimulate and contribute to a lively discussion and effective approaches to overcoming challenges to TTF regimes in the GMS subregion and in other regional cooperation initiatives.



Kunio Senga

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Asian Development Bank



Abbreviations

ACTS	ASEAN Customs Transit System
ADB	Asian Development Bank
AEO	authorized economic operator
AFAFGT	ASEAN Framework Agreement on Facilitation of Goods in Transit
ASEAN	Association of Southeast Asian Nations
ASYCUDA	Automated System for Customs Data
AusAID	Australian Agency for International Development
CBTA	cross-border transport agreement
CLM	Cambodia, the Lao PDR, and Myanmar
CTS	customs transit system
EMC	Emerging Markets Consulting
EU	European Union
EWEC	East–West Economic Corridor
FDI	foreign direct investment
GDCE	General Department of Customs and Excise (Cambodia)
GDP	gross domestic product
GMAC	Garment Manufacturers Association of Cambodia
GMS	Greater Mekong Subregion
GMS-BF	Greater Mekong Subregion–Business Forum
G-PSF	Government–Private Sector Forum (Cambodia)
ICD	inland clearance depot
ICT	information and communication technology
IFC	International Finance Corporation
IRU	International Road Transport Union
Lao PDR	Lao People’s Democratic Republic
MOU	memorandum of understanding
NCTS	New Computerized Transit System (European Union)
PRC	People’s Republic of China
SDR	special drawing right
SEC	Southern Economic Corridor
SEZ	special economic zone
SITC	Standard International Trade Classification
SLA	service-level agreement
SME	small and medium enterprise

TICCCD	transit and inland clearance customs clearance document
TIR	Transports Internationaux Routiers
TTF	trade and transport facilitation
UN	United Nations
UN Comtrade	United Nations Commodity Trade Statistics Database
UNCTAD	United Nations Conference on Trade and Development
US	United States
VOC	vehicle operating cost
WCO	World Customs Organization
WTO	World Trade Organization



CHAPTER 1

Introduction

Pradeep Srivastava and Utsav Kumar

1.1 Overview of the GMS Program

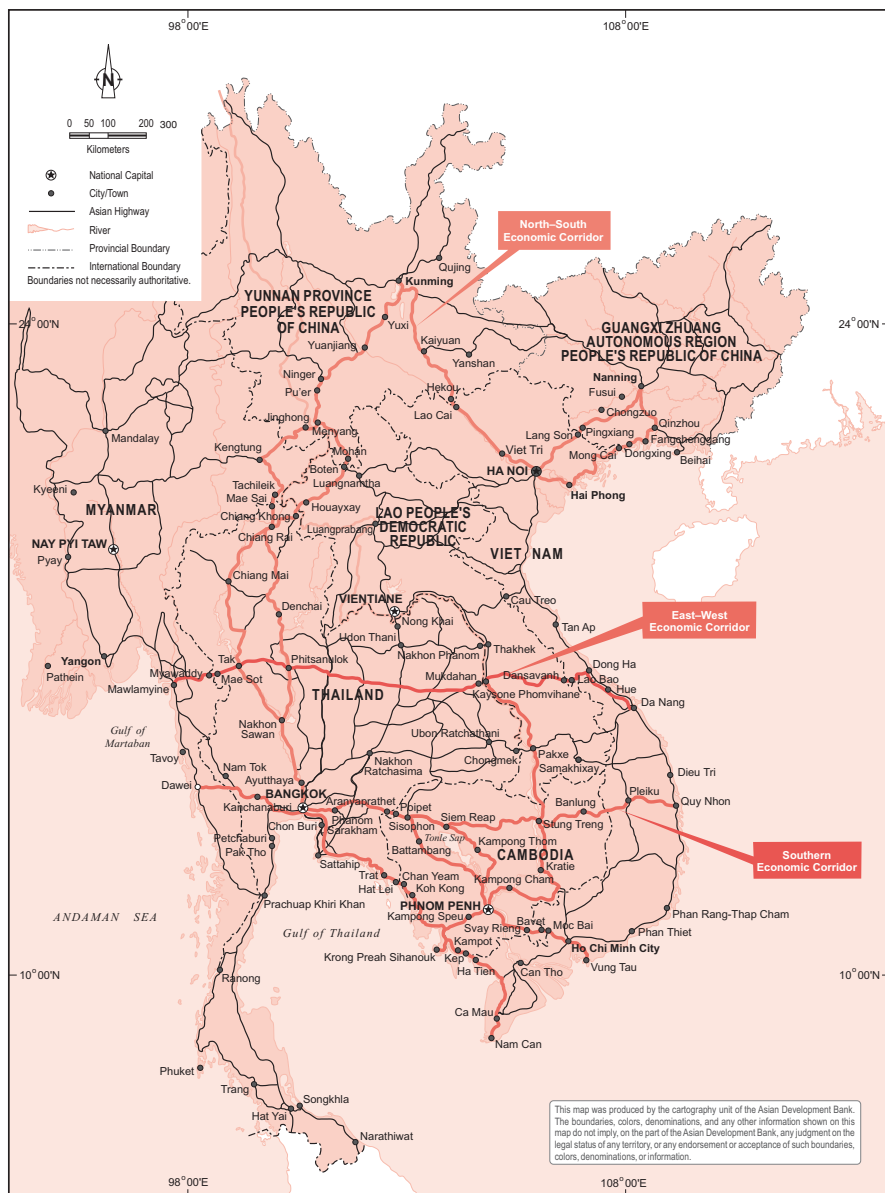
Economic cooperation among countries with shared borders serves many purposes. It can provide opportunities for investment and production by lowering barriers to the movement of goods, capital, and labor. Cooperation among countries in a region can help firms achieve economies of scale and realize cost efficiencies through the fragmentation of production processes. The resulting expansion of opportunities and competition in regional markets can help improve productivity, and thereby create job opportunities, accelerate growth, and improve living standards. Regional cooperation can help connect landlocked regions to regional markets and to global markets. Finally, regional cooperation can facilitate the development of regional public goods that have potential for cross-border spillovers, such as transport arteries and other regional infrastructure, and allow the participating countries to jointly address issues such as climate change, the protection of biodiversity, or the prevention and control of communicable diseases.

The Asian Development Bank (ADB) has been an early proponent of regional cooperation as central to its vision of an Asia and Pacific region free of poverty.¹ The Greater Mekong Subregion (GMS) Economic Cooperation Program, which completes 2 decades in 2012, is among the best-known regional initiatives supported by ADB. The six member countries of the GMS program² have cooperated in investment projects

¹ ADB Strategy 2020 identifies regional cooperation and integration as one of the five key core areas of ADB operations. Available at: <http://www.adb.org/sites/default/files/Strategy2020-print.pdf>

² Cambodia, the Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand, Viet Nam, and the People's Republic of China (PRC) through the Yunnan Province and the Guangxi Zhuang Autonomous Region. Details about the GMS program are available at <http://www.adb.org/sites/default/files/gms-overview.pdf>

Figure 1: The GMS Economic Corridors



GMS = Greater Mekong Subregion.

Source: ADB.

cumulatively amounting to \$15 billion as of June 2012.³ These projects span a range of sectors: transport (subregional roads, airport, and railway improvements); energy; tourism infrastructure development; agriculture and environment; and communicable disease control. Transport projects have accounted for a majority of the investments made under the GMS program, though the share of energy projects in total investments has increased recently.

The transport-sector investments have focused on the development of three main regional corridors in the GMS subregion: (i) the East–West Economic Corridor (EWEC), from Mawlamyine in Myanmar to Da Nang in Viet Nam; (ii) the North–South Economic Corridor (NSEC), with three subcorridors, namely, Kunming in the People’s Republic of China (PRC) to Bangkok, Thailand, via the Lao People’s Democratic Republic (Lao PDR) or Myanmar, Kunming to Ha Noi and on to Hai Phong in Viet Nam, and Nanning in the PRC to Ha Noi and from there to Hai Phong; and (iii) the Southern Economic Corridor (SEC), with three sub-corridors including the route linking Bangkok to Phnom Penh, Cambodia, and then to Ho Chi Minh City, Viet Nam (Figure 1). The strategic view underlying the development of GMS corridors was that they would contribute to regional integration through increased trade in the subregion.

1.2 Trade and Transport Facilitation in the GMS

The GMS program also recognized at an early stage the need for improved “software” (institutional and policy reforms) to complement and maximize the benefits from investments in “hardware” (physical infrastructure). Particular attention has been given to improving trade and transport facilitation (TTF) along the GMS corridors to enable goods and vehicles to move across borders more smoothly and at a lower cost. Trade facilitation, simply put, refers to the ease with which goods can be moved across borders, and includes border measures such as customs

³ Of the \$15 billion, ADB provided \$5.13 billion in loans and grants, other development partners provided around \$5.59 billion, and the GMS governments themselves provided \$4.31 billion. In addition, as of the end of June 2012, ADB had approved 179 regional technical assistance projects amounting to \$289.0 million for project preparation, capacity building, and policy advisory and studies on various areas of GMS cooperation. ADB provided \$105.41 million of its own funds, cofinancing with other development partners amounted to \$163.55 million, and GMS governments provided \$20.02 million. ADB has also played the role of lead development partner, coordinator, and honest broker in the GMS program.

and immigration, as well as behind-the-border measures, including those related to phytosanitary controls. As tariff barriers have been lowered, trade facilitation as a tool for promoting trade has gained prominence in bilateral and multilateral discussions on barriers to trade. In the context of land-based cross-border trade, such as along the GMS corridors, transport facilitation (e.g., exchange of traffic rights, harmonization of vehicle standards) is equally important in reducing the costs of trading.

The efforts of the GMS program to improve TTF regimes in the subregion have been focused on the GMS Cross-Border Transport Agreement (CBTA). Drafted under the auspices of a series of ADB technical assistance projects, the CBTA is a compact yet generally comprehensive multilateral instrument intended to (i) facilitate vehicle crossing between borders and countries (transit) through the exchange of traffic rights, and (ii) promote minimum inspection of goods at borders within a reasonable time. The agreement covers in one document nearly all the relevant aspects of cross-border transport facilitation including (i) single-stop, single-window inspection; (ii) facilitation of the cross-border movement of persons (including visas for the 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 must meet to be eligible for cross-border traffic; (v) exchange of commercial traffic rights; and (vi) infrastructure, including road and bridge design standards, road signs, and signals.⁴ The GMS agreement applies to selected and mutually agreed routes and points of entry and exit in the signatory countries.

The need for improved TTF to complement increased physical regional connectivity has also been recognized at the highest levels of the GMS program, including the Third GMS Summit in Vientiane, Lao PDR, in 2008 and subsequent ministerial meetings. In 2010, the 16th GMS Ministerial Conference endorsed a comprehensive medium-term program of actions for TTF, encompassing (i) transport facilitation, through the enhanced exchange and implementation of traffic rights, an improved customs transit system (CTS), and a strengthened road transport industry in the subregion; (ii) trade facilitation, through better-coordinated border management, improvements in the sanitary and phytosanitary regime

⁴ For more information on the GMS CBTA, see www.adb.org/sites/default/files/gms-cbta-instruments-history.pdf

in GMS trade, and a more developed logistics sector; and (iii) capacity development, strengthened institutions, and regulatory reform.⁵

The focus on TTF has led to some progress in the GMS. The implementation of the CBTA has started at the Lao Bao (Viet Nam)–Dansavanh (Lao PDR), Mukdahan (Thailand)–Kaysone Phomvihane (Lao PDR),⁶ and Hekou (PRC)–Lao Cai (Viet Nam) border crossing points. Border crossing times have been reduced substantially, e.g., from 118–194 minutes measured at Lao Bao–Dansavanh in August 2005 to about 30 minutes in 2009, with similar improvements at the Mukdahan–Kaysone Phomvihane crossing.⁷ The World Bank’s Doing Business Report 2012 also shows the GMS countries as having improved trade facilitation since 2005 to varying degrees.

On balance, however, progress in improving the TTF regime for the GMS regional corridors has been less than satisfactory. Rapid growth in trade by GMS countries, both among themselves and with the rest of the world, has not been reflected in land-based cross-border trade along the GMS corridors. Bilateral transport agreements among member countries continue to be preferred by the private sector, and the ambitious scope of the GMS customs transit regime remains largely unfulfilled. Even the full set of protocols and annexes of the CBTA is yet to be ratified by all participating countries.

Several reasons have been identified as contributing to the less-than-satisfactory progress in improving the TTF-based “software” in the GMS. Low traffic volumes on the corridors, for example, have worked against the implementation of the CBTA at selected pilot sites. Weak coordination among various agencies involved in border management is another challenge facing improvements in the TTF regime. Cumbersome and bureaucratic border procedures and inadequate infrastructure at border posts also pose challenges. International experience with trade facilitation has shown clearly the complexity of dealing with institutional changes, vested interests, and effective coordination across several agencies and with the private sector.

⁵ Available at: http://beta.adb.org/sites/default/files/02-Issues-Plan-of-Actions-TF-GMS_0.pdf

⁶ Kaysone Phomvihane in the Lao PDR was formerly known as Savannakhet.

⁷ ADB. 2009. *Preliminary Strategic Review of the Cross-Border Transport Agreement*. Review done under TA 6450-REG: Enhancing Transport and Trade Facilitation in the Greater Mekong Subregion.

While these factors can be validly said to have challenged success, there may be deeper, structural constraints underlying the weak progress on TTF enhancement in GMS corridors. This book brings together a set of studies that seek to identify such factors in a bid to provide a better understanding of the challenges and constraints facing the enhancement of TTF for the GMS and its corridors.⁸ These studies were carried out under the auspices of an ADB technical assistance funded by the Australian Agency for International Development (AusAID), which has been an active development partner in the GMS with ADB, particularly in the strengthening of TTF in the region.

1.3 Outline of the Book

Most member countries of the GMS countries, like others in the Southeast Asian region, have generally been open economies to varying degrees, and have grown strongly in the past 2 decades. This growth has benefited from international trade, and **Chapter 2** sets the context by analyzing the trends and patterns of trade among and by the GMS countries over the past decade. In addition to rapid growth, the GMS countries also show dynamism in the composition of their trade at the bilateral level, with changing composition of exports and imports. Of particular interest is the increasing volume of intra-industry trade in white goods and electronics among some countries. The growing trade in the subregion, and particularly the prospect of growth in intra-industry trade, provides a natural platform for the increased role for the GMS corridors in promoting regional integration.

The potential role of the corridors has not been realized, however, and the movement of goods and people faces several challenges in practice. This is documented along the SEC in **Chapter 3**, using evidence from a time–cost–distance study in parts of the corridor within Cambodia, specifically between Phnom Penh and Bangkok and between Phnom Penh and Ho Chi Minh City. The analysis and the policy recommendations made by the authors highlight the multifaceted challenges that confront TTF strengthening in the GMS corridors, encompassing not only technical and procedural aspects but also governance and bureaucratic reforms. The

⁸ These studies were presented, and the findings validated, at a joint ADB–Australian Agency for International Development Workshop on Trade and Trade Facilitation in the GMS held in Thailand on 18 October 2011. More information about the workshop is available at: http://www.adb.org/news/events/workshop-trade-and-trade-facilitation-gms?ref=countries/gms/events/past_year

policy measures that have been proposed to improve TTF, by reducing the cost and time of trading, will make Cambodian exporters more price competitive and enhance their credibility in regional and global markets, and thus promote exports from Cambodia.

One of the more ambitious components of the CBTA is the GMS-CTS, which is intended to facilitate the seamless movement of goods in transit from one member country to another while transiting through a third country. The transit system is being initially implemented on the EWEC, covering Thailand, the Lao PDR, and Viet Nam, with its extension to the other GMS corridors envisaged. Although relevant agreements have been concluded between and among the transport ministries and the customs and freight forwarders associations of the countries involved in EWEC, almost no private sector trucks have used the transit system. This suggests that cost and time savings under the GMS-CTS are not significant despite the need to transship goods under the alternative bilateral arrangements currently in practice.

Chapter 4 undertakes a thorough analysis of the GMS-CTS, assessing whether its underutilization reflects poor implementation, inadequate capacity, or problems in the design of the agreement itself. The chapter provides a review of the two transit regimes within the European Union—an old one using Transports Internationaux Routiers (TIR) permits, on which the GMS model is based, and the new transit regime that has evolved on the back of dramatic improvements in information and telecommunication technology—and identifies several constraints intrinsic to the design of the GMS-CTS. First, the GMS-CTS was developed in the late 1990s; the concepts and principles have changed since then and best practices have also evolved. The design of customs procedures and guarantee managements in the GMS-CTS are incompatible with the current best practices, and users of the system perceive the system to be complex and difficult to use in practice. Second, the level of transport integration supporting the GMS-CTS is inadequate for the needs of effective transit. The movement of trucks from one country to another under the CBTA, on which the CTS rests, is restricted by route and border-crossing restrictions, difficulties in obtaining necessary documents for transit transport, and lack of traffic rights. A third factor is the issue of empty return trips, which affects the economic viability of running vehicles between Thailand and Viet Nam. This is also related to the design of the GMS-CTS, as traders find it difficult to obtain transit documentation for return loads.

It follows, therefore, that the GMS-CTS as currently designed is unlikely to be used by the private sector. During the long period of attempting to operationalize the GMS-CTS, the five GMS countries that are members of the Association of Southeast Asian Nations (ASEAN) also signed transit and transport agreements under the ASEAN framework. The agreements incorporate best practice and design elements that have evolved over the last 2 decades, but they have not yet been signed and ratified, let alone implemented.

Neither the GMS-CTS nor the ASEAN's new CTS addresses a fundamental question, namely: Is a transit system even needed in the GMS or the Southeast Asian region? The economic geography of Southeast Asian countries is archipelagic for many, and skewed toward coastal areas in others. These have historically been and remain today essentially maritime trading countries. The landlocked Lao PDR aside, it is difficult to imagine high demand for transit in the ASEAN or GMS regions, even if one were to factor in growing trade with the PRC.

Chapter 5 looks at factors affecting ability to export from two member countries of the GMS, namely, Cambodia and the Lao PDR, with a view to assessing the relative significance of constraints related to TTF. The share of Cambodia and the Lao PDR in the total GMS trade is relatively small, but their role in regional integration through the successful facilitation of regional trade is large, given their location between two larger trading economies, Thailand and Viet Nam. The extent to which Cambodia and the Lao PDR can benefit from increased regional trade would affect their ownership of reforms to strengthen GMS TTF. **Chapter 5** presents findings from a case study done in selected sectors in Cambodia (garments, food products, and wood and wood products) and the Lao PDR (wood and wood products) to understand the export bottlenecks in the two countries. The study used qualitative and quantitative data to consider two different kinds of constraints on exports. First, the constraints could reflect export clearance delays, customs procedures, cost of transportation, other logistics, and lack of trade-related infrastructure, etc. These factors may be broadly considered as falling within the domain of trade facilitation. Alternatively, the low exporting activity of firms in the two countries may reflect limitations in productive capacity and competitiveness.

Findings from the case study show that easing the logistic and other constraints through trade facilitation measures may not be sufficient to stimulate exports from Cambodia and the Lao PDR. Efforts to promote exports from the two countries must also consider constraints on a firm's capacity and competitiveness. Addressing the various binding constraints

in these areas will help the two countries diversify their economic base, develop themselves as a production base in Asia to become part of the cross-border production networks in the region, and thus strengthen their incentive to enhance TTF for regional trade.

Chapter 6, the final chapter, analyzes the modes of transport for the goods traded within the GMS. Not surprisingly, maritime transport is the major mode in all the economies except landlocked Lao PDR. This finding is consistent with the concentration of economic activity along the coastal areas of the other GMS member countries. Even for intra-GMS trade, i.e., trade among the GMS countries, maritime transport also appears to be the dominant mode. Given the nature of the commodities traded, the dominance of maritime transport is likely to continue over time. Substantial parts of intra-GMS trade comprise low value-added dry bulk cargo such as coal and ores, and liquid bulk cargo such as oil and oil-related products. These will continue to be moved by sea. In other cases, such as containerized cargo, improvements in ports continue to increase the reliability of shipments, which, combined with the scale economies of maritime cargo movement, would again suggest advantage for maritime transport. The analysis in the chapter implies that trade facilitation efforts would benefit regional integration most if they were broader in scope, including not just regional corridors but also maritime gateways, while seeking to enhance the connectivity of ports to corridors and the hinterland.

The studies collectively have important implications for trade and trade facilitation in the GMS. Over 2 decades, the GMS program has developed a well-deserved reputation for being a flexible, country-owned, and results-oriented vehicle for regional cooperation. With substantial success in promoting increased physical connectivity across the GMS region, the program is increasingly addressing the policy and institutional reforms, or the “software,” needed to enhance the impact of the physical infrastructure. Such reforms are intrinsically complex and require sustained effort over time for success. The different studies presented in this book have gone further, identifying deeper, structural issues that also need to be incorporated into the policy dialogue to enhance trade facilitation. While different elements would apply to varying degrees across different countries, the canvas needs to encompass governance reforms, as well as the need to increase the competitiveness of the small economies. Unless regional integration through trade can benefit all participants, the links for such integration will lack adequate incentives and remain vulnerable to political and technical obstacles to reforms. Additionally, the institutional platform used to support TTF in the GMS, particularly the CBTA, must be

aligned to improvements made in technology and business practices over the past 2 decades.

Efforts to enhance TTF also need to build on the actual trade flows in the region and the evolving regional context. The former implies the need for a broader approach to trade facilitation, one that incorporates land-based as well as maritime trade. This would entail working on improving the coordination of border management at the national level and working closely with customs. Since several development partners are active in supporting customs and border coordination, this requires developing more effective mechanisms for synergizing their individual initiatives. The regional context of trade facilitation is evolving, particularly for the five GMS member countries that are also members of ASEAN. They have commitments to both trade and transport facilitation under the ASEAN framework, and there is a need to ensure that their efforts under the GMS and ASEAN platforms complement one another. Other commitments under broader platforms, such as the World Customs Organization (WCO) or Asia-Pacific Economic Cooperation (APEC), must likewise be mutually reinforcing.

The studies presented here should serve, in the short run, to provide an improved context for expectations regarding returns on efforts to improve TTF along the GMS corridors. They should also contribute to making more explicit the challenges to the successful integration of trade and trade facilitation in the GMS. We hope as well that, in this process, the analyses presented here will lead to additional exploration of challenges to and opportunities for effective trade facilitation in the GMS, and to increased dialogue among the stakeholders.



CHAPTER 2

GMS Trade—Trends and Patterns

Pradeep Srivastava and Utsav Kumar

2.1 Introduction

The Greater Mekong Subregion (GMS) comprises Cambodia, the Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand, Viet Nam, and Yunnan Province and Guangxi Zhuang Autonomous Region in the People's Republic of China (PRC). These six countries, with assistance from the Asian Development Bank (ADB), launched the GMS Economic Cooperation Program in 1992.

The GMS countries have grown rapidly since then. The PRC has grown at double-digit rates. Over the period 1992–2010, it grew by 10.3% per year, and even the five other countries grew at 5.3% yearly, on average. In 2000–2008, the growth of the five GMS countries other than the PRC (GMS5) averaged 6.1% per year (Table 2.1), which was slightly more than the average annual rate of growth of the non-GMS ASEAN countries, collectively known here as the ASEAN(–5).¹

Rapid growth in the GMS countries has been fueled partly by greater integration with the rest of the world. In fact, a key pillar of the development plans of the GMS countries has been a greater outward orientation and increased economic integration with the global economy. Openness, as measured by the ratio of the sum of exports and imports of goods and services to gross domestic product (GDP) (trade-to-GDP ratio) increased in all the GMS countries except Myanmar during the last 2 decades (Figure 2.1). Cambodia's trade-to-GDP ratio increased from 48.7% in 1993 to 122.3% in 2009, the PRC's from 42.0% in 1993 to 54.2% in 2010, Lao PDR's from 52.6% in 1993 to 71.1% in 2010, Thailand's from 80.2% in 1993 to 135.2% in 2010, and Viet Nam's from 66.2% in 1993 to 153.3% in 2010. Myanmar's trade-to-GDP ratio, however, declined from 3.4% in 1993 to 0.3% in 2004.

¹ For the purposes of this chapter, ASEAN(–5) is defined to comprise Brunei Darussalam, Indonesia, Malaysia, the Philippines, and Singapore.

Table 2.1: Average Annual GDP Growth Rates in the GMS Economies (%)

GMS Economy	1993–1996	1997–1998	2000–2008	2009	2010
Cambodia	6.0	5.3	9.2	0.1	6.3
Lao PDR	7.0	5.6	6.9	7.3	7.5
Myanmar	6.6	5.8	11.8	5.1	5.3
Thailand	8.1	(6.1)	4.8	(2.3)	7.8
Viet Nam	8.9	7.0	7.5	5.3	6.8
PRC	12.0	8.5	10.4	9.2	10.3
Guangxi Zhuang AR, PRC	13.4	8.6	11.5	13.9	14.2
Yunnan, PRC	11.0	8.7	9.6	12.1	12.3
GMS5	8.1	(2.2)	6.1	0.7	7.3
ASEAN(-5)	7.5	(1.5)	5.2	2.0	7.7

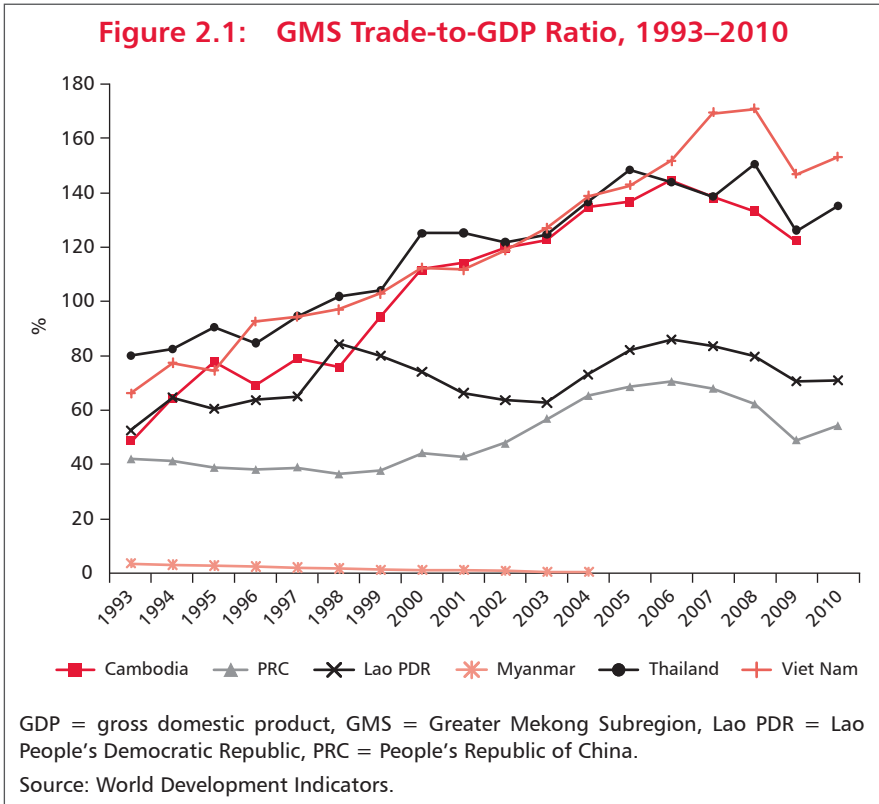
() = negative number; AR = autonomous region; ASEAN(-5) = Brunei Darussalam, Indonesia, Malaysia, the Philippines, and Singapore; GDP = gross domestic product; GMS = Greater Mekong Subregion; GMS5 = Cambodia, the Lao People's Democratic Republic, Myanmar, Thailand, and Viet Nam; Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China.

Sources: Asian Development Outlook Update (2011); CEIC Data, for data on Guangxi Zhuang Autonomous Region and Yunnan Province of the PRC; World Economic Outlook Database (September 2011); and authors' estimates.

Various studies have shown that, after the possibility that countries with higher incomes may trade more is taken into account, countries that trade more have a higher income, i.e., higher trade results in higher income (see, for example, Frankel and Romer [1999] and Ferrarini [2010]). Therefore, policies promoting trade by lowering trade barriers or improving trade facilitation can have a positive impact on growth and can also make a dent in poverty.

This chapter examines the trade patterns of the GMS countries in 2000–2009. It looks at the size and direction of GMS trade flows. It also discusses the composition of GMS trade and the differences in composition among the GMS5 countries.²

² GMS trade flows have also been examined recently in ADB (2008), Duval (2008), Banik (2011), and Menon and Melendez (2011).



The key findings of the analysis are as follows:

- Total GMS trade grew rapidly in 2000–2009. Even without the PRC, the growth in GMS5 trade has been rapid.
- Intra-GMS5 trade and trade between the GMS5 and the PRC have grown faster than the overall GMS5 trade. As a result, the share of GMS5 trade with the PRC, and of intra-GMS5 trade, in the total trade of the GMS5 has increased. The increase in the share of trade with the PRC and other GMS5 countries shows some rebalancing toward regional markets and suppliers.
- Manufacturing products account for more than two-thirds of the exports and imports of the GMS5 countries. There are significant differences in export structure among these countries. Their imports, on the other hand, are fairly similar in composition and are made up mostly of manufacturing products.

Box 2.1: Data Sources and Data Issues

The main source for all the trade data used in this chapter is the UN Comtrade database. Data for the years 2000–2009 at the SITC (Rev. 2) two-digit level are used. For the purposes of this chapter, following the approach of Feenstra et al. (2005), import-side data are taken as the base data. In other words, data on imports of Thailand from the PRC are used as data on exports of the PRC to Thailand. If import values are missing, export side data are used to obtain the value of the bilateral trade flow at the two-digit level. Therefore, a single series of trade values is used. Total exports to and total imports from the world are taken as reported in the UN Comtrade database except for Cambodia, the Lao PDR, and Myanmar. For these three countries, data on trade with individual countries were aggregated to obtain data for trade with the world, at the SITC (Rev. 2) two-digit level.

Using import-side data to construct bilateral trade data is considered beneficial for many reasons, such as: (i) developing countries tend to trade more with developed countries and the latter usually have better statistical and reporting systems; and (ii) importing usually involves customs declarations, and because inaccurate reporting may entail legal penalties, import data are likely to be more accurate.

This approach, however, comes with several caveats: (i) imports are valued on a CIF basis, and exports, on an FOB basis; and (ii) actual timing and reporting of trade transactions in the two countries might differ.

Informal trade is not captured in the data in this chapter, though by some estimates it may be a significant part of intra-GMS trade.

CIF = cost, insurance, and freight; FOB = free on board; GMS = Greater Mekong Subregion; Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China; SITC = Standard International Trade Classification; UN Comtrade = United Nations Commodity Trade Statistics Database.

- Exports of Cambodia, the Lao PDR, and Myanmar (CLM) to the rest of the world (excluding GMS countries) consist largely of low value-added goods, such as textiles and apparel, and primary products. However, the intra-GMS exports of the CLM countries consist mainly of primary commodities.
- Intra-industry trade in GMS is largely among the PRC, Thailand, and Viet Nam, indicating that the export baskets of the three are different

from those of the CLM countries and that the latter are not yet part of regional production networks.

While there has been some rebalancing toward regional markets, the share of intra-GMS5 trade remains low and there is scope for increased trade among the GMS5 countries. The first 2 decades of the GMS program focused on improving connectivity through hard infrastructure projects such as building roads. Future efforts to enhance regional cooperation will require complementing hard infrastructure with improvements in soft infrastructure, i.e., trade and transport facilitation (TTF). Such improvements are likely to be beneficial for a landlocked country like the Lao PDR and also Myanmar, both of which trade heavily with the PRC and the other GMS5 countries.

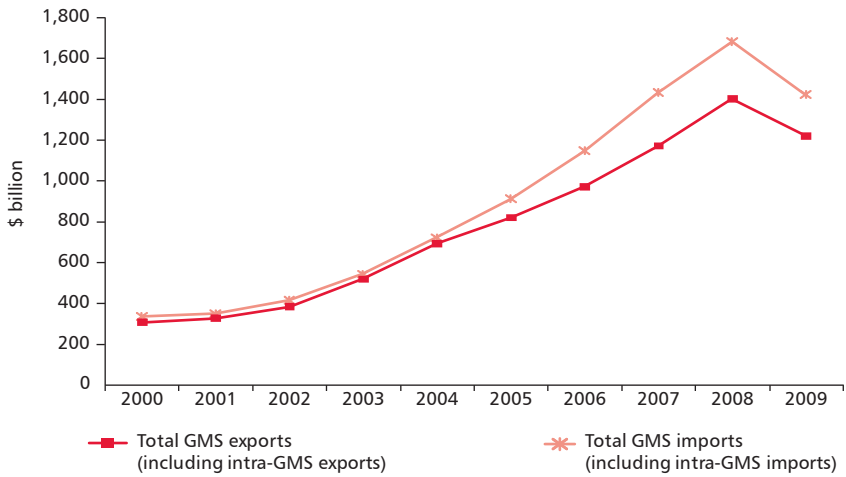
The rest of this chapter is organized as follows. Section 2.2 discusses the size of GMS trade, and Section 2.3, the direction of trade of the GMS5 countries. Section 2.4 analyzes the composition of trade and intra-industry trade in the GMS is discussed in Section 2.5. Section 2.6 concludes the chapter.

2.2 Size of the GMS Trade

The total exports of the GMS countries (including intra-GMS exports) grew at an average annual pace of 17.4% in 2000–2009, from \$336.4 billion to \$1,423.4 billion (Figure 2.2). Total imports (including intra-GMS imports) increased during the same period from \$307.1 billion to \$1,221.8 billion, for an average annual growth rate of 16.6%. The dip in exports and imports in 2009 shown in Figure 2.2 is a reflection of the collapse in trade in the aftermath of the global financial crisis in late 2008 and its impact on the real economy.

In 2009, the GMS5 accounted for only 15.6% of all GMS exports to the world and only 17.7% of GMS imports. At the same time, the share of GMS trade originating in the PRC had been increasing since 2000 (Figure 2.3). The PRC contributed almost 85% of the growth in total GMS exports and imports to the world between 2000 and 2009. The PRC therefore accounted for the lion's share of the GMS trade as well as its growth. For that reason, it is important to look at the trade patterns of the GMS5 countries separately so as not to arrive at inferences about GMS trade that are dominated by the trade flows of the PRC.

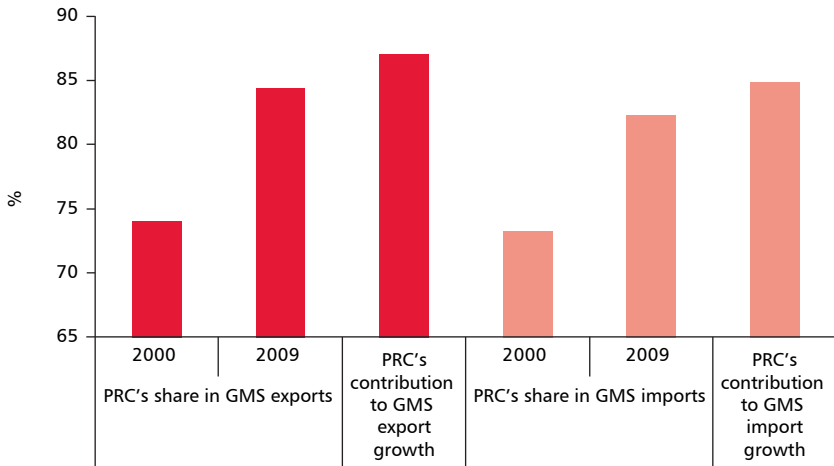
Figure 2.2: GMS Exports and Imports, 2000–2009



GMS = Greater Mekong Subregion.

Source: United Nations Commodity Trade Statistics Database (UN Comtrade) and authors' estimates.

Figure 2.3: Importance of the PRC in GMS Trade with the World



GMS = Greater Mekong Subregion, PRC = People's Republic of China.

Source: UN Comtrade and authors' estimates.

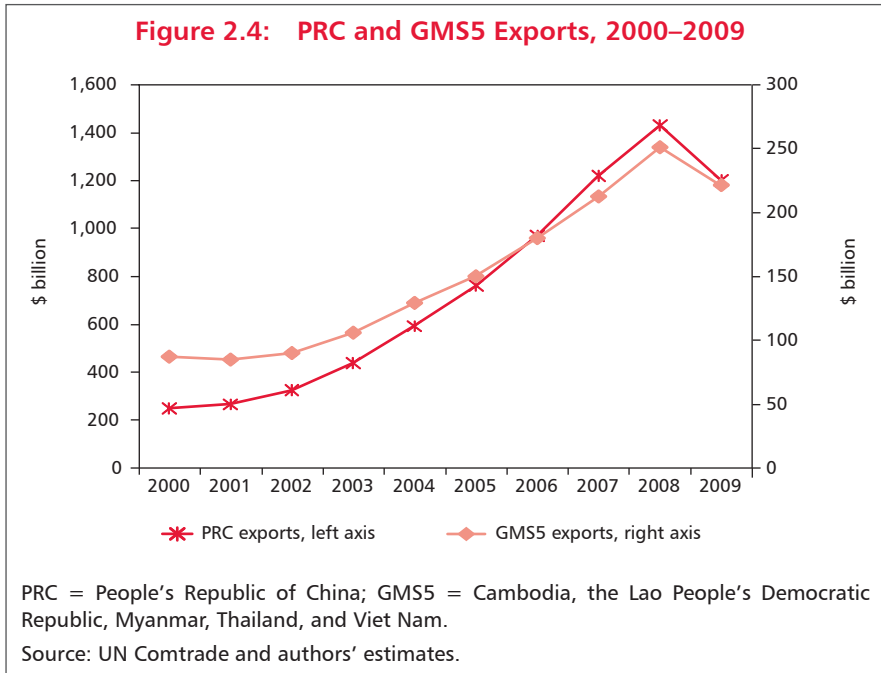


Figure 2.4 shows the size of the exports of the PRC to the world (left axis) and of the GMS5 to the world (right axis). The PRC's exports are vastly different in size from the combined exports of the GMS5. In 2009, PRC exports to the world (roughly \$1,200 billion) were 5.4 times the GMS5 exports (\$222 billion), up from 2.9 times in 2000. In other words, PRC exports had grown much more rapidly since 2000 than the combined exports of the GMS5, at 19.1% per year for the PRC versus 10.9% for the GMS5.

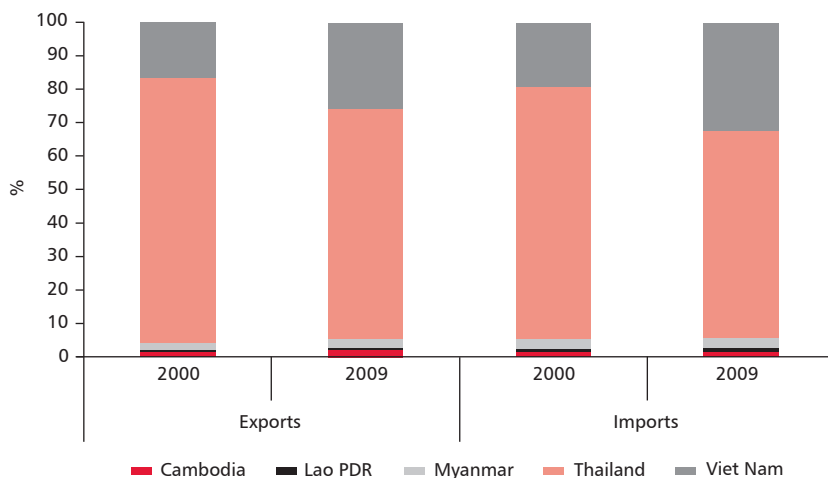
Among the GMS5 countries, Thailand accounted for 68.7% of all GMS5 exports in 2009, down by 10 percentage points from 2000 (Figure 2.5). Table 2.2 shows the size of the GMS countries' trade with the world. Viet Nam's share of GMS5 exports increased by nine percentage points over 2000–2009, and the combined share of the CLM countries increased by one percentage point. Similarly, Thailand continues to have a major share of GMS5 imports, though the share has declined over time. Viet Nam's share of total GMS5 imports increased by 13 percentage points over 2000–2009. Though the share of the CLM countries in total GMS5 imports increased marginally in 2000–2009, that share continues to be small.

Table 2.2: Total Exports and Imports of GMS Countries

Country	Exports (\$ billion)			Imports (\$ billion)		
	2000	2008	2009	2000	2008	2009
GMS	336.37	1,682.03	1,423.37	307.07	1,404.69	1,221.80
<i>of which</i>						
PRC	249.20	1,430.69	1,201.65	225.09	1,132.56	1,005.56
GMS5	87.17	251.34	221.72	81.98	272.13	216.24
<i>of which</i>						
Cambodia	1.54	5.00	4.83	1.28	4.09	3.62
Lao PDR	0.35	1.39	1.34	0.60	2.52	2.60
Myanmar	1.98	6.35	5.95	2.54	6.20	6.30
Thailand	68.82	175.91	152.50	61.92	178.61	133.77
Viet Nam	14.48	62.69	57.10	15.64	80.71	69.95

PRC = People's Republic of China; GMS = Greater Mekong Subregion; GMS5 = Cambodia, the Lao PDR, Myanmar, Thailand, and Viet Nam; Lao PDR = Lao People's Democratic Republic.

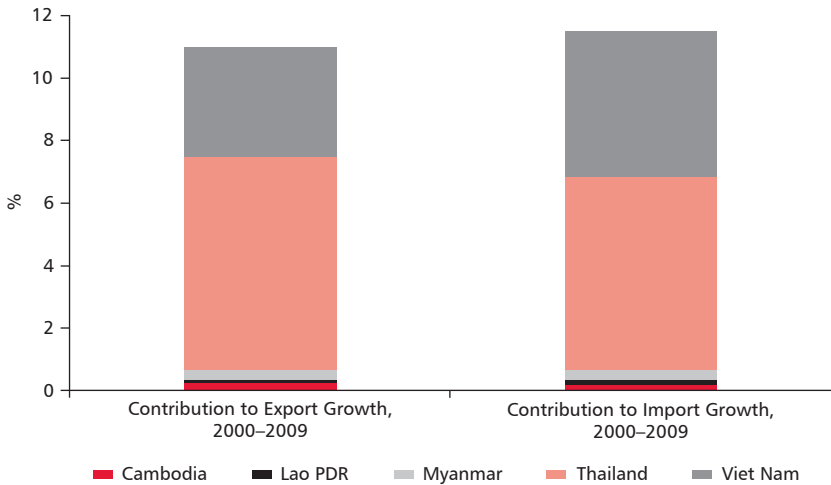
Source: UN Comtrade and authors' estimates.

Figure 2.5: Country Share in Total GMS5 Exports and Imports, 2000 and 2009

GMS5 = Cambodia, the Lao PDR, Myanmar, Thailand, and Viet Nam; Lao PDR = Lao People's Democratic Republic.

Source: UN Comtrade and authors' estimates.

Figure 2.6 Country Share in Growth of GMS5 Exports and Imports, 2000–2009



GMS5 = Cambodia, the Lao PDR, Myanmar, Thailand, and Viet Nam; Lao PDR = Lao People's Democratic Republic.

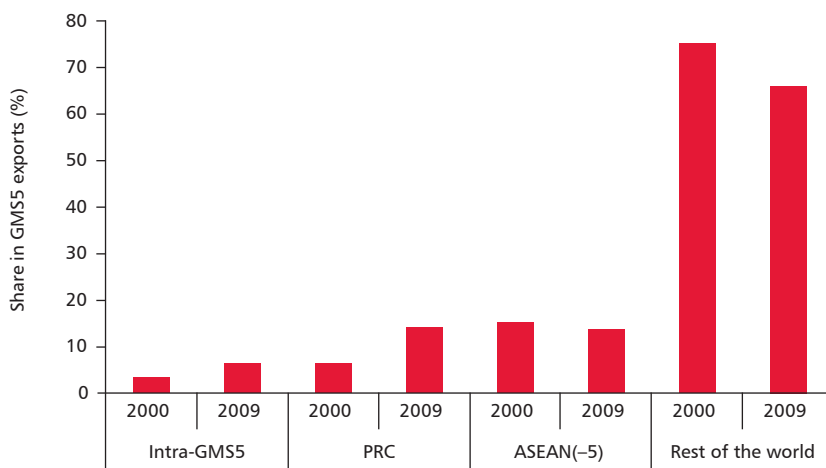
Source: UN Comtrade and authors' estimates.

Of the 10.9% growth in GMS5 exports, 6.8 percentage points (62% of the total export growth) came from Thailand's export growth, 3.4 percentage points from Viet Nam's, and less than one percentage point came from the growth in exports of the CLM countries (Figure 2.6). Similarly, Thailand and Viet Nam accounted for the bulk of the growth in GMS5 imports.

2.3 Direction of GMS5 Trade

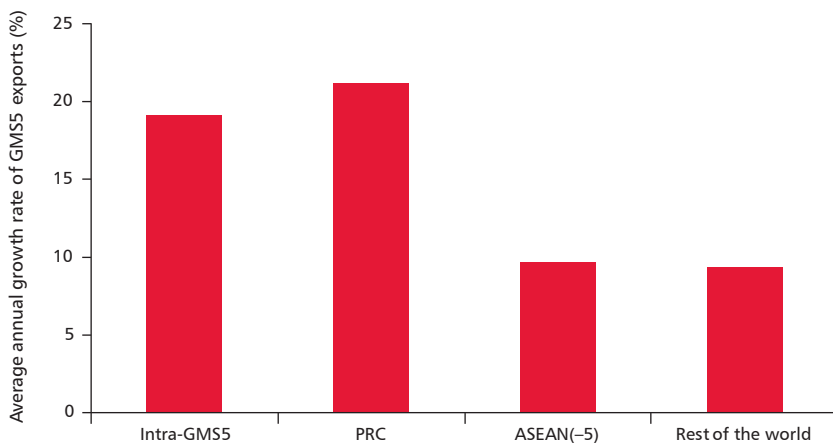
Figure 2.7 shows the share of the various GMS5 export destinations—other GMS5 countries, the PRC, ASEAN(-5), and the rest of the world—and Figure 2.8 shows the growth of exports from GMS5 to each of the four destinations. A few things stand out.

First, of the four destinations shown in Figure 2.7, countries outside the GMS and the ASEAN(-5) received the bulk of GMS5 exports. Second, GMS5 exports to the PRC increased the fastest in 2000–2009 (Figure 2.8).

Figure 2.7: Direction of GMS5 Exports

ASEAN(-5) = Brunei Darussalam, Indonesia, Malaysia, the Philippines, and Singapore; PRC = People's Republic of China; GMS5 = Cambodia, the Lao People's Democratic Republic, Myanmar, Thailand, and Viet Nam; rest of the world = world excluding ASEAN(-5), the PRC, and GMS5.

Source: UN Comtrade and authors' estimates.

Figure 2.8: Growth of GMS5 Exports, by Destination, 2000-2009

ASEAN(-5) = Brunei Darussalam, Indonesia, Malaysia, the Philippines, and Singapore; PRC = People's Republic of China; GMS5 = Cambodia, the Lao People's Democratic Republic, Myanmar, Thailand, and Viet Nam; rest of the world = world excluding ASEAN(-5), the PRC, and GMS5.

Source: UN Comtrade and authors' estimates.

This increase was faster than the increase in GMS5 exports to the rest of the world. The share of the PRC in GMS5 exports increased from 6.3% in 2000 to 14.0% in 2009 (Figure 2.7), or by 2.2 times. In 2000, the share of ASEAN(-5) in total GMS5 exports was two times more than that of the PRC, but by 2009, it had fallen slightly below the share of the PRC. The pattern of imports was similar.

Third, intra-GMS5 exports (equal, by definition, to imports) grew by 19.1% in 2000–2009, from \$2.9 billion to \$14.1 billion. The share of intra-GMS5 exports in total GMS5 exports increased from 3.4% in 2000 to 6.4% in 2009.

The increased shares of intra-GMS5 exports and of PRC's exports in total GMS5 exports in 2000–2009 may reflect final demand emanating from the region, which will provide a cushion against downturns in advanced country markets. This was already seen in 2009, when GMS5 exports to the PRC changed little from 2008 and intra-GMS5 exports declined by 8.7%, while exports to the rest of the world dipped by 13.8%.

With the ASEAN–PRC free trade area coming into implementation in January 2010 and as the PRC seeks to rebalance its engine of growth from external to domestic markets, the share of GMS5 trade with the PRC might increase further. To the extent this increase in exports is due to cross-country supply chains that cater to final demand from advanced country markets, dependence on those markets will continue. With these destination economies still struggling from high debt and with deleveraging expected to persist in the near future, slow export growth to these markets is likely to continue.

Tables 2.3a–2.3c show the direction and growth rates of exports of each GMS country to different markets. The Lao PDR, which is landlocked, and Myanmar are the most dependent on trade with the GMS. The exports of each GMS5 country to the PRC and other GMS5 countries increased in 2000–2009, except in the case of Cambodia's exports to the PRC. Further, this increase was faster than the increase in exports to ASEAN(-5) and the rest of the world. As a result, the share of the exports of each GMS5 country to the PRC (except Cambodia) and other GMS5 countries increased in 2000–2009. A similar pattern can be seen for imports.³

³ Data on the direction of imports are available on request from the authors.

Table 2.3: GMS Export Destinations, 2000 and 2009

Table 2.3a: Share of Destinations in Each GMS Country's Exports (%), 2000					
Country	GMS5	PRC	ASEAN(-5)	Rest of the World	Total
Cambodia	3.30	3.88	6.45	86.37	100.00
PRC	2.17		5.32	92.50	100.00
Lao PDR	51.07	1.81	0.59	46.52	100.00
Myanmar	13.33	6.31	10.31	70.05	100.00
Thailand	2.80	6.37	16.14	74.69	100.00
Viet Nam	3.45	6.65	12.20	77.69	100.00

Table 2.3b: Share of Destinations in Each GMS Country's Exports (%), 2009					
Country	GMS5	PRC	ASEAN(-5)	Rest of the World	Total
Cambodia	5.89	0.79	9.50	83.82	100.00
PRC	2.99		5.11	91.90	100.00
Lao PDR	53.42	27.35	0.06	19.17	100.00
Myanmar	47.78	10.87	5.05	36.30	100.00
Thailand	5.36	16.33	15.10	63.21	100.00
Viet Nam	3.67	9.01	11.23	76.08	100.00

Table 2.3c: Average Annual Growth of Exports of Each GMS Country, by Destination (%), 2000–2009					
Country	GMS5	PRC	ASEAN(-5)	Rest of the World	Total
Cambodia	21.11	(4.87)	18.52	13.16	13.54
PRC	23.40		18.55	19.01	19.10
Lao PDR	16.56	56.83	(10.17)	5.10	15.98
Myanmar	30.23	20.04	4.39	5.05	13.01
Thailand	17.42	21.30	8.44	7.24	9.24
Viet Nam	17.27	20.47	15.39	16.19	16.46

() = negative number; ASEAN(-5) = Brunei Darussalam, Indonesia, Malaysia, the Philippines, and Singapore; PRC = People's Republic of China; GMS = Greater Mekong Subregion; GMS5 = Cambodia, the Lao PDR, Myanmar, Thailand, and Viet Nam; Lao PDR = Lao People's Democratic Republic; rest of the world = world excluding ASEAN(-5), the PRC, and GMS5.

Sources: UN Comtrade and authors' estimates.

Table 2.4: Direction of Intra-GMS Trade, 2000 and 2009

	Source of Intra-GMS Exports (%)		Destination of Intra-GMS Imports (%)	
	(1)	(2)	(3)	(4)
	2000	2009	2000	2009
Cambodia	0.79	0.39	3.10	2.32
PRC	39.05	44.31	39.87	38.31
Lao PDR	1.37	1.33	3.53	2.70
Myanmar	2.81	4.30	7.28	4.73
Thailand	45.46	40.75	29.13	26.78
Viet Nam	10.52	8.92	17.09	25.17

PRC = People's Republic of China, GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic.

Source: UN Comtrade and authors' estimates.

The size of intra-GMS trade increased from \$13.9 billion in 2000 to \$81.2 billion in 2009, for an average annual growth rate of 21.7%.⁴ On the export side, 39.1% of intra-GMS exports in 2000 and 44.3% in 2009 originated from the PRC (Table 2.4, columns 1 and 2). These exports went to other GMS countries (the GMS5). Similarly, on the import side, 39.9% of intra-GMS imports in 2000 and 38.3% in 2009 were headed for the PRC (Table 2.4, columns 3 and 4). These imports represented trade originating from the GMS5 countries. Thus, 82% (44% + 38%) of the intra-GMS trade flows in 2009 (up from 79% in 2000) involved the PRC, either as a market for, or as a supplier to, the GMS5 countries. Only 18% of intra-GMS trade in 2009 did not involve PRC and was limited to the GMS5 countries. Thailand and Viet Nam are the other countries with a large share of trade flows within the GMS region.

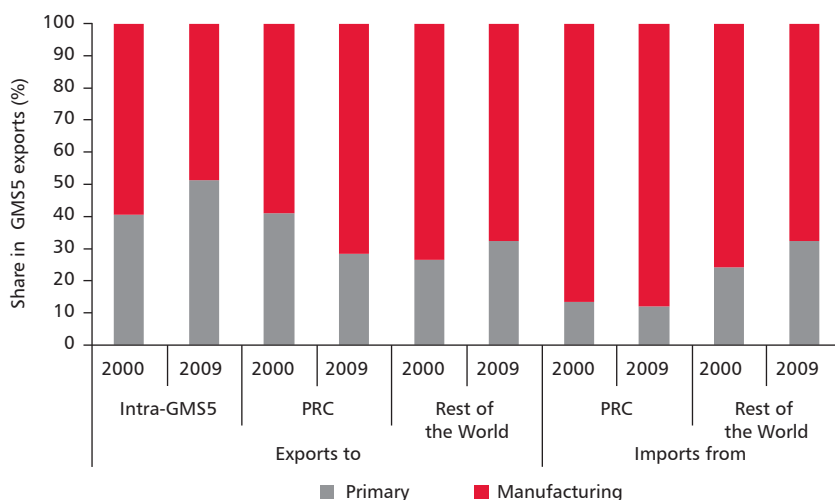
CLM countries were the source of about 6% of intra-GMS exports in 2009 (Table 2.4, column 2), compared with 5% in 2000. About 10% of intra-GMS imports in 2009 (including imports from the PRC) went to the CLM countries (Table 2.4, column 4). Only 16% of intra-GMS trade in 2009 involved the CLM countries; the rest took place among the PRC, Thailand, and Viet Nam.

⁴ By definition, the size of intra-GMS exports will equal intra-GMS imports.

2.4 Composition of GMS5 Trade

Manufacturing trade accounts for about 65%–70% of the total GMS5 trade and primary commodities make up the rest.⁵ The composition of trade, however, varies depending on the trading partners. Intra-GMS5 trade (by definition exports or imports) in 2009 comprised almost equal shares of manufacturing and primary commodities (Figure 2.9). On the other hand, manufacturing products have a larger share in both GMS5 exports to and imports from the PRC and the rest of the world. The share of manufacturing products in GMS5 exports to and imports from the PRC increased in 2000–2009, while that in trade with the rest of the world declined.

Figure 2.9: Composition (Two-Sector) of GMS5 Exports and Imports, by Direction, 2000 and 2009



PRC = People's Republic of China; GMS5 = Cambodia, the Lao People's Democratic Republic, Myanmar, Thailand, and Viet Nam; rest of the world = world excluding the PRC and GMS5.

Source: UN Comtrade and authors' estimates.

⁵ Primary commodities are defined to include SITC (Rev. 2) two-digit codes 0, 1, 2, 3, 4, 68, and 97. Manufacturing products comprise SITC (Rev. 2) two-digit codes 5–9 except 68 and 97. See Appendix Table A2.1 at the end of this chapter for further details.

Table 2.5 presents a more disaggregated breakdown of exports in 2000 and 2009, differentiated by trading partner. The main intra-GMS export items in 2009 (Table 2.5, column 2) were fuel (32%), machinery and transport equipment (20%), food and beverages (11%), and chemicals (9%).⁶

Table 2.5: Composition (11-Sector) of GMS5 Exports, by Destination, 2000 and 2009

Export Items	Intra-GMS5 Exports (%)		GMS5 Exports to PRC (%)		GMS5 Exports to ROW (%)	
	(1)	(2)	(3)	(4)	(5)	(6)
	2000	2009	2000	2009	2000	2009
Food, beverages, vegetable oil, etc.	10.96	11.20	6.15	7.62	16.96	18.06
Agricultural raw materials	8.22	3.90	13.38	8.36	2.82	3.06
Fuel	18.84	32.10	20.25	9.65	5.70	6.52
Ores, metals, and gold	2.40	4.11	1.27	2.67	1.08	4.78
Chemicals	11.99	9.14	14.83	11.45	3.85	4.99
Machinery and transport	26.03	20.27	31.10	48.68	36.66	29.14
Leather and rubber, incl. footwear	2.40	2.55	1.45	4.37	4.32	4.81
Textiles, apparel, and travel goods	5.48	3.83	2.17	2.06	13.27	11.97
Cork, wood, and paper manufactures	1.71	2.34	3.98	0.64	2.72	3.05
Nonmetallic minerals, iron and steel	8.56	8.15	3.62	1.58	4.41	5.69
Misc. items	3.42	2.41	1.81	2.93	8.21	7.93

PRC = People's Republic of China; GMS5 = Cambodia, the Lao People's Democratic Republic, Myanmar, Thailand, and Viet Nam; ROW = rest of the world excluding the PRC and GMS5.

Sources: UN Comtrade and authors' estimates.

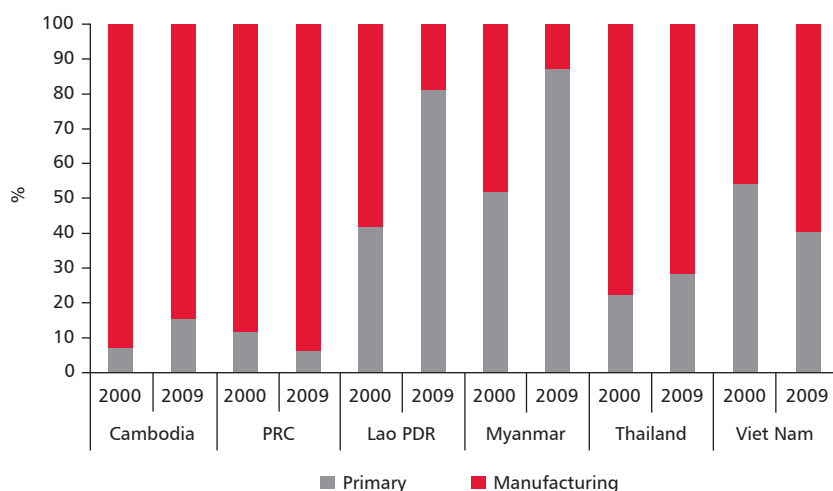
⁶ Appendix Table A2.1 at the end of this chapter shows the two-digit SITC (Rev. 2) products that compose the 11 sectors discussed in this chapter.

In 2009, machinery and transport equipment made up almost half (48.7%) of GMS5 exports to the PRC (Table 2.5, column 4). Other main export items to the PRC were chemicals, fuel, and agricultural raw materials. The main export item of GMS5 to the rest of the world in 2009 (Table 2.5, column 6) was also machinery and transport equipment (29%), compared with 37% in 2000, followed by food and beverages (18%) and textiles, apparel, and travel goods (12%).

The overall export structure of the GMS5 hides differences in export structure among the GMS5 countries. The composition of imports of the individual countries, however, is fairly similar. Figures 2.10 and 2.11 give the share of primary and manufacturing commodity exports and imports in each of the GMS member countries. Appendix Table A2.2 shows a more disaggregated export structure of the GMS countries in 2000 and 2009 (by trading partner). A few observations are noteworthy.

First, the export baskets of the Lao PDR and Myanmar largely comprise primary products (Figure 2.10). The PRC's and Thailand's export baskets, on the other hand, consist mainly of manufacturing products. The composition of Viet Nam's export basket has changed: primary products composed 54% of the export basket in 2000 but their share had declined to 40% by 2009.

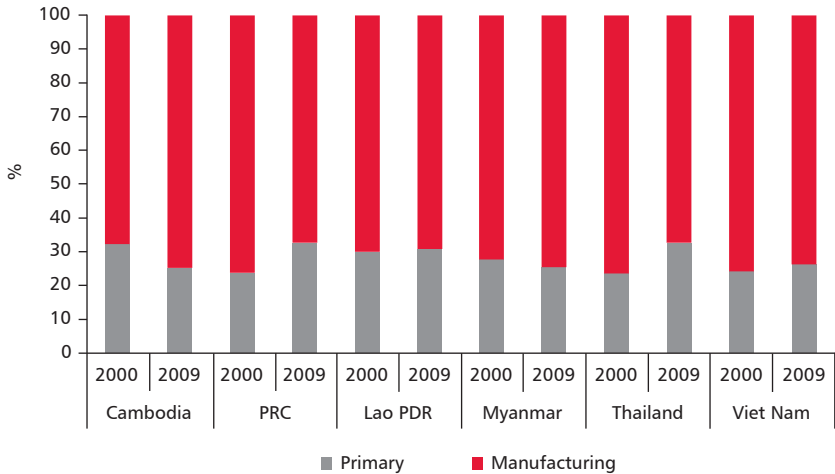
Figure 2.10: Composition (Two-Sector) of GMS Exports, 2000 and 2009



PRC = People's Republic of China, GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic.

Source: UN Comtrade and authors' estimates.

Figure 2.11: Composition (Two-Sector) of GMS Imports, 2000 and 2009



PRC = People's Republic of China, GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic.

Source: UN Comtrade and authors' estimates.

Second, Cambodia's overall export basket is dominated by manufacturing products, mainly garments. However, the composition of the export basket differs according to destination (Appendix Table A2.2). Primary products composed 90% of Cambodia's exports to other GMS5 countries and 48% of exports to the PRC in 2009, but only 10% of exports to the rest of the world. The higher absolute export values for trade with the rest of the world dominate the overall export pattern shown in Figure 2.10. The structure of Cambodia's exports to other GMS5 countries and to the rest of the world did not change much between 2000 and 2009, but the share of primary products in Cambodia's total exports to the PRC increased from 13.6% to 47.6%.

Third, the composition of exports from the Lao PDR, Myanmar, and Viet Nam also varies with the destination. While Lao PDR's exports to other GMS5 countries and to the PRC are largely primary in nature, its exports to the rest of the world consist largely of textiles and garments (Appendix Table A2.2). The difference in Myanmar's export basket by destination is due to the types of primary commodities exported to the three groups of trading partners discussed here—other GMS5 countries, the PRC, and the

rest of the world (Appendix Table A2.2). The share of primary products in the exports of Viet Nam to the PRC consist of a relatively larger share of primary products (58% in 2009) compared with the share of primary products in its exports to other GMS5 countries and to the rest of the world (Appendix Table A2.2).

Fourth, as shown in Table 2.5 (columns 1–6), exports of machinery and transport equipment account for roughly one-third of total GMS exports. However, machinery and transport figure prominently in the exports of only two countries—Thailand and, more recently, Viet Nam (Appendix Table A2.2). Thus, there is little export of machinery and transport equipment from the other GMS5 countries.

Finally, the import basket of all the GMS countries, consist largely of manufacturing products (Figure 2.11), with little difference across time or across trading partners, except in the case of Thailand. Thailand's imports from other GMS5 countries became more oriented towards primary products in 2000–2009. The share of primary products in Thailand's imports from other GMS5 countries increased from 63% in 2000 to 81% in 2009.

2.5 Intra-industry Trade in the GMS

A high share of machinery and transport equipment, textiles, and chemicals in both the export and the import structures of GMS5 trade may be indicative of a high degree of intra-industry trade. The Grubel–Lloyd index of intra-industry trade is used in examining the extent of intra-industry trade among the GMS5 countries, and between the GMS5, on the one hand, and the PRC and the rest of the world, on the other. The index is discussed in Box 2.2.

Table 2.6 shows the Grubel–Lloyd index for bilateral trade, for all products, between the GMS countries and for their trade with the rest of the world in 2000 and 2009. The higher the index, the more the intra-industry trade between the countries. Relative to the other bilateral trading pairs, there is a high degree of intra-industry trade between Thailand and the PRC. The Grubel–Lloyd index for trade between the PRC and Viet Nam and between Thailand and Viet Nam was relatively low in 2000 but higher in 2009, showing an increase in intra-industry trade in 2000–2009 between those two sets of countries.

Box 2.2 Grubel–Lloyd Index of Intra-industry Trade

Intra-industry trade is referred to as the trade of goods between two countries within the same category of a standard industrial classification. The Grubel–Lloyd index is the commonly used measure of intra-industry trade. For a particular product category, SITC Rev. 2 (two-digit code) in this chapter, the Grubel–Lloyd index between countries A and B is defined as follows:

$$GL_{i,AB} = \left[1 - \frac{|X_i - M_i|}{X_i + M_i} \right] * 100 \quad (\text{Equation 1})$$

where GL is the Grubel–Lloyd index of intra-industry trade in product category i between countries A and B, X_i is the exports of commodity i from country A to country B, and M_i is the imports of commodity i of country A from country B.

The index ranges from 0 to 100. It is zero when there is no product within category i that is both exported and imported at the same time between countries A and B, i.e., there is no intra-industry trade between A and B in category i . It takes on the maximum value of 100 when all the trade within the product category i is intra-industry, i.e., when exports of i from A to B match imports of i by A from B.

The Grubel–Lloyd index of intra-industry trade for total trade between the two countries A and B is obtained by weighting the index for each category i shown in equation 1 with the share of total trade of i in the total trade between countries A and B. The overall Grubel–Lloyd index of intra-industry trade between the two countries is calculated as follows:

$$GL_{AB} = \sum_i \left(\left[1 - \frac{|X_i - M_i|}{X_i + M_i} \right] * \left[\frac{X_i + M_i}{\sum_i (X_i + M_i)} \right] * 100 \right) \quad (\text{Equation 2})$$

The index depends on the level of disaggregated data used. More aggregated data are likely to result in higher index values. As a result, any comparison of Grubel–Lloyd indexes across studies should take into account the nature of the data used and whether the index is being computed for total trade or for trade in manufacturing products.

Source: Grubel and Lloyd (1975).

There could be various reasons for a high degree of intra-industry trade. Intra-industry trade could be high because of trade in different varieties of final goods resulting from consumers' love for variety (e.g., trade in automobiles) or because the fragmentation of production processes has given rise to trade in intermediate goods. In the case of East and Southeast Asian countries, higher intra-industry trade is likely to be due to intermediate goods, as production processes are cut and spliced in the course of setting up cross-border supply chains.

For the other bilateral trading pairs—trade between the CLM countries and the PRC, Thailand, Viet Nam, and the rest of the world—the Grubel–Lloyd index was relatively low in 2000 and remained low in 2009, showing little intra-industry trade. This is also reflected in the export and import

Table 2.6: Grubel–Lloyd Index of Intra-industry Trade, 2000 and 2009

Table 2.6a: Grubel–Lloyd Index, 2000						
Country	Cambodia	PRC	Lao PDR	Myanmar	Thailand	Viet Nam
Cambodia						
PRC	3.48					
Lao PDR	1.81	2.15				
Myanmar	0.24	7.15				
Thailand	3.20	57.35	1.70	5.44		
Viet Nam	7.18	22.14	4.36	4.97	14.01	
World	6.53	53.89	18.45	10.29	62.63	38.43
Table 2.6b: Grubel–Lloyd Index, 2009						
Country	Cambodia	PRC	Lao PDR	Myanmar	Thailand	Viet Nam
Cambodia						
PRC	2.18					
Lao PDR	8.78	1.51				
Myanmar	2.28	6.98				
Thailand	5.14	49.82	12.41	3.43		
Viet Nam	9.11	26.15	7.76	3.28	35.31	
World	9.77	51.51	14.83	10.29	65.93	44.09

PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic.

Source: UN Comtrade and authors' estimates.

composition of the GMS countries shown in Figures 2.10 and 2.11 and Appendix Table A2.2. The exports of Cambodia, the Lao PDR, and Myanmar to other GMS countries are more of a primary nature, while their imports are manufactured goods. As a result, intra-industry trade is low.

2.6 Conclusions

Using data from UN Comtrade for 2000 to 2009, the analysis has documented the trade dynamic of the GMS in the previous decade. The total trade of these countries grew rapidly, but the growth in their trade with one another was even higher. The growth in intra-GMS trade reflects a growing share of trade between the PRC and the other GMS5 countries, but trade among the GMS5 countries also grew faster than did their trade with the rest of the world. Conversely, the share of trade with non-GMS regions declined during the past decade. Trade dynamism within the GMS is also evident in the changing patterns of bilateral trade flows among the member countries, as well as the growing role of intra-industry trade in sectors such as white goods and electronics, particularly between the three larger economies—the PRC, Thailand, and Viet Nam.

The smaller GMS economies—the CLM countries—still largely export primary and low value-added goods, such as garments. This fact, combined with the low degree of intra-industry trade in these countries, makes it evident that the CLM countries are not yet part of the regional production networks for the assembly of electronics, machinery, and transport equipment. In this context, improving regional connectivity through hard infrastructure and through trade and transport facilitation will not only help integrate the CLM countries into production networks but also help them move up the value chain.

Trade and transport facilitation is important not only in enhancing trade but also in attracting FDI. Success in attracting FDI and becoming a part of the cross-border production network, in addition to being the most efficient location in terms of availability of input and labor costs, rests critically on the ability to move goods in and out of the country smoothly so that the supply chains are not disrupted. Increased FDI, in turn, can help the CLM countries integrate further into the regional and the global economy, and diversify and upgrade their production structure to generate sources of long-term growth. Hard and soft infrastructure is thus crucial in improving the competitiveness, as well as the long-term development prospects, of the GMS5 countries, especially the CLM countries.

A greater share of GMS5 trade with one another and with the PRC bodes well for regional integration and for some insulation for these countries against demand shocks originating in developed countries. This insulation is only modest, since the industrialized countries in Europe and North America still account for the bulk of GMS5 exports. Given their increased trade with the PRC, the GMS5 countries are also likely to be affected by any slowdown in the PRC resulting from internal factors, such as policies to cool any overheating of the economy, or external factors, such as reduced demand for intermediate and primary products used in the PRC's exports to the rest of the world. At the same time, the subregion may benefit from increased export demand from the PRC as it seeks to rebalance its engine of growth from external markets to domestic markets. Increasing manufacturing costs in the PRC may also lead to increased FDI into the GMS5 along with associated trade in goods and services. Along with the potential impetus to trade from the ASEAN-PRC free trade area, which came into operation in January 2010, trade by the GMS countries is expected to continue to grow strongly over the medium term.

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Appendix Table A2.1: SITC (Rev. 2) Two-Digit Products and Product Categories Used

SITC (Rev. 2) two-digit code	Product description	SITC (Rev. 2) two-digit code	Product description
Primary Products		Manufacturing Products	
Food, beverages, vegetable oil, etc.		Chemicals	
00	Live animals, chiefly for food	51	Organic chemicals
01	Meat and meat preparations	52	Inorganic chemicals
02	Dairy products and birds' eggs	53	Dyeing, tanning, and coloring materials
03	Fish, crustaceans, and mollusks, and preparations thereof	54	Medicinal and pharmaceutical products
04	Cereals and cereal preparations	55	Oils and perfume materials; toilet and cleansing preparations
05	Vegetables and fruit	56	Fertilizers, manufactured
06	Sugar, sugar preparations, and honey	57	Explosives and pyrotechnic products
07	Coffee, tea, cocoa, spices, and manufactures thereof	58	Artificial resins and plastic materials, and cellulose esters, etc.
08	Feedstuff for animals (not including unmilled cereals)	59	Chemical materials and products, nes
09	Miscellaneous edible products and preparations		
11	Beverages	Machinery and transport	
12	Tobacco and tobacco manufactures	71	Power-generating machinery and equipment
22	Oilseeds and oleaginous fruit	72	Machinery specialized for particular industries
41	Animal oils and fats	73	Metalworking machinery
42	Fixed vegetable oils and fats	74	General industrial machinery and equipment, nes, and parts of, nes
43	Animal and vegetable oils and fats, processed, and waxes	75	Office machines and automatic data processing equipment
Agricultural raw materials		76	Telecommunications, sound recording and reproducing equipment
21	Hides, skins and fur skins, raw	77	Electric machinery, apparatus, and appliances, nes, and parts, nes
23	Crude rubber (including synthetic and reclaimed)	78	Road vehicles
24	Cork and wood	79	Other transport equipment
25	Pulp and waste paper	Leather and rubber, including footwear	
26	Textile fibers (not wool tops) and their wastes (not in yarn)	61	Leather, leather manufactures, nes, and dressed fur skins
29	Crude animal and vegetable materials, nes	62	Rubber manufactures, nes
		85	Footwear

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Appendix Table A2.1 *continued*

SITC (Rev. 2) two-digit code	Product description	SITC (Rev. 2) two-digit code	Product description
Primary Products		Manufacturing Products	
Fuel		Textiles, apparel, and travel goods	
32	Coal, coke, and briquettes	65	Textile yarn, fabrics, made-up articles, nes, and related products
33	Petroleum, petroleum products, and related materials	83	Travel goods, handbags, and similar containers
34	Gas, natural and manufactured	84	Articles of apparel and clothing accessories
35	Electric current	Cork, wood, and paper manufactures	
Ores, metals, and gold		63	Cork and wood, cork manufactures
27	Crude fertilizer and crude minerals	64	Paper, paperboard, and articles of pulp, of paper, or of paperboard
28	Metalliferous ores and metal scrap	82	Furniture and parts thereof
68	Nonferrous metals	Nonmetallic minerals, iron and steel	
97	Gold, nonmonetary (excluding gold ores and concentrates)	66	Nonmetallic mineral manufactures, nes
		67	Iron and steel
		69	Manufactures of metals, nes
		Miscellaneous items	
		87	Professional, scientific, control instruments, apparatus, nes
		88	Photographic equipment and supplies, optical goods; watches, etc.
		81	Sanitary, plumbing, heating, lighting fixtures and fittings, nes
		89	Miscellaneous manufactured articles, nes
		91	Postal packages not classified according to kind
		93	Special transactions, commodity not classified according to class
		94	Animals, live, nes (including zoo animals, pets, insects, etc.)
		95	Armored fighting vehicles, war firearms, ammunition, parts, nes
		96	Coin (other than gold coin), not being legal tender

nes = not elsewhere specified, SITC = Standard International Trade Classification.

Source: UN Comtrade and authors.

Appendix Table A2.2: Composition (11-Sector) of the Exports of GMS Countries, by Destination (%), 2000 and 2009

Export Items	Cambodia						PRC						Lao PDR					
	Exports to GMS5		Exports to PRC		Exports to ROW		Exports to GMS5		Exports to PRC		Exports to ROW		Exports to GMS5		Exports to PRC		Exports to ROW	
	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009
Food, beverages, vegetable oil, etc.	11.9	39.2	1.8	1.1	1.3	1.0	4.5	3.4	5.5	2.9	3.3	9.1	24.2	6.0	12.0	13.1		
Agricultural raw materials	67.5	42.5	11.8	46.0	2.1	0.3	1.9	0.6	1.1	0.4	53.3	21.0	73.9	13.6	7.5	3.3		
Fuel	0.1	0.0	0.0	0.0	0.0	0.0	4.6	5.4	3.1	1.6	0.8	14.3	0.0	0.4	0.0	0.0		
Ores, metals, and gold	8.5	8.0	0.0	0.5	0.4	9.1	2.4	2.4	1.8	1.1	2.7	48.9	0.5	77.8	0.0	7.0		
Chemicals	0.2	0.5	0.0	0.1	0.1	0.8	10.9	10.6	4.7	4.9	0.1	0.5	0.0	0.9	0.4	7.6		
Machinery and transport	6.0	4.4	0.2	2.8	0.6	2.0	45.1	47.9	32.8	49.3	34.8	4.2	0.0	0.1	0.4	2.2		
Leather and rubber, incl. footwear	0.2	0.2	0.0	0.9	7.8	7.9	1.6	1.5	4.9	3.3	0.1	0.1	0.0	0.0	2.3	3.5		
Textiles, apparel, and travel goods	0.6	1.7	4.2	28.9	86.3	78.0	13.2	10.1	22.8	15.2	0.0	0.4	0.0	0.2	75.9	60.1		
Cork, wood, and paper manufactures	0.7	1.1	81.6	2.0	0.5	0.1	0.6	1.4	3.1	3.8	1.0	0.6	1.4	0.2	1.0	1.2		
Nonmetallic minerals, iron and steel	0.4	1.3	0.0	0.0	0.1	0.3	9.7	10.2	7.1	7.1	0.2	0.1	0.0	0.0	0.0	0.3		
Misc. items	3.9	1.1	0.4	17.6	0.7	0.7	5.7	6.3	13.0	10.3	3.8	0.8	0.0	0.9	0.4	1.6		

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Appendix Table A2.2 *continued*

Export Items	Myanmar						Thailand						Viet Nam					
	Exports to GMS5		Exports to PRC		Exports to ROW		Exports to GMS5		Exports to PRC		Exports to ROW		Exports to GMS5		Exports to PRC		Exports to ROW	
	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009	2000	2009
Food, beverages, vegetable oil, etc.	7.7	4.1	14.9	25.2	22.4	54.2	12.1	13.9	6.3	6.0	15.0	16.3	11.2	7.4	4.5	13.4	27.4	22.0
Agricultural raw materials	31.7	3.8	67.3	34.1	17.6	16.7	0.9	2.0	13.2	8.1	2.7	3.1	2.5	0.5	6.8	5.9	1.6	2.6
Fuel	45.3	90.0	0.0	8.9	0.0	0.0	14.8	14.5	8.7	4.7	2.5	4.6	28.1	32.9	76.3	34.1	22.7	12.2
Ores, metals, and gold	10.7	0.9	8.8	16.9	1.7	3.2	1.5	1.9	1.1	0.8	1.2	5.8	0.4	1.1	1.8	4.6	0.4	2.0
Chemicals	0.0	0.0	0.0	0.2	0.2	0.1	17.6	14.2	18.1	13.8	4.7	6.5	1.4	5.8	2.8	2.6	0.8	2.0
Machinery and transport	0.3	0.5	1.8	0.9	1.4	0.8	24.9	27.0	38.9	57.3	44.5	38.0	42.4	28.5	1.4	16.8	7.9	11.9
Leather and rubber, incl. footwear	0.0	0.0	0.2	0.1	1.0	3.2	3.4	3.7	1.7	4.3	2.8	3.0	0.6	2.4	0.5	5.6	11.5	8.9
Textiles, apparel, and travel goods	0.0	0.1	0.0	0.2	51.3	18.9	6.8	4.7	2.2	1.3	9.6	5.2	6.3	6.6	1.9	6.0	17.3	21.5
Cork, wood, and paper manufactures	2.2	0.5	0.2	0.3	2.3	0.8	2.0	3.4	3.8	0.5	2.8	2.1	0.4	1.5	0.2	1.2	2.9	5.7
Nonmetallic minerals, iron and steel	0.5	0.0	6.7	11.5	1.1	0.8	11.9	12.1	4.3	1.4	5.1	6.9	4.0	7.5	0.4	1.5	1.9	3.5
Misc. items	1.7	0.0	0.1	1.7	1.0	1.3	4.0	2.5	1.5	1.8	9.1	8.4	2.7	5.8	3.5	8.3	5.6	7.9

PRC = People's Republic of China; GMS = Greater Mekong Subregion; GMS5 = Cambodia, the Lao PDR, Myanmar, Thailand, and Viet Nam; the Lao PDR = Lao People's Democratic Republic; ROW = rest of the world excluding the PRC and GMS5.

Source: UN Comtrade and authors' estimates.



CHAPTER 3

Facilitating Trade along the Southern Economic Corridor

Christian Ksoll and Peter Brimble

3.1 Introduction

The Asian Development Bank (ADB) has joined other donors in upgrading and expanding the Greater Mekong Subregion (GMS) transport infrastructure in order to improve market access and connectivity for people along GMS transport networks. The goal is to spur inclusive economic growth and development (ADB 2010). By the end of June 2012, ADB had mobilized \$15 billion for 57 projects, of which most were in transport infrastructure. ADB has also supported various initiatives to improve trade and transport facilitation (TTF) along the GMS corridors. Despite these efforts to improve regional connectivity, inefficiencies in export and import processes continue to delay the movement of goods along the GMS corridors and increase the costs.

Using the Southern Economic Corridor (SEC) as a case study, this chapter identifies factors that contribute to higher costs and delays in cross-border trade. The focus is particularly on the Cambodian section of the Central Sub-corridor (a major cargo route) from Bangkok via Phnom Penh to Ho Chi Minh City (see Figure 3.1 for a map of the SEC).¹

While recent improvements in infrastructure have been achieved in Cambodia, logistics costs remain high compared with those in other

¹ The SEC comprises the following three sub-corridors and an inter-corridor link connecting the three SEC corridors with the East–West Economic Corridor: (i) Central Sub-corridor (Bangkok–Phnom Penh–Ho Chi Minh City–Vung Tau sub-corridor); (ii) Northern Sub-corridor (Bangkok–Siem Reap–Stung Treng–Rathanakini–O Yadov–Pleiku–Quy Nhon sub-corridor); (iii) Southern Coastal Sub-corridor (Bangkok–Trat–Koh Kong–Kampot–Ha Tien–Ca Mau City–Nam Can sub-corridor); and (iv) Inter-corridor Link (Krong Preah Sihanouk [formerly known as Sihanoukville]–Phnom Penh–Kratie–Stung Treng–Dong Kralor (Tra Pang Kriel)–Pakse–Kaysone Phomvihane [formerly known as Savannakhet]).

countries in the region and the world (Banomyong 2008, n. d.; Banomyong and Sopadang 2010; Ksoll 2009; Ksoll et. al. 2010). Logistics improvements are therefore critical for Cambodia to develop the country as an Asian production center and to integrate itself into regional production networks and supply chains. Over the last 2 decades, logistics sector improvements have revolutionized production and distribution processes. Logistics firms are now a vital part of highly developed production networks and value chains. State-of-the-art logistics services are also an important factor in determining whether small-scale farmers can compete in selling their products on the world market.

In the last few years, the Government of Cambodia has taken several steps to improve the logistics sector in the country. These steps include trade facilitation measures such as expedited document processing services for the garment industry, and more recently for the rice sector, and the rolling out of the Automated System for Customs Data (ASYCUDA) after its pilot testing in five key locations (Phnom Penh International Airport, Sihanoukville Autonomous Port, and three inland container depots). However, a number of shortcomings in the trade and transport facilitation processes remain to be addressed, as was evidenced during interviews conducted with users of the SEC for the purposes of this study.

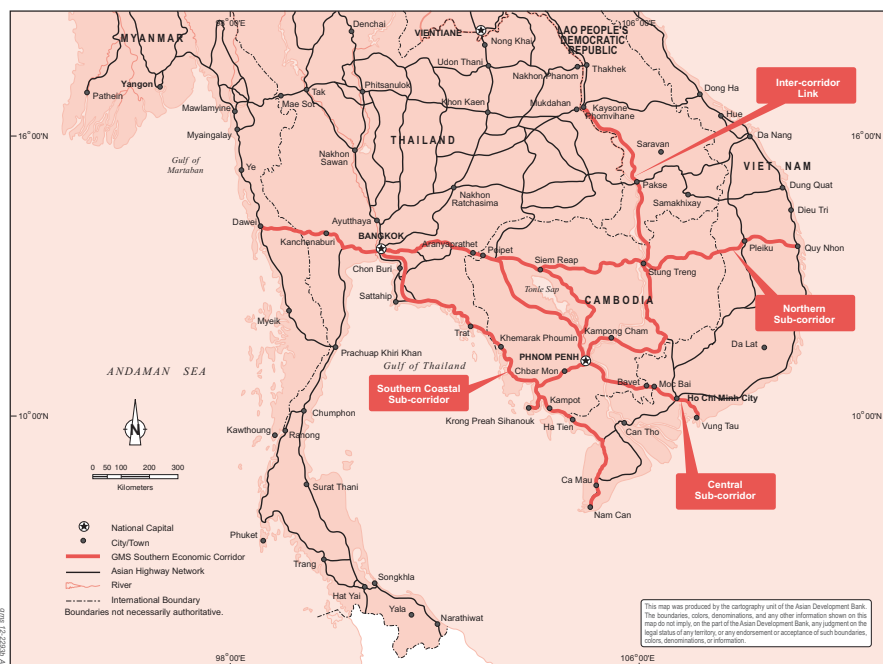
The goal of this study is to provide prioritized policy recommendations that will enable easier, cheaper, and faster transport of goods across borders into and from Cambodia. Improved TTF will thus help strengthen Cambodia's connectivity and improve its competitiveness.²

The selection of the policy measures was guided by three key criteria: (i) magnitude of impact on improving logistics;³ (ii) ease of implementation; and (iii) capability of being acted on within 2 years. To underscore the need for certain policy recommendations, the study also provides a detailed analysis of the transport costs and times from Bangkok via Phnom Penh to Ho Chi Minh City along the SEC's Central Sub-corridor.

² This chapter draws from a more detailed manuscript, ADB (forthcoming), "The Blue Book on Transport and Trade Facilitation along the Greater Mekong Subregion Southern Economic Corridor in Cambodia," referred to from here on as "the Blue Book." The Blue Book provides more details on the rationale and the country context of the proposed policy measures, an action plan, and key performance indicators for tracking the implementation of the various policy measures.

³ Logistics in this chapter refers to the transport of the goods and the processes, procedures, and documents involved in exporting and importing.

Figure 3.1: The GMS Southern Economic Corridor



GMS = Greater Mekong Subregion.

Source: ADB.

The proposed policy measures are intended to (i) increase the availability of information about agreements, laws, rules and regulations; (ii) harmonize axle road regulations, including their strict enforcement; (iii) eradicate checkpoints along the SEC; (iv) extend the opening hours of border points and logistics services; (v) strengthen cooperation and coordination between the public and private sectors; (vi) expedite border procedures by enhancing risk assessment; (vii) establish “service-level agreements” (SLAs) to decrease uncertainty in documentation processes; (viii) expedite the issuance of certificates of origin; and (ix) allow the use of e-mail and facsimiles in trade procedures and remove the need for approval by the local customs office.⁴

⁴ Partly on the basis of the initial findings of the Blue Book in early 2011, the General Department of Customs and Excise (GDCE) of Cambodia issued a directive on 30 June 2011 approving the acceptance of a fax or an e-mail message with scans of required documents and eliminating the requirement to have the local customs branch office approve documents that had already been approved by the GDCE head office in Phnom Penh (RGC 2011).

The rest of the chapter is organized as follows. Section 3.2 provides the methodology and the findings of the time–cost study. Section 3.3 outlines the nine policy measures and briefly discusses the action plan for implementing each of them. Section 3.4 provides an assessment of the impact of various policy measures on costs incurred and time taken in trading, the ease of implementation of the policy measures, and the implementation risk factors. Section 3.5 discusses the findings from an exporter survey, which was undertaken to validate the nine policy measures and to prioritize them on the basis of the preferences of the private sector. Section 3.6 concludes the analysis.

3.2 The Time–Cost Survey

Several indices available, such as the World Bank’s Logistics Performance Index or the World Bank’s Trading across Borders, provide data on the ease of trading and serve as useful benchmarks for governments to see where they stand internationally. However, the indices usually lack the details needed to identify specific bottlenecks within a country in the process of exporting and importing. For example, the World Bank’s report *Doing Business 2011* states that it takes 22 days, requires 10 documents, and costs \$732 to export a container from Cambodia (World Bank 2010). Moreover, depending on the type of good, its origin, the destination, and the risk profile, there are large variations in terms of costs and time to export or import, and a much more detailed analysis must therefore be done. The time–cost analysis presented in this chapter is aimed at partially filling this gap. It attempts to show exactly where costs occur and how much time is spent on each step in import and export processes. The objective, as previously stated, is to guide policy makers in eliminating unnecessary steps and undertaking other actions to improve Cambodia’s trade performance.

3.2.1 Methodology and Approach

The findings on time taken and cost incurred in exporting and importing are based primarily on data obtained in interviews with the private sector and in workshops with high-level policy makers. Primary data were collected through interviews with representatives of business associations, individual freight forwarders, and transport companies, as

well as from discussions held during regional logistics-related events.⁵ The interviews, with individuals as well as those with groups, were conducted in a semi-structured manner, which involved posing a few initial questions prepared in advance and then discussing issues suggested by the interviewees generally covering a wide range of issues.

During individual interviews and workshop discussions, it was discovered that business representatives were reluctant to share detailed data on time and costs as these were considered sensitive business information. Those who did provide information for this study did so only after being guaranteed anonymity.

The analysis largely relied on information reported by study participants. In cases where no data were available, assumptions had to be made to fill in the gaps. These assumptions are discussed below. Secondary sources for this report were drawn from other related studies and databases (EMC 2005 and 2010; World Bank 2010; JETRO 2008). In some cases, there were great inconsistencies among and between the primary and secondary sources used in this study and additional data were required to reconcile these.

3.2.2 Assumptions

In order to estimate the time taken and costs incurred in exporting and importing, several assumptions had to be made and data gaps were filled through educated estimates. These assumptions are listed below.

Transport route. The transport route chosen was the SEC's Central Sub-corridor. It starts in Bangkok passes through the Thai–Cambodian border at Aranyaprathet–Poipet and takes National Road No. 5 going south of the Tonle Sap to Phnom Penh. The cargo is shipped in transit from Poipet to an inland clearance depot (ICD) in Phnom Penh. Final production takes place in Phnom Penh and the finished goods are then exported out of Cambodia via National Road No. 1 to the Neak Loeang ferry across the Mekong River, crossing the Cambodian–Vietnamese border at Bavet–Moc

⁵ Discussions were held at the GMS–Business Forum (GMS-BF) Transport and Trade Facilitation Working Group meeting on 18–19 November 2010 in Phnom Penh, Cambodia, and the ADB Symposium for Developing the Southern Economic Corridor on 9–10 March 2011 in Phnom Penh.

Bai and then on to Ho Chi Minh City. It should be noted that every time the cargo crosses borders, it has to be transshipped.⁶ This route was chosen because Cambodia wants to become a part of the cross-border production networks that span East and Southeast Asia and be one of Asia's key production centers. The route chosen, i.e., the Central Sub-corridor of the SEC, connects production centers in Bangkok, Phnom Penh, and Ho Chi Minh City. Both Bangkok and Ho Chi Minh City have ports that offer regular services to other large trading hubs in the world. Raw materials and unfinished goods can be imported, processed, and modified in Cambodia, and exported back as new products. This is reflected in the assumption on the type of goods shipped.

Normal goods. The costs incurred and time taken estimated in this study pertain to a shipment comprising "normal" goods. A "normal" goods shipment is defined as a full container load of semifinished manufactured goods for import into Cambodia from Thailand and of finished goods for export to Viet Nam from Cambodia. These goods require only an import–export license and permit, and a normal good is assumed not to require special inspections or any specific clearances such as those related to sanitary and phytosanitary controls. These goods are transported to Cambodia for final production before being exported again as finished products to the world market. Normal goods are assumed not to require a certificate of origin, which would significantly change importing and exporting procedures.⁷ The weight of a container carrying the "normal" good is 20 tons, and it is further assumed that the truck fully complies with all axle load regulations. The value of each container is assumed to be \$10,000.

Vehicle operating costs (VOCs). VOCs are an important element in determining the costs of transport. VOCs can be split into fixed and variable costs. The fixed costs for a vehicle, for example, consist of opportunity costs and depreciation. Other costs such as wages, road taxes, and annual fees for insurance, licenses, etc., along with interest payments on loans to purchase vehicles also need to be included. According to transporters, their fixed standing costs total around \$3,000 per month, or around

⁶ Effective 14 June 2012, a limited number of both Thai and Cambodian trucks are allowed to operate freely between Bangkok and Phnom Penh without transshipping their cargo, following Protocol 1 of the GMS Cross-Border Transport Agreement (CBTA).

⁷ Even though the requirement of obtaining a certificate of origin is assumed away for the purposes of estimating time and cost in exporting and importing, the process of obtaining such a certificate is a big obstacle in Cambodia. This was adequately reflected during interviews with stakeholders and has therefore been included as one of the key policy measures to improve exporting and importing procedures in Cambodia.

\$120 per day per route (assuming that trucks run on average 25 days per month, excluding Sundays and holidays). The same fixed operating costs of trucks are applied for both countries (Thailand–Cambodia and Cambodia–Viet Nam).⁸ If the truck is in service more than 14 hours, one additional day is added, thereby increasing the fixed costs by \$120.

The variable VOCs for trucks include fuel, tires, and maintenance. These add up to an estimated \$1.00 per kilometer (km) for Cambodian trucks, and around \$0.85 per km for Thai and Vietnamese trucks. The difference in the operating cost per kilometer is due to the older, and hence less efficient, trucking fleet in Cambodia. For example, while a Cambodian truck runs for about 2.7 km on one liter of fuel, Thai and Vietnamese trucks travel up to 3.5 km on a liter of fuel—a difference of roughly 30%.

While the variable VOCs are held constant, the total VOCs per kilometer (variable and fixed costs) can vary by route, depending on the total number of kilometers and the number of days a vehicle is in service. The more kilometers a vehicle is used, the lower are the per kilometer fixed costs. Therefore, different total VOCs are obtained for the two sections. For Bangkok to Phnom Penh, VOC are estimated to be \$1.21 per km in Thailand and \$1.36 per km in Cambodia; and for Phnom Penh to Ho Chi Minh City the VOCs are estimated to be \$1.51 per km in Cambodia and \$1.36 per km in Viet Nam.

Speed. The trucking community indicated an average trucking speed of 60 km per hour along the SEC, unless otherwise reported for certain road sections.⁹

Duty payments. This study aims to show the logistics costs of transporting a “normal” good from Bangkok to Phnom Penh and Phnom Penh to Ho Chi Minh City. Accordingly, duty payments have not been included.

Opening and operating hours of government service providers. The office hours of government agencies such as the provincial customs branch office, the border itself, and the operating hours of the ferry across the Mekong River at Neak Loeng have been ignored for the purposes of this

⁸ In the study, the fixed standing cost of only one truck for the whole route is used. However, it should be noted that when transshipping goods at the border, two trucks are needed, as goods need to be transferred from one truck to the other. So, in fact, one needs to take into account standing costs for two trucks, especially considering that trans-loading could take up to 4 hours when both trucks are in service.

⁹ A lower average speed than 60 km per hour was reported for the following road sections: Bangkok–Aranyaprathet, Poipet–Banteay Meanchey, Moc Bai–Ho Chi Minh City.

exercise.¹⁰ Also transport times do not include waiting times. For example, the ferry operates from 5:30 a.m. to 12:00 midnight, and while the four ferries are known to be fast and efficient, heavy traffic around national holidays results in delays. Also, the opening hours of border points vary and consequently cause delays.

3.2.3 Limitations

The findings of the time–cost analysis presented in this study should be interpreted in light of the assumptions noted above. The findings should be taken as indicative only. The idea behind the time–cost study is to identify bottlenecks, i.e., factors that contribute to higher costs and delays in moving goods, and where efforts could be focused.

The study presents only a snapshot of logistics procedures in Cambodia and the estimated time and costs apply only to a limited set of products as defined above. For example, it is assumed that the cargo featured does not require any special treatment such as fumigation or does not have to undergo special inspection by customs or the Cambodia Import–Export Inspection and Fraud Repression Directorate General (CamControl). Changing the volume of cargo from a full container to a smaller shipment can also substantially increase the time, the number of documents required, and the costs of exporting, as can changing from normal import–export to shipment that is only in transit through Cambodia. Time and costs can decline too if the exported goods have been preprocessed in a dry port or in a special economic zone.

In order to develop a more complete picture of logistics performance over time, other quantifiable indicators need to be identified and data on these gathered regularly. In addition, any future analysis of the time–cost of moving goods along the SEC and its comparison with the preliminary benchmarks established in this study should take the above assumptions into account.

¹⁰ It is assumed that truckers plan their trips in such a way as to make the office hours, and this often seems to be the practice. Assuming that truckers reach outside the office hours would skew the results toward longer time taken in shipping and higher costs incurred.

3.2.4 Findings of the Time–Cost Survey

The results of the time–cost survey are summarized in Table 3.1 and Figures 3.2 and 3.3 depict the time taken and cost incurred in transporting “normal” goods from Bangkok to Phnom Penh (as imports into Cambodia) and then as a new shipment from Phnom Penh to Ho Chi Minh City (exports from Cambodia). Table 3.1 shows that it costs \$2,064.22 and takes 23 hours and 54 minutes¹¹ (1,434 minutes) to import a container from Bangkok to Phnom Penh. Exporting a shipment from Phnom Penh to Ho Chi Minh City costs \$739.36 and takes 13 hours and 59 minutes (839 minutes).¹² The analysis reveals that trucking costs account for roughly 40%–45% of the total logistics costs (on both legs of the corridor).

Table 3.1: Detailed Overview of Time and Costs along the Southern Economic Corridor

Process	Bangkok to Phnom Penh		Phnom Penh to Ho Chi Minh City	
	Time (minutes)	Cost (\$)	Time (minutes)	Cost (\$)
Pre-shipment process				
Deliver original documents		40.00		0
Obtain documents	2–3 days	350.00	1–2 days	110.00
Process documents		20.00	240	90.00
Trucking	724	869.22	289	338.36
River crossing			30	15.00
Police checkpoints	0	40.00	0	80.00
Weigh bridges	20	0	10	0
Transshipment (TEU)	60	80.00	60	80.00
Border process, incl. local customs	570	465.00	210	80.00
Final clearance	60	200.00		
Total	1,434	\$2,064.22	839	\$793.36

TEU = twenty-foot equivalent unit.

Note: All numbers provided are for both countries along the section of the corridor. More details for each country can be found in Tables 3.2 and 3.3.

Source: Authors' estimates.

¹¹ Ignoring pre-shipment processes and neglecting operating hours.

¹² Ignoring pre-shipment processes and neglecting operating hours.

Figure 3.2: Time–Cost–Distance–Model, Bangkok–Phnom Penh

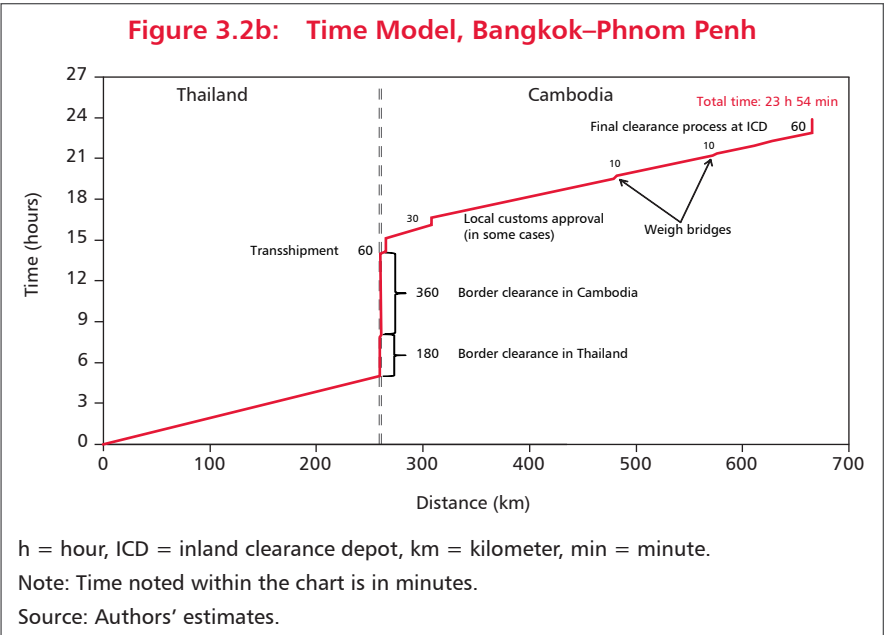
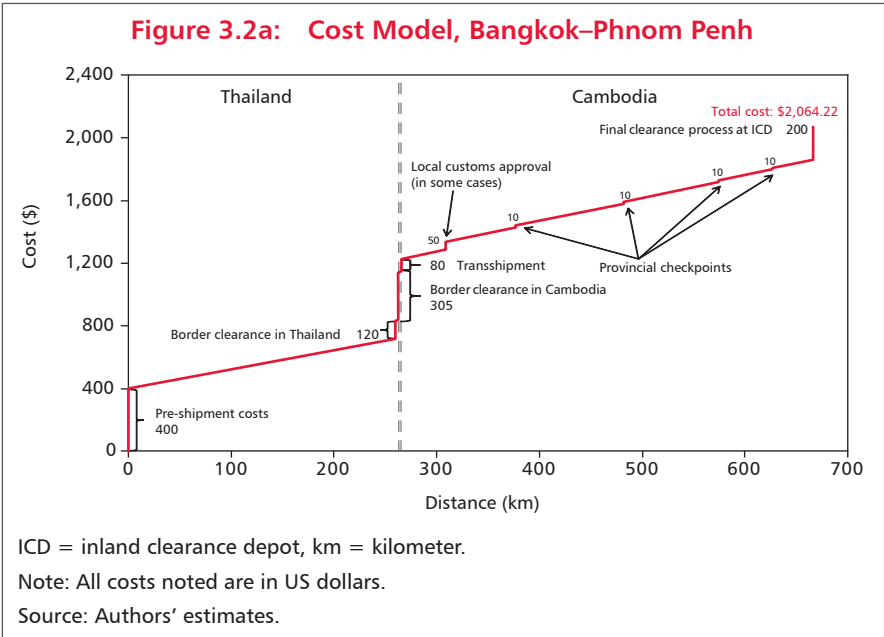
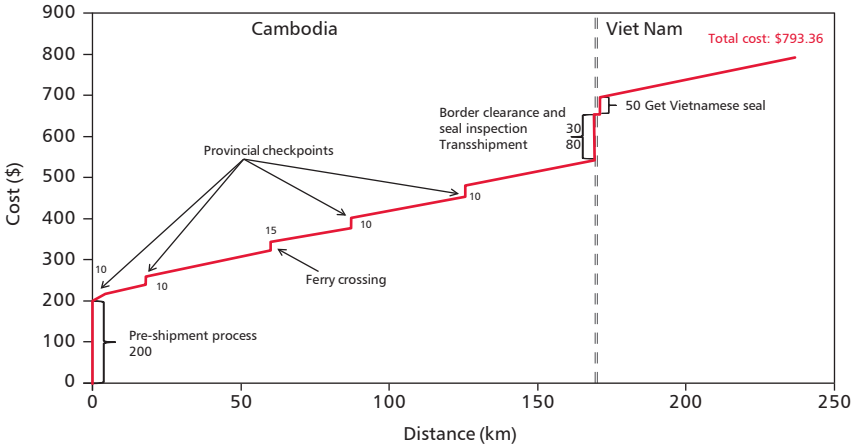


Figure 3.3: Time–Cost–Distance–Model, Phnom Penh–Ho Chi Minh City

Figure 3.3a: Cost Model, Phnom Penh–Ho Chi Minh City

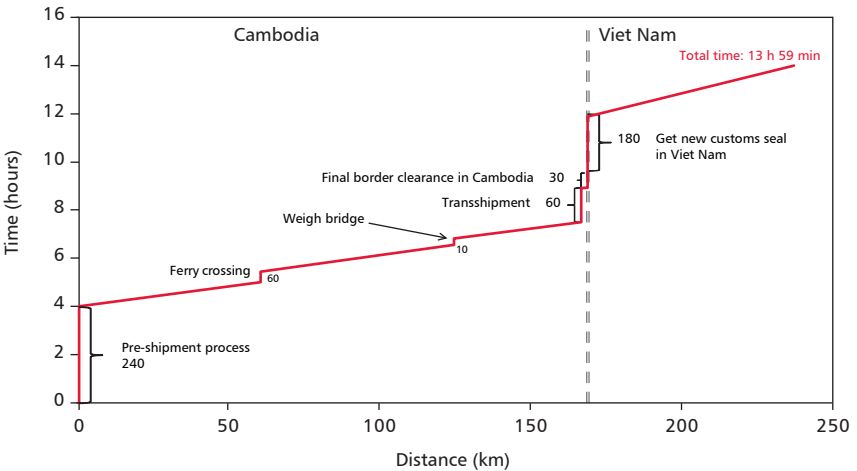


km = kilometer.

Note: All costs noted are in US dollars.

Source: Authors' estimates.

Figure 3.3b: Time Model, Phnom Penh–Ho Chi Minh City



h = hour, km = kilometer, min = minute.

Note: Time noted within the chart is in minutes.

Source: Authors' estimates.

Table 3.2 shows the costs incurred and the time taken to move goods along the Thai and Cambodian segments of the SEC while transporting goods along the SEC from Bangkok to Phnom Penh. Table 3.3 shows the costs and time for the Cambodian and Vietnamese segments along the SEC from Phnom Penh to Ho Chi Minh City.

It is worth noting that the transport costs per ton-km, at \$0.13 per ton-km, are much higher for the Cambodian section of the Phnom Penh–Ho Chi Minh City route (Table 3.3) than for the Cambodia section of the Bangkok–Phnom Penh route, at \$0.09 per ton-km (Table 3.2), a difference of about \$0.04 per ton-km, or almost 50%. One explanation for this could be the shorter distance traveled in Cambodia on the Phnom Penh–Ho Chi Minh City route compared with the Bangkok–Phnom Penh route as the cargo weight is the same. Other international studies have found that intercity transport costs in middle-income countries are predominantly around

Table 3.2: Performance by Corridor, Bangkok–Phnom Penh

Item	Total	Cambodia	Thailand
Total distance (km)	665.80	405.80	260.00
Total time (hours)	23.90	15.90	8.00
Total logistics cost (\$)*	2,064.22	1,607.08	457.14
Average time (min per km)	2.20	2.30	1.80
Average speed (km per h)	27.90	25.60	32.50
Average cost (\$ per km)	3.10	3.96	1.74
Transport cost per ton-km*	0.07	0.09	0.06
Logistics cost per ton-km*	0.16	0.20	0.09

h = hour, km = kilometer, min = minute.

* Assuming an average cargo weight of 20 tons (see section 3.2.2), logistics costs take into account the total costs to transport normal goods from Bangkok to Phnom Penh, including all documentation and other costs. Transport costs take into account only the transport-related costs for shipping normal goods from Bangkok to Phnom Penh (including trucking costs, checkpoints, weigh bridges, transshipment, and river crossing, if applicable). The total logistics cost of shipping goods from Bangkok to Phnom Penh via the Central Sub-corridor of the SEC is calculated separately for the Thai and Cambodian sections. For the Thai section, total logistics cost is calculated as: pre-shipment costs in Thailand (\$20) + distance x total vehicle operating cost per km for the Thai section (262 km x \$1.21) + Thai border crossing costs (\$120) = \$457.02. For the Cambodian section, total logistics cost is calculated as: Cambodia pre-shipment costs (\$380) + distance x total vehicle operating cost per km for the Cambodian section (405.8 km x \$1.36) + Cambodian border crossing costs (\$305) + checkpoint costs (\$40) + final clearance costs at the inland clearance depot (\$200) + transshipment (\$80) + final approval at the customs office (\$50) = \$1,606.89.

Source: Authors' estimates.

Table 3.3: Performance by Corridor, Phnom Penh–Ho Chi Minh City

Item	Total	Cambodia	Viet Nam
Total distance (km)	237.10	167.10	70.00
Total time (hours)	14.00	9.00	5.00
Total logistics cost (\$)*	793.36	649.14	144.22
Average time (min per km)	3.50	3.20	4.30
Average speed (km per h)	17.0	18.70	14.0
Average cost (\$ per km)	3.35	3.88	2.12
Transport cost per ton-km*	0.11	0.13	0.07
Logistics cost per ton-km*	0.17	0.19	0.10

h = hour, km = kilometer, min = minute.

* Assuming an average cargo weight of 20 tons (see section 3.2.2), logistics costs take into account the total costs to transport normal goods from Phnom Penh to Ho Chi Minh City, including all documentation and other costs. Transport costs take into account all transport-related costs for normal goods from Phnom Penh to Ho Chi Minh City (including trucking costs, checkpoints, weigh bridges, transshipment, and river crossing, if applicable).

Source: Authors' estimates.

\$0.04–\$0.06 per ton-km. Therefore, with a transport cost of \$0.06 per ton-km in Thailand and \$0.07 per ton-km in Viet Nam, the trucking industry can be considered as operating quite efficiently. On the other hand, the transportation cost for the Cambodian sections, at \$0.09 per ton-km from Bangkok to Phnom Penh and \$0.13 per ton-km from Phnom Penh to Ho Chi Minh City, can be considered high. Similarly high transport costs are faced normally in landlocked countries in Africa, namely, Burundi (\$0.11 per ton-km), Congo (\$0.12 per ton-km) and Niger (\$0.15 per ton-km).

However, it is not only the high transport costs that make trade expensive but also non-transport costs that contribute to Cambodia's high overall logistics costs. The cost–distance model graphs presented in this study (Figures 3.2 and 3.3, and Table 3.1) demonstrate and confirm this finding. The largest cost item in import and export costs are cargo-clearance procedures and document processing.¹³ Logistics costs in Cambodia, at \$0.20 per ton-km from Bangkok to Phnom Penh and \$0.19 per ton-km from Phnom Penh to Ho Chi Minh City, are almost double those for the Thai (\$0.09 per ton-km) and Vietnamese (\$0.10 per ton-km) sections. Non-trucking logistics cost

¹³ Cumbersome document procedures are only partially accounted for in the cost–distance and time–distance graphs. For example, the process of obtaining a certificate of origin is not accounted for in the graphs.

can be deduced from Tables 3.2 and 3.3. For example, from Bangkok to Phnom Penh, transport cost on the Cambodian section is \$0.09 per ton-km and the logistics cost is \$0.20 per ton-km (Table 3.2). The non-trucking logistics cost in Cambodia is therefore \$0.11 (\$0.20–\$0.09) per ton-km. On the other hand, for Thailand the non-trucking logistic cost is only \$0.03 per ton-km (Table 3.2). Similarly, from Phnom Penh to Ho Chi Minh City, the non-trucking logistics cost in Cambodia is \$0.06 per ton-km but only \$0.03 per-ton km in Viet Nam (Table 3.3). Thus, the non-trucking logistics cost in Cambodia is more than three times that in Thailand and two times that in Viet Nam. To a large extent, the lower logistics costs in Cambodia's neighboring countries can be attributed to higher-quality infrastructure and better import–export procedures.

Average logistics costs seem to be fairly consistent within Cambodia when the Cambodian sections of the Central Sub-corridor of the SEC from Bangkok to Phnom Penh and Phnom Penh to Ho Chi Minh City are compared. The average logistics cost for the Cambodian section is \$0.20 per ton-km from Bangkok to Phnom Penh (Table 3.2) and \$0.19 per ton-km from Phnom Penh to Ho Chi Minh City (Table 3.3).

3.3 Policy Measures and Action Plan

A key objective of the exercise is to provide prioritized policy recommendations for improving TTF in Cambodia. The recommendations presented here are based on interviews with the key stakeholders.¹⁴ For

¹⁴ All the policy measures discussed here were drawn from discussions held in 2010 and 2011 with key stakeholders, including meetings in Phnom Penh, Cambodia, of the GMS-BF Transport and Trade Facilitation Working Group on 18–19 November 2010 and the ADB Symposium for Developing the Southern Economic Corridor on 9–10 March 2011, the Third Economic Corridors Forum in the Lao People's Democratic Republic in June 2011, and another meeting of the GMS-BF Transport and Trade Facilitation Working Group in Phnom Penh in November 2011. While the GMS-BF meetings mostly convened transporters and freight forwarders operating on the SEC, the SEC symposium brought together representatives from four GMS governments, including local governments, private sector representatives, and multi- and bilateral development partners.

Issues and recommendations from the November 2010 meeting of the GMS-BF Transport and Trade Facilitation Working Group were summarized and presented at the ADB Symposium for Developing the Southern Economic Corridor on 9–10 March 2011, where the participants generally endorsed the findings and recommendations. The findings and policy recommendations from this study were fully endorsed by the private sector in the GMS-BF Transport and Trade Facilitation Working Group meeting on 31 May 2011. In addition, the relevance and importance of each recommendation was discussed in five workshops held with key exporting firms in October and November 2011.

each of the nine policy measures, key components of the action plan to implement those measures are also mentioned. Prioritization of these policy measures is discussed in section 3.5.

- *Measure 1:* Increase the availability of information about agreements, laws, rules, and regulations
 - Establish a website or links to an existing website;
 - Identify a lead agency to supply information (a private or public institution);
 - Appoint focal points in each concerned ministry who will be required to provide relevant information as soon as it becomes available; and
 - Raise awareness about the website and the data available.
- *Measure 2:* Harmonize axle-load regulations and enforce them strictly
 - Change the regulations to limit the maximum weight on each individual axle; and
 - Strictly enforce axle-load regulations to avoid road damage.
- *Measure 3:* Minimize checkpoints along the corridor
 - Eradicate checkpoints with strong political will.
- *Measure 4:* Extend opening hours of logistics service providers and delegate responsibilities to speed up processes
 - Extend the opening hours of all agencies and border crossings to 16 hours a day, 7 days a week; and
 - Operate each office without lunch breaks.
- *Measure 5:* Improve the effectiveness of the Government–Private Sector Forum (G-PSF) and other working groups
 - Encourage private sector working groups to give priority in their reform efforts to a few key issues with wide relevance (given the increasingly complex regional and global business environment).
- *Measure 6:* Expedite border procedures by enhancing risk assessment
 - Expand the color coding system for risk management to all border points;
 - Establish a “fast lane” for trucks with low-risk, low-impact shipments; and

- Expedite the introduction of the authorized economic operator (AEO) system, as already planned by the General Department of Customs and Excise (GDCE).
- *Measure 7:* Establish “service-level agreements” to decrease uncertainty in documentation processes
 - Eliminate some uncertainty about informal fees and processing time through SLAs, which specify that goods must be processed within a predetermined time frame unless a good reason is given for not doing so.
- *Measure 8:* Expedite the issuance of certificates of origin
 - Introduce information and communication technology (ICT) for processing, as well as issuing, certificates of origin.
- *Measure 9:* Allow the use of e-mail and facsimiles in trade procedures and remove the need for approval by the local customs office (see footnote 4).
 - Already implemented; now the implementation of the measures introduced in Letter No. 546 of the GDCE (RGC 2011) must be monitored.

3.4 Analysis and Impact of Selected Measures

This section uses inputs from the interviews and workshops with transporters and exporters, as well as valuable feedback from researchers and policy makers, in particular the GDCE, to analyze the likely impact of the various policy measures outlined in section 3.3 on time taken and costs incurred in trading, and the ease of implementation of the measures. Generally, the time and cost savings referred to in the analysis below are the logistics time and cost savings in transporting goods. But not all elements of the export and import processes can be reflected in time and cost savings. For example, measures such as facilitating access to information only indirectly affect the time and cost, but in practice easier access will help the private sector save much time on research and facilitate compliance with regulations (thereby reducing unofficial fees and penalties for violating the law). Such indirect effects are mentioned specifically.

3.4.1 Measure 1: Increase the Availability of Information about Agreements, Laws, Rules, and Regulations

Time. Information gathering can be a very time-consuming process, especially if the information is spread over several sources, is in different languages, or is available only in hard copy. While compiling information on one website will certainly reduce firms' search time and therefore allow them to concentrate on their core business, no direct improvement is expected in the time taken and costs incurred in transporting goods, as shown in Figures 3.2 and 3.3.

Cost. Impact on costs is likely to come through savings in penalties and informal payments that firms might be incurring on account of their not being familiar with the laws and regulations.

Ease of implementation: Easy. The financial costs of establishing a website with the relevant information are relatively low. Alternatively, the World Bank's Trade Information Website project could be used to post and spread information. If all the parties involved were to show interest, it should facilitate the implementation of this measure, as well as raise awareness among stakeholders. The GDCE has already made some efforts to make information available. For example, the Law on Customs and Regulations is available in English and Khmer on GDCE's website and in hard copy at several locations, e.g., bookstores. Initially, the major challenge for the proposed website will be compiling all the information. Most of this information is already available, although translations might be required in some cases.

A potential risk could be inadequate maintenance of the information on the website, in particular, lack of support from the various agencies holding information and lack of funds needed to keep the website updated. However, these risks would be reduced if a private sector organization (such as the GMS Freight Transport Association [GMS-FRETA]) were to take over responsibility for the website. The website could also expand its scope to other sectors such as investment and tourism.

3.4.2 Measure 2: Harmonize Axle-Load Regulations and Enforce Them Strictly

Time. No impact on the time taken is expected.

Cost. Trucking costs are expected to increase as complying with the law on axle load will require more trips and vehicles. However, costs to the government are expected to decrease dramatically as banning overweight vehicles from using the road network would cause road maintenance costs to drop. Less damaged and better maintained roads can help bring down VOCs, and in turn decrease overall logistics costs and travel time, helping improve Cambodia's competitiveness.

Ease of implementation: Medium. As the current weigh bridges can already weigh axles individually, no technical obstacles in implementing this measure are expected. However, monitoring proper implementation and enforcement may be difficult as the private sector reports irregularities on the weigh bridges.

The implementation of this measure could be compromised if the officer on duty were bribed so that overloaded trucks continued to damage the roads. Also, changing the axle-load legislation could prove difficult as the current *prakas* (regulation) was passed only in 2010 (RGC 2010).

3.4.3 Measure 3: Minimize Checkpoints along the Corridor

Time. The time spent at each checkpoint varies, but can take up to 10 minutes (depending on whether, and how much, the trucker pays). As there are numerous official and unofficial checkpoints, a truck could easily be delayed for an additional hour or two, in total. Yet, removing those checkpoints has an effect only on truckers who are not willing to pay a certain amount because otherwise no controls will be performed.

Cost. The impact of removing checkpoints is mainly financial. Eliminating such stops could reduce trucking costs significantly (by \$80). A reduction in unofficial payments can reduce the overall transport charges, and the reductions, when passed on to the firms, can make their products more competitive. Therefore, eliminating checkpoints should benefit consumers, as well as truckers.

Ease of implementation: Hard. While this measure does not require much money, it will need commitment from the highest levels of government. And even with that, the elimination of checkpoints will pose great challenges because of the low wages in the public sector and the many people receiving unofficial checkpoint fees.

3.4.4 Measure 4: Extend the Opening Hours of Logistics Service Providers and Delegate Responsibilities to Speed Up Processes

Time. The opening hours of government logistics service providers are not adequately reflected in the time model shown in Figures 3.2b and 3.3b as it is assumed that transporters always time their visits to meet the service providers' operating hours. However, exporters often miss cutoff times and must therefore wait, wasting much time. Also, the unscheduled closure of some offices can have a knock-on effect and transporters may not be able to reach other offices on time. The potential gains from eliminating lunch hours and extending operating hours are substantial.

Cost. Cost reductions will be realized only indirectly, through time and opportunity cost savings.

Ease of implementation: Easy. Keeping offices open over the lunch hour would be easy to achieve if staff worked flexible hours. The operating hours of government offices and border points have been extended in the past and doing so now would not require hiring more staff if staffing levels were varied to match peak and off-peak hours. While the private sector can ask border staff to work overtime to process a shipment, the costs are prohibitive (varying from \$20 to \$150 per container). Introducing a fixed fee for overtime would enable private companies to calculate costs exactly and determine whether to request overtime. Lengthening office hours at border points will be successful only if the same hours are adopted on both sides of the border. Arranging this will require coordination between the governments sharing the border. Delegating some responsibilities to lower-ranking staff could significantly reduce truckers' waiting time at government agencies and borders, but this will require the cooperation and consent of the government agencies concerned.

3.4.5 Measure 5: Improve the Effectiveness of the Government–Private Sector Forum and Other Working Groups

Time. This measure would have no direct impact on the time taken. However, it is expected that addressing private sector challenges will make private firms more competitive in the long run.

Cost. The measure would also have no impact in the short term on the costs incurred. Nevertheless, depending on which other measures are addressed in the G-PSF working groups, the private sector could see significant cost savings.

Ease of implementation: Easy. As the issues discussed in the G-PSF are becoming increasingly complex as Cambodia develops, the working groups under the G-PSF should adapt their approach to tackling problems. One solution could be to identify priorities and develop work plans to achieve those priorities. Studies such as this could contribute as it identifies the most vital needs. However, in order to make the G-PSF more efficient and effective, the private sector working groups must be more inclusive. With the International Finance Corporation (IFC) no longer coordinating the working groups, private sector participants must take over this role (G-PSF 2009).

3.4.6 Measure 6: Expedite Border Procedures by Enhancing Risk Assessment

Time. Given the long border processing times in Cambodia, “fast lanes” could speed up processing for transporters with low-risk, low-impact cargo. As processing and inspection times vary greatly (depending on the type of cargo, its origins, the assessed risk, the company’s track record, etc.), the impact of this measure on the time taken is uncertain.

Cost. An informal facilitation fee of around \$65 is often required to speed up the inspection process. This facilitation fee is reflected in border-crossing costs, although not every cargo needs to be inspected.

Ease of implementation: Easy to medium. The first steps have been made to introduce risk management in Cambodia. For example, risk-based inspections are under way at five pilot sites (Phnom Penh International Airport, Sihanoukville Autonomous Port, and three inland container depots), and were expanded to the Bavet and Poipet border points in September and October 2011. Also, a risk management unit has been created in CamControl (Prakas 155), rules for food safety inspection were adopted in October 2010, and a capacity development project has been approved (Padeco Co. Ltd. 2011).

Some of the expedited services for low-risk cargo should also be made available at the remaining border crossings. Large investments in infrastructure would not be required. For example, simply dedicating a desk in each office or authority to low-risk, low-impact goods could suffice to establish fast lanes. Private companies could help assess risk if the relevant authorities made the required information available and the AEO program

were introduced (WCO 2006, page 7).¹⁵ However, introducing the AEO program will take time as the government has to identify companies it can trust (although, in fact, a list of reliable companies already exists). An additional certification agency from the private sector, such as the GMS-FRETA, with authorization from the government, could certify companies on behalf of the government, thereby improving and speeding up border processing.

Although the inspection infrastructure at the border crossings of Poipet and Bavet is modern, the border itself has no designated inspection area (Padeco Co. Ltd. 2011). However, larger shipments are usually inspected at warehouses or ICDs.

3.4.7 Measure 7: Establish “Service-Level Agreements” to Decrease Uncertainty in Documentation Processes

Time. Reducing uncertainty in trade procedures will be a key to improving competitiveness for Cambodia. SLAs provide benefits through reliability and certainty, both of which are vital elements for companies engaged in supply chains. Although little change is expected in the time taken, the impact of this measure should not be underestimated.

Cost. Informal payments might decrease if some cargos no longer require inspection. However, informal payments might still be collected at other points in the chain.

Ease of implementation: Medium to hard. The goal of SLAs is to adopt an improved approach to the processing of goods and documents. Goods should be automatically processed if no rational reason not to process them is presented within a certain, predetermined time frame. The private sector would thus have greater certainty about the maximum processing time for certain goods, and processes would become more predictable. However, an extensive ICT system that can process document

¹⁵ The AEO is defined in the SAFE Framework of Standards (to Secure and Facilitate Global Trade) as a party involved in the international movement of goods in whatever function that has been approved by or on behalf of a national Customs administration as complying with WCO [World Customs Organization] or equivalent supply chain security standards. Authorized Economic Operators include inter alia manufacturers, importers, exporters [emphasis added], brokers, carriers, consolidators, intermediaries, ports, airports, terminal operators, integrated operators, warehouses, distributors. (WCO Policy Commission, 55th Session, Brussels, 9 June 2006).

submission, automatically generate documents, and process payments must be introduced. Additionally, without proper risk management and inspection, high-risk, high-impact cargo presents a significant risk to the government. The successful implementation of this measure will therefore depend greatly on a functioning risk management strategy designed to maintain safety and security. Also, this approach to processing cargo will require all government agencies involved in trade to change their approach to processing cargo. Training will be needed. As this measure could significantly reduce opportunities for informal fees, some resistance is likely.

3.4.8 Measure 8: Expedite the Issuance of Certificates of Origin

Time. Little impact on the time taken is expected as pre-shipment documentation is not reflected in the analysis in section 3.2. However, study participants emphasized the importance of expediting the issuance of certificates of origin.

Cost. Cost savings are likely to be limited to time saved as a result of not having to apply in person for the certificates of origin. The actual impact will most probably be in the form of reduced opportunity costs. Also, by presenting the certificate of origin, the buyer can take advantage of the preferential treatment granted to Cambodia's products.

Ease of implementation: Easy to medium. At present, according to the study participants, a certificate of origin is issued in 5–7 days, although the time is officially fixed at 11 hours 55 minutes (RGC 2004; IFC 2008). Delay in obtaining the certificate of origin and the consequent delay in shipments severely affects the competitiveness of Cambodia's exports. All efforts should therefore be made to have the official time enforced.

Establishing a website for submitting documents related to the certificate of origin could solve part of the problem quite easily. However, delays could still occur on the government's side. The first step in solving this problem is determining what is causing the delays. On the other hand, the official processing time of 12 hours seems too short. The garment sector already has special privileges that allow quicker issuance of a certificate of origin. Good practices from the sector could be replicated elsewhere.

3.4.9 Measure 9: Allow the Use of E-mail and Facsimiles in Trade Procedures and Remove the Need for Approval by the Local Customs Office

Time. Document submission via fax could have a large impact on the time it takes to get approvals from customs offices. Submitting forms in person wastes considerable time—some 10–12 hours in the case of import forms, 3–4 hours in the case of export forms.

Cost. Not having to bring documents from Phnom Penh to the border and to the local customs office could result in cost savings (about \$40). The largest savings, however, would be in opportunity costs. Instead of waiting to have their documents processed, business managers could spend the time on company business (not shown in Figures 3.2a and 3.3a). In addition, informal payments might be reduced if there were less interaction with authorities.

Implementation: Already implemented. The Government of Cambodia eliminated these obstacles after the first meeting on the Blue Book on 10 June 2011. A letter from the GDCE dated 30 June 2011 (Letter No. 546) explicitly states that:

The customs and excise unit has [the] authority to examine the customs procedure and has [the] duty to temporarily recognize the following documents sent by facsimile:

- import customs permit[s] of garment investors and investors in special economic zone[s];
- permit[s] for all kinds of [transit for] customs temporary inventory operator[s] [and] bonded warehouse[s; and]
- other [written] permits...from qualified customs broker[s who have] already paid [the] security deposit and [are the declarants.]
- [The] concerned businessman or [a] representative shall submit original copies of the documents...within 15 days.

All documents already decided by the General Department of Customs and Excise of Cambodia for handling customs clearance at border checkpoint[s] or other customs clearance offices [are] not required to be certified by other customs and excise branches. [If] necessary..., the concerned customs and excise branch can [station its] representative...at the customs checkpoint for the purpose of regularly collecting and sending information or documents to the concerned customs and excise branch and for urgent task[s] requested by other customs [offices]. (RGC 2011)

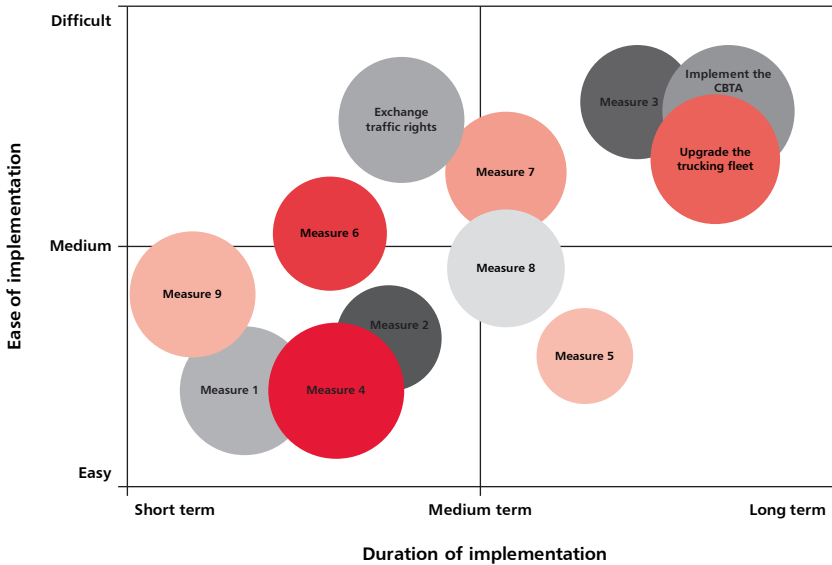
Figure 3.4 summarizes the above discussion and shows the ease of implementation, the expected time required for implementation, and the impact of each of the nine policy measures. The size of the balloons reflects the authors' assessment of impact: the bigger the size of the balloon, the greater the anticipated impact. From Figure 3.4, it can be seen that not all policy measures have the same impact. Policy measures 1, 4, and 9 are likely to have a greater impact. The three are also easier to implement and can be introduced in the short term. This is evidenced by the fact that measure 9 (Allow the use of e-mail and facsimiles in trade procedures and remove approval by the local customs office) has already been implemented. For comparison, three other measures besides the nine policy measures discussed above, involving bilateral exchange of traffic rights, implementation of the Cross-Border Transport Agreement (CBTA), and upgrading of the trucking fleet, are also shown in Figure 3.4. The impact of these three measures individually is in the same range as the impact of measures 1, 4, and 9, but the three are relatively more difficult to implement and require a longer time horizon for implementation. Compared with the nine policy measures, CBTA implementation and upgrading of trucking fleets will take longest to implement. Bilateral exchange of traffic rights, on the other hand, is implementable over the medium term.¹⁶

To provide an indication of the likely impact of the various reform measures on the time and cost of transporting a normal good along the SEC, the following assumptions were made and applied to the cost models: (i) a one-third to two-thirds reduction in informal fees from present levels; (ii) no required approvals from the local customs branch office; (iii) no transshipments at borders necessary; and (iv) acceptance of e-mail and facsimiles in trade procedures. However, other things, such as VOCs (both fixed and variable), were held equal (constant) and only fees incurred in Cambodia were considered.

The improved time model assumes the following: (i) a one-third to two-thirds reduction in customs inspection time and border clearance from present levels; (ii) no required approvals from the local customs branch office; (iii) no transshipments at borders necessary; and (iv) completion of the bridge in Neak Loeang (Phnom Penh to Ho Chi Minh City) Other things are assumed to remain equal (constant), such as the actual driving time (the average speed will not change as traffic and the road infrastructure

¹⁶ In fact, the exchange of traffic rights between Thailand and Cambodia at the Aranyaprathet–Poipet border crossing along the SEC began implementation on 14 June 2012.

Figure 3.4: Impact Analysis of the Proposed Policy Measures and Their Ease and Duration of Implementation



CBTA = cross-border transport agreement; Measure 1 = Increase the availability of information about agreements, laws, rules, and regulations; Measure 2 = Harmonize axle load regulations and enforce them strictly; Measure 3 = Minimize checkpoints along the corridor; Measure 4 = Extend the opening hours of logistics service providers and delegate responsibilities to speed up processes; Measure 5 = Improve the effectiveness of the Government–Private Sector Forum and other working groups; Measure 6 = Expedite border procedures by enhancing risk assessment; Measure 7 = Establish “service-level agreements” to decrease uncertainty in documentation processes; Measure 8 = Expedite the issuance of certificates of origin; Measure 9 = Allow the use of e-mail and facsimiles in trade procedures and remove the need for approval by the local customs office.

Source: Authors' estimates.

are still the same) and waiting time at the weigh bridge (10 minutes), and only time spent in Cambodia is considered. The results are shown in Figures 3.5 and 3.6.

It is expected that the improvements proposed above will lead to significant time and cost reductions for trade in Cambodia. On the leg from Bangkok to Phnom Penh, a reduction in costs (Figure 3.5a) of around 37% (from \$2,064 to \$1,300) and time savings (Figure 3.5b) of 26% (from 23 hours 54 minutes to 17 hours 44 minutes) are foreseen.

Figure 3.5: Improved Time–Cost–Distance Model, Bangkok–Phnom Penh

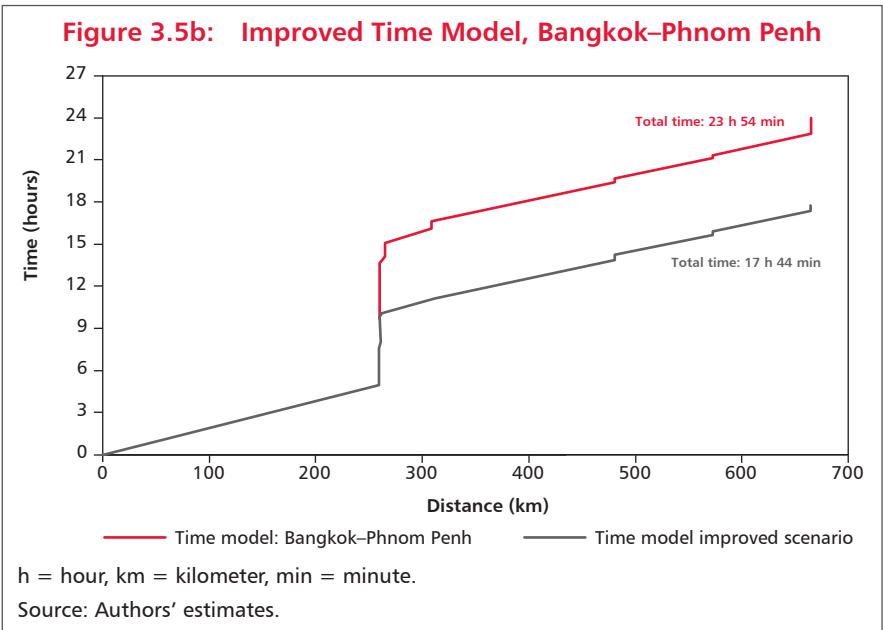
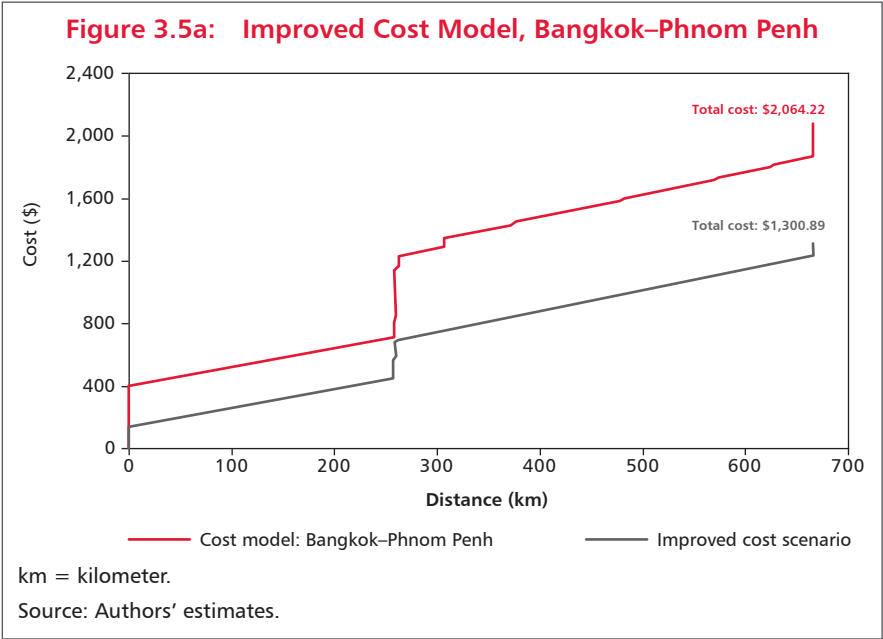
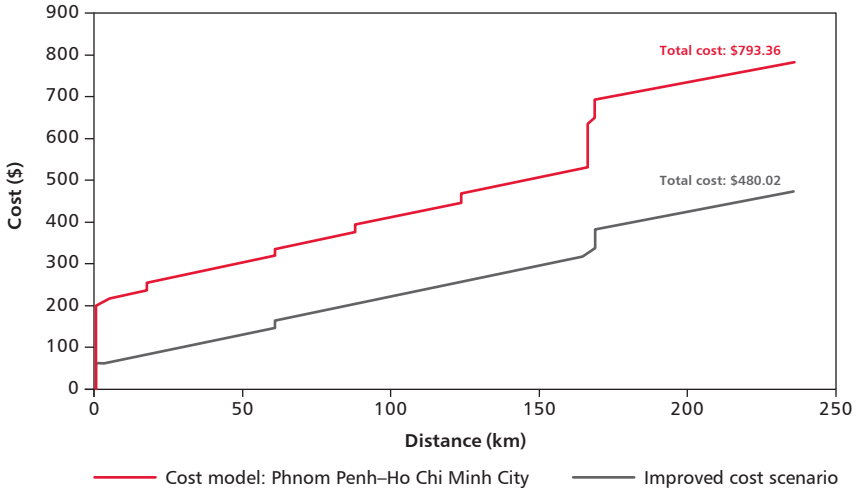


Figure 3.6: Improved Time–Cost–Distance Model, Phnom Penh–Ho Chi Minh City

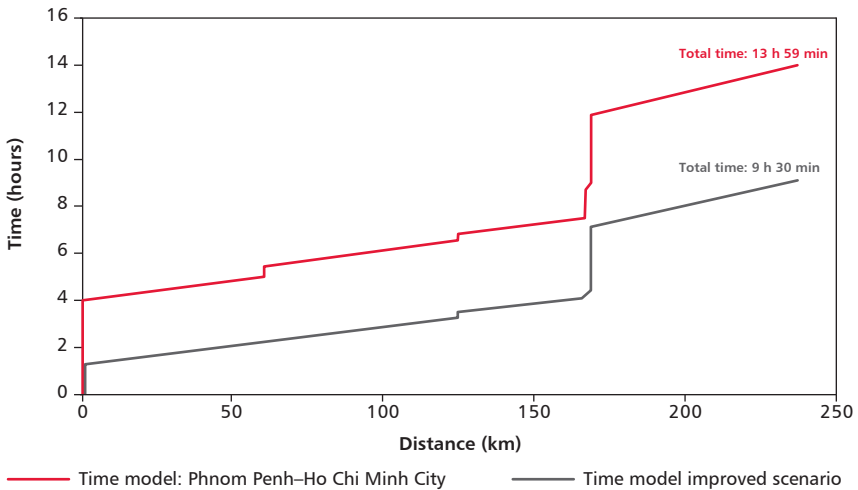
Figure 3.6a: Improved Cost Model, Phnom Penh–Ho Chi Minh City



km = kilometer.

Source: Authors' estimates.

Figure 3.6b: Improved Time Model, Phnom Penh–Ho Chi Minh City



h = hour, km = kilometer, min = minute.

Source: Authors' estimates.

On the leg from Phnom Penh to Ho Chi Minh City, the cost savings (Figure 3.6a) are slightly higher, at around 39% (from \$793 to \$480), and the time savings (Figure 3.6b) are 32% (from 13 hours 59 minutes to 9 hours 30 minutes).

3.5 Exporter Survey Results

For this study, exporters were surveyed to allow further validation of the above policy measures and to prioritize them for implementation on the basis of private sector preferences.

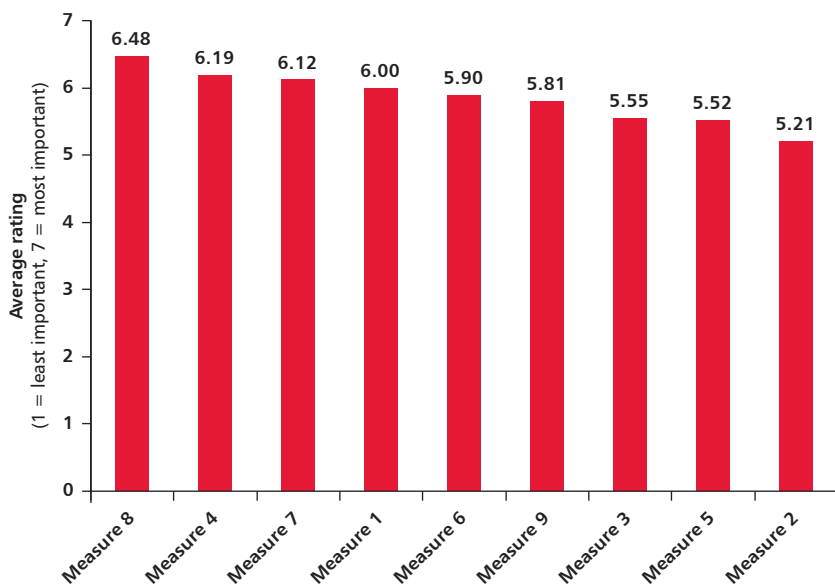
A total of 43 respondents from five core groups participated in workshops on the nine policy measures listed in section 3.3.¹⁷ In the course of the discussions, a small survey was administered to the private sector participants (EMC 2011).¹⁸ The participants in the workshops were asked to rate the nine proposed policy measures on a scale of 1 to 7, with 7 being the “most important” to the responder. Figure 3.7 shows the average rating of the 43 respondents for each of the nine policy measures. As shown in Figure 3.7, the top three priority measures are: (i) Measure 8: Expedite issuance of certificates of origin; (ii) Measure 4: Extend opening hours of logistics service providers and delegate responsibilities to speed-up processes; and (iii) Measure 7: Establish “service-level agreements” to decrease uncertainty in documentation processes.

On average, all the measures were found to be important and there was little variation across the policy measures. Subsequently, the workshop participants were asked to prioritize the proposed measures, that is, to limit to three the number of measures to which they assigned a “very high” importance rating. For the three policy measures that a group rated as having the highest priority (top-three measures based on a show of hands), a discussion was held concerning the expected impact of the measures on exporting companies and potential barriers to implementation. The nine

¹⁷ The five core groups and the number of participants from each were as follows: (i) Federation of Associations for Small and Medium Enterprises of Cambodia (FASMEC), 11 participants; (ii) Phnom Penh Special Economic Zone (PPSEZ), 13; (iii) Garment Manufacturers Association in Cambodia (GMAC), 8; (iv) Manhattan Special Economic Zone (MSEZ), 9; and (v) rice exporters, 2.

¹⁸ Before the survey, the participants were given an overview of ADB’s work and the genesis of the Blue Book. Subsequently, a detailed presentation was made on each of the nine policy recommendations in order to avoid any misunderstanding of the policy measures.

Figure 3.7: Rating of Policy Recommendations by Exporters



Measure 1 = Increase the availability of information about agreements, laws, rules, and regulations; Measure 2 = Harmonize axle road regulations and enforce them strictly; Measure 3 = Minimize checkpoints along the corridor; Measure 4 = Extend the opening hours of logistics service providers and delegate responsibilities to speed up processes; Measure 5 = Improve the effectiveness of the Government–Private Sector Forum and other working groups; Measure 6 = Expedite border procedures by enhancing risk assessment; Measure 7 = Establish “service-level agreements” to decrease uncertainty in documentation processes; Measure 8 = Expedite the issuance of certificates of origin; Measure 9 = Allow the use of e-mail and facsimiles in trade procedures and remove the need for approval by the local customs office.

Note: Measures are sorted from the highest average rating to the lowest.

Source: Data collected during five workshops held for exporting firms in Cambodia and authors’ estimates.

policy measures are prioritized below, according to the recommendations of the participants in the five workshops. There are slight differences in priority measures when the results shown in Figure 3.7 are compared with the discussion group recommendations. Measure 9, regarding the acceptance of e-mail and facsimiles in trade procedures and the removal of the need for local customs office approval, is not prioritized as it has already been implemented. Further, the prioritization is based

on discussions with exporters, given the trade-offs that each measure involves (related to impact, time to implement, ease of implementation, etc.). The participants were asked to balance all relevant aspects in their priority ranking.

3.5.1 First Priority

Measure 8: Expedite the issuance of certificates of origin. This measure was the highest ranked (both in the scale of importance shown in Figure 3.7 and in workshop discussions). In every workshop it was named as the top priority, and was viewed as particularly important in comparisons of time and cost of procedures with neighboring countries. For example, in Thailand, a certificate of origin costs only \$5 and is issued almost immediately. Even in the garment industry, which has access to expedited services, the process of obtaining a certificate of origin is perceived as slow. Generally, applying for the certificate through a website was thought to be the best way of cutting processing time. However, the efficiency gains that could be achieved were also viewed as a major barrier to the implementation of this measure because efficiency improvements could lead to job reductions at the Ministry of Commerce (MOC). There also seemed to be confusion about the exact requirements for obtaining a certificate of origin. The MOC requires exporters to obtain a certificate of origin, irrespective of whether it is required by the buyer or the destination country, possibly because it sees the process as a revenue-generating opportunity. For that reason, the study participants did not expect this measure to be implemented quickly.

3.5.2 Second Priority

Measure 1: Increase the availability of information about agreements, laws, rules, and regulations. This measure was ranked second highest in three of the five workshops. Workshop participants mentioned this as particularly important for potential foreign investors who want assurance that their business will operate efficiently. A rice sector participant stated that “having a one-stop place for information would be valuable since it would help both the private sector and the government to know the law.” Participants from the garment sector, one of the most mature and well-organized industries in Cambodia, indicated that information about export processes is still difficult to obtain. Participants from the Garment Manufacturers Association in Cambodia (GMAC) proposed that a list of procedures and a process map be made available so that exporters and

importers know exactly what they have to do, which documents they must use, and what timelines and costs they must meet.

3.5.3 Third Priority

Measure 3: Minimize checkpoints along the corridor. According to the survey and discussion participants, mobile checkpoints operated by customs are a major concern as they waste time and require unofficial payments. To avoid the mobile checkpoints, companies sometimes transport their goods at night. Although the government has forbidden the charging of fees to the rice sector, study participants reported that fees still have to be paid and that will be hard to change as many benefit financially from these informal checkpoints. One participant said that this reform would require a very high level of commitment.

Measure 4: Extend the opening hours of logistics service providers and delegate responsibilities to speed up processes. This measure was named the top priority in two workshops. Participants complained that time is often lost because customs desks are closed. High informal fees then have to be paid to speed up the processing of goods. The participants indicated that the successful implementation of this measure could greatly improve the speed of importing and exporting. But rather than extending office hours, companies would like border agencies to stay open during their listed hours (many do not). In many workshops, participants stated that they would be willing to pay slightly higher fees to speed up service, and even pay for overtime, if necessary, but they want to pay fixed fees and obtain official receipts. Keeping customs offices open during lunch hour was also viewed as important, but to reduce waiting times, participants put even greater emphasis on delegating signing authority to lower-ranking officials. When offices have shorter-than-advertised hours and only one person has authority to sign documents, delays in processing are inevitable. For the garment sector, this measure was the most important. Phnom Penh Special Economic Zone (PPSEZ) participants also rated this measure “highly important” but considered its implementation very difficult.

Measure 7: Establish service-level agreements to decrease uncertainty in documentation processes. While the introduction of SLAs, which specify document processing times, was ranked third by survey participants (Figure 3.7), it was a top priority for only one workshop group (Manhattan Special Economic Zone [MSEZ] participants). However, the issue of uncertainty about document requirements and procedures was raised in several workshops. Participants said that uncertainty regarding documentation processing

times was causing damaging delays to their businesses. Repeated follow-up with officials was necessary to ensure that documents were processed correctly and on time. Establishing SLAs would guarantee that documents are completed within the times specified, the participants said, adding that the processing times should be disclosed to the public.

3.5.4 Sixth Priority

Measure 6: Expedite border procedures by enhancing risk assessment.¹⁹

3.5.5 Seventh Priority

Measure 2: Harmonize road regulations and enforce them strictly. In general, there was much agreement in the workshops about the importance of this measure.

Measure 5: Improve the effectiveness of the Government–Private Sector Forum and other working groups. According to participants in the workshop held for members of the Federation of Associations for Small and Medium Enterprises of Cambodia (FASMEC), the G-PSF does not fully address their needs because not all firms participate in the G-PSF working groups. As a result, the working groups do not always represent the priorities of the whole small and medium enterprise sector. Restructuring the working groups might help to improve the public–private sector dialogue. Further strengthening of trade associations was proposed by MSEZ participants as a way for the members to take a unified stance in making their problems known and in finding solutions to those problems.

3.6 Conclusions

The analysis in this chapter focused on inefficiencies in import and export processes in Cambodia that cause significant delays and additional costs. The goal of this study was to provide prioritized policy recommendations to improve the process of importing and exporting and overall logistics in Cambodia.

¹⁹ Because of time constraints, the above measure was not discussed in detail during the workshops.

To this end, a time–cost methodology for transporting goods from Bangkok via Phnom Penh to Ho Chi Minh City along the SEC was undertaken. Several assumptions were needed to come up with estimates of time taken and costs incurred in moving goods along the SEC. Future studies, taking into account the assumptions made here, can help quantify the improvements made over time.

This chapter proposes concrete and measurable good practices to the government in order to improve trade and transport facilitation along the SEC. The selection of priority measures was guided by three key criteria: (i) magnitude of impact on improving logistics; (ii) ease of implementation; and (iii) capability of being acted on within 2 years. Nine policy measures that can ease the movement of goods by land from Cambodia have been identified. They are as follows:

- Measure 1: Increase the availability of information about agreements, laws, rules, and regulations.
- Measure 2: Harmonize axle road regulations and enforce them strictly.
- Measure 3: Minimize checkpoints along the corridor.
- Measure 4: Extend the opening hours of logistics service providers and delegate responsibilities to speed up processes.
- Measure 5: Improve the effectiveness of the Government–Private Sector Forum and other working groups.
- Measure 6: Expedite border procedures by enhancing risk assessment.
- Measure 7: Establish “service-level agreements” to decrease uncertainty in documentation processes.
- Measure 8: Expedite the issuance of certificates of origin.
- Measure 9: Allow the use of e-mail and facsimiles in trade procedures and remove the need for approval by the local customs office.

The analysis in the chapter shows that, under certain assumptions, significant reductions can be made in the time taken and the costs incurred. The reductions in time taken will promote timely deliveries of orders and receipt of supplies, which, in turn, will help ensure the timely delivery of the finished goods. The non-price competitiveness of Cambodian exporters will improve as their credibility as reliable exporters is enhanced. The reduction in costs incurred to move goods, on the other hand, can help Cambodian firms become more competitive when the cost savings are passed on to them. In short, logistics-related costs affect the competitiveness of Cambodian firms. The policy recommendations made here can help address some of the logistics challenges faced by Cambodian firms and make them more competitive in regional and global markets.

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CHAPTER 4

Trade Transit System in the GMS— Can It Work as Proposed?

Des Grimble and Gordon Linington

4.1 Introduction

Greater connectivity through projects such as the transport corridors has been central to the Greater Mekong Subregion (GMS) economic program since its founding in 1992. However, it was recognized at an early stage that physical infrastructure needed to be complemented by trade and transport facilitation (TTF) initiatives, and most notably the modernization of customs procedures and harmonization of transport regulations to enable easier, cheaper, and faster transport across borders. Similarly, TTF initiatives without improved hard infrastructure made no sense. In short, the agenda to improve connectivity in the GMS required both hard (improved roads) and “soft” (TTF) initiatives. Investments in transport projects have accounted for the bulk of the investments under the GMS program since its inception.¹

The provisions of the trade transit regime in the GMS fall under the GMS Cross-Border Transport Agreement (CBTA).² The GMS CBTA is a prime example of TTF initiatives under the GMS program.³ The GMS CBTA is

¹ Total investment in transport projects in the GMS at the end of 2011 was \$11.8 billion, out of a total investment of \$15.0 billion.

² The GMS CBTA was formulated under an Asian Development Bank (ADB)–funded technical assistance program in the late 1990s. The GMS CBTA been signed and ratified by all six GMS member countries.

³ The GMS CBTA covers all the relevant aspects of cross-border transport facilitation in one document. These include (i) single-stop, single-window customs inspection; (ii) cross-border movement of persons (i.e., visas for persons engaged in transport operations); (iii) transit traffic regimes, including exemptions from physical customs inspection, bond deposit, escort, and agriculture and veterinary inspection; (iv) requirements that road vehicles will have to meet to be eligible for cross-border traffic; (v) exchange of commercial traffic rights; and (vi) infrastructure, including road and bridge design standards, road signs, and signals.

a landmark accord that consolidates in a single legal instrument all the key nonphysical measures to facilitate cross-border movement of goods and people. The GMS CBTA applies to selected and mutually agreed upon routes and points of entry and exit in the signatory countries.⁴

Seventeen annexes and three protocols provide the operational details and the legal guidance needed to implement the accord. The annexes and the protocols are an integral part of the GMS CBTA, and each of them has to be signed and ratified separately by the GMS governments to allow its implementation.⁵

The provisions of the GMS customs transit system (CTS), i.e., the trade transit regime, are set out in Annex 6 of the GMS CBTA and a number of related technical attachments and protocols. A CTS pilot project was established across the East–West Economic Corridor (EWEC) from Viet Nam to Thailand, through the Lao People’s Democratic Republic (Lao PDR), in June 2009. However, since then, the arrangements have not been used in any recognizable commercial sense.

The objectives of this study are threefold. The first objective is to provide a discussion of (i) the current standards in CTS; (ii) the salient features of two widely used trade transit regimes, *Transports Internationaux Routiers* (TIR) of the United Nations (UN) and the *New Computerized Transit System* (NCTS) of the European Union (EU); and (iii) the provisions of the trade transit regime in the GMS. It is argued that the use of modern technology and risk management practices ensures maximum facilitation together with a reduction in documentation and holds the key to the success of the CTS. The GMS-CTS was developed in the late 1990s and is based on the UN’s TIR but is far from the TIR’s principles. Concepts and principles relevant then have changed and, with new technology, best practices have evolved. Consequently, the GMS-CTS significantly differs from current international best practices.

⁴ The GMS CBTA is under initial implementation at three border crossings: (i) Dansavanh (Lao People’s Democratic Republic [Lao PDR])–Lao Bao (Viet Nam); (ii) Mukdahan (Thailand)–Kayson Phomvihane (formerly known as Savannakhet, the Lao PDR); and (iii) Hekou (People’s Republic of China [PRC])–Lao Cai (Viet Nam). Agreements have been signed for the implementation at additional border crossings between the Lao PDR and the PRC along the North–South Economic Corridor (NSEC) and between Cambodia and Viet Nam along the Southern Economic Corridor (SEC).

⁵ All the annexes and protocols have been signed by all the GMS countries, and ratified by four countries. Myanmar and Thailand are at various stages of ratification.

However, the CTS in the GMS cannot be discussed in isolation from provisions proposed under the Association of Southeast Asian Nations (ASEAN) CTS (ACTS) because five of the six GMS member countries (except the People's Republic of China [PRC]) are also members of the ASEAN. The ASEAN has its own set of provisions for trade transit as set out in the ASEAN Framework Agreement on Facilitation of Goods in Transit (AFAFGT). The two trade transit regimes are, however, modeled differently—the GMS-CTS on the UN's TIR and ACTS on the EU's NCTS. In addition, the transit transport initiatives in the two regimes are also not aligned.

The second objective is to examine the key reasons behind the lack of use of the GMS-CTS. Traders have preferred to continue to use bilateral arrangements for moving goods along the EWEC rather than opt for the GMS transit facility. This chapter argues that the reasons for the lack of use are largely structural and related to the design of the CTS. In addition, factors relating to the design of the transit transport regime in the GMS-CTS are noted as deterrents to its use. The chapter concludes that the GMS-CTS, as proposed, has structural flaws and is unlikely to be used for any commercial activity.

The third objective is to discuss the options regarding the future of the GMS-CTS. One option is to reengineer the GMS-CTS. Another option is to wait for the ACTS and join forces with the ASEAN initiatives as the ACTS is built on current best practice. It has not, however, been determined (at the time of the writing of this chapter) when the ACTS will be implemented. A third option is to introduce an interim solution that will require the introduction of a paper-based CTS for authorized economic operators (AEOs) only to avoid its being compromised by fraud.

In light of the three options above, and given the parallel initiative being considered under the ASEAN, the chapter concludes that the options available to overhaul the GMS-CTS are not practical and, consequently, no more time and resources should be devoted to the current GMS-CTS proposal. Going forward, the issue of the GMS-CTS should be separated from the implementation of the rest of the GMS CBTA, which should focus on transport-related issues.⁶ Efforts to improve trade facilitation should focus on customs modernization and coordinated border management, leaving aside the issue of customs transit.

⁶ These conclusions were validated at a joint ADB–Australian Agency for International Development (AusAID) Workshop on Trade and Trade facilitation in the GMS held in Thailand on 18 October 2011.

The rest of the chapter is organized as follows. Section 4.2 provides a discussion of the current best practices in the design of a CTS. Section 4.3 examines and compares two international custom transit regimes, namely, the UN's TIR and the EU's NCTS. Sections 4.4 and 4.5 give an overview of the two customs transit regimes in the region, the GMS-CTS and the ACTS. Section 4.6 examines the reasons for the lack of activity under the GMS-CTS. Section 4.7 reviews the transit transport regime under the GMS and ASEAN provisions, and compares them with international best practices. Section 4.8 concludes the chapter with a discussion on the future course of action for the GMS-CTS.

4.2 Customs Transit System

4.2.1 What Is a Customs Transit System?

A CTS can be defined as a package of trade facilitation measures designed to simplify the procedures applicable to the movement of goods between the point of loading to their final destination when the route crosses the territory of at least one intermediate (transit) country. Three key ingredients are common to the success of any road transit scheme. These are:

- Suitable infrastructure, including roads, bridges, border crossing facilities, secure parking, and rest areas;
- Customs transit procedures, which offer benefits in terms of speed and cost against the alternative of import—export procedures carried out at the border; and
- Transport rights, which enable the goods to be transported in the same load compartment, whether in the vehicle itself or in a container or a trailer, from a point of departure in one country to a final destination in another country without intermediate transshipment, unloading, or physical inspection.

The benefits from adopting a modern CTS are not theoretical. A number of studies show that the potential gains in trade within GMS economies from lower transport and trade costs, the latter being incurred, for example, from adopting modern transit system approaches, are considerable (Stone and Strutt 2009). However, the extent to which a CTS will be used and provide commensurate economic benefits will always be influenced by:

- The volume of eligible potential traffic, including existing traffic using other procedures, traffic from modal switching, and new traffic; and

- The number of transit countries involved in the movement.

Above all, the relevance of the CTS will be contingent on the extent to which it offers commercial advantages in terms of reduced costs and more reliable or quicker journey times compared with existing methods for moving goods between the countries concerned.

4.2.2 Baseline Requirements and International Standards for an International CTS

The primary objective of any CTS is to facilitate the movement of goods in trade from one customs office to another either in the same customs territory (national transit) or another customs territory (international transit) and to provide security for the customs duties, taxes, and charges potentially due as the goods pass from one customs office or administration to another.

However, it is equally important to focus on the issues of today's world, for example, those concerned with consumer protection, technical standards, safety, and environmental issues. In short, this means that while customs duties may be reduced under the various free trade agreements, and thus the requirements for duty security are less of an issue for transit, there is an equally important set of social and technical issues that a properly established CTS can effectively address.

For the international transit system (viz. in the GMS countries), Article V of the World Trade Organization (WTO) and the General Agreement on Tariffs and Trade (GATT) covers the principle of freedom of transit through the territory of each contracting party. It is Annex E of the World Customs Organization (WCO) Kyoto Convention,⁷ together with its various recommendations and guidelines on customs transit, that sets out the broad framework of standards to be followed. In turn, these standards must be developed into specific legal, procedural, and operational rules in order that the system functions efficiently for both customs and the trade. In other words, working systems like the EU's NCTS have been developed over time on the basis of the WCO's standards and as operational practice produced improvements. Older systems such as the UN's TIR system, and indeed the GMS-CTS to some extent, have not had the same advantage.

⁷ www.wcoomd.org/Kyoto_New/Content/content.html

The first step, i.e., detailed legal provisions and implementing regulations for the CTS, must be formally agreed and signed into law by the governments of the contracting parties. Mandatory requirements are fixed and common to all users. Some discretion is permitted, but limited to the national level, to cover specific national requirements (usually in terms of additional data), but mandatory provisions are immutable. These mandatory provisions include the following: customs controls carried out in one country shall be accepted by any other, and physical inspection at the borders is normally waived other than for checking seals and the checking of external conditions of the load compartment or container. Following are the basic operational principles and standards for any international CTS; otherwise, the benefits of harmonization and simplicity in the customs systems—leading to fast and secure movement of goods—are likely to be lost.

Customs. The basic operational principles and standards are:

- A single goods declaration shall be used to cover a transit movement throughout its journey from office of departure to office of destination. It should follow the design of the regional customs declaration document to ensure consistency and avoid the proliferation of formats.
- A customs security (often called a guarantee or bond) shall be provided to cover the customs debt, also valid throughout the transport from office of departure to office of destination.
- The system shall be computerized for all operations from departure to destination.
- Customs should derogate from regular operational practice by offering “simplified procedures” for the operations of companies that fulfill prescribed conditions.
- The transit system shall be open directly to all companies that can provide the appropriate guarantee to customs and fulfill the practical procedures.

Transport. The basic operational principles and standards are:

- Transport units should not generally need to be approved in advance for the transport of goods, other than being suitable for sealing where appropriate.
- Associated transport rules and regulations must permit the free movement of vehicles and goods units within the national territories of the parties to the CTS.
- No separate customs declarations and security for duty and tax liability should be required for the means of transport and the load compartments.

4.2.3 Tackling Risk and Fraud

The existence of a CTS can provide significant opportunities for fraud through the diversion of goods en route and thus requires supporting measures to exercise formal official controls without impeding the free flow of goods. The above standards and the whole effort are aimed at moving goods from country A to country B through country C or D or E with as little administrative intervention as possible and with maximum security for revenue. The application of new technology and risk management are the keys to success in the modern environment that enable effective control and maximum facilitation, together with the reduction of documentation to a single page accompanying document.

ICT systems, in place of paper, to manage risk. Systems managed by the issue and return of paper documents have been the target of very considerable fraud that has threatened the extinction of the transit system itself. Documents have been regularly forged and deliberately manipulated. In some cases, officers of government departments and transport associations have colluded in illegal activities (European Parliament 1997). ICT systems replace paper with electronic declarations. Information can be provided quickly from the point of departure to the point of destination and movements acquitted rapidly.⁸ The information declared can be matched and compared to ensure its consistency and accuracy and shared with each border post en route. A working example of this technique is the EU's NCTS (discussed in greater detail in section 4.3.2).⁹

Guarantee systems and coverage. A transit system can operate only where a cost-effective system of security (guarantees) can be installed and where cooperation exists between customs administrations, guarantors, and the traders. The guarantee systems, of course, are usually backed by banks and insurance companies, whose basic principle is that premium income shall exceed claims. It should be noted that even a road transport association that acts as a guarantor must necessarily have its business underpinned by a bank or an insurance company. The dispensation to provide guarantees in each country of transit and national systems of

⁸ The process whereby the customs office of destination informs the customs office of departure that the goods have arrived safely and intact and that the security may be released.

⁹ The Automated System for Customs Data (ASYCUDA), the customs declaration processing software of the United Nations Conference on Trade and Development (UNCTAD), also has a built-in transit module that can help its users to manage transit nationally, but it has not been extended to the point where transit traffic can be properly controlled across international borders.

documentation enables goods to travel across national frontiers with a minimum of interference, enabling significant economies in transport and administrative costs. Goods move under a single set of international procedures and documents.

The WCO recommends that any guarantee system shall be robust and spread the responsibility to both owners and transporters of goods, and that the coverage of the duty and tax liability be limited to an amount not exceeding that due on the goods. Equally, in order to obtain the most advantageous cost for the guarantee, the system should provide for multiple guarantors in individual countries so as to avoid a monopolistic situation that is open to exploitation. The transit system guarantee will be provided to customs only in the country of departure and will cover all countries of transit and through to the final destination via the normal system of support of “corresponding” financial institutions.

Reliable operators with proven records and status can also be granted reduced guarantee requirements—as part of “authorized consignor and consignee” arrangements—in cases where the risk is low to insignificant. Guarantees may also be provided to cover a number of movements (often called a global or comprehensive guarantee) replacing the requirements to provide a guarantee on each and every movement.

These arrangements, once introduced, can make a very significant difference in security for charges, cost for the operators, and ease of management. Management of the system using information and communication technology (ICT) should normally be introduced concurrently.

Risk management and simplified procedures. The introduction of ICT, of course, provides the backbone for the risk management technique that naturally forms part of the CTS. It will be able to monitor the individual movements and also enable customs to identify consignments with higher risk, usually related to the goods themselves in terms of their value, nature, consignors, and consignees. The system can also monitor the movement of vehicles and containers.

It is essential to manage the users of the system, not only so that the most reliable companies are selected but also so that the simplifications can be granted to traders that demonstrate their reliability. Companies authorized to use the CTS will be approved in advance on the basis of their revenue records and financial status and will be audited periodically. “Simplified procedures” for AEOs now constitute a technique that is appreciated and implemented by WCO members. For example, in the transit regime this

enables approved traders to be exempted from the automatic presentation of all consignments to customs at departure (consignments will be inspected on the basis of the “selectivity” technique), the use of company seals may be approved, and the level of guarantee to be provided may be reduced. The introduction of this technique has proven to be highly effective in the reduction of fraud.

Approval and sealing of tractor, trailer units, and containers. The Revised Kyoto Convention recommends that customs should not generally require formal approval of means of transport used by operators. Of course, if the customs have grounds to consider that the transport and load are insecure, they may reject the request to enter the transit procedure.

Sealing by customs may be dispensed with in cases where the use of simplified procedures has been authorized or where customs can identify the goods being carried from the commercial documentation and customs declaration and where the customs is satisfied with the integrity of the load compartment.

4.3 Existing Operational Customs Transit Systems

Two examples of successful customs transit regimes currently in use are the UN’s TIR system, which is managed by the International Road Transport Union (IRU) and the EU’s common and community transit system. Salient features of the two systems are discussed below. Although, the TIR system and EU’s transit regime have a common objective and both provide tangible benefits to traders, there are substantial differences in the way the systems operate. This is significant for the GMS, not least because GMS-CTS is based on the TIR, whereas the transit proposals of ASEAN (which includes five of the six GMS member countries) are derived from the EU’s common and community transit system. GMS and ASEAN custom transit systems are discussed in greater detail later in the chapter.

4.3.1 The TIR Transit System

The TIR is governed by a UN Convention and administered by the Geneva-based IRU. It has been in operation since the early 1960s. There are no administrative simplifications. Computerized support is limited. Each movement follows the same procedure regardless of its size, its owner, or its transporter. The five basic principles are as follows:

The TIR carnet. The TIR carnet document constitutes the administrative backbone of the TIR system. It provides proof of the existence of an international guarantee for goods transported under the TIR and is also the customs transit declaration. Carnets are printed by the IRU and delivered (around 3 million of them) to the national road transport associations each year for issue to their members. The IRU provides computer software to manage the process of the issue of TIR carnet to operators and its return after use. A number of security features are incorporated in the printed document to limit the opportunity for forgery and fraud. In addition to the carnet, at the start of any movement, the customs administration will require export documentation using its national customs declaration form or computerized format.

A TIR carnet sold and issued by an IRU-approved road transport association to a transport operator remains valid until the formal ending of the TIR operation takes place at the customs office of destination. It is presented to customs at the point of departure and arrival and at outward and inward border crossings. At each of these points, both inward and outward, a sheet of the carnet (called a “volet”) is extracted by the customs and returned to the preceding TIR control customs office.

Essentially therefore, the TIR system is a series of national journeys covered by the same carnet and the same guarantee.

When the transit movement ends, customs, in most cases, informs the IRU by electronic message. The carnet document is returned to the issuing association by the user and then returned to the IRU. The transport associations and customs administrations have access to the IRU’s database systems through which they can monitor the acquittal of any carnet issued. Recently, it has become a requirement of the EU that all TIR carnets covering goods on their inward leg within the EU must be entered into the NCTS. The use of TIR carnets is not permitted for journeys wholly within the EU customs territory.

Approval of road vehicles and containers. The UN Convention sets out standards of construction and approval procedures for the load compartments of vehicles and containers. Goods may only be carried under the cover of a TIR carnet if the load compartment of the road vehicle or the container is approved accordingly and is covered by a valid certificate issued by the national inspection authorities (customs or the ministry of transport).

International guarantee system. A road transport association, representing the interests of the transport sector in a particular country and authorized by the customs administration of that country, “guarantees” payment of any duties and taxes that may become due in the event of any irregularity occurring in the course of a TIR transit operation within that country. The national transport association guarantees the payment of duties and taxes for both national and foreign carriers.

An elaborate system of legal agreements and approval processes is in place between the IRU and the national road transport associations (usually one per country), and these associations and the customs authorities. Together, the national guaranteeing associations constitute a guarantee chain linking all TIR countries. The chain is administered and backed by the IRU in Geneva. The IRU and its associations are in turn supported by an international insurance system. The monetary limit to the guarantee is set at \$50,000 (or its equivalent) for each TIR carnet, no matter what the potential customs debt is on a given consignment.

The person legally responsible for the payment of charges in the event of loss is the carnet holder, usually the transporter. In practice, in the event of a loss, customs invariably demands payment in the first instance from the association and the IRU.

International recognition of customs control measures. TIR movements are each inspected and physically sealed by the customs office at the point of departure. Goods carried under the TIR procedure in customs-sealed load compartments will not, as a general rule, be examined at customs offices in transit. This does not, however, exclude the right of customs officials to carry out checks in cases where they suspect irregularities, but such checks should be exceptions rather than the rule.

Controlled access to the TIR system. In addition to the approval of road vehicles used, each user of the TIR system is first approved by the national transport association and then authorized by national customs. Authorization is withheld if there is reason to believe that the user company will be unable to fulfill its responsibilities.

Access is normally open only to transport operators only who are members of the national transport association. Subcontracting of the transport operation is discouraged and can only be undertaken subject to special rules and to prior approval of the TIR issuing association. Although the deeds and declarations of engagement, which are the contractual documents

for use of the TIR scheme, have been designed with “flexibility” to ensure that carnets can be assigned to wider groupings, this assignment is at the discretion of individual transport associations and, in practice, varies widely, potentially creating difficulties for freight forwarders and other traders with their own transport who wish to use TIR carnets.

4.3.2 The EU and the New Computerized Transit System

As the EU’s customs union and the single market developed, the EU’s customs services were obliged to change fundamentally their approach to customs transit. Customs transit movements within the countries of the EU and the European Free Trade Association (EFTA, comprising the EU, Switzerland, Iceland, and Norway) are now carried out under the EU’s common and community transit system, which was developed and implemented in the late 1980s.

The NCTS is a comprehensive management tool developed and implemented in 2003 from the common and community transit which replaced paper documents on all movements across some 27 countries. In addition, it is linked to member states’ national customs systems to secure subsequent import or export requirements. The EU’s NCTS was designed to increase the efficiency of transit procedures at the border, improve the prevention and detection of fraud, and provide greater security for the customs duties and taxes at risk. As a result of the introduction of the NCTS in the EU, there has been a reduction in cases of fraud to practically zero and much lower costs for the legitimate trading community (Decision numbers 1/99,¹⁰ 2/99,¹¹ 1/2000¹² of the European Commission–EFTA Joint Committee amending the Convention of 20 May 1987 on a common transit procedure). The provision and management of guarantees and guarantors has become much easier.

This computerized system is underpinned by modern risk management schemes that aim to maximize benefits for compliant traders.

Under the NCTS, traders provide either an individual guarantee per consignment (rare nowadays) or (more usually) a global guarantee to cover a number of movements. In either case, the guarantee is furnished in

¹⁰ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:21999D0312%2801%29:EN:HTML>.

¹¹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:21999D0312%2801%29:EN:HTML>.

¹² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:22001D0112%2802%29:EN:HTML>.

the country of departure and is valid through to the point of destination. The level of the guarantee covers the risk in relation to the goods in transit, their value, and the duties and charges potentially due. The person who makes the customs declaration (called the principal and is usually either the owner of the goods or a freight forwarder/customs agent) together with the provider of any guarantee that may be required is responsible for the customs debt. The guarantor (usually banks or insurance companies) is called upon only in the event that the principal defaults.

No separate approvals, documents, controls, and guarantees are required for the truck or container. Vehicles from all member states can move freely throughout the other countries. No contracts are required between customs and the users of the system, except where traders are authorized to use simplified procedures.

The main technical features of EU's NCTS are:

- A transit declaration modeled precisely on the EU's single administrative document and, for transit movement, a single-page accompanying document from the point of departure to the point of destination, specifically in the same format, together with a bar code holding information on the consignment that can be read en route;
- Electronic customs transit declaration processing, using a direct interface for the trade from point of departure to point of destination;
- Advance arrival information passed electronically from customs at departure to customs at destination and the border posts en route;
- Online control of termination (acquittal) available from the office of destination, enabling the security to be canceled or reused very quickly;
- Simplified procedures offered to authorized traders with proven financial status and transit management experience, including no consistent need for presentation of the goods to customs at either departure or arrival, no customs sealing of the transport, and reduced or waived guarantee requirements; and
- Online control of the guarantee level.

The start of each movement of goods under NCTS is notified to customs electronically by the trader; it is possible for traders to go directly in person to the customs office but this is unusual. The information is then transferred to the customs office of destination through the computer network served by an administrative hub in the EU Commission in Brussels. The office of destination then notifies the office of departure electronically that all is well (or otherwise) at the end of the transit procedure. Offices of transit en route are able to intervene in the system for any movement on which problems occur. As with the TIR, physical controls are dispensed

with at the transit borders. Customs seals will be affixed only in specific circumstances such as high-value or sensitive goods.

The NCTS is a prime example of a working public–private partnership with real benefits for both sides. The system currently handles some 20 million transactions a year.

4.3.3 Comparison between the TIR and the NCTS

Above all, and apart from its much greater size, EU’s NCTS is a decentralized system that places the day-to-day management, and in particular the printing of the customs documentation and provision of the guarantee, in the hands of the private sector and customs at the national level. The NCTS also provides considerable simplifications for reliable and regular traders that are approved at the national level. On the other hand, the TIR operates on a “one-size-fits-all” basis.

The TIR scheme is, on the other hand, a centralized scheme managed by the United Nations Economic Commission for Europe (UNECE) and IRU in Geneva with the administrative overheads that go along with the concept for printing and managing the carnet system (about 50% of the 120 staff at the IRU in Geneva are devoted to managing the TIR). As will be appreciated, the formal approvals and contracts required between national transport associations, customs administrations, and users also add considerable weight in terms of time to introduce the system and cost.

Despite partial computerization, the TIR is still primarily a paper-based operation with no information on the commencement of a transit operation passing to the customs of destination and reliance for official verification on postal systems between customs offices and customs administrations. Consignments may be keyed individually into a national customs computerized system but the stamps on the paper carnets at offices of exit and entry are still required and the paper volets are still returned by post to acquit the national journeys.

In contrast, the NCTS provides almost instantaneous information to points of transit and destination, notification of the arrival of the goods, the writing off of the guarantee, and resolution of queries en route. It does, of course, require adequate ICT infrastructure. Furthermore, under the TIR, national customs administration still requires a declaration for export at the point of departure, which will differ in format from the TIR

carnet. In EU's NCTS, traders are able to make and print export and transit accompanying documents simultaneously from their in-house computer systems. This provides substantial simplification. Notwithstanding these significant differences, both schemes have obvious similarities in terms of the basic conditions, these being, above all, the need for a common international legal framework, a common document, an internationally recognized customs guarantee, and customs procedures that are applied consistently across borders.

As regards the guarantee, specifically, as discussed above, the TIR carries a guarantee of \$50,000 per consignment, whatever the nature of the goods. In EU's NCTS the potential charge is calculated on the basis of the goods in transit. On average, when the NCTS was introduced, the average potential charge per consignment was calculated as no more than €7,000, or about \$9,000. Thus, movements in the TIR are, for the most part, very substantially over-guaranteed.

In tangible terms, for a trader, under the NCTS, usually an individual common transit transaction secured by a guarantee from an insurance company or bank costs around \$50. Customs declarations are made in the usual fashion. Where simplifications are approved for a trusted AEO, then the cost can be zero, while retaining a full level of security. On the other hand, depending on the country, IRU policy, and the national association's policy, the cost of a TIR carnet issued from Geneva, backed by the IRU guarantee chain, can be anything up to \$150 and is often much more in high-risk countries.

Thus, in overall terms, where the customs has a normal level of ICT capacity, where customs in different transit countries can be connected together, and where guarantees can be provided by a financial sector that is acceptable to the customs in the countries of transit, EU's NCTS is clearly the most efficient solution for both customs and the trade.

4.4 The GMS CBTA Customs Transit System

The GMS-CTS is based on the provisions set out in Annex 6 of the GMS CBTA and a number of related technical attachments and protocols, and is modeled on the provisions of the TIR system. However, several important deviations from the TIR have been incorporated into the GMS-CTS, which have the effect of creating a substantial divergence from the international standards recommended by the WCO. These deviations are discussed below in section 4.6.2.

The system is currently managed by multi-party memorandums of understanding (MOUs). For example, an MOU made in 2008 between the Lao PDR, Thailand, and Viet Nam governs the establishment, responsibilities, and relationships between customs authorities, national road transport associations, and guaranteeing organizations. In particular, this MOU sets out important modalities relating to the management of the CTS, the establishment of the customs guarantees, and the operation thereof.

The main features of the GMS-CTS are as follows:

- A single customs declaration for goods called the transit and inland clearance customs clearance document (TICCCD). The TICCCD is akin in purpose to the TIR carnet in that it provides the customs declaration and records the existence of the customs guarantee. However, the format of the TICCCD is similar to that of the single regional customs declaration proposed by ASEAN and this similarity is useful. It is issued by the national issuing or guaranteeing associations mandated to manage the CTS. For each individual movement it is issued in sufficient copies to enable control copies to be endorsed, retained, and returned through the national postal systems between all the customs offices of departure, exit, and entry. This means that for any single journey across three countries (from, say, Viet Nam to Thailand through the Lao PDR) a minimum set of an original and nine copies is required.
- Motor vehicle temporary admission document.
- Container temporary admission document. This and the motor vehicle temporary admission document are identical in purpose and format to the TICCCD and cover a “temporary import” customs declaration and guarantee for the motor vehicle and the container. These are also in multipart sets to enable the customs offices to manage the passage through the country. Thus, a further two sets of one original and nine copies (20 pages in all) would be required for a journey with a truck and a container from Viet Nam to Thailand.
- Management and access. The customs administration is required to authorize its national issuing and guaranteeing organizations to manage the CTS. The latter are then required to select transport operators (their members); TICCCDs may be issued only to these. Each must have a good revenue record and must hold a transport operator’s license. Freight forwarders and other major producers and traders will be unable to use the transit system unless they engage the services of an approved transport operator. The system operates, as does TIR, on a “one-size-fits-all” basis, with no simplified procedures.
- The customs guarantee (security). The national associations are asked to provide a guarantee—in each of the host countries where operation of the CTS is intended—set currently at SDR55,300 to cover the goods,

vehicle, and container. This may be in the form of a bank guarantee or a bank deposit to be drawn upon directly in the case of an irregularity and to be replenished immediately. As currently interpreted, this means that each guaranteeing association will be obliged to provide a guarantee of SDR55,300 to its own customs administration and also to those of the other countries through which a movement is intended to pass. The amount “guaranteed” against each consignment of goods is SDR35,000, regardless of the type, quantity, and value of the goods entered into the transit regime.

- Computerization. The introduction of a computerized system is envisaged at some stage (and indeed it is referred to in the MOU of 2008), but no ICT feasibility studies have been carried out.

4.4.1 Current Status of the GMS-CTS

The GMS-CTS was rolled out as a pilot project along the EWEC in mid-2009. The provisions of the GMS-CTS eliminate transshipment and the establishment of the GMS CBTA “fast track” allows trucks holding GMS CBTA documents to move across borders with minimum inspection.

However, there has been no commercial activity under the GMS-CTS since its introduction and traders continue to use traditional methods for moving goods along the EWEC. This involves “smoothing the path” through existing official regulations, which means transshipping loads at the border posts from one national carrier to another in the arrival country. In other words, as regards customs procedures, a business in Viet Nam can move its goods to the Lao PDR border, make an export declaration, carry goods across the Lao PDR using a “national transit arrangement,” and either pay duty to import goods into Thailand at the border or make a transit declaration to a Thai port where the goods are exported. As regards transport, trucks and trailers operate using bilateral agreements in place between the countries (Thailand–Lao PDR and Lao PDR–Viet Nam) but with no separate requirement for customs documents or guarantees for the individual truck or the load compartment.

This is not an ideal environment in which to work commercially, but it can and does function. Traders and officials are accustomed to the situation and simply make the best of it. In short, it is clear that traders are continuing to use traditional methods for moving goods on the EWEC rather than opting for the GMS transit facility. It is therefore important to understand the reasons behind the lack of commercial activity under the GMS-CTS. Is it because of the poor implementation of the GMS-CTS or because there are inherent flaws in the design and the structure of the CTS? This is taken up in section 4.6 below.

4.5 The ASEAN Customs Transit System

The CTS in the GMS cannot be discussed in isolation from provisions proposed under ACTS because five of the six GMS member countries (except the PRC) are also members of the ASEAN. The ASEAN has its own set of provisions for trade transit. With the ASEAN leaders adopting the ASEAN economic blueprint toward the establishment of the ASEAN Economic Community (AEC) by 2015, there is an impetus in ASEAN to implement a trade transit regime. For the AEC to function properly, goods and transport must move freely within the region with as little administrative hindrance as possible. Above all, this requires effective and coordinated (joined-up) customs systems working from the same base with common rules that are applied consistently.

The ASEAN customs transit system proposals are laid out in the AFAFGT. AFAFGT aims to simplify and harmonize transport, trade, and customs regulations and to establish an effective, efficient, integrated, and harmonized transit transport system in the 10 ASEAN member states.¹³ The objectives of the GMS CBTA and AFAFGT mirror each other. The AFAFGT consists of nine separate protocols, seven of which relate to transport harmonization. Two protocols relate to customs harmonization requirements—Protocol 2 and Protocol 7. Protocol 2 covers agreements on the use of specific border posts and transport corridors. Protocol 2 requires agreement simply via an exchange of letters and at the time of writing of this chapter it was expected to be completed soon.

Protocol 7 covers the legal, procedural, and documentary requirements. Protocol 7 forms the basis for the implementation of the ACTS and is the equivalent of Annex 6 of the GMS CBTA (the GMS-CTS). The ASEAN countries have revised Protocol 7 in its entirety and have produced an extensive technical appendix that sets out the regulatory requirements and procedures. The revision of Protocol 7 and the writing of the technical appendix were done with reference to the EU's NCTS. At the same time, the principles and the detailed proposals for the ACTS take into account the practical situation in the ASEAN region. At the outset, member states took into account the standards for the customs transit system as prescribed in

¹³ In 2005, the ASEAN economic ministers agreed to establish an ASEAN single window (ASW), which is intended to form the environment where national single windows (NSWs) of member countries can operate, i.e., where trade and transport data are transferred and managed as required. It constitutes a regional facility to enable seamless, standardized, and harmonized routing and communication of trade and customs-related information and data from and to NSWs for customs clearance and release. In other words, the ASW protocol forms the base agreement in the ASEAN countries for the movement of data relating to imports, exports, and transit.

the Kyoto Convention and its Annex E, and decided on the following five key components:

- The ACTS should be fully computerized with electronic messages used for (i) communications between traders and customs for the lodgment of transit declarations and the discharge of completed transit movements; and (ii) the exchange of transit movement data between customs authorities. This is essential for risk management purposes so that each customs office involved in a transit movement knows automatically in real time which movements have started, those that are en route, when they can be expected, when they have arrived and whether they have been correctly discharged.
- It should be a system that is open to all “suitable” traders irrespective of their type of business, with approvals for the use of ACTS being given following an assessment by the competent authorities according to mutually agreed criteria.
- A risk-profiling scheme should be used to allow reliable traders “simplifications” or exemptions from a range of standard requirements. The exact package available is included as part of the ACTS technical documentation.
- The system should use one guarantee valid in all countries to cover the goods throughout the entire journey. This would be provided by approved guarantors from the financial sector with the amount of guarantee geared to the amount of duties and taxes and risks.
- It should be based on the use of a single regional customs document for transit (a subset of the ASEAN customs declaration document).

In terms of the implementation strategy, the ASEAN Directors-General of Customs has approved the implementation of the ACTS starting with a pilot project across the North–South Economic Corridor (Malaysia, Thailand, and Singapore). This reflects the practical situation since these three countries are in a position to test and implement the ACTS technically right away, in addition to being the largest trading countries within the ASEAN. When the pilot is proven, the ACTS will be rolled out in a phase 2 across the EWEC from Thailand to Viet Nam through the Lao PDR. This will provide more time for the latter two countries to install their respective ICT infrastructure and complete their customs ICT systems.¹⁴

¹⁴ It should, however, be noted that the introduction of a computerized CTS in the Lao PDR and Viet Nam would be perfectly feasible now, given the current state of knowledge available in the field of transit ICT systems. In other words, there is no absolute need to await the full implementation of ASYCUDA in the Lao PDR or the new system in Viet Nam before launching an ICT project for the CTS. Logic decrees that the PRC be added to the network at the same time, just as Switzerland, Norway, and Iceland were added into the EU’s common and community transit system.

It is imperative that parallel initiatives under ASEAN be taken into account and all efforts be made to harmonize the two trade transit regimes. The two trade transit regimes are, as previously noted, modeled differently—GMS-CTS on UN's TIR and ACTS on EU's NCTS. The transit transport initiatives in the two regimes are also not aligned. In the five countries that are members of both GMS and ASEAN, it will not be in the interest of traders, transporters, and customs officials to handle two different trade transit regimes. In the event that both were to be implemented in the GMS countries, only the one that is more convenient to use, and offers significant time and cost savings over the traditional methods, will ultimately be used by traders. The other will be left redundant.

Appendix Table A4 at the end of this chapter provides a comparative analysis of the GMS-CTS with that of the TIR, EU's common and community transit system, and the ACTS.

4.6 Factors behind the Lack of Use of the GMS-CTS

Trade facilitation requires the simplification of official procedures, harmonization of data, reduction of official documentation to an absolute minimum, application of risk management, and application of modern technology to secure the supply chain. One of the key objectives behind the GMS CBTA and the AFAGT is to facilitate movement of goods and trucks across borders with minimum paperwork and inspections. Modern transit regimes, GMS CBTA or AFAGT, must substantially improve on existing systems control-wise, save time, and reduce costs; otherwise, the business community is likely to keep using the traditional methods for moving goods. As discussed in section 4.4, since its rollout in 2009, the GMS-CTS has not been used along the EWEC and traders continue to use conventional ways of moving goods. This suggests that the GMS-CTS does not seem to offer time and cost savings over the conventional means of moving goods.

4.6.1 Reasons for the Lack of Use of the GMS-CTS

There are a number of reasons, sometimes overlapping, why the GMS-CTS is not being used on EWEC. Some reasons are fundamental, while others are simply deterrents. For the purposes of this section, these reasons are divided into three broad categories:

- Factors relating to the design of the customs procedures and guarantee arrangements. The CTS proposals are incompatible with WCO standards although they appear to be based on the TIR, which is an effective and compliant transit scheme despite past periods of instability due to serious fraud. While the TIR is now functioning well, the GMS-CTS has failed to take off. The consensus view of customs officials, traders, and their representative bodies is that it is perceived as complex in design and difficult to use in practice. This is certainly an important contributory factor in the decision of traders to use existing methods for moving goods on the EWEC rather than adopt the transit procedures. The complexity of the GMS-CTS customs procedures and guarantee arrangements and how they diverge from the TIR are discussed in detail in section 4.6.2.
- Factors relating to the design and implementation of the transport elements of the GMS-CTS. These include:
 - Route and border crossing restrictions imposed on transit traffic. The current transit traffic destination limits have already been identified as too restrictive and the corridors are in the process of being extended in Viet Nam and Thailand.
 - Difficulties in obtaining necessary permits or licenses for transit transport.
 - Restrictions relating to vehicle weights and dimensions and mutual recognition of test certificates.
 - Lack of traffic rights. For example, lack of traffic rights for Vietnamese vehicles entering Thailand and restricted traffic rights for the Lao PDR-registered vehicles have been cited as influencing traders' operational decisions.

Section 4.7 provides a detailed discussion of the key features of the transit transport protocols under the GMS and ASEAN and compares them with the current practices under the EU's common and community transit system and UN's TIR.

- Economic factors, such as trader concerns about the economic viability of running vehicles between Thailand and Viet Nam, given difficulties in obtaining return loads. There is some linkage here to the design of the GMS-CTS guarantee and transit documentation requirements—traders see it as difficult to obtain transit documentation for return loads—as well as to the structure of the domestic transport markets.

- Factors outside the GMS transit system proposals. These include:
 - Infrastructure: although there has been considerable investment in the highway network on the EWEC in recent years, lack of infrastructure has been identified as still having some influence on trader routing decisions.
 - Driving conditions and road safety concerns.
 - Trader awareness of transit opportunities.
 - Vehicle insurance issues.

Though these are important issues that can influence logistics operations, they are not seen as the only factors influencing trader decisions to use or not to use the GMS-CTS.

The proposals made for the GMS CBTA were expected to make the process more efficient, but they have not been taken up and used in the member countries. In other words, using the GMS CBTA in its present form clearly offers no advantages to traders to switch from using the land route or indeed the sea route, however inefficient present procedures might be. Similarly, they are insufficient to stimulate new trade. The trade sees no benefits, and has no incentive, to change from tried and tested methods of getting goods along the corridor.

4.6.2 Divergences from TIR Principles and WCO Standards within the GMS-CTS

The TIR, on which the GMS-CTS proposals are supposedly drawn, has continued to operate meanwhile, and makes substantial profits for the IRU and the member associations despite periods of instability when fraud became a serious problem. On the other hand, the GMS-CTS has failed to take off. It is therefore worth looking briefly at the reasons why the GMS-CTS is not being used. Three key reasons are discussed below.

Customs documents and procedures. As already discussed, TIR carnet is a single document that accompanies the goods and transport and provides a guarantee to customs for the charges due on the goods if an irregularity occurs. It is a multipart set, but no document set or guarantee is required for the transport unit itself or the container. This means that for a three-country journey, a single carnet with seven internal pages (volets) is required.

The design of the GMS CBTA effectively means that for the same journey a minimum 10-part set will be required for the goods, transport, and container (30 copies in all). More precisely, under Annexes 8 and 14 of the GMS CBTA, customs documents and customs securities are required in relation to vehicles and containers used in transport, in addition to the documents required for the goods. Thus, there is serious concern about the amount of paper required under the GMS proposals.

There are international instruments specifically designed to deal with these issues—most notably, the UNECE Container Convention, administered by the WCO, and the WCO's Istanbul Convention, which specifically covers "means of transport" in its recommendations on temporary importation of means of transport. Similarly, Article 15 of the TIR Convention states:

No special Customs documents shall be required in respect of the temporary importation of a road vehicle, combination of vehicles or container carrying goods under cover of the TIR procedure. No guarantee shall be required for the road vehicle or combination of vehicles or container.

There is no reason whatsoever why the GMS system cannot conclude provisions in line with these conventions—even if the countries themselves are not signatories thereto. In other words, if the GMS-CTS is to continue, vehicles and containers should be individually free of paperwork and security. Arrangements should be made to cover these issues through general approvals and appropriate management of traders. Of course, again, control in such issues is made much easier and improved substantially if computerized systems are available. For example, as discussed in the previous sections, in the EU's NCTS and the ACTS proposal a single-sheet document accompanies the goods from departure to arrival because of full computerization and risk management principles; all controls are automated from departure to destination.

Guarantee management. The TIR carnet printed and issued by the IRU provides the guarantee for the movement concerned (goods only). The road transport association is the "guarantor" of first instance but it is backed by an international insurance arrangement.

The GMS guarantee proposal is completely different and complicated. Article 10(g) of Annex 6 of the GMS CBTA limits the maximum claim per consignment to SDR35,000 (\$23,100), which is much more than adequate to protect customs revenues. The guarantor has to deposit and retain

security equivalent to SDR55,300 (\$36,500) in one of the prescribed formats (Article 11 of the MOU of August 2008).

However, the member states see Annex 6 in terms of an absolute requirement for each guarantor to lodge SDR55,300 with its home customs authority and with the authorities in each of the other participating contracting parties (“host countries”) where operations take place. This raises concerns about the sums involved, the exact mechanism for the lodgment, and subsequent control of each guarantee. Although the desire to have the security of holding assets from each guaranteeing organization may be understandable, it should not be necessary in a system based on “corresponding guarantors,” provided there is a proper legal framework to ensure the enforcement of commitments and mechanisms in place for the transfer of funds.

Furthermore, lodging the initial deposit is only the start of the process. Thereafter, there is a requirement for the security to be maintained at the required level at all times, irrespective of the number or value of claims paid. For example, if there was a payment of SDR10,000 under the Thai guarantee to the Vietnamese authorities then there is an automatic requirement for the security to be replenished by the deposit of a further SDR10,000. There are huge differences in the levels of bureaucracy and cost between a system that requires a guarantor to maintain guarantees in every country and one where the guarantee has to be maintained only in the home country, albeit at the disposal of all countries.

In addition, customs must focus on ensuring that there will be sufficient guarantee funding available to meet potential claims. For the associations, acting as guarantors, things are different. The guarantor’s liability, although capped at SDR35,000 per consignment, is in reality limited only by the number of potential claims outstanding at any time, i.e., shipments that have been started under the guarantee and have not yet been confirmed as discharged by the customs office of destination. Depending on the volume of trade, this could be 5 shipments or 500 shipments. Of course, with proper risk management procedures, the actual number of claims under the guarantee should be minimal; otherwise, the transit regime simply will not function. Nevertheless, the guarantor’s overall potential liability must be taken into consideration. Under the GMS guarantee management scheme, it is not.

This leads to other legal and administrative questions that are not explored further here. For example, although it is stipulated that the guarantor is jointly and severally liable with the transport operator, Article 10(c)

of Annex 6 of the GMS CBTA implies that the guarantor is regarded as the debtor of first instance. This is of serious concern because it is an inversion of how transit guarantee schemes are designed to work and will encourage fraud.

Traders will be concerned too because there seems to be no provision for back-load operations. Return loads are an essential part of a viable long-haul transport operation. A foreign operator starting a return journey from a country of destination will need to be able to gain access to transit documents as if starting from the operator's home country.

As noted in section 4.3.2, in EU's NCTS, the principal, who is generally the owner of the goods or a freight forwarder, but rarely a transporter, makes the transit declaration electronically and concludes a guarantee with customs directly. The guarantee is given in the country of departure, covers only the potential debt due on the consignment concerned, and is valid throughout the journey. This is simple and effective and has been accepted as the basis for the ACTS. Furthermore, the principal is responsible in the first instance for the customs debt; the guarantor is responsible only if the principal fails to pay. The guarantee may also be used to cover a return load.

Risk management and access. In the GMS-CTS, customs approves the issuing and guaranteeing associations that manage the system by providing the guarantee and selecting operators. Since the system is managed manually, customs will not know to whom TICCCDs have been issued, and when and where a movement will start, and only has information to acquit the movement when the final piece of paper arrives back at the point of departure. This is essentially how the TIR operated and it led to major incidences of fraud and loss that weighed down heavily on TIR and brought the IRU to near bankruptcy. The association personnel, transporters, and customs officials often conspired in these activities. The owners of the goods were, rather, frustrated onlookers. The IRU was obliged to introduce some elements of computerization to manage the situation as well as it could, and this has indeed, as with the NCTS, resulted in a reduction in fraud even though it does not computerize control and operations from start to finish.

In modern customs systems, responsibilities, obligations, and guarantees relating to the goods in transit are spread between owners or movers of goods and guarantors. In particular systems are required where those with good revenue records are authorized to use simplified procedures. It is therefore essential to introduce computerized systems to manage

individual movements and the associated guarantees, without which, and without doubt, illicit traders and actions will appear on the scene. These modern principles are clearly set out in the WCO's Revised Kyoto Convention and its recommendations; this is the basis on which the NCTS was developed in the EU and, because it has been so successful, ASEAN has taken up these principles.

4.7 Transit Transport: A Comparison of the GMS and ASEAN Initiatives

This section provides a comparison of the main GMS and ASEAN transport-related initiatives, as well as a discussion of any changes that might be made to improve trade facilitation in a risk-managed computerized environment.

4.7.1 Route and Border-Crossing Restrictions

Both the GMS and ASEAN trade transit systems impose restrictions on the routes and border crossings that can be used by vehicles operating under the transit facility.

For GMS the details are set out in Protocol 1, "Designation of Corridors Routes and Points of Entry and Exit (Border Crossings)," and the Attachment List of the GMS CBTA. The use of the routes and border crossings is made mandatory for transit transport under Protocol 3 Article 2 (c), "Itineraries," which states that "itineraries shall be restricted to exit/entry points, routes, and corridors defined in Protocol 1 to the Agreement." ASEAN has a similar set of provisions under Protocol 1, "Designation of Transit Transport Routes and Facilities," and Protocol 2, "Designation of Frontier Posts" of the AFAFGT. The extent, if any, to which transit on the EWEC is affected by differences between the routes and border crossings specified in the GMS and ASEAN protocols has not been assessed, as the trade transit regime under the GMS CBTA is the only option currently available to traders.

If the designation of routes is seen as applying equally in the countries of destination and departure, as well as any countries that are transited in the course of the transit operation, then, depending on logistics considerations, this could have a significant negative impact on operational flexibility and, ultimately, on the commercial viability of using the transit facility. Applied

rigidly, it would mean that goods have to be moved within the country of departure to a point on a designated transit route and transhipped in the country of destination if the final delivery point could not be reached by the transit vehicle. This restriction alone could be sufficient for a trader to see the use of the transit regime for goods moving between Viet Nam and Thailand as at least no better and, in many cases, more onerous than existing options.

It must also be noted that, generally, route restrictions are not applied in either the EU's common and community transit system or UN TIR movements other than where these are applicable to all vehicles with certain characteristics, for example, weight restrictions or environmental-based controls.

Certainly under the ASEAN customs arrangements as developed under Protocol 7, it is envisaged that a transit movement can take place between any customs-authorized loading point in the country of departure and any customs-authorized unloading point in the country of destination. However, transit route restrictions potentially nullify a trader's ability to take advantage of this facilitation measure.

It follows that the impact of, and necessity for, transit route restrictions (designation of border crossings is likely to have far less operational significance) is a key issue that requires further detailed research.

4.7.2 Licenses, Permits, and Quotas

Under the GMS CBTA Protocol 3, "Frequency and Capacity of Services and Issuance of Quotas and Permits," operators undertaking cross-border, including transit, operations are required to hold a GMS road transit permit issued by the National Transport Facilitation Committee or other competent authority and is valid for 1 year. The issue of permits is conditional on the holder also having a valid operator's license issued in accordance with GMS CBTA Article 21 and Annex 9. The permit form is vehicle and operator specific and has 11 data elements. The original must be carried on the vehicle during all relevant transport operations. Additionally, under Annex 2 of the GMS CBTA, "Registration of Vehicles in International Transport," the vehicle registration document must also be carried. In accordance with Annex 8, the motor vehicle must also be covered by "temporary admission documents." Each contracting party has a maximum quota of 500 GMS permits (except Cambodia, with a limit of 60) that can be issued to its national operators.

The corresponding AFAFGT provisions are Protocol 3, "Types and Quantity of Road Vehicles" Articles 1(a), 1(b), 4 of Protocol 4, "Technical Requirements of Vehicles," and Articles 3.1 and 9.2 of the ASEAN Framework Agreement on the Facilitation of Inter-State Transport (AFAFIST). Transit transport operators and all vehicles used for transit operations are required to be registered with the National Transit Transport Coordinating Committee or other competent body (Protocol 4 Article 3 of the AFAFGT). It is not stated that an applicant for registration must also hold an operator's license, but this is implicit as under Protocol 4 Article 5 of the AFAFGT the documents to be carried during a transit journey include a "carrier's license." The other documents required are the motor vehicle registration certificate, a valid certificate of inspection, and motor vehicle third-party liability insurance cover.

It has been agreed that there should be a single quota limit of 500 vehicles per contracting party, which covers vehicles used for interstate and transit operations. Certainly there would seem to be scope to simplify and harmonize the GMS and ASEAN transit registration procedures and documentation for traders using the EWEC. However, the question as to whether the ASEAN and GMS transit transport quotas should be seen as separate or combined arises only when both transit systems are available and demand has grown.

Operators using the EU's common and community transit system and UN's TIR transit systems are only required to hold an international operator's license issued by the competent national authority and to display the relevant disc in the window of the vehicle. Permit requirements and quota systems have been generally phased out in favor of market liberalization, with the emphasis now on operator and vehicle standards. By comparison, the GMS and, to a somewhat lesser extent the ASEAN, licensing and permit regimes appear complex and, from a traders perspective, proscriptive.

However, assuming the mechanism for permit applications is now in place and that traders are aware of the procedures they must follow, it seems doubtful that the hurdles to obtaining the appropriate authorization and documentation, even in their present form, are in themselves a significant factor deterring traders from using the transit facility. In short, the reasons behind the nonuse of the GMS-CTS are related to its structure and design as discussed in sections 4.6.1 and 4.6.2.

4.7.3 Vehicle construction, Weights, and Dimensions

Under the GMS CBTA, Annex 6 Article 3(a)(iii) states:

The Host Country Customs Authority shall not be entitled to refuse a motor vehicle that was approved for transport under the regime of this Annex either individually or by design type (series of road vehicles) according to the motor vehicle technical standards set out in attachment 2a to this Annex and established by a certificate issued by the Home Country technical inspection authority according to the model set out in 2b to this Annex.

However, these attachments do not relate to the dimensions or maximum weights of transit vehicles, whereas ASEAN rules (see below) set out very detailed limits in these areas. It is therefore assumed that under GMS-CTS rules admission is contingent on compliance by the vehicle with the national legislation of the host country.

Under ASEAN rules, Protocol 4 of the AFAFGT, together with its annexes, sets out detailed technical specifications for vehicles engaged in transit transport. Specifications that cover all vehicles include: exhaust emission standards, brake efficiency, side slips, maximum width, and maximum height. Those specifications that vary depending on the type of vehicle are: maximum length, rear overhang, wheelbase, and maximum permissible gross weight. It is difficult to see the case for having different technical standards for vehicles operating over the same territories simply because one is making a transit journey under GMS transit rules and the other under ASEAN.

It has been recognized that the ASEAN technical specifications under the AFAFGT which were agreed in 1999 are no longer reflective of modern vehicle design or compatible with the permitted standards in a number of the contracting parties. For example, in the EWEK countries (see Table 4) the maximum permitted weight for a three-axle and a five-axle rigid vehicle are higher than the respective ASEAN transit limits of 21 tons and 36 tons.

Table 4: Maximum Permissible Tonnage along the EWEK

Vehicle	Lao PDR	Thailand	Viet Nam
Three-axle vehicle	24t	25t	24t
Five-axle Vehicle	40t	50.5t	40t

EWEK = East-West Economic Corridor, Lao PDR = Lao People's Democratic Republic, t = ton.

Source: Authors.

4.7.4 Other Operational Transport Issues

Two other important issues are worth noting:

- The facility for traders to pick up and deliver at more than one location in the course of a transit operation. This is important where it is not possible to get a single full load. There is no provision within the GMS-CTS for this type of transit movement, although both the UN's TIR and the EU's common and community transit system do permit it, subject to certain conditions. Equally, it is an option within the ASEAN proposals. Generally, a computerized system can permit more flexibility without increased risks.
- Greater flexibility in the transit system rules so that it extends to cover goods in a container that has itself been moved between vehicles in the course of a transit operation. This is an important technical point that needs further consideration. Generally, transit arrangements apply only where the load is carried on the same vehicle from departure to destination without intermediate (transshipment) unloading or warehousing. However, there is no reason why a regional transit system cannot be customized so that the transit arrangements apply to the sealed container itself, i.e., notwithstanding its transfer between vehicles in the course of the transit journey. It would be necessary to stipulate that the switch should take place under customs control and that all details should be recorded in the computerized transit record. This is certainly a point worth further consideration, given the current prevalence of this practice.

4.8 Way Forward on Trade Transit in the GMS

The discussion in the previous sections on current best practices in CTS and the proposal for the trade transit regime in the GMS under the GMS CBTA unequivocally lead to the conclusion that the GMS-CTS has structural flaws and is unlikely to be used for any commercial activity. Traders continue to use traditional methods for moving goods along the EWEC. The three countries along EWEC—the Lao PDR, Thailand, and Viet Nam—have already taken significant steps to simplify transit procedures and grant traffic rights on a bilateral basis using MOUs. These provide a package of benefits that, under current operational considerations, are superior to those available under the GMS-CTS even though containers or trailers have to be transferred between vehicles at some intermediate point.

Sheer complexity, bureaucracy of the arrangements, and lack of openness and clarity in its operational responsibilities are among the reasons why the GMS-CTS has not been taken up. If the specific requirements for a modern transit system set out in section 4.2 above are added to general trade facilitation principles, then the proposal as it is currently put together could be described as the antithesis of trade facilitation. Thus, it is not a surprise that the GMS-CTS is not working. The situation is made worse by the transit transport regime.

To be fair, the GMS-CTS was developed starting in 1999, when modern transit systems were beginning to take shape. However, time has passed; concepts and principles that were relevant in 1999 have changed; in particular, technologies available have improved beyond anything that might have been expected; new systems and methodologies have been tested in operation.

Unfortunately, it is not at all easy to see how the GMS-CTS could in fact work in practice in its current form at any commercial level, at any time, in the future. Can the arrangements similar to EWEC's be replicated elsewhere? Will it lead to a "noodle-bowl" of bilateral arrangements, and what are the costs and benefits of such arrangements? Would it better to harmonize them into a regional arrangement at some point? If so, maybe the bilateral arrangements are building blocks, rather than stumbling blocks, to the regional arrangement. Can such bilateral arrangements work when more than one transit country is involved? This might require harmonizing bilateral initiatives, which brings us back to the issue of whether bilateral arrangements are building or stumbling blocks.

Given the current state of affairs, what are the options regarding the GMS-CTS?

4.8.1 Option 1: Overhaul the GMS-CTS

For the GMS-CTS to be used, it will require that the current CTS proposal be reengineered to conform to international best practices as outlined in sections 4.2 and 4.3 above. Simply put, the GMS-CTS requires a legal basis and regulations that

- provide a guarantee system in a way that widens the guarantor field and provides guarantee cover for only the potential duty involved in any individual transport directly from the trader to the customs administration where transit operations commence;

- remove the requirement for guarantees and documentation on the transport and containers to accord with international standards;
- offer a management philosophy and access strategy so that companies and freight forwarders can use the system directly, without being obligated to buy TICCCDs from the national associations and use the members of national associations to move their goods;
- provide a more efficient (remodeled) documentary system;
- provide simplified procedures for reliable traders; and
- entail computerized control and management, a crucial feature, given the experience in other regions. This action, if taken, will increase competition, certainly lower commercial and administrative costs, and encourage companies to use the system. It will also reduce the likelihood of fraud.

However, any proposal for overhauling the GMS-CTS should take into account the parallel initiatives being developed for ASEAN countries. The two are modeled differently and alongside quite different customs transit procedures. There are differences in their transit transport operator requirements relating to licensing, permits, documentation, quotas, and vehicle specifications.

It cannot be in the interests of traders or administrators to face the complexity of dealing with two quite separate procedures intended to deliver the same benefits. However, there is a precedent for two separate transit regimes existing side by side. In Europe it was possible for goods to move through the same country using either the UN's TIR or the EU's common and community transit system; where this option was available the trader could choose which option to take. Similarly, if both the GMS-CTS and ACTS were available in the GMS countries, it would be down to trader choice and the transit regime with the least benefit to trade would simply be ignored.

As discussed above, traders have a mixture of reasons for not placing goods under the GMS-CTS and these include economic and operational factors. Equally, the design of the GMS-CTS itself is also a major deterrent, given the fact that the customs procedures and guarantee elements are based on a model that has been superseded by developments in technology and business practices. The GMS-CTS for these reasons is likely to remain unused in cases where there is need for a CTS.

However, neither volume of trade nor geographic complexity seems sufficient to justify running two different customs transit systems side by

side on the EWEC or indeed any other corridor where both could in future be available.

4.8.2 Option 2: Join Forces with the ACTS

The ACTS fits modern principles and will involve the use of ICT. While the ACTS has been designed to take account of just these considerations and is therefore, potentially, a ready-made solution, it has to be recognized that the ASEAN system has not yet been ratified at a political level and will in any event take time to implement because of the ICT system requirements.

While moving to a different model for customs procedures and guarantees might well be a significant positive step, it is not the whole solution. Even if there were agreement to have a single regional transit regime based on the ACTS as set out in Protocol 7 of the AFAFGT and its supporting annexes and appendixes, there would still be a need for further rationalization of the related GMS and ASEAN transit transport provisions, which, as discussed in section 4.7, are different.

Thus, it is not simply a case of replacing all the GMS transit protocols and annexes with their ASEAN equivalents. First, they are not directly compatible, although both have agreements covering issues such as transit routes, permits, and quotas. For example, as we have seen, ASEAN has a protocol covering transit vehicle weights and dimensions, which has no GMS equivalent. Equally, Annex 10 of the GMS CBTA, "Conditions of Transport," lays down the terms and conditions of carriage but these are not covered in ASEAN's AFAFGT.

Furthermore, some of the ASEAN and GMS transport-related transit agreements are also showing their age and incorporate technical standards and procedures that need to be updated. Others impose restrictions that are not necessary, especially where there are tighter controls over vehicle movements available through a computerized system.

4.8.3 Option 3: Introduce an Interim Solution for the GMS-CTS

This would involve implementing an interim solution designed to increase commercial activity under the GMS-CTS while a decision is taken either to overhaul the GMS-CTS along the lines in option 1 or simply to take up the ACTS as and when it is introduced. In that case, a paper-based

CTS restricted to AEOs would have to be introduced, since otherwise the system might be quickly compromised by fraud.

In short, the GMS-CTS in its current form is not being used and options to overhaul it are not practical or viable at this stage, given the parallel initiatives being considered under ACTS. The latter is designed differently from the GMS-CTS. It would therefore not be appropriate to spend more time and resources on redeveloping the current GMS-CTS proposal. The issue of the GMS-CTS should be put on the back-burner and should be separated from the implementation of the rest of the GMS CBTA.

Going forward, the focus of trade and transport facilitation in the GMS should move away from GMS-CTS as such, and towards separately strengthening necessary elements in both transport and in trade. For the GMS CBTA, emphasis should be put into harmonizing and simplifying transport rules and regulations and bringing together the annexes and protocols of the GMS CBTA and the ASEAN's AFAFGT and AFAFIST, and understanding how modern logistics operate within the region. In parallel, efforts should continue to improve trade facilitation through support for customs modernization and coordinated border management.

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Appendix Table A4: Comparative Analysis of Customs Transit Systems

Component	TIR	EU-NCTS	GMS-CTS
Management philosophy	Centralized	Decentralized	Decentralized
Customs declaration	Multi-set TIR carnet printed by IRU, covering goods only	Electronic declaration for goods only, with single sheet accompanying document including bar code	Multi-set document for goods, means of transport, and containers
IT system support	Termination only—SafeTIR, Cute and Cutewise	Full automation from start to termination, including office of transit management through NCTS	None
Control procedure	Paper-based; customs check mandatory at departure, sealing and seal check at outgoing and incoming borders, and full check at destination; acquittal via postal system	Full ICT using NCTS; Risk-based at departure; Single page accompanying document; Bar-code check at border; Online acquittal	Paper-based; customs check mandatory at departure, sealing and seal check at outgoing and incoming borders, and full check at destination; acquittal via postal system
Access	Transport operators only; Trucks approved	All who provide guarantees; No truck approval required	Transport operators only; Trucks approved
Simplifications for traders with low-risk and good record	No	Yes	No

continued on next page

Appendix Table A4 *continued*

Component	TIR	EU-NCTS	GMS-CTS
Guarantee schemes	Individual per consignment, but with limit of \$50,000 to the guarantor Insurance-backed scheme via IRU; copy of insurance policy submitted to customs annually	Guarantee covering multiple consignments with full liability to principal and guarantor, or Individual either through cash deposit, bank guarantee or €7,000 vouchers. Guarantors are banks, insurance companies, transporter or trade associations approved by customs	Individual per consignment with limit of SDR35,000 Single guarantor (a trade or transport association) to provide overall guarantee of SDR55,300 in host country and each country of transit; Guarantee required from bank, or via cash or collateral
Person legally responsible for duties and taxes in the first instance	Holder (usually the transporter)	Principal (occasionally the transporter, but more often the exporter, the consignor, or the freight forwarder)	Same as TIR, but Article 10(c) Annex 6 of the GMS CBTA offers discretion to make the guarantor the debtor of first recourse.

CBTA = Cross-Border Transport Agreement, EU = European Union, GMS-CTS = Greater Mekong Subregion–Customs Transit System, IT = information technology, IRU = International Road Transport Union, NCTS = European Union’s New Computerized Transit System, TIR = Transports Internationaux Routiers.

Source: AFAFGT, EU Convention (1987) on a common transit procedure and its subsequent amendments and decisions, GMS Cross-Border Transport Agreement, United Nations TIR Convention, and authors.



CHAPTER 5

Constraints on Exports in Cambodia and the Lao PDR

Gordon Peters, Thy Khemra, and Ben Hyman

5.1 Introduction

The trade of the Greater Mekong Subregion (GMS) countries grew rapidly in 2000–2009. Their combined exports increased by 10.9% yearly and their combined imports by 11.4%.¹ The total exports and imports of Cambodia and the Lao People’s Democratic Republic (Lao PDR) increased even faster during the period. Cambodia’s exports grew by 13.5% yearly and its imports by 12.3%. For the Lao PDR, exports grew by 16.0% and imports by 17.6%. But despite the rapid expansion in trade, the share of Cambodia and the Lao PDR in the total trade of the GMS5 (i.e., GMS, not including the People’s Republic of China [PRC]) remains small. Thailand accounted for 68.8% of the total exports of GMS5 countries (to the world) in 2009, Viet Nam 25.6%, Cambodia 2.2%, and the Lao PDR 0.6%. The rest came from Myanmar.

Exporting allows a firm to cater to markets beyond its domestic borders, achieve economies of scale, improve productivity, and attain higher levels of efficiency as it competes with foreign firms in external markets. It is therefore important to understand the factors that impede export growth in Cambodia and the Lao PDR and how these could be positively addressed.

The bottlenecks in the way of increased exporting could take the form of customs formalities and export clearances needed, cost of transportation, other logistics issues, and lack of trade-related infrastructure, among other factors that usually fall within the domain of trade facilitation. However, in recent years, there has been a growing realization that to make full use of the greater opportunities for trade, developing countries need to increase their productive capacity besides improving trade facilitation.

¹ See Chapter 2.

With this in view, the Aid for Trade initiative was launched at the Sixth World Trade Organization (WTO) Ministerial Conference in Hong Kong, China in 2005² to “help developing countries, particularly least-developed countries, develop the trade-related skills and infrastructure that is needed to implement and benefit from WTO agreements and to expand their trade.”³ According to the International Monetary Fund (IMF), Aid for Trade is broad in scope and encompasses trade-related technical assistance, trade-related infrastructure, and aid to develop productive capacity.⁴

This chapter presents findings from a case study conducted in selected sectors in Cambodia and the Lao PDR to understand the bottlenecks faced by their respective exporters. In the case study, which involved a qualitative survey, firms were asked about the logistic and supply chain constraints, i.e., those related to export and import procedures and logistics. They were also asked about the constraints on expanding their productive capacity. The case study, which had a relatively small sample size, covered the following sectors:

- Wood and wood products (in Cambodia and the Lao PDR);
- Rice, fruits and vegetables, and other food products (Cambodia only); and
- Garments (Cambodia only).

Cambodian firms listed customs formalities, cost of transport, and certifications among their top logistic constraints; firms in the Lao PDR, customs formalities and the cost of transport. Cambodian firms noted as well the lack of reliable energy supply, the shortage of labor with sector-specific skills, financing constraints, and government regulations that slow down their ability to import inputs and also therefore hamper their ability to export more.

In the Lao PDR, exporters in the wood products sector highlighted government regulations, clearances, and lack of raw material as key constraints. Easing these constraints will require a balance between assistance to exporters in exporting more, on the one hand, and responsible wood exporting and forest management, on the other. This is also the case in the Cambodian wood products sector.

² www.wto.org/english/thewto_e/minist_e/min05_e/final_text_e.htm

³ www.wto.org/english/tratop_e/devel_e/a4t_e/aid4trade_e.htm

⁴ www.imf.org/external/pubs/ft/survey/so/2007/POL0523A.htm

Findings from the case study show that addressing only the logistic constraints through trade facilitation measures may not be sufficient to stimulate exports from Cambodia and the Lao PDR. Efforts to promote exports from the two countries also need to look at constraints that affect a firm's capacity and competitiveness. These constraints can not only hold back exports but also affect foreign direct investment. Improvements in the two areas can thus be critical in enabling Cambodia and the Lao PDR to diversify their economic base, to develop themselves as a production base in Asia, and to become a part of the cross-border production networks that span East and Southeast Asia. This chapter identifies possible areas for further action by the government. Aid agencies can work with the governments in these areas and provide support for activities such as infrastructure projects, trade finance programs, vocational training institutes, and simplification of customs procedures.

The rest of this chapter is organized as follows. Section 5.2 gives an overview of the sectors covered in this study and discusses the sample characteristics. Section 5.3 presents the findings of the case study on the key logistic impediments faced by exporters. Section 5.4 reports the results of the survey on the sector specific constraints on expanding the production capacity and improving the competitiveness of exporters. Section 5.5 provides policy recommendations based on the findings of the case study, and Section 5.6 concludes the chapter.

5.2 Sector Overview and Description of the Sample

The analysis undertaken in this chapter is based on a case study done in selected sectors in Cambodia and the Lao PDR. The case study involved interviews with exporters in the private sector. The questionnaire concentrated on several aspects such as key constraints to exporting more, logistics and supply chain impediments, and the firms' perception of improvements in procedures, costs, and time taken to export. The interviews with the firms took place in September and October 2011.

In Cambodia, about 120 small and medium enterprises (SMEs) were identified, and selected firms were interviewed. The firms interviewed were identified through business networks and the sample selection was therefore nonrandom. In all, 39 interviews were conducted with exporters in Cambodia—15 in the garments sector, 14 in rice and food products, and 10 in wood and grass products.

In the Lao PDR, about 25 SMEs in the wood and wood products sector in the region of Vientiane and Northern Lao PDR were identified through business network leveraging and 14 interviews were conducted. The selection of the sample was also nonrandom.

An overview of the three sectors covered in the case study in Cambodia and the wood products sector in the Lao PDR and a description of the sample are provided below.

5.2.1 Cambodian Garments Sector

Sector overview. The garment industry has been a key driver of Cambodia's economic growth over the past decade, accounting for more than half of the exports in recent years. Currently, the garment sector employs almost 300,000 workers,⁵ or just over 3% of the total labor force. The garment industry's reach, however, extends far beyond those directly employed in the sector. The United Nations (UN) estimates that as many as 1.6 million Cambodians depend on the income of those employed in this sector.⁶

The Cambodian garment industry was established largely by foreign investors from Asian countries like the PRC; Taipei, China; Hong Kong, China; Malaysia; and Singapore. Foreign investors have been operating export-oriented garment factories in Cambodia since 1994.⁷ More than 90% of the exports of the sector are from firms owned by foreign investors through foreign direct investment. The garment sector in Cambodia continues to be owned primarily by foreign investors; local investors have not entered the business as they do not have the required supply chain and management capabilities and the experience in the industry.

Cambodian garment exports increased rapidly at an average annual rate of 16.2% in 2000–2008, from \$1.2 billion to \$4.1 billion. Garments accounted for about 82% of all Cambodian exports in 2000–2008 (Figure 5.1). The top destinations for garment exports from Cambodia are the United States (US) and the European Union (EU). With the onset of the global financial crisis in late 2008, garment exports dropped significantly to \$3.5 billion in 2009 but still accounted for a big share, 72.4%, of the total exports that year. Garment exports rebounded to \$4.2 billion in 2010,

⁵ Garment Manufacturers Association of Cambodia (GMAC), <http://gmac-cambodia.org>

⁶ <http://penhpal.com/business/cambodia%E2%80%99s-garment-industry/>

⁷ <http://penhpal.com/business/cambodia%E2%80%99s-garment-industry/>

Figure 5.1: Garments as a Share of Total Cambodian Exports, 2000–2010



Note: Garments are defined according to the Standard International Trade Classification (SITC, Rev. 2) two-digit code 84 (“Articles of apparel and clothing accessories”).

Sources: United Nations Commodity Trade Statistics Database (UN Comtrade) and authors’ calculations.

an increase of 20% over the previous year. The share of garment exports in total exports increased by almost three percentage points to 75.2% in 2010.

The US is still the main export market, receiving 70% of the total garment exports, followed by the EU (25%) and Canada (5%).⁸ Trade preferences implemented in the past decade, such as the EU’s “Everything but Arms” initiative, have contributed significantly to the sector’s growth (Better Factories 2011). The volume of exports to the EU increased in 2011 as a result of the simpler and more relaxed rules of origin under the EU’s preferential scheme.⁹ Recently, Japan has also signed a duty-free

⁸ GMAC, www.gmac-cambodia.org/imp-exp/default.php

⁹ <http://businessnewscambodia.com/2011/08/cambodias-exports-to-eu-rose-53/>

agreement with Cambodia.¹⁰ However, exports to Japan continue to be very low because, as reported during interviews with private sector firms, Japanese buyers require a very high level of product quality that some Cambodian-based producers find difficult to meet.

However, Cambodian garment manufacturers have failed to move up the value chain in the garment market, and are primarily outsourced manufacturing centers for foreign-owned firms. Currently, the Cambodian garment industry is viewed as one of the lowest value-added segments in the global garment market (Natsuda et al. 2009). One of the key reasons cited by garment manufacturers for their inability to move up the value chain is the lack of Cambodia's capacity to produce high-quality raw input materials. The firms surveyed for this study reported that materials are imported largely from the PRC. According to the firms surveyed, electricity and water supply are primary challenges in the way of improvements in Cambodia's capacity to produce good-quality raw materials, as fabric mills need a reliable supply of electricity and water to operate.

Description of the sample. According to the number of employees, all the companies interviewed were either midrange (400–2,000 employees) or large (more than 2,000 employees). In general, about one-third of the Cambodian firms in the garment sector, as represented by the members of the Garment Manufacturing Association of Cambodia (GMAC), employ fewer than 400 employees, about 55% are mid-range firms, and the rest have more than 2,000 employees.¹¹ Garment exporters included in this research study had 1,500 employees on average and an average annual revenue of \$5.1 million. The top export markets for the firms included in the sample were primarily the US and the EU and the firms had an average exporting experience of about 6 years. Appendix Table A5 summarizes the key characteristics of the firms in the Cambodian garment sector that were surveyed.

All of the firms interviewed use freight forwarders to clear customs. About 90% of the shipments exit Cambodia through the port at Krong Preah Sihanouk (formerly known as Sihanoukville), while the other 10% of the shipments exit Cambodia through the Phnom Penh Port.

¹⁰ www.investincambodia.com/gmac.htm

¹¹ GMAC Members List Data (October 2011).

5.2.2 Cambodian Rice and Food Products Sector

Sector overview. Although the garments sector is the single largest component and driver of Cambodian exports, the agriculture sector employs more than one-half of Cambodians, with the rice sector as the main driver of employment (Siphana 2011). Under the National Rice Policy announced in 2010, rice has become a high-priority good for export and Cambodia has set a goal of exporting one million tons of milled rice by 2015 (RGC 2010). Considering that Cambodia became a rice exporter only in 2004, and that milled rice exports were only a small proportion (and paddy had a larger share), the target under the new policy represents a major turnaround.¹² Despite the national focus on increased exports under Cambodia's rice policy, rice exporters still experience constraints in this fast-growing industry.

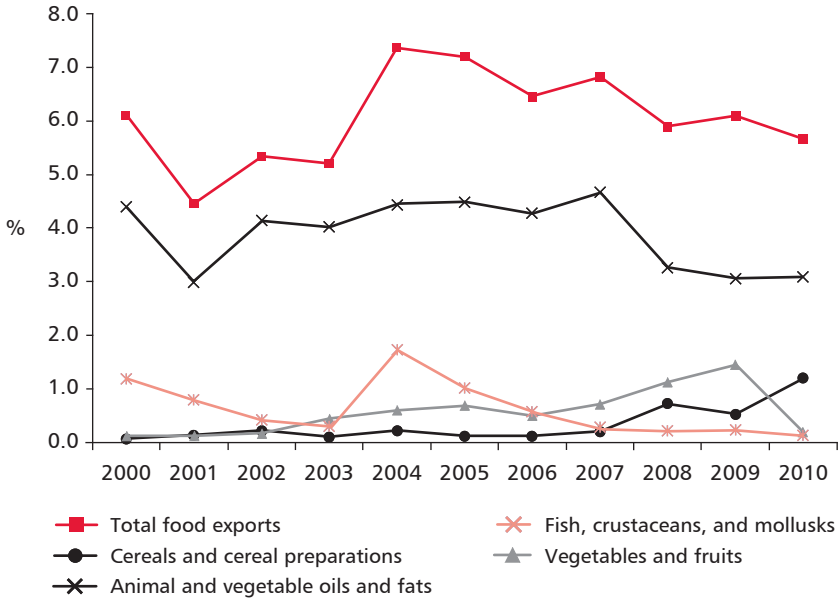
Total food exports¹³ increased at an average annual rate of 15.4% in 2000–2008, from \$94.0 million to \$294.8 million, but stayed at that level in 2009 (\$294.4 million). Despite the rapid growth, food products continue to have only a small share of the total exports from Cambodia, accounting for 5.7% of the total in 2010, roughly the same as in 2000 but down from a peak of 7.4% in 2004 (Figure 5.2). Among the various food products, animal and vegetable oils and fats made up the major export category throughout the last decade and accounted for 3.1% of the total exports, a little more than half of the total food exports, in 2010. The other major food export items are fish, crustaceans, and mollusk; cereals and cereal preparations; and vegetables and fruits. The share of cereals and cereal preparations (including rice) in total food exports increased in the latter half of the 2000s and was 1.2% in 2010, compared with 0.08% in 2000. Since rice is one component of the cereals and cereal preparations category, the sharp increase in 2010 could partly be a result of the Cambodian National Rice Policy announced in 2010.

In contrast to garment exporters, most food exporters are relatively new to the business and are confronted with the challenges of navigating

¹² <http://blogs.worldbank.org/eastasiapacific/cambodia-moves-to-increase-exports-of-its-white-gold-rice>

¹³ Food products are defined to include those in Standard International Trade Classification (SITC, Rev. 2) section 0 (food and live animals), section 1 (beverages and tobacco), section 4 (animal and vegetable oils and fats), and division 22 (oil seeds and oleaginous fruits). The definition of food products is from the United Nations Conference on Trade and Development (UNCTAD) and is available at: http://unctadstat.unctad.org/UnctadStatMetadata/Classifications/UnctadStat.SitcRev3Products.UnctadProductGroupingslist.Classification_En.pdf

Figure 5.2: Food Exports as a Share of Total Cambodian Exports, 2000–2010



Note: The definition of food products used is from the United Nations Conference on Trade and Development (UNCTAD). Food products are defined to include those in SITC (Rev. 2) section 0 (food and live animals), section 1 (beverages and tobacco), section 4 (animal and vegetable oils and fats), and division 22 (oil seeds and oleaginous fruits). Also shown in the figure are the shares of section 4 (animal and vegetable oils and fats) and divisions 03 (fish, crustaceans, and mollusks), 04 (cereals and cereal preparations), and 05 (vegetables and fruits); these three divisions fall under section 0.

Sources: UN Comtrade and authors' calculations.

the export process. Some detailed questions about times and costs were often unclear to those surveyed. Food exporters interviewed as a part of this study reported challenges that emerging industries usually face, such as access to working capital and investment capital, industry-specific infrastructure, and international familiarity with Cambodian products.

Rice exporters interviewed export primarily to Europe because there are no tariffs under the EU's "Everything but Arms" initiative. However, to gain a strong foothold in the European market, the surveyed firms said, they must meet quality and consistency standards, and be able to fill large export orders.

Thailand and Viet Nam are Cambodia's primary regional competitors in the export markets for milled rice. Thai and Vietnamese millers also compete with Cambodian millers in rice paddy markets.

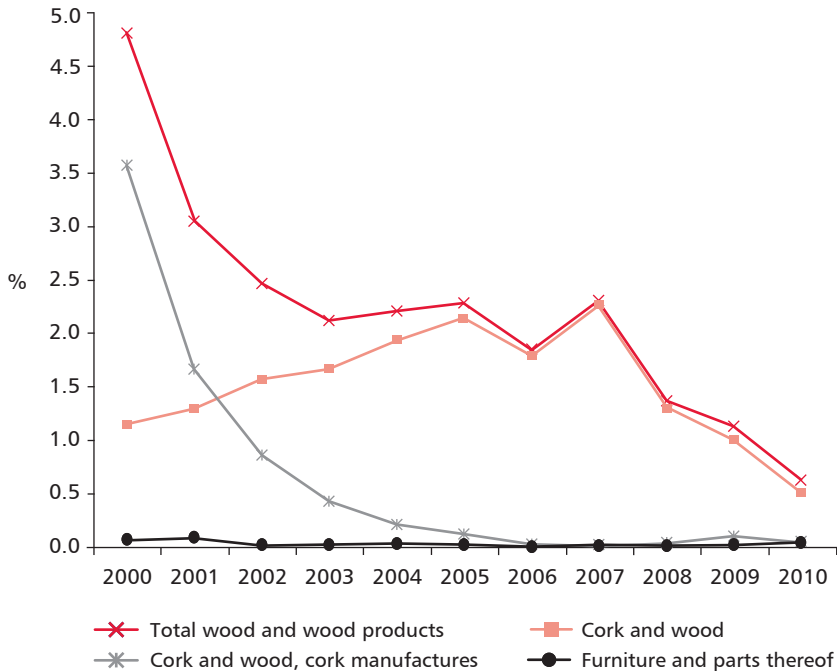
Description of the sample. Fourteen food exporters were interviewed for this study. Of these, 10 were rice exporters, and 4 were non-rice exporters. In non-rice food exports (which do not fall under the umbrella of the government's positive rice policy), the companies interviewed export products like dried fruits, palm sugar, pepper, and coffee. Appendix Table A5 shows the key features of the firms surveyed in the Cambodian rice and food products sector. Food products were analyzed collectively; however, relevant points of differentiation between the responses of rice and non-rice exporters are noted in the analysis. Nearly all food exporters interviewed use freight forwarders and the majority of rice exporters use Krong Preah Sihanouk as their primary port. For smaller non-rice exports, air shipments out of Phnom Penh are the most common shipping method.

5.2.3 Cambodian Wood Products

Sector overview. The wood sector has unique constraints on growth: there must be a balance between environmental protection and the potential economic gains to be made through production and trade. Timber was one of the largest sources of export revenue for Cambodia in the 1990s until the government imposed a ban on log exports in 1995. After 1997, however, the push for environmental protection declined somewhat and the distinction between what could be legally sourced and what could not became less clear. As a result, many wood and wood product companies found it difficult to source legal materials. In 2002, all logging activity was suspended for all forest companies pending a reevaluation, and re-approval, of activities by the Ministry of Agriculture. The result was a reallocation of 20% of the land as protected areas (Roda and Rathi 2006). Various policy initiatives have contributed to reducing the supply of legal wood for exporters. But despite these sourcing problems for domestic wood product manufacturers, Cambodia is helping to meet the PRC's and Viet Nam's growing demand for raw timber. Data from the European Forestry Institute show that nearly all legal raw timber exports are going to either the PRC or Viet Nam.¹⁴ The main competitors of Cambodian wood product exporters are from the PRC, Thailand, and Viet Nam.

¹⁴ www.twgfe.org/Docs/Presentations/FLEGT%20Cambodia%20presentation%20v1%20Sept%2029%202010.pdf

Figure 5.3: Wood Exports as a Share of Total Cambodian Exports, 2000–2010



Note: Wood exports are defined to include the products covered by the SITC (Rev. 2) two-digit codes 24, 63, and 82.

Sources: UN Comtrade and authors' calculations.

Shifts in priorities have meant a drastic decline in the share of wood exports in total exports (Figure 5.3).¹⁵ The decline in the share of wood exports has been due to a decline in exports in some categories of wood exports and an increase in the overall total exports of Cambodia. Wood exports are now only a small portion of Cambodia's overall exports; they accounted for only 0.6% of Cambodia's export total in 2010, down from about 5% in 2000. Raw wood (cork and wood) is the major type

¹⁵ Wood exports are defined to include the following SITC (Rev. 2) two-digit categories: 24 (cork and wood), 63 (cork and wood, cork manufactures), and 82 (furniture and parts thereof). Note that SITC (Rev. 2) two-digit code 82 also includes items such as metal furniture, articles of bedding, and mattress support. Wood exports could therefore be overestimated here.

of wood exports, accounting for the bulk of all wood exports from Cambodia since 2002. Wood exports have closely tracked the exports of raw wood since 2003. The share of raw wood itself in total exports has declined in recent years, to 0.5% in 2010, after increasing in the first half of the decade. Cork and wood manufactures used to be the major category of wood exports; in 2000 they accounted for more than half of the wood export total (Figure 5.3). However, the exports of cork and wood manufactures, and therefore their share, declined in the rest of the decade. The government's focus on forestry preservation has meant additional sourcing restrictions, as well as additional certification and document requirements (Savet 2002). Firms surveyed noted that these factors are not only a constraint on companies already in the industry, but also a deterrent to many potential entrants into the industry.

Description of the sample. Ten exporters were interviewed for this study and these included firms exporting wood products, as well as several exporting grass products. Appendix Table A5 summarizes the key features of the respondent firms. While all the firms that were interviewed were exporters, many also had a sizable local business, often catering largely to tourists. Surveyed firms exported primarily to the US, Europe, and other Asian countries. Export volumes were reported as very small, only a few containers per year, and most shipments are done through large shipping companies like DHL and EMS rather than through freight forwarders. Consequently, most of the exporters that were interviewed could not answer detailed questions about exporting, such as the average costs per export shipment, could not differentiate between formal and informal fees, and could not provide average times and costs of exports. Those that did answer had varied responses, given the irregular frequency and size of exports.

5.2.4 The Lao PDR Wood Products

Sector overview. The Lao PDR is a resource-rich, sparsely populated, landlocked country. The Lao PDR enjoys a favorable climate and land conditions, which allow for a diverse array of resource-based products for the domestic and export markets.

Lao PDR's economy has undergone considerable growth over the past decade, due largely to commodity exports. The steady increase in exports has been driven by hydropower, electricity, copper, tin, gold, and wood. Lao PDR's total exports declined in the aftermath of the global financial crisis but increased from 2009 to 2010. Exports rebounded in 2010 as

world mineral prices, including the price of copper and gold, increased and Lao PDR's hydropower exports surged.

As in the case of Cambodia's wood product sector, Lao PDR's abundant and high-quality timber presents an opportunity to expand wood product exports. However, growth must be balanced against concerns over the diminishing forest cover. Lao PDR's forest cover has decreased significantly since 1940, when forests covered about 70% of the country. Forest cover rates declined to about 67% in the 1960s, 47% in 1989, and 41% in 2002 (Tong 2009). A variety of factors, such as population growth, an economic shift to an agriculture-based economy, lack of enforcement of national policies for the timber trade in the provinces and different interpretations of the policies at the various levels of government, and unplanned logging, have contributed to the decline. To combat the rising deforestation, the Government of Lao PDR has implemented policies intended to reforest the Lao PDR. The goal is to reach 70% forest cover by 2020 (Tong 2009).

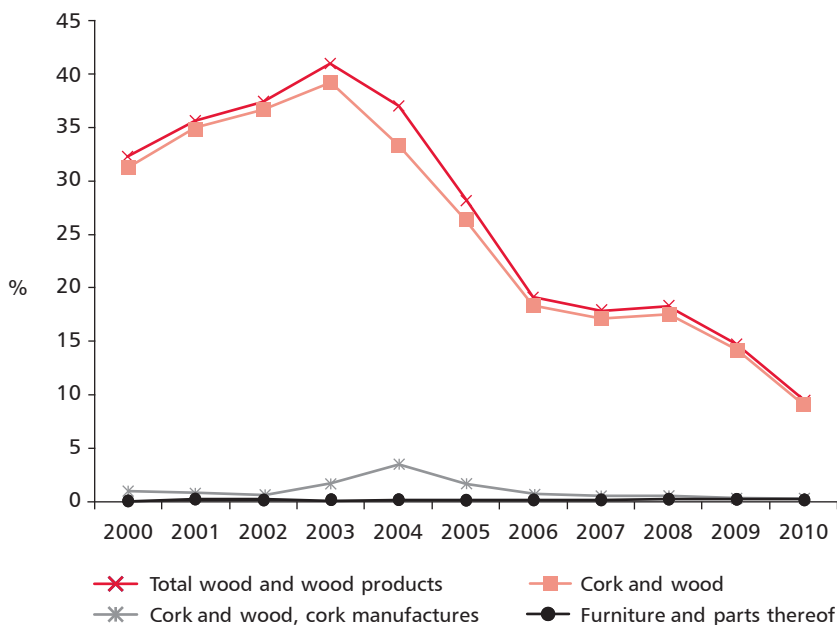
An inherent tension therefore exists between reforestation and the growth of the timber export sector. Recent policy initiatives of the government show that it is aware of the need for sustainability in timber exporting and for a balance between economic gain and forest preservation, and is attempting to deal with the matter at several levels.

Prime Minister Order Number 30, issued on 17 August 2007, clarified and further strengthened enforcement measures preventing the export of raw or partially raw roundwood and timber; the order, in fact, implies a ban on roundwood exports (Tong 2009). This measure, in conjunction with actions to centralize wood allocation and oversight of logging rather than leave it up to the provinces to manage wood allocation, shows there is political will to address key challenges in the sector. The intended effects are twofold: the measure bans raw timber exports and encourages an increase in sustainable processed wood exports. Nevertheless, the results of these recent policy decisions have been slow to appear.

Figure 5.4 shows that the share of wood exports in Lao PDR's total exports increased in the early part of the decade until 2003, to account for as much as 41% of the export total. But the share has declined since then, falling to 9.5% in 2010.¹⁶ The decline is due not only to the falloff in legal wood exports but also to the faster increase in exports in other sectors,

¹⁶ Wood exports are defined to include the following SITC (Rev. 2) two-digit categories: 24 (cork and wood), 63 (cork and wood, cork manufactures), and 82 (furniture and parts thereof). Note that the SITC (Rev. 2) two digit code also includes items such as metal furniture, articles of bedding, and mattress support. Wood exports could therefore be overestimated here.

Figure 5.4: Wood Exports as a Share of Total Lao PDR Exports, 2000–2010



Lao PDR = Lao People's Democratic Republic.

Note: Wood exports are defined to include those covered by SITC (Rev. 2) two-digit codes 24, 63, and 82.

Sources: UN Comtrade and authors' calculations.

such as mining and hydropower. Among the various wood products, raw wood (cork and wood) accounts for the bulk of wood exports and total wood exports closely track the pattern of cork and wood exports. Cork and wood manufactures and furniture account for a small share of the total exports from the Lao PDR. The PRC, the EU, Thailand, the US, and Viet Nam are the key export markets.

Description of the sample. Fourteen wood product exporters in the Lao PDR were interviewed for the study. According to revenue, the surveyed firms were mostly medium-sized businesses, with an average of \$1.5 million in annual revenue and 47 employees. Appendix Table A5 shows the key characteristics of the surveyed firms.

5.3 Logistic and Supply Chain Impediments to Increasing Exports

Firms in the case study were asked both about aspects of trade facilitation under the umbrella of logistic impediments to exporting and about constraints on their production capacity. The logistic impediments are discussed in this section, and the production capacity constraints in the next.

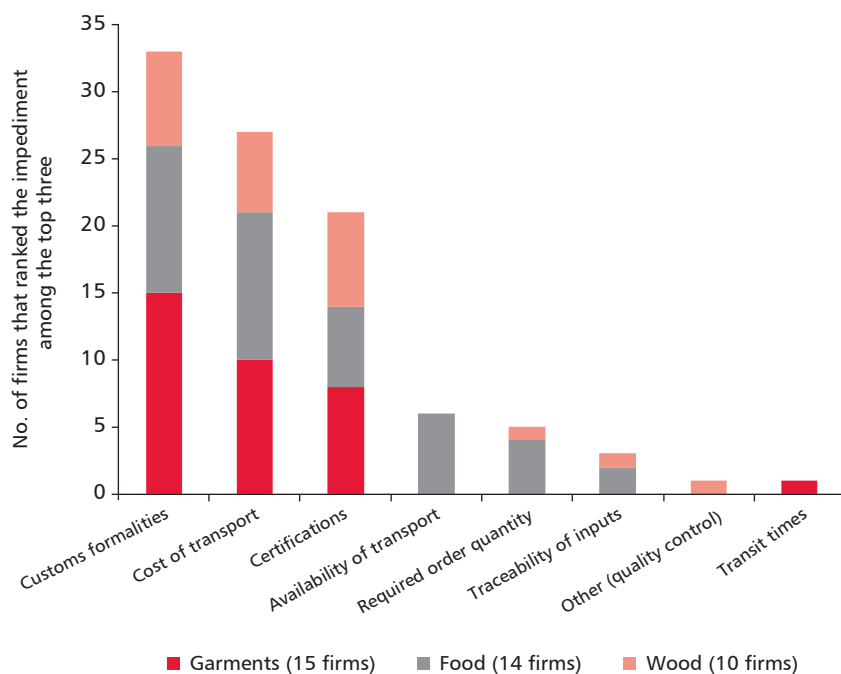
The responses of the Cambodian firms in the three sectors related to logistic and supply chain impediments are combined in this section, while the responses of the Lao PDR firms in the wood products sector are presented separately.

All firms in the survey were asked to rank their top-three logistic impediments from a given list of nine constraints, from 1 (the most severe) to 3.¹⁷ For purposes of presentation, customs formalities, fees, and inspections were considered together with paperwork and clearance processing. Thus, if a firm ranked both of these constraints among their top-three impediments, only one of them would be considered. Also, even if only one of the two appeared among the top-three, the other was assumed to be included. Consequently, for some firms (those that included customs formalities, fees, and inspections, as well as paperwork and clearance processing, among their top-three constraints) only two impediments were included in the analysis.

5.3.1 Cambodian Exporters

Figure 5.5 summarizes the responses of the Cambodian firms in the three sectors to logistic impediments to exporting. The figure also distinguishes the responses by sector. Of the 39 Cambodian firms that were covered by the study, 33 ranked customs formalities (including paperwork and clearances) among their top-three impediments. This does not mean that customs formalities were ranked as the number one impediment by 33 firms. Instead, it means that, among all the impediments listed,

¹⁷ The firms were asked to rank the top-three constraints from the following list: (i) availability of transport; (ii) transit times (from time of leaving factory door); (iii) cost of transport (all cost variables); (iv) certifications (including certificates of origin); (v) customs formalities, fees, and inspections; (vi) required quantity of order fulfillment; (vii) traceability of input; (viii) flexibility in routing cargo; (ix) paperwork and clearance processing; and (x) others (as specified by the interviewee).

Figure 5.5: Logistic and Supply Chain Impediments in Cambodia

Note: Customs formalities also include paperwork and clearance processing, which was included as a separate impediment during the interview.

Source: Asian Development Bank (ADB) constraints-on-exports questionnaire.

customs formalities were ranked 1, 2, or 3 by more firms than was any other impediment.

Across the sectors, most of the surveyed firms—15 out of 15 in the garments sector, 11 out of 14 in the food products sector, and 7 out of 10 in the wood products sector—ranked customs formalities among their top-three impediments.

Some of the firms noted that customs procedures were a constraint on the timely delivery of input supplies, adding to the costs and forcing the firms to use local supplies, and thereby affecting the overall quality of the final product. For example, in the case of garments, there are no input supplies in Cambodia and a garment factory's ability to get timely shipments of

fabric affects their delivery times. If inbound shipments are delayed at the border, outbound shipments will most likely also be delayed, resulting in extra shipping fees. In addition, if buyers give their approval late or the fabric is not of the right quality (and a reorder is required), garment shipments are also likely to be delayed.

Similarly, several exporters in the Cambodian wood product sector spoke of the difficulty and costs associated with importing goods such as additional raw materials, specific chemicals, or dyes. One specific cost was too high, they said, referring to the practice of charging fees based on the entire invoice value, which often includes tax and cost of shipping. For some firms, if the costs of importing become too high to compete and export, and production inputs are restricted to those available in Cambodia, the production of certain goods can stop altogether.

Overall, the cost of transport was listed among the top-three impediments by 27 firms. It was ranked as the number one constraint by most firms (not shown in Figure 5.5)—by 9 out of 15 firms in the garments sector, 8 out of 14 in the food products sector, and 5 out of 10 in the woods products sector. In other words, most of the firms interviewed perceive transport cost to be a major challenge. Cambodian garment manufacturing firms noted that freight forwarders are nominated by buyers and the garment manufacturers therefore have less negotiating power. Informal payments included in the transport charges could also partly explain why transport cost is an impediment. As the survey responses showed, firms had little idea of, or control over, the informal payment part of overall transport charges.

Transport charges could also be high because of the lack of competitive transport service providers. Several factors support this hypothesis. First, Cambodia's trucking fleet is relatively small and aging. Second, transportation costs per ton-kilometer are significantly higher in Cambodia than in neighboring countries.¹⁸ Third, the lack of firms engaged in cross-border shipments (the vast majority of goods crossing Cambodia's land borders are trans-loaded) and restrictions on foreign-owned trucking companies operating in-country provide a relatively protected domestic environment for transport service providers to operate in. Fourth, a

¹⁸ Depending on the route, transportation costs in Cambodia are \$10.00–\$15.00 per ton per 100 kilometers (km), compared with \$4.00 per ton per 100 km in Thailand and \$7.50 per ton per 100 km in Viet Nam (Source: ADB [2011], CDRI [2009], and EMC [2011]). Also, as shown in Chapter 3, transport cost per ton-km is higher in Cambodia than in Thailand or Viet Nam (Tables 3.2 and 3.3).

relatively small number of large trucking firms account for the vast majority of trailer trucks and international shipments. Additionally, some trade corridors, such as Phnom Penh to Bangkok via the Aranyaprathet border, are dominated by just one or two large trucking companies. These factors also support comments regarding the lack of availability of transport, which was noted by six firms as a logistic impediment to exporting more.

Obtaining the requisite certifications was ranked as an impediment by 21 firms—8 in the garments sector, 6 in the food products sector, and 7 in the woods products sector. In the case of the wood products sector, the ranking is most likely due to the various clearances required for the wood used. Other top-three impediments were: required order quantity, traceability of inputs, quality control, and transit times.

5.3.2 Wood Exporters in the Lao PDR

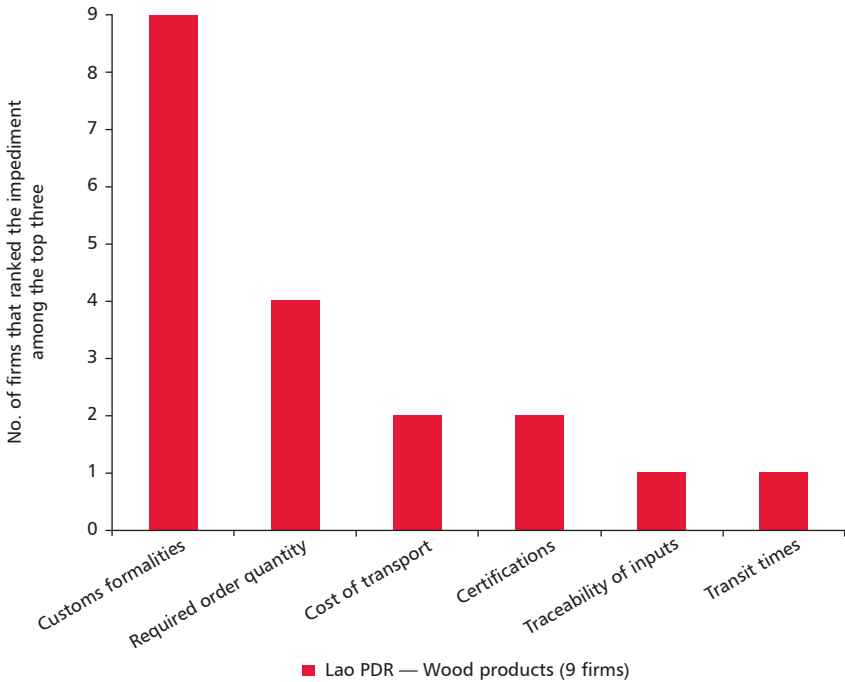
Of the 14 wood exporters in the Lao PDR that were surveyed, only 12 responded to the questions related to logistics constraints. The interviewees from the two firms that did not answer these questions did not handle logistics and were not fully aware of all the issues. Three of the 12 firms ranked fewer than top-three constraints; these three firms were excluded from the analysis of key logistic and supply chain impediments. The logistic constraints shown in Figure 5.6 are therefore based on data from the remaining nine firms. As noted earlier, the firms were asked to rank the top-three impediments only.

All the nine firms in the sample ranked customs formalities (including paperwork and clearances) among their top-three logistic impediments. The firms surveyed described the process as long and cumbersome, and reported that many fees (both formal and informal) were required.

Four of the nine firms in the sample highlighted “required order quantity,” i.e., the amount of wood products needed to meet buyers’ demand, among their top-three exporting constraints. Firms noted that they could not source enough raw materials to meet orders. Fierce competition for raw materials and the limited quota hampered the search for raw materials to meet orders.

The cost of transporting raw materials to the factory and transportation costs associated with the export of finished goods are also reportedly high and were ranked as a top-three constraint by two firms out of the nine in the sample. The high costs could be due to the low availability

Figure 5.6: Logistic and Supply Chain Impediments to Wood Product Exports in the Lao PDR



Note: Customs formalities also include paperwork and clearance processing, which was included as a separate impediment during the interview.

Source: ADB constraints-on-exports questionnaire.

of transport services or the informal payments included in the transport costs. Two firms ranked certifications among their top-three constraints.

5.4 Constraints on Increasing Exports

A second objective of the survey was to ask the firms about the constraints on expanding their production and improving competitiveness, which could enable them to export more and compete in export markets. In each of the four sectors, the surveyed firms were asked to rate each potential

constraint from 1 to 5, with 5 being the most severe.¹⁹ A constraint was considered severe if it was rated 4 or 5.²⁰ Out of the list of 11 constraints, each firm could give a 4 or 5 rating to more than one constraint. Constraints on expanding production capacity and improving competitiveness may vary across sectors; the findings for each of the four sectors are therefore presented separately.

5.4.1 Cambodian Garments Sector

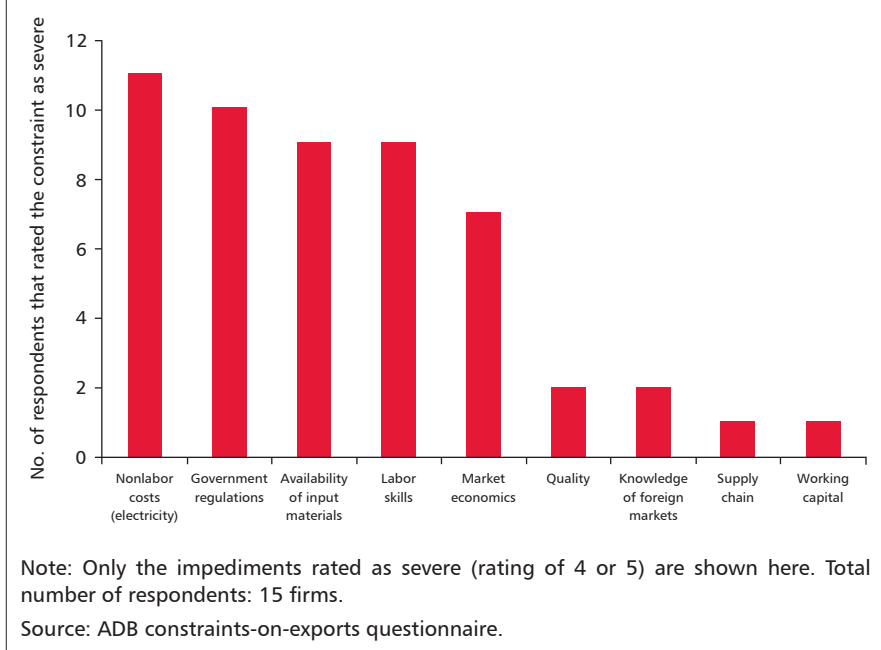
Figure 5.7 summarizes the constraints faced by the Cambodian garment sector in expanding production. Of the various constraints, 11 firms (out of the 15 interviewed) rated high nonlabor and non–raw material input costs, such as the cost of electricity, as a severe constraint (rating of 4 or 5). Factories use power supply provided by the government when possible; however, unstable supply forces factories to use their own generators and this generator power is typically more expensive than energy used off the power grid. Addressing the high cost of electricity is a priority for the garment industry. The GMAC has been working with the International Finance Corporation (IFC) since 2009 to audit energy consumption in the garment industry with the goal of improving energy efficiency in the sector, reducing costs, and thereby strengthening the industry's overall competitiveness.

Government regulations were noted as a severe constraint on exporting more by 10 firms. For imports, firms pointed out, factories have to apply for an import permit that normally takes up to 3 days to process. For exports, the factories must apply for a certificate of origin and this can take up to 7 working days to process. The surveyed firms said that procedures and processing times that were longer and costs that were higher than they

¹⁹ Note the difference from the approach used for logistic impediments, where the firms were asked to identify only the top-three constraints and rank them from 1 to 3. In the case of constraints on production capacity and competitiveness, the firms were asked to rate the severity of *each* constraint from 1 to 5, instead of identifying only the top-three constraints.

²⁰ In each sector, the interviewed firms were asked to rate the severity of each of the following constraints: (i) working capital or trade finance, including payment terms; (ii) availability of raw materials and input supplies; (iii) availability of labor skills; (iv) reliability of supply of energy; (v) availability of finance for capital investment, including technology or production equipment; (vi) products not of export quality; (vii) supply chain and trade logistics capacity; (viii) knowledge of export markets and ability to find buyers; (ix) attractiveness of market economics; (x) government regulations; and (xi) others (as specified by the interviewee).

Figure 5.7: Constraints on Increasing Exports in Garments Sector, Cambodia



needed to be were affecting their ability to deliver shipments on time. Both their price competitiveness and their credibility as reliable exporters were affected.

The need to apply for import permits is related to the unavailability of input materials in the local market, which was rated as a severe constraint by 9 of the 15 firms interviewed. The interviewed firms noted that raw input materials that cannot be sourced locally have to be imported. Company offices outside Cambodia handle the ordering of input supplies from fabric mills and place the orders only after the buyers approve the samples. Any delay in having the fabric quality approved by the prospective buyers or in getting through customs while importing the input can delay input supplies, and delay the delivery of the final product.

A few garment factories also reported being constantly challenged by the need to find labor with adequate skills. Garment companies said that they needed both people with managerial skills and workers with technical skills in fashion design, pattern making, merchandising, and supply chains.

However, these skills, the firms noted, were hard to find in the current human resource pool in Cambodia. Additionally, many Cambodian garment manufacturers lack knowledge and understanding of what international buyers want, and this lack has limited their capacity to grow. In the course of the interviews, some firms reported difficulties managing workers, given the low skill level and professionalism of some of them. As a result, the firms said, meeting deadlines was a problem.

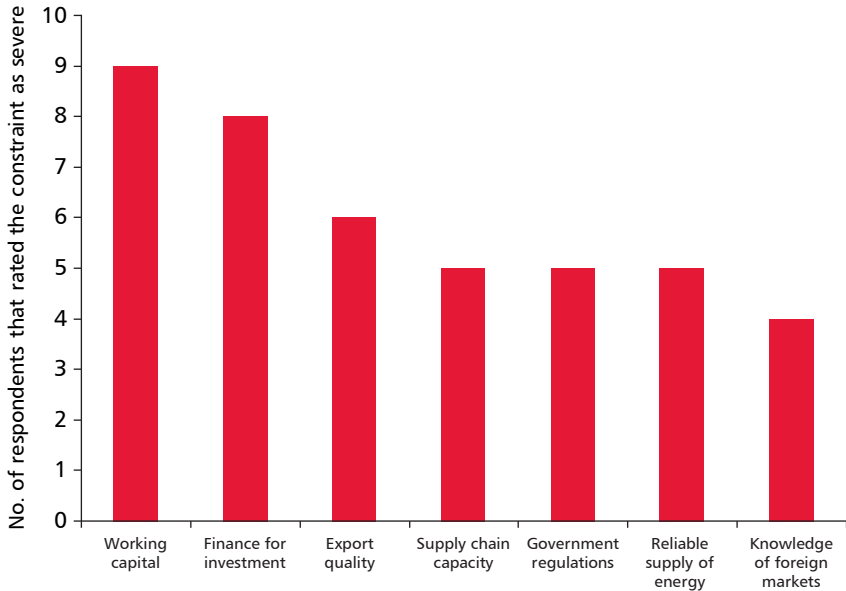
However, the constraints on the growth of the sector are larger than just the lack of input supplies. Cambodian garment manufacturers primarily operate as outsourced production centers for foreign-owned firms, i.e., the foreign companies send inputs and receive back processed garment items. The Cambodian portion of the value chain is therefore concerned only with delivering goods that are ordered internally and does not need to proactively market or sell the goods. To capture more of the value chain, Cambodian garment factories could start by owning more of the logistics responsibilities, ordering inputs and determining delivery logistics, and beginning to charge for these extra services. Over the long run, moving into higher-skilled work like fashion design and marketing will also present an opportunity for growth.

5.4.2 Cambodian Food Products Sector

In contrast to the challenges mentioned by firms in the garment sector, the top constraints reported by firms in the food sector relate to more basic business development needs, such as access to capital both for operations and for capital investment. Nine out of 14 firms and 8 out of 14 said that poor access to working capital and financing for investment impeded their ability to expand production and exports (Figure 5.8).

Export quality, also rated among the constraints (by 6 out of 14 firms), is somewhat related to access to finance because exporters must be able to upgrade their drying and milling facilities and invest in machinery to improve the quality of their rice exports but, lacking access to finance, cannot make those investments. Export quality is also dependent on the quality of paddy used. According to the Cambodian rice millers surveyed, demand from foreign buyers for paddy creates challenges in sourcing paddy for their mills and also exerts upward pressure on the price of paddy. Yet Thai and Vietnamese millers who import rice from Cambodia and also pay a transport cost back to their mills are still able to compete and sell in international markets. The pressure on the price of Cambodian paddy due to external demand therefore cannot be a key constraint on expanding

Figure 5.8: Constraints on Increasing Exports in Food Products Sector, Cambodia



Note: Only the impediments rated as severe (rating of 4 or 5) are shown here. Total number of respondents: 14 firms.

Source: ADB constraints on exports questionnaire.

rice exports. But the large contracts that Thai and Vietnamese millers have locked in and their access to working capital place the Cambodian millers who do not have such contracts and such access to capital at a competitive disadvantage. This could explain, for example, the Cambodian millers' inability to compete with foreign millers for high-quality paddy.

On the other hand, assuming that a part of the increase in paddy prices is passed on to the farmers, they gain from the presence of foreign buyers in the paddy markets. Higher prices can encourage Cambodian farmers to grow more rice paddy, with positive effect on the supply of paddy. But if the rice paddy is milled outside Cambodia, the potential value added gains from milling rice and moving up the value chain in the food sector are lost and Cambodia is left to export only the raw material (RGC 2010).

During the interviews, rice exporters explained that working capital also affected their ability to fulfill orders. With insufficient working capital, exporters cannot buy enough paddy to meet the larger order sizes in the international market. Large buyers sometimes ask for orders of 10,000 tons per month, the exporters said, adding that they cannot meet such large orders because of their limited capacity and supply-chain constraints (which 5 out of 14 firms considered an impediment to increasing exports). As already noted, lack of access to working capital affects the ability of Cambodian millers to compete with Thai and Vietnamese millers in paddy markets.

Like firms in the garments sector, some firms in the food products sector (5 out of 14) rated the unreliability of energy supply and the consequent higher electricity price (due to the use of generators) as constraints on their ability to export more and compete with other regional exporters.

5.4.3 Cambodian Wood Products Sector

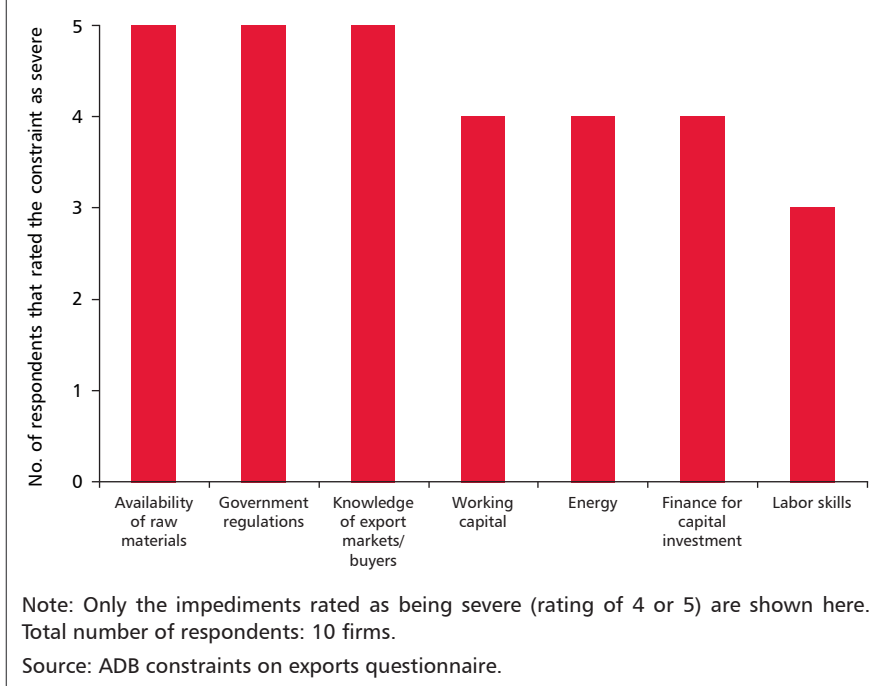
Factors rated as most severely constraining (rated 4 or 5) the ability of wood exporters (the interviewed firms also included grass exporters) to expand and improve competitiveness are summarized in Figure 5.9. Five of the 10 firms interviewed pointed to the unavailability of raw materials, government regulations, and poor knowledge of foreign markets and buyers as factors holding back the expansion of exports.

Access to raw materials in adequate quantities and of consistent quality for processing into higher-value products was among the biggest challenges mentioned by wood exporters. For products made from sedge and palm leaves, the input supply is seasonal. Therefore, price, quality, and quantity of input supply fluctuate seasonally.

Regarding government regulations, wood exporters (excluding grass product exporters) described the lengthy and multi-step approval processes, high informal fees, and the low availability of government officials for approvals. The inability to source raw materials and the constraining effect of government regulations may be related to the government's focus on forest preservation, which has increased sourcing restrictions and multiplied the clearances that must be obtained.

Another constraint on exporting is lack of knowledge of export markets. The respondents noted that entry into foreign markets required a good understanding of international designs and tastes. Many saw this as a

Figure 5.9: Constraints on Increasing Exports in Wood Products Sector, Cambodia



challenge, traceable to the lack of labor skills. Three firms said that the shortage of staff with a proper understanding of consumer preferences and international markets was a constraint on increased exporting.

Similar to exporters in the food sector, wood product exporters viewed the lack of capital, for operations and for investment, as a constraint. As in the garments and food product sector, unreliable electricity supply and the high energy costs due to the use of generators, were singled out as constraints by four of the 10 firms.

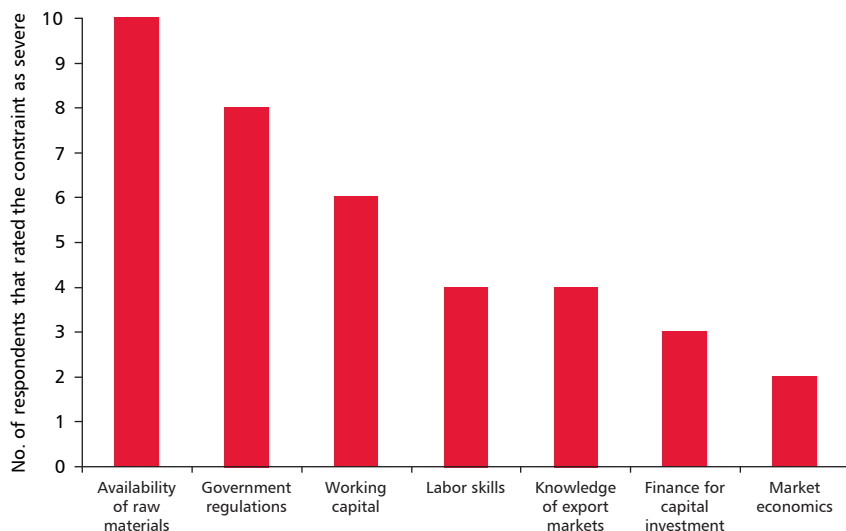
5.4.4 Wood Products Sector in the Lao PDR

Of the 14 firms surveyed, 10 reported their inability to source raw materials, specifically round wood, as a severe constraint on increasing exports (Figure 5.10). This constraint is related to government regulations, which 8 of the 14 firms listed as a constraint on export growth. During the

survey, interviewees noted the ambiguity and irregular enforcement of the wood quota policy.

The firms interviewed pointed out that Vietnamese companies are competing with them for limited raw wood and processed wood. Viet Nam, which is among the world leaders in processed wood exports, has taken a sustainable approach to domestic forest preservation and Vietnamese processors are seeking to source raw materials from the Lao PDR through both legal and illegal means (Forest Trends 2010). Competition from foreign buyers, together with limited access to wood, is likely to raise wood prices and erode the competitiveness of exporters from the Lao PDR in international markets. Some firms complained about “special treatment” for foreign buyers. However, higher prices due to scarcity and competition cannot by themselves be a constraint. Foreign buyers incur a transportation cost on top of the higher prices and yet compete successfully in international markets. Other factors may explain the decreased competitiveness, such

Figure 5.10: Constraints on Increasing Exports in Wood Products Sector, the Lao PDR



Note: Only the impediments rated as severe (rating of 4 or 5) are shown here. Total number of respondents: 14 firms.

Source: ADB constraints-on-exports questionnaire.

as the inability of exporters from the Lao PDR to finance purchases of large quantities of raw wood for exports, relative to the purchasing capacity of foreign buyers.

In fact, according to six firms, working capital is a severe constraint. Financing is also inextricably linked to the ability to source raw materials. Firms reported that banks are reluctant to lend to wood processing businesses, because of the variable timber allocation policy set by the Government of Lao PDR. From the point of view of the banks, this unpredictability makes wood companies risky borrowers.

Four firms rated the shortage of labor skills as a severe constraint. A likely result of the skill shortage is the lack of knowledge of wood product export markets—of international trends and preferences—which four firms also listed as an impediment to increased exporting. Two firms said that the “market economics” did not make exporting attractive enough. Lack of raw materials and competition from foreign buyers were pushing up the cost of raw input materials.

5.5 Policy Recommendations

The following policy recommendations are made on the basis of the findings of the case study, with a view to easing the constraints currently faced by exporters in Cambodia and the Lao PDR. For both countries, policy recommendations include measures to improve the process of exporting and to help the firms expand their productive capacity to export more.

5.5.1 Cambodia

- Improve exporting as well as importing procedures. Better import procedures will help ensure the timely delivery of imported inputs. Possible measures in this regard include the following:²¹
 - Fully implement the e-clearance system to minimize export times, increase reliability, and lower the costs of importing and exporting.
 - Increase the number of government positions with the authority to approve import and export permits. Waiting for the designated officials to sign documents often causes delays.

²¹ Also see the discussion in Chapter 3, which provides a list of nine policy measures to improve trade facilitation in Cambodia.

- For shippers with a good history, make permits valid for a certain time period, such as a year, rather than for a single shipment, to speed up trade processing.
 - Implement service-level agreements (SLAs) to allow default-positive processing within an agreed time limit in the absence of a rationale for disapproval. For instance, a certificate of origin would be approved within 3 days if no reason for disapproval is received within that time. The private sector could thus plan around definite times for import and export processes, and delays would be minimized.
- Improve access to working capital for companies in the food and wood products export sectors. In the study, firms in both sectors saw access to working capital as a key constraint on growth. Under the rice paddy bonded warehousing scheme, for example, banks can lend capital to private sector players against rice paddy as collateral. This innovation, if found viable, could unlock business growth for smallholders, traders, and rice millers. Trade finance programs in coordination with international aid agencies can also help alleviate financing constraints.
 - Improve power supply. Firms interviewed in all the three sectors rated energy as a highly important constraint on their ability to expand production and export more. The power supply in Cambodia is currently unstable and many factories have had to use their own generators. These are generally inefficient and costly, and increase the energy bill for these businesses. Improving the supply of energy by tapping into additional supply sources and diversifying sources of power should be a priority for the government. A stable supply would lessen the use of generators, bring down the cost of electricity for the firms, help improve their cost-competitiveness, and enable them to deliver larger orders on time.
 - Simplify the documentation process for wood exporters while maintaining strong forestry management. Acutely aware of the gains that rice exporters have achieved under the National Rice Policy in terms of improved export procedures, times, and costs, wood product exporters have expressed their desire for a similar emphasis on their own export industry, particularly for SMEs.
 - Increase access to information about export requirements, processes, times, and costs. Exporters, such as those in the food products sector, reported that they were often unfamiliar with exporting requirements or processes. While information resources such as the export handbook for SMEs published by the IFC (IFC 2008), do exist, exporters could greatly benefit from a resource that contained up-to-date, easily accessible information. In this regard, measures proposed

in ADB's Blue Book (ADB forthcoming)²² such as setting up an online information resource that would be a one-stop information resource for exporters are a step in the right direction. Awareness of the online resource could be raised through relevant associations and forums like the Cambodian Small and Medium Industries Association.

- Continue to build the national transportation infrastructure network to improve transport infrastructure and port facilities, and reduce not only actual transportation costs but also the costs resulting from delays in export and import times. For example:
 - Continue to develop alternative means of transit to the port, such as the train facilities from Phnom Penh to Krong Preah Sihanouk that are under construction.
 - Continue to realize the potential for investment or exploration of river and barge transportation and how it links to existing supply chains and transport infrastructure.
 - Continue to make progress on steps already taken, such as the bridge to Bavet, which will provide a better link for trucks to the Vietnamese border.
 - Protect frequently used road infrastructure with strictly enforced weight loads for trucks (see further discussion in Chapter 3).
- Support the building of sector-specific infrastructure, such as cold storage warehouses, food-grade containers, and refrigerated containers, which will help support export growth in the food industry. Most food product testing is now done in Thailand or Viet Nam. Establishing internationally recognized testing labs in Cambodia in partnership with trusted international bodies could greatly reduce costs and times of testing.
- Build labor skills. All the firms surveyed noted the lack of skilled labor in their respective sectors. This lack is closely tied to the lack of workers with knowledge of foreign markets and international tastes and preferences. Establishing training institutes to build sector-specific skills and ensuring that the skill sets of graduates match the needs of the private sector can help improve the quality of the labor pool in Cambodia. Such programs are already being run with the help of development partners. For example, in October 2005, the US Agency for International Development (USAID) initiated a 3-year program for the Garment Industry Productivity Center. After the funding ended, that initiative was turned into a private business. More recently, GMAC

²² Chapter 3 provides a discussion of the findings and the policy recommendations from the Blue Book (ADB forthcoming).

began advertising pattern-making courses, with support from the Ministry of Economy, Trade and Industry (METI) of Japan and through the Japan Overseas Development Corporation (JODC).

- Increase global awareness of Cambodian products. Exporters noted that improving international recognition of their products would help boost exports. Programs like the Export Market Access Fund (EMAF) help SMEs increase their knowledge about foreign markets, as well as promote their products in international markets. Additional support for Cambodian exports could be provided through trade shows with the help of the government. Supporting the preparatory steps for increasing international brand awareness is vital as well. For example, organizing internationally recognized certifications courses and associated training programs for Cambodian businesses could improve competitiveness within ASEAN and could eventually increase positive awareness of Cambodian products worldwide.
- The National Rice Policy laid out by government, which targets rice exports of 1 million tons by 2015, is a good example of a national sector policy. Cambodia should continue to build on this success by (i) reviewing and revising the current rice policy with the help of market and policy specialists, and (ii) developing policies for other priority sectors. In both cases, having concrete goals and time frames will help the relevant authorities facilitate infrastructure improvements, export processes, access to finance, and other incentives that are valuable to exporters in order to reach the goal.
- Conduct a thorough study of transportation costs, including local and international routes in the country. The study should examine the major constraints that drive up transportation costs, such as informal fees, gasoline prices, competition among trucking companies, route condition, and the presence of other infrastructure. The study should also benchmark transport costs in Cambodia against those in the neighboring countries.

5.5.2 The Lao PDR

- Increase the availability of raw materials which is inextricably linked to government regulations and the allocation of wood permits. Any steps taken in this regard should be balanced with the imperatives of forest management and responsible wood exporting. The government should centralize, manage, and increase transparency in the allocation of wood permits. Through recent decrees and actions, the Government of Lao PDR has shown a desire to address the wood allocation challenges faced by the industry. The measures undertaken at the provincial level

should be coherent and aligned with those at the national level to ensure uniform implementation of wood allocation policies.

- Simplify the input inspection process and export clearance process to facilitate exports and lower costs for exporting businesses. For example, reducing the numbers of required inspections for domestic movement of roundwood would reduce the transport costs for wood processors, as informal costs incurred during inspections would go down.
- Support access to finance initiatives for wood exporters. Lending to businesses in the wood sector is considered high risk because of the unpredictable nature of the wood allocation policy. A transparent and predictable wood permit policy will allow local firms to be more informed about the availability of inputs, as well as their growth prospects. Their business plans will, in turn, gain credibility and their prospects for obtaining access to finance from banks will improve. The business of wood exporters will also become less risky, and interest rates for financing will be reduced as a consequence. In addition, trade finance programs can ease the financing constraint, provided that the wood used is legal and meets the sourcing requirements. To this end, a rigorous evaluation of legitimate wood businesses with certification from an international organization could be used to assure local banks and partners in the trade finance program that the exporter is following best practices.
- Conduct a study to better identify the market opportunities in the Lao PDR both for domestic and for export production, and analyze the capabilities, involving both soft and hard skills, that firms in the Lao PDR and the labor force must develop to compete with regional players.

5.6 Conclusions

The trade of Cambodia and the Lao PDR has expanded rapidly, yet this trade is only a small share of the overall GMS5 trade. Trade offers countries an opportunity to serve markets beyond their borders, compete in global markets, learn new technologies, and improve their business performance. Ultimately, more trade helps a country grow and improve the living standards of its people.

It is therefore important to understand the factors that constrain export growth in Cambodia and the Lao PDR. This chapter presented findings from a qualitative survey carried out in four sectors (three in Cambodia and one in the Lao PDR). In the survey, the firms were asked about two

different aspects of exporting—logistic and supply chain impediments, and obstacles to expanding production to increase exports and to improving competitiveness.

Findings from the case study show that, in addition to addressing the logistic and supply chain constraints through trade facilitation measures, efforts to promote exports from Cambodia and the Lao PDR must also look at the constraints that affect a firm's production capacity and competitiveness. Addressing these constraints will not only help promote exports but also increase the attractiveness of the two countries as a destination for foreign direct investment.

The chapter has identified possible areas for further action by the government. Aid agencies can work with the governments to address these constraints and provide support for activities such as infrastructure projects—in energy and transport, SME finance, trade finance programs, vocational training institutes, and simplification of customs procedures. In-depth, sector-specific diagnostic studies should be undertaken to help identify the most binding constraints and help prioritize policy action geared toward relaxing those constraints.

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Appendix Table A5: Key Characteristics of the Firms Surveyed

Item	Cambodia			Lao PDR
	Garments	Food Products	Wood Products	Wood Products
Sample size	15 exporters and 2 freight forwarders*	Rice: 10 Other food products: 4	10 companies (1 timber, 4 wood products, 5 grass products)	14 companies
Average years exporting	6 years**	3 years	6 years	11 years
Average no. of full-time employees	1,519 employees	23 employees***	13 full-time employees on average	47 employees
Average export revenue	\$5.1 million	Rice: \$1.2 million Other food products: \$90,000	\$100,000	\$1.5 million
Major products exported	T-shirts, shirts, pants, skirts, sleepwear, activewear, and children's wear	Rice (jasmine, long grain, short grain) Food (pepper, dried fruits, coffee, palm products)	Wood products: wooden sculptures Grass products: carpets made from sedge, palm leaf products, bamboo furniture Raw timber: roundwood, rubber wood, cashew wood, mango wood	Furniture, parquet flooring, deck flooring, and doors and windows
Top destinations	US, EU, Canada	EU, US, Asia	EU, US, Asia	Thailand, Viet Nam, PRC, EU, US

continued on next page

Appendix Table A5 *continued*

Item	Cambodia			Lao PDR
	Garments	Food Products	Wood Products	Wood Products
Foreign vs local business	All are foreign-owned, with head offices overseas	All of the companies are locally owned and operated. However, 3 are owned and managed by foreigners residing in Cambodia (all in the non-rice sector).	All of the companies are locally owned and operated. However, 5 are managed by foreigners residing in Cambodia.	All businesses are locally owned and operated.

PRC = People's Republic of China, EU = European Union, Lao PDR = Lao People's Democratic Republic, US = United States.

* Freight forwarders were not included in the data analysis.

** Firms reported that many firms operate for around 5 years because the government gives tax incentives for initial years post-investment and then many firms shut down only to re-start again in order to avail of tax incentives.

*** The average excludes one company with 250 employees. The average would be 40 if this firm was included.

Source: ADB constraints-on-exports questionnaire.



CHAPTER 6

Modes of Transport Underlying GMS Trade Flows

Anthony Bayley

6.1 Introduction

Trade in value terms between the Greater Mekong Subregion (GMS) countries and the rest of the world has increased at double-digit rates since 2000, with intra-GMS trade growing even faster, doubling almost every 3–4 years. However, little of this trade dynamism is evident on the major GMS corridors. Freight traffic traversing the land borders along these international linkages has not increased. Maritime transport is still dominant in supporting the growth of trade in the subregion and its market penetration of trade movements, even between GMS countries, has been rising. Indeed, recent studies (ADB 2012) have stressed the potential importance of the role of the GMS corridors in serving the seaports, rather than solely being seen as a facility for conveying bilateral trade.

This chapter identifies and projects the modes of transport used in conveying trade flows in the subregion. International transport is primarily a trade responder rather than a trade generator: it develops to satisfy the demand to move trade. Thus, it is necessary to identify at the start the nature of that demand and, transport movements being volume based, to express the demand in volume (tonnage) rather than value terms. Annual growth rates in tonnage traded generally tend to be significantly lower than annual growth rates by value, as they exclude increases due to higher prices.

With a combination of annual trade tonnage, origins and destinations, and commodity profiles, it is possible to map the transport modes underlying observed trade flows and from that information to then identify the infrastructure and transport services needed to support future trade flows. The results are intended to be a useful reference for policy makers, the private sector, and academics as they strive to enhance trade facilitation regimes in the GMS, particularly with regard to the development of the GMS economic corridors.

The rest of this chapter is organized as follows. Section 6.2 discusses the data used and the methodology for estimating the volume (tonnage) of trade flows by mode of transport. Section 6.3 gives an overview of how different modes of transport compete on the basis of cost, time, and reliability parameters. Section 6.4 examines the profile of intra-GMS trade for the GMS countries and also discusses the likely modal balance underlying the movement of that trade. Section 6.5 discusses the likely impact of future changes in trade patterns on the use of different modes of transporting goods, and section 6.6 concludes the chapter and discusses implications for investments in the transport sector in the GMS.

6.2 Data and Methodology

Comprehensive data on international trade traffic flows along the various GMS corridors and other competing land routes are not generally available. When projecting freight traffic flows and future growth, the majority of previous GMS studies have relied on macroeconomic trade data based on value, although freight transport demand is volume or tonnage related. In very few cases have route-specific trade tonnage data been collated and analyzed to estimate trade volumes likely to move along particular corridor links or between countries. In addition, the modes of transport used in trade have rarely been evaluated at a macro level. Given that the GMS initiative is largely focused on land transport and the development of economic corridors, the role of maritime and inland waterway transport has often been largely ignored.

There is no direct correlation between the value of goods being traded and the tonnage to be physically moved. For example, some GMS countries have a vibrant manufacturing activity producing high unit-cost products, such as garments and electrical goods, whereas others depend more on trading in lower-value goods, for example, raw materials and agricultural goods. In general, this latter traffic often tends to represent the major traffic flows. This “mismatch” between the use of trade data based on value and freight transport demand in tonnage could explain partly why projected trade traffic flows along some GMS corridors may not always correlate with later actual flows when it comes to physical movements of trucks or wagons along these international routes.

An additional problem is that value-based projections take limited account of the impact of traffic imbalances, the difference in volumetric terms between exports and imports. These imbalances affect the overall

quantity and cost of freight transport movements, as traffic levels on a particular corridor tend to be dictated by the larger directional flow with high levels of empty running on the return journey. The corridors need to support both full and empty vehicle flows. Many of the GMS countries have significant imbalances in their intra-subregional trade tonnages, often greater than the value differences might at first suggest.

The trade demand assessment used in this chapter is based mainly on modeling data¹ using the United Nations Commodity Trade Statistics Database (UN Comtrade)² 2009 annual returns as a sample year.³ Most countries submit their import–export data on an annual basis by value, but also indicate weights and units for many of the commodities using the Harmonized Commodity Classification System of the United Nations (UN). Unfortunately, not all commodities are recorded on a weight basis and some GMS countries have not submitted their detailed trade breakdowns annually. In addition, the data represent the information provided by each country, but they are not validated by cross-referencing between trading partners. In some cases the differences between partner country records can be substantial, particularly, for example, in the case of the People’s Republic of China (PRC) and its neighbors.

To compensate for the above caveats, those commodities not recorded on a weight basis were converted into tons using sample data from other countries. In addition, the weight of certain commodities that are not transported along road, rail, or maritime corridors, such as electricity, gas, water, ships, and aircraft, was excluded. Where countries did not report annually, their trade data were compiled on the basis of returns submitted by their trading partners. Where incomplete data were available, tonnage data were estimated on the basis of escalating recorded tonnage relative to the value return. The resulting indicative trade tonnage data, while not exact, provide an order of magnitude sufficient for modal utilization purposes.

¹ Model data developed under Asian Development Bank (ADB) regional technical assistance (RETA) 7557: Promoting Regional Infrastructure Development; approved 29 June 2010.

² UN Comtrade contains annual trade data from all participating countries. Data used are based on the UN Harmonized Commodity Classification System

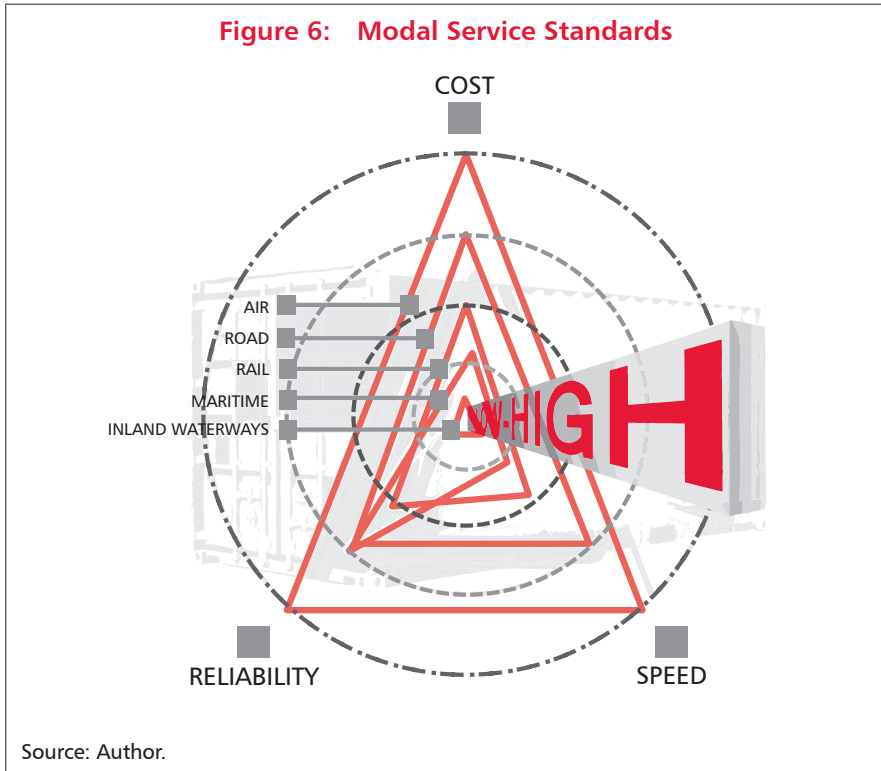
³ Trade data used and reported in this chapter differ from the trade data reported in chapter 2. This is because the data used in this chapter rely on export side statistics as the base data, whereas in Chapter 2 import side statistics are used as the base data. In both cases (in Chapter 2 and in this Chapter), the data are not validated by cross-referencing between trading partners. And, as noted later in the chapter, the differences between the two can sometimes be substantial.

The trade tonnages were then assigned to routes and modes of transport connecting economic hubs by applying a combination of the available data sources and employing a spatial interaction model. The model established interactions between selected location pairs, the pairs being economic hubs and border crossings or seaports. Inputs to the model included the use of a cross-border database of traffic volumes moving through GMS borders from previous Asian Development Bank (ADB) projects and tonnage recorded through GMS seaports. As a cross-referencing methodology, the main traffic flows were further analyzed on the basis of the most likely transport mode for that particular commodity between origin and destination economic hubs.

6.3 Modal Competition

International and domestic transportation services are based on providing clients with the best service standard for the movement of their specific product. This standard consists of a balance between cost, speed or time, and reliability, sometimes referred to as C/T/R service parameters. This balance tends to dictate the optimal mode of transport to be used, assuming a modal alternative is available, and often acts as a key product differentiator between the various service providers within a particular mode. These C/T/R standards by mode are shown in Figure 6.

At the premium end of the market is the air transport mode, which is fast and reliable but expensive. Therefore, it is best suited for moving goods that have a relatively high sale value capable of offsetting the high cost parameter. Research has shown that, though speed is its primary attribute, often air transport is used in modern logistics merely because it is significantly faster than the maritime alternative for long-distance movements. Much of the airfreight tends to move suboptimally in speed terms, often waiting for consolidation services in order to reduce the freight costs or incurring delayed delivery from destination airports. Air transport is important in the GMS region given its import–export profile, especially for the movement of fresh produce and higher-value manufactures to distant markets in the United States (US), Europe, and Australasia—markets where there is a major time difference between air and sea transport. Generally, air transport handles only about 2%-3% or less of imports or exports by tonnage, though sometimes the percentage in value terms is slightly higher because of the higher average value per ton of air freighted goods.



Maritime transport is currently the dominant transport mode for the movement of international trade in the GMS area, even for most of the intra-subregional trade. There are many reasons for this, but probably the most important is the concentration of both production and demand in the larger GMS countries along their seaboards, combined with the dominance of trade with external markets, where sea transport is essential in the absence of surface connectivity. The maritime unit costs of carriage (\$ per ton-kilometer [km]) are much lower than those of surface transport, mainly because of the ability of maritime transport to convey goods in large volumes per movement, thus achieving economies of scale. These economies using larger vessels lead to transport costs that are nonlinear with distance. Large vessels are used for longer distances so that the marginal cost per ton-km declines with distance, thus allowing exporters to compete in distant markets with relatively little premium in terms of additional costs of delivery. This is important because, other things being

equal, major Southeast Asian traders will often tend to favor the larger, more integrated markets of Europe and the US over the smaller, less organized markets in Asia, even though they are closer.

Road transport is considered to be fast and relatively reliable, but is high cost compared with either the rail or maritime mode. However, it is much more flexible as it does not require fixed facilities (other than the use of public roads) and can provide door to door services using its speed and reliability elements to offset the higher costs. Even rail and maritime movements usually incur road transport costs at least at one end of the journey. Road transport is therefore the most common mode used in trade logistics within the GMS, either in isolation for the movement of bilateral trade or more commonly in a complementary supporting role to maritime transport. Indeed, in overall trade logistics terms a key function of road transport in the subregion is to distribute imports and exports to and from the ports. In tonnage terms this activity far exceeds road freight traffic physically crossing the GMS borders.

Rail transport tends to be an underused transport mode in the movement of international trade in the GMS. The principal reason for this is the limited network, particularly in terms of its regional connectivity. In the center of the GMS is Thailand, which is rail connected only with Malaysia to the south. Myanmar to the west has no international connections. There is no operational rail network in Cambodia or the Lao People's Democratic Republic (Lao PDR), while Viet Nam is connected only in the north with the PRC, which has a different operating gauge. The reality is that, apart from some limited movements between the PRC and northern Viet Nam, the role of rail in trade logistics is principally related to the inland distribution of certain traffics in bulk to and from the seaports.

The final transport mode is inland water transport, which is cheaper but slower and not always reliable. These parameters mean it is particularly suitable for moving basic low-value cargoes, such as aggregates, and, with its economies of scale, for carrying high-volume shipments, such as fuel, rice, and construction materials. Given the low cost of most transported items, the additional inventory costs incurred as a result of the slow transit are more than offset by the low costs of carriage. Inland waterway transport is generally competing with the land transport market and would normally be an alternative to rail, given their synergy of C/T/R service parameters. However, because of the lack of a comprehensive rail network in the subregion, inland waterways in the GMS area are mainly

competing with the more expensive road mode, though their penetration of the international trade sector is considered to be relatively minimal and related to a narrow range of commodities (other than shipping services using the Mekong River up to Phnom Penh).

Despite institutional discussions on the importance of modal competition on the GMS corridors, the reality is that modal competition generally is quite limited. This is because the type of goods, their origin and destination, client demands, and the service needs in terms of C/T/R requirements usually indicate a clear optimal mode of transport to be used. In many cases there is only one mode or combination of modes realistically available. Indeed, in the majority of cases, the modes tend to complement one another, rather than compete, such as road being the collection and distribution for much of the maritime traffic. While there is a degree of potential modal overlap in the C/T/R balance, the proportion of trade movements where the use of one mode of transport or another (other than in combination with each other) is a real option is relatively small.

The assessment of the mode of transport used for the movement of trade in this chapter is based on a number of key assumptions. Trade between the GMS countries and the rest of the world is considered to move almost exclusively by maritime transport, as there is no surface transport alternative. Some small volumes may move by air, usually about 2%–3% of trade tonnage, depending on the types of products. Bilateral trade between the GMS countries is more complex, as land transport accounts for a more significant proportion of trade movements and there is an element of modal competition. The breakdown as to which mode of transport is used is based on the C/T/R parameters in relation to the particular types of products and their origins and destinations.

This chapter makes reference to trade movements between the GMS5 countries (the subregion excluding the PRC) and Yunnan Province and the Guangxi Zhuang Autonomous Region in the PRC, but this PRC traffic has not been subjected to detailed modal analysis. This is because no trade data by tonnage or commodity are available from the UN Comtrade returns for the GMS part of the country, as these are national statistics with no provincial breakdown. While some separate trade information may be available at the PRC provincial level, this unfortunately does not correlate with the national trade data.

6.4 Analysis of Bilateral Trade between GMS Countries

While the trade between the external markets and the GMS countries is carried by sea, plus small amounts by air, there is theoretically more modal competition for the movement of trade within the subregion. While there are no data directly correlating trade and modes of transport within GMS, it is possible to examine the profile of the trade between countries and on the basis of C/T/R parameters relating to the carriage of the major commodities being traded to then estimate the probable modal balance in the bilateral trade. This section examines the profile of intra-GMS trade for each country and then suggests the likely modal balance used in the movement of trade between countries.

6.4.1 Intra-GMS Trade Profile

The trade in 2009 between GMS countries is shown in Table 6. Intra-GMS trade for the countries represented only 5%–8% by value and around 11% by weight. This proportion of intra-regional trade differs appreciably between countries. The smaller countries, such as Cambodia and the Lao PDR, are much more dependent on trade with their immediate neighbors than the larger trading countries, such as Thailand and Viet Nam, which are more reliant on longer distance trading activities. Given that Thailand and Viet Nam together account for 93%–95% of GMS trade (excluding PRC traffic), trends in those two countries will tend to dominate the trade analysis.

Thailand–PRC. The PRC is nominally Thailand’s largest trading partner in the GMS region, though the amount to and from the GMS part of the PRC is expected to be relatively small (less than 10% by volume). About 10% of total Thai exports, by value, are destined for the PRC, and 13% of total imports, by value, are from the PRC. The main export products of Thailand to the PRC, by weight, are vegetables (29%), fuel (9%), rubber (7%), iron ore (7%), and chemicals (6%), and the main imports of Thailand from the PRC, in terms of weight, are fertilizers (8%), carbonates and sulfates (5%), and fresh fruit (2%). The import–export ratio (from Thailand’s perspective), by value, is almost 1:1, but in weight terms, it is 2.4:1 in favor of exports.

Thailand–Viet Nam. Viet Nam is Thailand’s second-largest GMS trading partner, but it accounts for only 3% of Thailand’s total exports and 1% of Thailand’s imports, by value. From Viet Nam’s point of view, exports to Thailand account for 2% of total Vietnamese exports, and imports from Thailand, for 7% of total Vietnamese imports. The ratio of exports to

imports (from Thailand's perspective), by value, is 3.3:1 in favor of exports; by weight, the ratio is about 4.4:1. The main commodities exported by Thailand to Viet Nam, by weight, are cement (40%), gypsum (16%), maize (5%), and fuel (4%), and the main imports of Thailand from Viet Nam, by weight, are fuel (44%) and coal (38%).

Thailand–Myanmar. Myanmar is Thailand's third largest GMS trading partner, but Myanmar accounts for only 2% of Thailand's imports and 1% of Thailand's exports, by value. However, from Myanmar's point of view, Thailand is its largest GMS trading partner, accounting for 25% of Myanmar's imports and 47% of Myanmar's exports. The ratio of imports to exports (from Thailand's perspective), by value, is 1.8:1 in favor of imports, but by weight, it is 3.7:1 if gas is excluded, thus indicating a major transport imbalance. The main commodity imported by Thailand from Myanmar, by weight, is gas, which accounts for 94% of total import tonnage. The main commodities exported by Thailand to Myanmar, in terms of tonnage, are cement (59%) and petroleum (8%).

Thailand–Cambodia. The smallest trading partner in the GMS for Thailand is Cambodia, which accounts for 1% of Thai exports and 0.06% of Thailand's imports, by value. But for Cambodia, Thailand is its largest and most important GMS trading partner, accounting for about a third of imports, by tonnage, and almost 60% of Cambodia's exports (excluding the sand traffic). The ratio of exports to imports (from Thailand's perspective), by value, is 20:1 in favor of exports, but by weight, it is only 6:1. Clearly there is a major transport demand imbalance. The main export commodities of Thailand to Cambodia, by weight, are cement (51%), sugar (13%), and fuel (5%), and the main import commodities of Thailand from Cambodia, by weight, are agricultural products, which account for over 85% of bilateral trade, by weight.

Viet Nam–PRC. For Viet Nam, the second largest GMS trading country, the PRC is its largest GMS trading partner, accounting for almost 25% of its imports by value and 14% by weight, but for less than 10% of its exports by value and 27% by weight. Volumes passing through the northern border clearly indicate that most of this trade is to other regions of the PRC. Viet Nam is a net importer from the PRC, with an import–export ratio (from Viet Nam's perspective), by value, of about 3:1, but 1:2 in favor of exports, by weight, because of the dominance of coal, which accounts for almost 80% of Vietnamese exports to the PRC. The main import traffic from the PRC, by weight, consists of iron and steel products (22%), fertilizer (15%), and fuel (6%).

Table 6: Trade between GMS Countries, 2009

Country	Exports		Imports	
	Value (\$)	Weight (tons)	Value (\$)	Weight (tons)
Cambodia	5,229,825,942	4,000,000	7,831,817,721	7,600,000
Lao PDR	411,767	108	331,780	1,226
Myanmar	...	...	...	...
PRC	54,095,078	26,203	1,377,885,917	376,050
Thailand	77,730,039	546,571	1,580,541,170	3,314,632
Viet Nam	214,284,000	148,712	1,531,599,666	1,576,238
Lao PDR	1,221,697,465	1,668,002	1,018,081,221	1,963,381
Cambodia	331,780	1,226	411,767	108
Myanmar	...	...	...	...
PRC	367,319,183	496,529	376,649,989	92,548
Thailand	462,708,022	1,112,730	1,642,617,678	1,781,593
Viet Nam	278,691,000	337,423	160,342,217	232,145
Myanmar	5,876,644,044	5,042,901	6,260,807,628	6,226,577
Cambodia	...	...	...	...
Lao PDR	...	...	...	...
PRC	646,122,186	2,298,028	2,261,242,729	1,254,809
Thailand	2,781,573,575	573,021	1,554,666,443	2,495,124
Viet Nam	...	...	...	...
PRC	1,201,646,758,080	1,158,153,692	1,005,555,225,206	1,175,372,332
Cambodia	1,377,885,917	376,050	54,095,078	26,203
Lao PDR	376,649,989	92,548	367,319,183	496,529
Myanmar	2,261,242,729	1,254,809	646,122,186	2,298,028
Thailand	17,028,921,054	5,853,776	16,123,831,401	14,333,725
Viet Nam	15,973,552,000	9,156,107	4,850,109,958	18,495,257
Thailand	152,497,202,591	102,695,182	133,769,638,813	134,264,584
Cambodia	1,580,541,170	3,314,632	77,730,039	546,571
Lao PDR	1,642,617,678	1,781,593	462,708,022	1,112,730
Myanmar	1,544,666,443	2,495,124	2,781,573,575	573,021
PRC	16,123,831,401	14,333,725	17,028,921,054	5,853,776
Viet Nam	4,678,330,690	7,632,428	1,385,390,294	1,749,038
Viet Nam	59,805,865,493	66,002,479	64,759,521,695	65,000,000

continued on next page

Table 6 *continued*

Country	Exports		Imports	
	Value (\$)	Weight (tons)	Value (\$)	Weight (tons)
Cambodia	1,531,599,666	1,576,238	214,284,000	148,712
Lao PDR	160,342,217	232,145	278,691,000	337,423
Myanmar	...	...	...	...
PRC	4,850,109,958	18,495,257	15,973,552,000	9,156,107
Thailand	1,385,390,294	1,749,038	4,678,330,690	7,632,428

... = data not available, PRC = People's Republic of China, GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic.

Note: Excludes gas electricity imports and exports. Trade data reported in this table differ from those in Chapter 2; the data used in the above table are from the export side whereas the data used in Chapter 2 are from the import side (see Box 2.1).

Source: UN Comtrade, RETA 7557 data, and author's estimates.

Viet Nam–Cambodia. Cambodia is the third largest (after the PRC and Thailand) trading partner of Viet Nam, though it accounts for only 2% of Vietnamese exports and less than 1% of Vietnamese imports. The export–import ratio (from Viet Nam's perspective) is 7:1 by value but as high as 10:1 by weight, thus suggesting a major transport imbalance. The main export commodities are petroleum products (49%), iron and steel (17%), and fertilizer (9%), some of which are clearly reexports, reflecting Viet Nam's position as a southern gateway to Cambodia. The main imports, by weight, are wood (37%), rubber (19%), and vegetables (17%).

Viet Nam–Lao PDR. Trade with the Lao PDR is relatively minimal, accounting for less than 1% of trade with the GMS countries. From Lao PDR's perspective, Viet Nam is a major trading partner, accounting for 25% of Lao PDR's exports, by value, but for only 6% of Lao PDR's imports. The ratio of exports to imports (from Viet Nam's perspective), by weight, is 1.4:1 in favor of exports, broadly similar to the 1.7:1 by value. This suggests a traffic imbalance, but probably not enough to affect rates and traffic flows. The major exports of Viet Nam to the Lao PDR, by weight, are cement (28%), fuel (21%), coal (17%), and steel (9%), and the major imports of Viet Nam from the Lao PDR, by weight, are copper (44%), gypsum (23%), and timber (16%).

Cambodia–PRC. The PRC is an important trading partner for Cambodia, accounting for 28% of its imports, by value, but for only 1% of total Cambodian exports. Cambodia is a net importer, by value, with an import–export ratio (from Cambodia’s perspective) of 7:1 in favor of imports, but a 14:1 ratio by weight, again indicating a major imbalance. The main imports of Cambodia from the PRC, by weight, are ash and slag (11%) and salt (10%), and the main items exported by Cambodia to the PRC, by tonnage, are live animals (28%), clothing and rags (19%), and rubber (19%).

Cambodia–Lao PDR. Formal trade between Cambodia and the Lao PDR is believed to be relatively minimal, accounting for less than 1%, by value. This is not particularly surprising, as they are both principally agrarian economies dealing in similar products and there is limited industrial activity providing demand for final goods or for raw materials. The main import product is veneers, and the main exports of Cambodia to the Lao PDR are electrical equipment and cars, most of which are probably reexports.

Lao PDR–PRC. The PRC is Lao PDR’s second largest (after Thailand) trading partner, accounting for almost 15% of its imports and one-third of its exports, by value. The ratio of imports to exports (from Lao PDR’s perspective), by weight, is estimated at 5.4:1 in favor of exports, as opposed to almost 1:1 by value. Clearly, this again indicates a substantial trade traffic imbalance, with the major flows being northbound into the PRC with limited return traffic. The main import of the Lao PDR from the PRC, by weight, is fertilizer (11%), and the main exports of the Lao PDR to the PRC, by weight, are copper ore (38%), pulses (32%), maize (8%), and lignite (5%).

Myanmar–PRC. The PRC is the second most important partner, accounting for 35% of imports, by weight, and 11% of exports. The ratio of imports to exports (from Myanmar’s perspective) is 3.5:1, by value, but this is reversed in tonnage terms to 1:1.8 in favor of exports. The main import commodities of Myanmar from the PRC, by weight, are cement (16%) and fuel (5%), and the main exports of Myanmar to the PRC are manganese (27%), iron ore (20%), and beans (20%), but also electricity and timber.

No data were available on trade between Myanmar and Viet Nam, Myanmar and Cambodia, and Myanmar and the Lao PDR. Anecdotal indications are that volumes are relatively minimal, possibly with some localized cross border trade with the Lao PDR. It is believed that the informal trade between Myanmar and the PRC and Thailand may be more significant.

6.4.2 Transport Mode Underlying Intra-GMS Trade Flows

After the foregoing profile of the trade between the GMS countries, this section examines the trade between countries from an international transport perspective, indicating the volumes moving and suggesting the likely modal balances and, in the case of road transport, identifying the busiest routes.⁴

Thailand–PRC. Trade between the two countries is in the region of 20–22 million tons per year. The major flow is northbound from Thailand to the PRC and is probably around 15 million tons. The key issue is the origin or destination of that traffic within the PRC and Thailand. Given the low trading activities in the GMS parts of the PRC relative to the whole country, it is considered that less than 1 million tons moves across the land borders using a combination of road and river transport. This aligns with the observed traffic levels along the North–South Corridor and use of the Thai river ports on the Mekong. Transporters indicate that transit through the Lao PDR is preferred to the corridor via Myanmar, partly because it can reduce transshipment costs.

Thailand–Viet Nam. Current trade is estimated at 11 million tons per year, of which 8 million is eastbound from Thailand to Viet Nam. The major eastbound traffic, accounting for about 4 million tons, involves cement and gypsum, both of which are relatively low value and would be expected to move by sea. Similarly, fuel, maize, coke, sugar, timber, and paper are likely to be carried by sea, as they are volume shipments. Westbound movements are dominated by coal and petroleum distributed from the Vietnamese refineries. Both of these products represent bulk sea transport traffic. The cost of land transport through either Cambodia or the Lao PDR would involve journeys of 800–1,000 km, which would be relatively high cost and would thus be suitable only for higher-value commodities where speed is important. Of the bilateral trade, it is estimated that less than 50,000 tons moves through the Southern and East–West corridors and all the rest is carried by sea.

Thailand–Myanmar. Trade between Thailand and Myanmar is about 4 million tons per year, excluding the gas shipments. Of this traffic, about 3 million is westbound and is dominated by cement (1.5 million tons)

⁴ All the estimates of the volume of trade flows reported in this section are the author's estimates based on the methodology described in section 6.2. These are not actual values of the volume of goods by different modes of transport but estimates based on the composition of trade and the most likely mode used for transportation.

and fuel. The major eastbound movement is fish, which is shipped or carried direct. About 1 million tons is carried by road and 3 million by sea. Difficult terrain, poor roads, traffic imbalances, and absence of through transport arrangements combine to make road transport more expensive. In addition, demand in Myanmar is mainly concentrated within Yangon, making sea transport attractive.

Thailand–Cambodia. Trade between Thailand and Cambodia is estimated at 4.5 million tons, of which 4 million tons is eastbound. Almost 2 million tons is cement, 0.5 million tons sugar, and 0.2 million tons petroleum from Thai refineries moving eastbound. All these commodities are traditionally shipped in bulk by sea. Westbound traffic is dominated by vegetable shipments. The demand in Thailand is generally along the seaboard; in Cambodia it is mainly inland. This situation makes road transport more competitive, as the benefits from the lower sea transport costs are then offset by the inland distribution costs in Cambodia. About 1.5 million tons could therefore move by road and 3 million tons by sea. This aligns with the observed flow along the Southern Corridor.

Thailand–Lao PDR. Trade between Thailand and the Lao PDR is estimated at 3.5 million tons, of which over 2 million is northbound. Almost all traffic is by road, with minimal traffic by inland waterways. In addition, there is about 0.5 million tons of transit cargo between the Lao PDR and the Thai ports linking the country with its external trading partners. Most of this traffic uses the Central Corridor, although traffic on the East–West Corridor and to the southern Lao PDR area around Pakse has increased. The traffic imbalance is a problem because the round-trip costs have to be recovered mainly on the northbound journey, thus raising import costs in the Lao PDR. There are some rail movements of the Lao PDR traffic within Thailand using the line to Nong Khai, but these are understood to be relatively small.

Viet Nam–PRC. Trade between Viet Nam and the PRC is estimated at 30 million tons per year, making it the largest trade flow, in tonnage terms, between GMS partner countries. However, the centers of demand are the Mekong and Red River Deltas in Viet Nam, and the eastern and southern seaboard in the PRC, thus strongly favoring the use of maritime transport. The major flow is northbound and is dominated by coal, almost all of which is shipped from the dedicated Vietnamese coal ports in the northeast. Southbound traffic is dominated by steel, fuel, and fertilizers, none of which originates in the GMS regions of the PRC. This suggests that probably only around 1–1.5 million tons is between Viet Nam and the PRC's Yunnan Province and Guangxi Zhuang

Autonomous Region. Because of the limitations of the rail connectivity, it is estimated that 1 million tons is carried by road transport and only 0.5 million by rail.

Viet Nam–Cambodia. Trade between Viet Nam and Cambodia is estimated at 2 million tons, of which about 80% is westbound imports into Cambodia. The major tonnages are fuel from the Vietnamese refineries, which would be expected to use a combination of maritime and inland waterway transport. The major eastbound movement is of timber, all of which is moved by road. It is estimated that 1 million tons is moved by road, split about 50–50 between eastbound and westbound traffic, though using different routes. The main corridor for westbound traffic is the Southern Corridor, but a variety of different routes are used eastbound because of the dominance of timber. The balance is expected to be divided about 50–50 between maritime and inland waterways depending on the likely centers of demand in Cambodia. In addition, it is estimated that 0.5 million tons of Cambodian imports are routed through Saigon Port and transit along the Southern Corridor.

Viet Nam–Lao PDR. Trade between Viet Nam and the Lao PDR is relatively small, probably around 700,000 tons per year. Because of Lao PDR's landlocked status, all bilateral traffic is carried by road. There is unlikely to be a primary route, given the diverse concentrations of demand in the Lao PDR for the main import products of fuel, cement, and coal coming from different locations in Viet Nam, and wood from various mountain areas moving eastbound. This, to a certain extent, explains the low volumes moving along the East–West Corridor.

Viet Nam–Myanmar. No data on traffic between Viet Nam and Myanmar are available, but volumes are likely to be small and any traffic would be expected to move by sea, given the distance, the need to transit two countries, the lack of a through transport agreement, and the difficult road links between Thailand and Myanmar. No evidence of such land transit movements has been noted at the various border crossings.

Cambodia–PRC. Trade between Cambodia and the PRC is relatively small and estimated at 500,000 tons per year, of which 450,000 tons is imports into Cambodia. The products being traded are mainly lower value and are likely to originate in the eastern or southern seaboard of the PRC. This suggests that almost all traffic is likely to be carried by sea, either through Krong Preah Sihanouk (formerly known as Sihanoukville) Port or via Saigon Port. Because of the distances and the need to transit at least one other country, road transport is unlikely to be competitive.

Cambodia–Lao PDR. Trade between Cambodia and the Lao PDR is relatively minimal. This is because neither country is a major trading entity and the low synergy between their export products. The Lao PDR does not produce products that are in demand in Cambodia, and vice versa. This helps explain the low volumes of trade traffic moving on the Central Corridor between the two countries. In addition, Krong Preah Sihanouk is not an attractive transit port for traffic to and from the Lao PDR.

Cambodia–Myanmar. Trade between Cambodia and Myanmar is not known, but is understood to be minimal. Any traffic would be expected to use maritime transport because of the high cost of road transport on this difficult route.

Lao PDR–PRC. Trade between the Lao PDR and the PRC is estimated to be 700,000 tons, of which 600,000 tons is northbound into the PRC. The major traffic is copper ore and refined copper, and this is expected to increasingly move by sea through Vietnamese ports, but some of it is also being moved by road before being transferred to rail within the PRC. In tonnage terms, this traffic is likely to become gradually more dominant as mining activity increases, and eventually move more to rail when links with the PRC improve. However, some of the main mining is in the south, at some distance from the projected railheads. The Central Corridor link into the North–South Corridor is likely to be the main road linkage, but with some modal competition from inland waterways transport. Given the lack of data and the variety of possible routes, it is difficult to estimate the modal split, but 600,000 tons by road and 100,000 by waterways appears reasonable.

Lao PDR–Myanmar. Trade between Myanmar and the Lao PDR is unknown, but is understood to be relatively small, probably under 100,000 tons per year. This would be expected to mainly use river transport across the upper reaches of the Mekong.

6.4.3 Estimated Overall Modal Balance

The above analysis suggests that trade among the GMS5 countries amounts to about 30 million tons per year. From the above analysis, it is estimated that 22 million tons, or about 70%, moves between countries using the maritime mode, with collection or delivery by road or rail. About 8 million tons moves by road though the land borders, with the main connections being as follows:

- Cambodia–Thailand (Poipet–Aranyaprathet);
- Cambodia–Viet Nam (Bavet–Moc Bai);
- Lao PDR–Thailand (Vientiane–Nong Khai); and
- Myanmar–Thailand (Myawaddy–Mae Sot and Tachileik–Mae Sai).

If trade with the PRC is added, this could amount to an additional 60 million tons in total to and from the GMS countries, but only about 2.5 million relates to the GMS region. This would mostly move through the land borders and the main connections are likely to be as follows:

- Lao PDR–PRC (Boten–Mohan); and
- PRC–Viet Nam (Hekou–Lao Cai and Pingxiang–Lang Son).

6.5 Impact of Future Changes in Trading Patterns on the Use of Different Transport Modes

In the earlier sections, the current trade tonnages moving in and out of the subregion and the probable modal split, both worldwide and intra-GMS, were estimated. This section discusses the potential changes in future trade demand and their implications for modal transport patterns used for both external and intra-GMS trade movements. The subregion has experienced impressive trade growth over the last decade (see Chapter 2), which, if continued, will increase demands on the national transport infrastructure, especially along parts of primary trade corridors and in particular on road networks closer to the seaports. A key issue is whether this growth in trade is inexorable or whether there may be a gradual “leveling out” in the growth rate resulting from changes in both the internal and external environments.

While there is general agreement that Asia is likely to be the primary growth area of the 21st century, there is increasing evidence emerging that previous predictions of continued growth at recent historic levels may not be sustainable. There are a variety of reasons to suggest growth rates may fall, even though they will almost inevitably remain appreciably higher than in most developed countries. To a greater or lesser extent, the GMS region consists of export economies and the current economic problems in Europe, and to a lesser extent in the US, are already constraining export demand from the region. Deleveraging in these developed markets, both nationally and by consumers, is likely to continue in the short to medium term (next 5 years), and this will have an adverse impact on emerging and

developing economies and especially on export-oriented economies like the GMS countries, for which developed markets continue to be the major export markets. While, to a certain extent, this may be partially offset by the stimulation of growth in their domestic markets, such remedial strategies take time to implement and are considered unlikely to generate significant additional intra-GMS export trade, mainly because of the low synergies between their export products.

In 2012, there have been moves to increase the minimum wage in several Southeast Asian countries. While a higher minimum wage may both reduce poverty and have political benefits, industrialists are expressing increased concern at the potential erosion of a key factor—cheap labor—that has been a key driver of the growth in exports achieved within the subregion. The resulting overall increase in labor charges is occurring at a time when labor costs are relatively static, or even falling in many developed countries. Thus, the historical manufacturing and production cost differentials that have been partly responsible for the impressive trade growth may now be narrowing. This is not to suggest that the subregion will become uncompetitive, but more that competition for producing certain types of manufactured products may be increasing. Industries like garment and shoe manufacturing rely on low labor costs and already face increasing competition from South Asia. An additional concern is the gradual increase in social costs in some of the GMS countries, arising partly from demographic changes with an aging population and a smaller workforce to support it, such as in the PRC. This increase in social costs may not only push up labor costs, but also constrain spending on consumer products, which represent a significant proportion of the subregion's higher-value exports. As labor costs rise, there is likely to be increased emphasis on productivity and quality control to retain competitiveness. Even within the subregion, there are appreciable differences in these parameters that will affect the level of foreign direct investment in particular countries.

Previous studies such as the Asia 2050 (Kohli et al. 2011) have highlighted the potential growth of the “middle class” in the Asian region with its increased spending power. Indeed, by 2050, the majority of the world's “middle class” will be based in the Asian region. This situation is predicted to be a major stimulus to overall trade demand and if this were widespread throughout the GMS region it could lead to increased intra-GMS trade. However, the rate at which this wealth and spending power permeates society in each country is likely to vary significantly. There are already indications that this permeation process may be slower than originally expected, and the growth of demand within the subregion could therefore be constrained.

The changes in multinational manufacturing patterns could also have impact on a number of the GMS economies. The tsunami in Japan, in particular, prompted multinationals to consider adjustments in their production strategy. A good example was in the auto sector, where production was affected globally because certain key parts were produced only at a single location in Japan. Multinationals have accordingly reexamined the security of their supply chains and, in some cases, placed more emphasis on multisourcing of product, rather than reliance on a single source. This trend toward more diverse sourcing and production could have some impact on the region's exports, but is too early to assess at this stage.

The effects of increasing wage costs and global competition are likely to focus more attention on minimizing trade logistics costs. Inland transport costs in the subregion generally remain relatively high because of a combination of low transport efficiency and trade traffic imbalances, as well as trade and transport facilitation constraints. This situation is expected to put increased pressure to locate export-related manufacturing and processing closer to the ports, rather than have them dispersed over a wider hinterland. The trend of concentration of industrial development in major conurbations, particularly close to seaports, is expected to continue, with labor gravitating toward these centers of demand, rather than production moving to areas where labor may be cheaper but transport costs higher. Within the GMS transport corridors, therefore, only certain sections may have the potential to become viable economic corridors, rather than the corridor in its totality.

The relationship between growth in trade in value terms and growth in tonnage terms is indirect, as highlighted earlier. Growth in trade value is usually faster than growth in tonnage, but slower growth in trade in value terms will inevitably be reflected in lower tonnage growth, on the assumption that the profile of commodities being traded broadly remains constant. Changes in the major commodities being traded would have a major impact on traffic volumes, particularly for items like petroleum and coal that represent a significant element of overall trade in the region, both externally and intra-GMS. The economic environment of the construction sector will also affect the levels of intra-GMS trade, given the prominence of cement and steel in subregional trade. At this stage, there is no evidence to suggest that major changes in commodity profiles are forthcoming, except perhaps for Viet Nam, which may become more of an oil product distributor to other GMS countries as more Vietnamese refineries are coming on stream, and for the Lao PDR and also Myanmar (as it opens up to the global market), which could both increase their mineral exports.

The above overview suggests that the growth rates experienced in recent years are probably not inexorable and that the downside risk of slower growth in tonnage terms is appreciable. The exception is likely to be Myanmar, where the conditions would be expected to change markedly with its evolving international engagement and therefore reliance on historical performance in recent years would be inappropriate. Nonetheless, even with slower growth, it would be expected that overall intra-GMS trade would perhaps double in value every 10 years, instead of every 3–4 years as it has been doing recently. International transport services, and the transport infrastructure in particular, will inevitably come under more pressure.

In 2009, the GMS countries, excluding the PRC, generated about 450 million tons of trade per year, of which 420 million tons needed to be conveyed by maritime transport because it was external trade and there was no modal alternative. If trade doubles in 10 years, as assumed, tonnage to be carried by the trade logistics system will pass 1,000 million tons early in the next decade. Even if intra-GMS trade were to grow faster than this external trade, non-GMS trade would still represent around 80%–85% of overall trade tonnage by 2020. Thus, maritime transport will remain the primary transport mode, irrespective of more rapid projected growth within intra-GMS trade.

Section 6.4.2 suggested that intra-GMS trade, excluding the PRC, was currently around 30 million tons per year, and that trade between the GMS5 countries and the two GMS regions of the PRC amounted to about 2.5 million tons. The overall growth rate is likely to be influenced by events in Myanmar, as well as possible changes in mining and fuel shipments. However, given that intra-GMS tonnage represents only around 10% of total tonnage and 70% of that moves by sea, the dominance of maritime transport is unlikely to be contested, even for intra-GMS traffic.

It is important to note that trade growth in the maritime sector is more easily accommodated, given that it operates in a global market and is thus more responsive to supply and demand factors. Increases in traffic can be addressed by the early provision of more or larger vessels or, alternatively, by reduction through the relocation of vessels to other markets or temporary layup. However, in the case of road transport, even a relatively small increase in trade volume can have a significant impact on the use of the transport infrastructure in a way not so visible in the maritime mode. Thus, the mere possibility of slower growth in intra-

GMS trade than that experienced in recent years and the dominance of maritime transport does not do away with the need for improvements in surface transport connectivity. Indeed, most maritime transport uses the road infrastructure as part of its trade logistics and, though surface transport movements between GMS states may be a minor part of overall trade, they are nonetheless critical to trade performance within the subregion.

A key modal issue is whether rail is likely to emerge as a significant competitor in the foreseeable future. Its poor international connectivity is a major constraint, and not the only one, and therefore its importance in trade logistics is unlikely to change significantly. Areas where rail could compete are in the long-distance (over 350 km) transportation of goods in trainload proportions, such as fuel, coal, minerals, cereals, fertilizer, and cement, and even through container block-trains. However, rail is unlikely to be competitive in journeys of a much longer distance if there is a maritime alternative. The mode could become more important in bilateral movements between Thailand and the Malaysian ports and between the Lao PDR and Viet Nam and the PRC for bulk mineral movements. However, a more likely role may be in the collection and distribution of certain types of “bulk” trade to and from the seaports. Thus, rail’s primary potential may be more in the domestic, rather than the international, transport market.

It is clear that major changes in trade in the GMS will relate mainly to developments in Myanmar whose changing international context would be expected to generate a significant increase in its trade. In its current situation, Myanmar is highly dependent on trade with its immediate neighbors, especially Thailand and the PRC. A less restricted trade environment would be likely to result in an increase in the diversity of its trading links. While trade with these two GMS countries would continue to grow, non-intra-GMS trade would be expected to grow much faster in the short to medium term; this suggests that most of the trade growth would be accommodated by the maritime mode. Pressure would increase on maritime infrastructure and connectivity to port hinterlands within Myanmar. However, decreasing isolation of the country would also appreciably increase Myanmar’s intra-GMS trade, especially with neighboring Thailand and the PRC. Currently, around a third of Myanmar’s trade with Thailand passes through its road border posts (or across the river, on account of damage to the bridge at Mae Sot), and this trade expansion will therefore place additional pressure on the efficiency of the cross-border road linkages.

Thailand is the largest of the GMS countries in external trading terms. There is no indication that its current reliance on external GMS trade, relative to intra-GMS trade, will change significantly. Trade with other GMS countries, excluding the PRC, accounts for only about 5%–8% of its overall trade in value and tonnage terms; therefore, maritime connectivity to its primary external markets would be expected to continue unabated. Any increase in trade with Myanmar would not be large enough to appreciably change the overall balance between intra-GMS and external GMS trade, or therefore the overall modal balance. However, it is clear that traffic across the land borders will increase, especially with Myanmar if the route is improved, and with both Cambodia and the Lao PDR as their economies improve. Even as trade with the PRC and Viet Nam expands, it is still likely to be predominantly by sea.

Viet Nam is in a similar position in that only 5%–8% of its trade is with other GMS countries excluding the PRC. Maritime trade will therefore continue to be dominant. The inclusion of its bilateral trade with the PRC is unlikely to change the modal balance, because of the dominance of coal exports and steel and fertilizer imports, almost all of which is shipped. As Viet Nam develops and individual spending power grows, imports from the PRC are likely to increase, though unfortunately not primarily from the two GMS areas of the PRC. As a result, the expanded PRC–Viet Nam trade will continue to be dominated by maritime traffic.

The Lao PDR is likely to remain the most dependent on trade with its neighbors, partly because of its landlocked location with higher trade logistics costs and also partly because of its relatively small market size. There is no evidence at this stage to indicate that wealth generation in the short to medium term will be sufficient to significantly increase imports or that Lao PDR's exports will expand, other than perhaps in the mining sector. The expansion of mining exports may, however, be constrained by the high logistics costs involved in gaining access to the global market, such as through Viet Nam.

Cambodia is in a similar position, with little evidence of any changes in its trade environment. Its reliance on imports from Viet Nam and Thailand, particularly of fuel and construction materials, would be expected to continue, as would its dependence on external markets for its exports. The only significant change may be the increased importance of Viet Nam as a transit country, with the development of Saigon Port as a major competitor to Krong Preah Sihanouk.

The overall forecast is as follows:

- Annual growth rates for trade tonnage in the GMS countries are more likely to go below current levels than increase, especially for exports, because of internal and external market factors.
- The balance between intra-GMS and external GMS trade in most countries is unlikely to change significantly. This means that the maritime mode will continue to dominate.
- Developments in Myanmar will generate more trade, but this trade is more likely to be external if it follows the trade pattern seen in the other GMS countries.
- Despite the dominance of maritime traffic, road transport will continue to play an important role in bilateral GMS trade, albeit a minor segment of overall trade. However, even a relatively small increase in tonnage can have a major impact on international road traffic because of the small load sizes. This suggests the need for priority road infrastructure investment on key sections of the GMS corridors that pass through busy borders and are close to the major seaport conurbations.

6.6 Conclusions

A key conclusion of this modal assessment is the dominance of the maritime mode in the conveyance of GMS trade, not only to and from the external markets but even within the subregion. A corollary to this is the importance of road transport as a service supporter to the maritime mode, rather than as a modal competitor. Road transport carrying international trade is most heavily concentrated in and around the main seaports, where the largest flows of road freight transport in general in the subregion are often experienced. The importance of road connectivity with the ports, both in their hinterland “catchment area” and in the immediate vicinity of the port themselves, is therefore highlighted.

GMS corridors are intended to enhance surface transport connectivity links, particularly through the development of road infrastructure, given the limited rail and inland waterway activity. The maritime sector, to a certain extent, has been disregarded as a maritime route or corridor. A concern is whether the critical modal interface between these surface and maritime corridors—the seaports—has been sufficiently taken into account. Efficient ports are clearly essential to the development of trade in the region. Private sector investment in ports has been significant, but parallel public sector investment is still needed, particularly in common

user facilities such as channels, breakwaters, navigation equipment, and conventional quays.

Despite the importance of ports, the GMS corridors either simply transit through them or, in certain cases, do not even connect. Only Bangkok and Krong Preah Sihanouk are corridor termini. Ho Chi Minh City (Saigon Port) and Hai Phong, on the other hand, are located along the Eastern Corridor, and key ports, such as Laem Chabang and Yangon, are not physically located on the most important corridors. Many of the corridors tend to terminate in locations of limited relevance to trade or even economic activity, sometimes being mere connecting lines on a map, rather than being demand based. Logically, a strong case can be made for turning the main ports in the GMS region into corridor termini, even though some redefining of these corridors may be required.

Another key conclusion is that the levels of modal competition are limited. Most trade is with external markets and therefore has to move by sea. For intra-GMS trade, the optimal C/T/R balance for the different types of commodities to and from different member states is such that usually only one mode of transport (or combination of modes) can logically be used. In the absence of rail as a competitive mode, road is dominant for inland collection and distribution of trade. For shorter distance movements, road dominates, but for seaboard-to-seaboard movements over 700 km, maritime transport is likely to be more competitive. The prime competition tends to be within each mode, rather than between modes, and the development of the corridors has a role in stimulating such competition to hold down transport costs.

In road transport, the rates are predominantly based on a mix of time and distance, to reflect standing and running costs. The shorter the distance, the more the charges are time related, and the longer the journey, the more they become increasingly distance related. From a trade perspective, improvements in corridor linkages with the ports therefore gain in importance. The enhancement of these linkages close to the ports, such as bypasses or link roads with main highways, is particularly important as most port-related transport charges on the basis of time rather than distance traveled. A reduction in transit times can significantly reduce costs because of the potential to improve vehicle use through more trips and higher vehicle use. Over longer distance routes, such as international journeys, the distance charges dominate and road improvements, while welcome, therefore tend not to result in rate reductions or significant improvements in vehicle utilization. Delays at borders, when they take up an appreciable proportion of the overall transit time, can have more

influence on rates than road improvements. The exception is where the road is in very poor condition and where the improvement will have a major influence on the door-to-door transit time, though again, the longer the journey, the less the resulting benefits.

The above assessment suggests that, from a trade perspective, the enhancement of the road network around the port “gateway” areas is important and may yield more cost benefits than the improvement of long stretches of corridor much further inland. The port-surface transport interface is often a “bottleneck,” resulting in higher transport costs. In general, feasibility studies naturally tend to overestimate or overvalue the vehicle time benefits, especially in relation to long-distance transit, whereas around the ports where journey distances are short such time savings are more realistic. By implication, therefore, “gateway” accessibility is just as important as long-distance connectivity issues in corridor development.

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Trade and Trade Facilitation in the Greater Mekong Subregion

The Greater Mekong Subregion (GMS) Program, with support from the Asian Development Bank (ADB) and other development partners, has scored impressive gains in promoting regional connectivity over the past 2 decades. Efforts have also been made to strengthen institutions and policies for trade and transport facilitation to increase the impact of the regional physical infrastructure.

This book, prepared under an ADB technical assistance project financed by the Australian Agency for International Development, brings together studies highlighting deeper, structural challenges to trade facilitation in the GMS, including need for governance and bureaucratic reforms, trade competitiveness, and improved alignment of the regional corridors to trade flows. Importance of greater synergy between subregional and regional platforms for trade facilitation, for example between the GMS and ASEAN, is also highlighted. The analyses should be of interest to development practitioners working to improve trade and transport facilitation in the GMS, elsewhere in Asia, and in the rest of the world.

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