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Connecting Asia

Infrastructure for Integrating South and Southeast Asia

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Foreword

Since the 2007–09 global financial crisis, Asian economies have been giving more emphasis to domestic and regional demand to secure sustainable and inclusive growth. Closer regional integration is a means to foster Asian demand and growth. Regional integration confers benefits, including expanding the size of markets, thereby realizing scale economies and enhancing the scope for specialization, lowering trading costs, lowering funding costs and facilitating capital investment in the region. It can also promote more inclusive growth by bringing isolated regions and marginalized people closer to markets.

Connecting Asia: Infrastructure for Integrating South and Southeast Asia highlights the potential contribution to growth that greater connectivity between these two regions can make. Trade and investment between them, while making progress, has been limited, hindered by bottlenecks and gaps in trade infrastructure, trade barriers and a low level of regional cooperation. In particular, South Asia lags in terms of its participation in supply chain networks. Given the proven capacity of supply chain networks to contribute to economic development in Southeast Asia and East Asia, this represents a substantial underexploited opportunity.

Several new developments suggest that the time is ripe for research on cross-regional integration. The recent political and economic reforms in Myanmar – the key land bridge between the two regions – make possible closer economic ties and connectivity that were not feasible earlier. The election of a new pro-business Indian government provides renewed impetus for deepening domestic economic reforms, furthering the country's Look East Policy and enhancing cross-border infrastructure investments.

Connectivity, including both physical connectivity and the associated soft infrastructure, can foster closer economic ties between South Asia and Southeast Asia. Physical connectivity here relates to transport infrastructure (road, rail and ports) and energy infrastructure, while associated soft infrastructure includes the critical areas of financing of infrastructure, trade facilitation, trade and investment reforms, and institutions for coordination.

Increased investment in cross-border infrastructure is the first key to improve connectivity between neighbouring countries, and thereby

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promote trade and investment growth. Good quality infrastructure boosts productivity, reduces trade costs and promotes investment from both home and abroad. It also provides people with access to basic services, such as health care and education, and to jobs and other economic opportunities. On the other hand, poor infrastructure can prevent economies from unleashing their potential. Project evaluation is useful to share lessons and best practices in infrastructure investments. Use of public–private partnerships can inject private sector discipline into project selection and implementation, but they are not a panacea, and close attention to the allocation of costs, risks and benefits is needed to avoid failure.

Improvements in trade and transport facilitation can also substantially lower trading costs and thereby stimulate trade. Key elements include, for those countries that have not already done so, signing of the Revised Kyoto Convention and adoption of Single Window systems, as well as adoption of cross-border transit agreements.

Furthermore, open trade and investment regimes are another key driver of growth as they allow economies to exploit their comparative advantages, gain access to the global market, tap foreign capital and benefit from technology transfer. Non-tariff barriers – such as excessive red tape, cumbersome licensing requirements or misuse of sanitary or phytosanitary rules on food – need to be reduced, as non-tariff barriers are increasingly replacing tariffs as protective measures.

Market-driven exchange rates can also support competitiveness and growth of trade, subject to the constraint that capital flow volatility is not too great. They also can encourage more open capital markets, together with development of financial markets at a pace consistent with financial stability that can facilitate the freer flow of foreign direct investment and portfolio investment to attractive investment projects.

Financing remains a fundamental challenge. Greater financial integration can enhance the potential for Asia's high savings to be invested more efficiently in the region. Given the constraints on traditional sources of infrastructure financing – public funds and banks – it is necessary to develop alternative sources of financing, both from international investment funds and from the private sector. Public–private partnerships have significant potential to improve access to infrastructure finance in Asia.

Small and medium-sized enterprises (SMEs) need greater access to finance to be able to participate in cross-border trade. This requires financial development, including expansion of financing capacity for start-up companies. Since new companies are typically small, improving financial access for SMEs should be a key aspect of such a strategy. This calls for related activities that include development of venture capital, crowd-funding vehicles, such as hometown investment trust funds, and

Foreword

credit market databases, such as Japan's Credit Risk Database of SMEs. Financing for SMEs and start-up companies through bank loans can be difficult owing to the uncertainty of their business.

Regional integration also requires greater provision of regional public goods, which involves increased coordination among institutions, both at the national and regional levels. Asia has already had some notably successful projects of regional integration, such as the Greater Mekong Subregion program and the South Asia Subregional Economic Cooperation program. The challenge now is to extend this progress to cross-regional integration as well.

This volume contains the background papers prepared for a major study *Connecting South Asia and Southeast Asia* conducted jointly by the Asian Development Bank (ADB) and the Asian Development Bank Institute (ADBI). The study was managed by Michael Plummer (Professor, Johns Hopkins University and Director of SAIS Europe), Peter Morgan (Senior Consultant for Research, ADBI) and Ganeshan Wignaraja (Advisor, Economic Research and Regional Cooperation Department, ADB), who wrote the overview and edited this volume. Menaka Arudchelvan, Jenny Balboa and Yan Zhang provided efficient research assistance. The ADBI's publications unit headed by Robert Davis and supported by Kae Sugawara coordinated the publication process. Ainslie Smith edited the chapters. Grant Stillman and Tsuyoshi Hyokai of the ADBI oversaw the book's contract administration and financing, with the support of Tokiko Yamanaka and Keiko Aoki.

It is my hope that this book will contribute to the ongoing dialogue about how to strengthen the links between South Asia and Southeast Asia to provide a more secure basis for inclusive and sustainable growth in the region.

> Naoyuki Yoshino Dean Asian Development Bank Institute

Abbreviations

| | Asian Bond Markets Initiative |
|------------------|---|
| ABMI | |
| ACCC | ASEAN Connectivity Coordinating Committee |
| ACIA | ASEAN Comprehensive Investment Agreement |
| ACMECS | Ayeyawady–Chao Phraya–Mekong Economic |
| | Cooperation Strategy |
| ADB | Asian Development Bank |
| ADBI | Asian Development Bank Institute |
| AEC | ASEAN Economic Community |
| AEP | Act East Policy |
| AFTA | ASEAN Free Trade Area |
| AH | Asian Highway |
| AHN | Asian Highway Network |
| AIEZ | ASEAN-India Economic Zone |
| AIF | ASEAN Infrastructure Fund |
| AIFTA | ASEAN–India Free Trade Agreement |
| APEC | Asia Pacific Economic Cooperation |
| APTA | Asia-Pacific Trade Agreement |
| ARIC | Asia Regional Integration Center |
| ASEAN | Association of Southeast Asian Nations |
| ASEAN+3 | ASEAN members, plus the PRC, Japan and the |
| | Republic of Korea |
| ASEAN–India CECA | ASEAN–India Comprehensive Economic |
| | Cooperation Agreement |
| ASW | ASEAN Single Window |
| ASYCUDA | Automated System for Customs Data |
| BCIM-EC | Bangladesh–PRC–India–Myanmar Economic |
| | Corridor |
| BCP | border crossing point |
| BIMP-EAGA | Brunei Darussalam, Indonesia, Malaysia, |
| DIMI-LAGA | Philippines–East ASEAN Growth Area |
| BIMSTEC | Bay of Bengal Initiative for Multi-Sectoral and |
| DIMBTEC | Technical Cooperation |
| BISTEC | Bangladesh–India–Sri Lanka–Thailand |
| DISTEC | - |
| | Economic Cooperation |

Abbreviations

| BOI | Board of Investment |
|--------|--|
| BOO | build, own and operate |
| BOOT | build, own, operate and transfer |
| BOT | build, operate and transfer |
| BTILS | BIMSTEC Transport Infrastructure and |
| | Logistics Study |
| C&F | clearing and forwarding |
| CAREC | Central Asia Regional Economic Cooperation |
| CBTA | cross-border transit agreement |
| CCC | customs cooperation committee |
| CCTV | closed-circuit television |
| CECA | Comprehensive Economic Cooperation |
| | Agreement |
| CEPA | Comprehensive Economic Partnership |
| | Agreement |
| CGE | computable general equilibrium |
| CGIF | Credit Guarantee and Investment Facility |
| СНА | Custom House Agent |
| CIA | Central Intelligence Agency |
| CII | Confederation of Indian Industries |
| CIQ | customs, inspection and quarantine |
| CIQS | customs, immigration, quarantine and security |
| CLMV | Cambodia, the Lao PDR, Myanmar and Viet |
| | Nam |
| CPEP | Colombo port expansion project |
| CPF | contractor's pre-finance |
| CPI | consumer price index |
| CPIS | Coordinated Portfolio Investment Survey |
| CSIS | Center for Strategic and International Studies |
| CUSDEC | customs declaration |
| DDC | Dawei Development Company |
| DFI | development finance institution |
| DFID | Department for International Development |
| DMIC | Delhi–Mumbai Industrial Corridor |
| DSEZ | Dawei Special Economic Zone |
| DWT | deadweight tonnage |
| EAS | East Asia Summit |
| ECA | export credit agency |
| ECE | Economic Commission for Europe |
| EDI | electronic data interchange |
| EDI | engineering, procurement and construction |
| | engineering, procurement and construction |

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|---------|--|
| ERIA | Economic Research Institute for ASEAN a |
| | East Asia |
| ETI | Enabling Trade Index |
| EU | European Union |
| EWEC | East-West Economic Corridor |
| FDI | foreign direct investment |
| FTA | free trade agreement |
| FTAAP | Free Trade Area of the Asia-Pacific |
| FY | fiscal year |
| GDP | gross domestic product |
| GMS | Greater Mekong Subregion |
| GoB | Government of Bangladesh |
| GSP | generalized scheme of preferences |
| ICD | inland clearance depot |
| ICP | integrated check post |
| ICT | information and communication technolog |
| IDA | International Development Association |
| IDE | Institute for Developing Economies |
| IFC | International Finance Corporation |
| IFI | international finance institution |
| IIFCL | India Infrastructure Finance Company |
| IL&FS | Infrastructure Leasing and Financial Servi |
| IMF | International Monetary Fund |
| IMTTH | India–Myanmar–Thailand Trilateral High |
| IPP | independent power producer |
| ISFTA | India–Sri Lanka Free Trade Agreement |
| IT | information technology |
| ITD | Italian–Thai Development |
| IWT | inland waterways transport |
| JBIC | Japanese Bank for International Cooperat |
| JCC | Joint Coordinating Committee |
| JCT | Jaya Container Terminal |
| JHC | Joint High-level Committee |
| JICA | Japan International Cooperation Agency |
| JSC | Joint Sub Committee |
| K2K | Kolkata to Kunming |
| Lao PDR | Lao People's Democratic Republic |
| LCS | land customs station |
| LDC | least developed country |
| LEP | Look East Policy |
| LPI | logistics performance index |
| LOA | length overall |

Abbreviations

| MDB | multilatoral development healt |
|-------------|--|
| MDB MFN | multilateral development bank most favored nation |
| | |
| MGC MIEC | Mekong–Ganga Cooperation |
| | Mekong–India Economic Corridor |
| MIGA | Multilateral Investment Guarantee Agency |
| MIPL | Myanmar Integrated Port |
| MITT | Myanmar International Terminals Thilawa |
| MOU | memorandum of understanding |
| MPAC | Master Plan on ASEAN Connectivity |
| MRA | mutual recognition agreement |
| NEA | Nepal Electricity Authority |
| NEDA | Neighbouring Countries Economic |
| | Development Cooperation Agency |
| NESDB | National Economic and Social Development |
| | Board |
| NSEC | North–South Economic Corridor |
| NSW | National Single Window |
| NTB | non-tariff barrier |
| NTM | non-tariff measure |
| OECD | Organisation for Economic Co-operation and |
| | Development |
| PDF | project development facility |
| PIDG | Private Infrastructure Development Group |
| PPP | public-private partnership |
| PRC | People's Republic of China |
| PTA | preferential trade arrangement |
| RCEP | Regional Comprehensive Economic Partnership |
| RCI | regional cooperation and integration |
| RCL | Regional Container Lines |
| RDA | Road Development Authority |
| RIF | regional infrastructure fund |
| RKC | Revised Kyoto Convention |
| ROO | rules of origin |
| RORO | roll on–roll off |
| SA | South Asia |
| SAARC | South Asian Association for Regional |
| | Cooperation |
| SAFE | Standards to Secure and Facilitate Global Trade |
| SAFTA | South Asian Free Trade Area |
| SAGT | South Asia Gateway Terminal |
| SAPTA | SAARC Preferential Trading Arrangement |
| SA/SEA | South Asia/Southeast Asia |
| | |

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|---------|--|
| SASEC | South Asia Subregional Economic Cooperation |
| SDP | Strategic Development Projects |
| SEA | Southeast Asia |
| SEC | Southern Economic Corridor |
| SJVN | Sutlej Jal Vidyut Nigam |
| SKRL | Singapore–Kunming Rail Link |
| SLPA | Sri Lanka Ports Authority |
| SMEs | small and medium-sized enterprises |
| SOE | state-owned enterprise |
| SPC | special purpose company |
| SPS | sanitary and phytosanitary |
| SSR | Southwestern Silk Road |
| SW | Single Window |
| SWF | sovereign wealth fund |
| TAR | Trans-Asian Railway |
| TBT | technical barriers to trade |
| TFC | trade facilitation committee |
| TPP | Trans-Pacific Partnership |
| TPSEP | Trans-Pacific Strategic Economic Partnership |
| | Agreement |
| UNESCAP | United Nations Economic and Social |
| | Commission for Asia and the Pacific |
| UNFPA | United Nations Population Fund |
| UCT | Unity Container Terminal |
| US | United States |
| USAID | United States Agency for International |
| | Development |
| WCO | World Customs Organization |
| WTO | World Trade Organization |
| | |

Weights and Measures

| GWh | gigawatt-hours |
|-----------------|-----------------------------|
| km | kilometer |
| km ² | square kilometers |
| kV | kilovolt |
| KW | kilowatt |
| MW | megawatt |
| TEU | twenty-foot equivalent unit |
| | |

1. Introduction and overview Michael G. Plummer, Peter J. Morgan and Ganeshan Wignaraja

1.1 MOTIVATION AND OBJECTIVES OF THE STUDY

The international marketplace has become increasingly important to sustainable growth and development in South Asian and Southeast Asian countries. These economies have been deepening their interaction with the global economy through unilateral reforms to enhance economic efficiency, as well as via regional approaches to deepening economic integration, for example, through bilateral and regional free trade agreements (FTAs). The result has been remarkable: through economic reform, Asia has succeeded in significantly reducing poverty, improving social indicators, developing new markets and market niches, and creating an increasingly powerful middle class. According to the ADB and the ADBI (2014), India will more than double its share of world gross domestic product (GDP) by 2030, the Association of Southeast Asian Nations (ASEAN) will increase its share by about 50 percent, and per capita income will treble in the former and increase by 2.5 times in the latter. Internationalization of the South Asian and Southeast Asian economies is an important engine in these growth forecasts. Supportive policies will be necessary to attain them.

Thus, economic integration has been an important determinant of past economic success and a key ingredient in the recipe for future growth in South Asia and Southeast Asia.¹ But have these two outward-oriented regions integrated well with each other? Have they been able to exploit dynamic synergies that might be tapped via closer economic integration? The evidence presented in this book suggests that integration of the two regions has progressed much less than its potential, and has been limited by numerous factors, including physical connectivity (transport and energy infrastructure) and its accompanying 'soft infrastructure' (tariffs, nontariff measures, transport and trade restrictions, restrictions on financial institutions and capital flows, institutional shortcomings, among others).

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This may have been less important in an era when the developed economies, mainly the United States and Europe, were the engines of world growth. However, the period following the global financial crisis of 2007–09 has seen a 'new normal' of sluggish growth in the major developed economies, especially in Europe, which some have characterized as 'secular stagnation' (Summers 2014). As a result, Asian economies need to rely more on domestic and regional growth. The emergence of the People's Republic of China (PRC) as a new world growth engine has dramatically altered the global economic landscape, but even the PRC's growth prospects look slower than was seen earlier. Therefore South Asian and South Asian economies have a strong incentive to consider policies that will maximize the gains from greater integration.

In particular, the successful development of global supply chain networks in East Asia and Southeast Asia should be of great interest to South Asia (Athukorala 2011). These networks have made it easier for lowerincome countries to break into high value-added manufacturing sectors, such as electronics and automobiles, and have accelerated processes of foreign direct investment, trade and productivity growth, with numerous positive spillover effects. To date, South Asian economies have participated much less in such networks, and thus have largely forgone these growth opportunities (Tiwari et al. 2015).

The opening up of Myanmar in both political and economic terms (ADB 2014; WTO 2014) has also increased the potential benefits from greater integration of the two regions, as well as providing another connection to the PRC. Myanmar provides the only land bridge for road and rail connectivity between the two regions. Moreover, it has rich resources of minerals, energy and agriculture, and increased trade with South Asia in these areas could bring substantial benefits to both sides.

The goal of this book is to identify the main constraints to South Asian–Southeast Asian economic integration, to provide specific policies that governments – together with the private sector and other development partners – should follow to overcome them, and to estimate the potential benefits and costs of those policies. It surveys the key issues, delineates existing bottlenecks and what can be done to resolve them, and considers the stakes involved, that is, the benefits and costs of deepening interregional links. It offers policy recommendations for governments, presents promising new approaches for regional institutions, identifies priority projects, and uses a computable general equilibrium model to estimate overall benefits and impacts of various scenarios of greater cross-regional integration.

This book takes two approaches to the analysis of South Asian– Southeast Asian economic cooperation and integration. First, it looks at cross-regional 'functional' issues, including cross-border transport infrastructure, sea transport, trade facilitation, finance, institution-related implementation challenges to integration, and also analyzes the aggregate economic 'pay-off' of inter-regional economic cooperation. These functional topics are not comprehensive but do reflect priorities articulated in the literature related to constraints on South Asian–Southeast Asian economic integration.

Second, the book focuses on individual countries in order to identify bottlenecks and opportunities at the national level. The country case studies include Bangladesh, India, Myanmar, Nepal, Sri Lanka and Thailand, as they are the countries closest to the intersection of the two regions, and where policy changes have the greatest potential to promote increased integration. The PRC was not included, but its role clearly has to be considered.

By taking functional and country-specific approaches, the book identifies policy recommendations to deepen cross-regional cooperation via regional and country-specific initiatives. In this way, it is able to provide an overview of relevant issues applicable to all via plurilateral cooperation, as well as laying the groundwork for enhanced integration at the national level. Both perspectives are necessary to increase mutually beneficial economic cooperation and integration.

The rest of the chapter is organized as follows. Section 1.2 provides the historical background of integration between the two regions, and section 1.3 describes the current state of trade and investment integration. A summary of chapters in the book is presented in section 1.4. Finally, section 1.5 synthesizes some of the main findings of the study and summarizes key policy recommendations.

1.2 HISTORICAL BACKGROUND

Trade between South Asia and Southeast Asia has a long and prominent history dating back millennia. However, between the end of the Second World War in 1945 and the 1990s, South Asian and Southeast Asian economies were relatively isolated from one another and there was little talk of inter-regional economic integration. The only trade agreement that covered the two regions at all was the Bangkok Agreement signed in 1975 that included Bangladesh, India, Sri Lanka, and the Lao People's Democratic Republic (Lao PDR), as well as the Republic of Korea and the PRC. There was very little bilateral trade and investment among these countries. The relative isolation between the two regions before 1990 stems from a lack of political signals to foster South Asian–Southeast Asian integration, significant barriers to regional trade and investment, poor regional connectivity and cultural and linguistic barriers.

After the Second World War, India and Pakistan adopted importsubstituting industrialization strategies with stringent quantitative import restrictions, high import tariffs, state-owned industries and other forms of government intervention (Rana and Dowling 2009; Chandra and Kumar 2010). These measures hampered resource allocation according to comparative advantage, exports, and private sector activity. To varying degrees, smaller South Asian economies pursued similar inward-oriented development strategies. Meanwhile, after an initial import-substitution period, Southeast Asian economies shifted to outward-oriented developed strategies from the late 1960s onward. These strategies emphasized trade liberalization and economic reforms that provided incentives for exports and the private sector. Southeast Asian economies typically achieved faster economic growth, industrialization, and reduction in poverty than South Asian economies.

The adoption in 1991 of the 'Look East Policy' by India and greater focus on outward orientation marked the start of a new era in South Asian and Southeast Asian economic relations (Box 1.1 contains highlights of South Asian-Southeast Asian economic relations). India's Look East Policy signaled its intent to revitalize its cultural, defense and economic ties with globally important East Asia (Asher and Sen 2008). Since then, there has been heightened policy interest in the process of inter-regional integration. Six FTAs have come into effect between South Asian and Southeast Asian economies. These include the landmark ASEAN-India Comprehensive Economic Cooperation Agreement in 2010 that covers trade in goods, services and investment. India also has bilateral FTAs with Singapore, Thailand and Malaysia. One concern is that India's FTAs with Southeast Asian economies lack sufficient depth in the sense that the World Trade Organization (WTO)-plus issues (such as competition, government procurement and intellectual property) were not included in such agreements. Following Indian Prime Minister Narendra Modi's visit to Japan in mid-August 2014, there was talk of a new Indian Look East Policy 3.0. The policy details were not known at the time of writing but such an initiative is likely to herald a renewed trade, investment and development cooperation relationship with Japan as well as with other East Asian economies.

While India has a formal Look East Policy, other South Asian economies have been more cautious in their strategic intent for closer economic integration with Southeast Asia. For instance, Pakistan has FTAs with two Southeast Asian economies. A Pakistan–Indonesia FTA was first concluded by opening market access of trade in goods. Subsequent

BOX 1.1 SOUTH ASIAN–SOUTHEAST ASIAN ECONOMIC RELATIONS: HIGHLIGHTS

- 1975 Signing of the Bangkok Agreement by Bangladesh, India, Lao People's Democratic Republic (Lao PDR), Republic of Korea, Sri Lanka and People's Republic of China (PRC).
- 1985 Formation of the South Asian Association for Regional Cooperation (SAARC) by Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. Afghanistan joined in 2007.
- 1991 India adopted the Look East Policy to strengthen economic relationships with East Asian countries.
- 1992 Signing of the Association of Southeast Asian Nations (ASEAN) Free Trade Area (AFTA) by Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand. Other Southeast Asian countries joined later: Viet Nam (1995), Lao PDR and Myanmar (1997), and Cambodia (1999). The AFTA became fully operational in 2003.
- 1992 India became a sectoral dialogue partner of the ASEAN.
- 1993 Signing of the Agreement on the SAARC Preferential Trading Arrangement (SAPTA) by eight SAARC members. The SAPTA entered into force in 1997.
- 1995 India became a full dialogue partner of the ASEAN.
- 1997 East Asian financial crisis, which highlighted the importance of regional cooperation among East Asian economies.
- 2002 India-ASEAN partnership was upgraded to summit-level dialogue.
- 2003 Signing of the Framework Agreement on Comprehensive Economic Cooperation between India and the ASEAN, which laid out the basis for an ASEAN–India FTA.
- 2004 Signing of an Agreement on the South Asian Free Trade Area (SAFTA) during the twelfth SAARC Summit in Islamabad. The SAFTA came into force in 2006.
- 2004 Signing of a Long-term Partnership for Peace, Progress and Shared Prosperity by India and the ASEAN at the Lao PDR Summit.
- 2004 Signing of Early Harvest Scheme for the India–Thailand Free Trade Framework Agreement under which preferential concessions have been exchanged on a specified set of commodities.
- 2004 Signing of a Framework Agreement under the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) by Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka and Thailand.
- 2005 Signing of a Comprehensive Economic Cooperation Agreement (CECA) between India and Singapore.
- 2005 Renaming of the Bangkok Agreement as the Asia-Pacific Trade Agreement (APTA), which would offer up to 4000 tariff concessions among members.
- 2005 Signing of a Comprehensive Economic Framework Agreement between Pakistan and Indonesia.
- 2005 First meeting of the East Asia Summit in Kuala Lumpur, Malaysia.
- 2005 Discussions for the Comprehensive Economic Partnership Agreement (CEPA) started. Members of the CEPA are Australia, New Zealand, Japan, India, the PRC, the Republic of Korea and ASEAN.

Connecting Asia

| 2007 | Signing of Pakistan–Malaysia Free Trade Agreement – Pakistan's first comprehensive FTA and Malaysia's first bilateral FTA with a South Asian country. |
|------|--|
| 2009 | The ASEAN–Pakistan Free Trade Agreement was proposed and consulta- tions ensued. |
| 2010 | The ASEAN–India Comprehensive Economic Cooperation Agreement (ASEAN–India CECA) was signed and took effect. |
| 2013 | Negotiation for a Regional Comprehensive Economic Partnership (RCEP) was launched. |
| 2013 | The SAARC delegation went to the ASEAN Secretariat in Jakarta to discuss strengthened relations between the two regions. The discussions included creation of the ASEAN–SAARC Secretariat Partnership Work Plan (2008–2009) and intensified economic and security cooperation. |
| | s: Francois et al. (2009); ADB Asia Regional Integration Center, http://aric.adb.org/ sed 14 December 2014). |

negotiations resulted in a Pakistan–Indonesia preferential trade agreement that came into force in January 2013, eliminating tariffs on goods and expanding the market further (Swire 2012). The Pakistan–Malaysia FTA is more comprehensive and includes liberalization of services and investment. However, neither agreement includes WTO-plus issues.

1.3 CURRENT STATUS OF CROSS-REGIONAL INTEGRATION

This new awareness of the great potential of inter-regional trade and investment has already led to impressive responses in terms of rising economic interchange. Inter-regional exports and imports have risen significantly since the early 1990s, with bilateral trade flows growing even faster than the overall trade of these two dynamic regions, and foreign direct investment (FDI) more than doubling over the past decade. However, these changes have proceeded from a very small base; inter-regional economic integration is still low and far below that expected given regional characteristics (Francois et al. 2009; Dasgupta et al. 2012; Wignaraja 2014a). While overall trade and investment liberalization in both regions has been remarkable over the past generation, inter-regional barriers have only fallen proportionately, even though, for example, intra-regional trade in ASEAN is now essentially tariff-free and the region has been embracing deep integration in the form of a stylized unified market, the ASEAN Economic Community (AEC). (See Plummer and Chia, 2009, for a detailed discussion of the AEC.) Difficulties related to trade and investment facilitation

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are ubiquitous, infrastructure links remain problematic and inter-regional economic cooperation initiatives cover only parts of South Asia. In short, while economic integration is rising, it has a long way to go before it can reach its potential.

As Table 1.1 shows, the dollar value of South Asia's trade (total exports and imports) with Southeast Asia increased significantly between 1990 and 2013 from \$5.4 billion to \$84.7 billion. A similar trend is visible in Southeast Asia's trade with South Asia, which rose from \$4.2 billion to \$90.4 billion between 1990 and 2013. Not surprisingly, the larger economies in each region are the major drivers of cross-regional trade. In 2013, India accounted for as much as 78.6 percent of South Asia's trade with Southeast Asia while Bangladesh, Pakistan and Sri Lanka made up, respectively, 8.2 percent, 7.2 percent and 4.6 percent. Meanwhile, Singapore accounted for 26.7 percent of Southeast Asia's trade with South Asia, Indonesia for 24.9 percent, Malaysia for 19.5 percent and Thailand for 12.4 percent. Interestingly, over 1990–2013, Southeast Asia's share of South Asia's share of South Asia's share of South Asia's share of South Asia's share of Southeast Asia's share of Southeast Asia's share of Southeast Asia's hare of Southeast Asia's share of Southeast Asia's share of Southeast Asia's share of Southeast Asia's share of Southeast Asia's hare of Southeast Asia's hare of Southeast Asia's share of Southeast Asia's share of Southeast Asia's hare of Southeast Asia's share of Southeast Asia's hare of Southeast Asia trade remained low de

The same story applies to cross-regional investment. Data on regional FDI flows are more limited than trade statistics. Since 2003, greenfield FDI from South Asia – particularly India – to Southeast Asia has been greater than Southeast Asian FDI to South Asia but in both cases the aggregate flows are small. Cumulative greenfield FDI inflows during 2003–13 from South Asia to Southeast Asia amounted to \$31.8 billion whereas the figure from Southeast Asia to South Asia vas \$27.8 billion (Table 1.2). The main Southeast Asia recipients of South Asian FDI during 2003–13 were: Indonesia (44.9 percent), Viet Nam (17.6 percent) and Singapore (14 percent). Meanwhile, India (71 percent), Pakistan (15 percent) and Sri Lanka (6 percent) were the main South Asia only accounted for 14 percent of total South Asian FDI outflows during 2003–13, and South Asia only received 8 percent of Southeast Asian FDI. Much more can be done to increase economic interchange.

Little cross-regional portfolio investment has occurred either. The International Monetary Fund's Coordinated Portfolio Investment Survey (http://cpis.imf.org, accessed 16 December 2014) shows that Southeast Asia invested \$44 billion in South Asia in 2012, about 5.1 percent of total outward portfolio investment from the region, but almost all of this came from Singapore, presumably most of which was funds originating from firms outside the region with regional offices in Singapore (Table 1.3). Excluding Singapore, outstanding portfolio investment from Southeast

| Country/region | Trac | Trade with South Asia (\$ million) | Asia | Trade | Trade with Southeast Asia (\$ million) | st Asia | S ds | South Asia share of total trade* (%) | ia vtal | Sou 5 to | Southeast Asia share of total trade* (%) | * sia |
|----------------------|--------|---------------------------------------|---------|---------|---|-----------|------|---|------------|----------------|---|-------|
| | 1990 | 2000 | 2013 | 1990 | 2000 | 2013 | 1990 | 2000 | 2013 | 1990 | 2000 | 2013 |
| Afghanistan | 73.9 | 216.9 | 3044.8 | 82.3 | 21.5 | 384.7 | 13.3 | 28.5 | 40.6 | 14.8 | 2.8 | 5.1 |
| Bangladesh | 493.4 | 1064.4 | 7442.1 | 610.5 | 1592.8 | 6958.6 | 10.5 | 8.0 | 12.0 | 13.0 | 12.0 | 11.2 |
| Bhutan | 3.8 | 22.8 | 302.3 | 0.1 | 3.3 | 36.7 | 22.4 | 42.0 | 72.3 | 0.4 | 6.1 | 8.8 |
| India | 640.9 | 2454.7 | 10930.0 | 3055.4 | 9772.2 | 66601.4 | 1.9 | 2.8 | 2.3 | 9.1 | 11.3 | 14.1 |
| Maldives | 20.1 | 104.6 | 209.1 | 124.6 | 195.4 | 477.3 | 8.8 | 20.2 | 16.9 | 54.5 | 37.7 | 38.6 |
| Nepal | 69.2 | 405.2 | 3559.6 | 88.1 | 158.7 | 249.1 | 10.9 | 27.6 | 53.7 | 13.8 | 10.8 | 3.8 |
| Pakistan | 281.5 | 496.5 | 4119.3 | 960.1 | 1466.8 | 6112.0 | 2.5 | 3.2 | 7.7 | 8.5 | 9.5 | 11.4 |
| Sri Lanka | 284.1 | 829.1 | 5761.8 | 505.1 | 1205.5 | 3885.0 | 6.9 | 7.7 | 22.9 | 12.3 | 11.3 | 15.5 |
| Total South Asia | 1867.0 | 5594.1 | 35368.9 | 5426.1 | 14416.1 | 84 705.0 | 3.4 | 4.3 | 5.6 | 9.8 | 11.2 | 13.4 |
| Brunei Darussalam | 2.1 | 6.3 | 807.1 | 1078.5 | 1585.9 | 5527.2 | 0.1 | 0.1 | 4.6 | 26.9 | 31.7 | 31.8 |
| Cambodia | 1.7 | 13.9 | 204.8 | 41.8 | 1177.0 | 9835.7 | 2.2 | 0.4 | 0.8 | 51.9 | 35.4 | 40.8 |
| Indonesia | 436.5 | 2202.1 | 22557.3 | 1286.2 | 8195.6 | 106829.4 | 1.0 | 2.3 | 5.8 | 3.0 | 8.5 | 27.5 |
| Lao PDR | 9.0 | 4.6 | 174.4 | 110.6 | 667.6 | 6262.1 | 0.3 | 0.5 | 1.7 | 60.4 | 69.4 | 60.4 |
| Malaysia | 1128.8 | 2815.3 | 17662.9 | 17929.3 | 60591.7 | 154785.3 | 2.0 | 1.4 | 3.5 | 31.2 | 30.9 | 31.0 |
| Myanmar | 105.9 | 301.3 | 2152.1 | 536.4 | 1717.4 | 12 192.8 | 7.2 | 6.4 | 7.3 | 36.5 | 36.6 | 41.6 |
| Philippines | 76.0 | 313.7 | 2041.4 | 2132.1 | 14085.9 | 31 240.3 | 0.4 | 0.4 | 1.3 | 10.4 | 16.0 | 19.2 |
| Singapore | 1668.6 | 4025.7 | 24165.8 | 19138.9 | 58447.8 | 135 582.9 | 1.9 | 1.9 | 4.7 | 22.1 | 27.7 | 26.5 |
| Thailand | 669.5 | 1706.6 | 11214.1 | 7753.7 | 24109.4 | 82 957.9 | 1.3 | 1.4 | 2.9 | 15.5 | 19.3 | 21.2 |
| Viet Nam | 97.3 | 280.4 | 9450.1 | 366.2 | 6041.3 | 42 872.4 | 4.2 | 1.0 | 3.3 | 15.7 | 21.9 | 15.0 |
| Total Southeast Asia | 4187.0 | 11 670.0 | 90429.9 | 50373.7 | 176619.5 | 588 085.8 | 1.6 | 1.5 | 3.9 | 19.0 | 23.3 | 25.4 |

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Notes:

* Calculated as percentage of total trade going to South Asia or Southeast Asia as a share of total country or regional trade. Figures based on SITC1, as reported by South Asia and Southeast Asia. Lao PDR = Lao People's Democratic Republic.

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Sources: François et al. (2009); ADB Asia Regional Integration Center, http://aric.adb.org/ (accessed 10 December 2014).

| Table 1.2 Foreign | Table 1.2 Foreign direct investment flows between South Asia and Southeast Asia, 2003–13 | s between Sa | outh Asia and S | outheast Asia, 2003–1' | 3 | |
|-------------------|--|------------------|------------------------------|---|-----------------------|-------------------------------|
| Country/region | Inflows from Southeast Asia to South Asia | ast Asia to a | Share of total inflow (%) | Outflows from South Asia to Southeast Asia | uth Asia to Asia | Share of total outflow (%) |
| | Cumulative 2003–13 | Share (%) | | Cumulative 2003–13 | Share (%) | I |
| South Asia | 27829 | 100.0 | 5.49 | 31763 | 100.0 | 14.1 |
| India | 19765 | 71.0 | 4.64 | 31 597 | 99.5 | 14.5 |
| Pakistan | 4169 | 15.0 | 9.34 | 0.89 | 0.0 | 0.0 |
| Sri Lanka | 1657 | 6.0 | 12.88 | 66.79 | 0.2 | 2.6 |
| Maldives | 1452 | 5.2 | 27.83 | NA | NA | NA |
| Bangladesh | 729 | 2.6 | 6.68 | 93.7 | 0.3 | 14.6 |
| Nepal | 56.6 | 0.2 | 2.38 | 1.7 | 0.0 | 0.5 |
| Afghanistan | NA | NA | NA | NA | NA | NA |
| | Inflows from South Asia to Southeast Asia | h Asia to sia | Share of total inflow (%) | Outflows from Southeast Asia to South Asia | theast Asia to sia | Share of total outflow (%) |
| | Cumulative 2003–13 | Share (%) | | Cumulative 2003–13 | Share (%) | I |
| South East Asia | 31 763 | 100.0 | 3.6 | 27829 | 100.0 | 8.2 |
| Singapore | 4433 | 14.0 | 3.2 | 13042 | 46.9 | 10.0 |
| Malaysia | 2122 | 6.7 | 2.0 | 11606 | 41.7 | 9.3 |
| Thailand | 2182 | 6.9 | 2.4 | 2864 | 10.3 | 7.2 |
| Indonesia | 14253 | 44.9 | 7.8 | 180 | 0.6 | 0.9 |

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| | Inflows from South Asia to Southeast Asia | th Asia to Isia | Share of total inflow (%) | Outflows from Southeast Asia to South Asia | theast Asia to sia | Share of total outflow (%) |
|-------------------|--|--------------------|------------------------------|---|-----------------------|-------------------------------|
| | Cumulative 2003–13 Share (%) | Share (%) | | Cumulative 2003–13 | Share (%) | 1 |
| South East Asia | | | | | | |
| Philippines | 2006 | 6.3 | 2.8 | 126 | 0.5 | 1.3 |
| Brunei Darussalam | NA | 0.0 | NA | 10 | 0.0 | 5.4 |
| Viet Nam | 5587 | 17.6 | 2.3 | NA | NA | NA |
| Myanmar | 496 | 1.6 | 2.4 | NA | NA | NA |
| Lao PDR | 432 | 1.4 | 5.1 | NA | NA | NA |
| Cambodia | 253 | 0.8 | 1.5 | NA | NA | NA |

Table 1.2 (continued)

new jobs and capital investment. Joint ventures are only included where they lead to a new physical operation. Mergers and acquisitions (M&A) and other equity investments are not included. Lao PDR = Lao People's Democratic Republic; NA = not available.

Source: fDi Markets, http://www.fDimarkets.com (accessed December 2014).

| % of total | | South Asia | a | Southeast Asia | | |
|----------------|------|------------|------|----------------|------|------|
| economies | 2005 | 2010 | 2012 | 2005 | 2010 | 2012 |
| Southeast Asia | 1.1 | 4.6 | 5.1 | 9.0 | 9.3 | 10.5 |
| Indonesia | 2.5 | 0.3 | 0.5 | 19.0 | 12.0 | 3.3 |
| Malaysia | 0.6 | 0.8 | 0.6 | 22.8 | 31.4 | 36.0 |
| Philippines | 0.3 | 0.0 | NA | 15.8 | 4.4 | 18.7 |
| Singapore | 1.1 | 5.1 | 5.6 | 8.6 | 8.1 | 8.9 |
| Thailand | 0.0 | 2.0 | 1.9 | 20.8 | 4.4 | 4.4 |
| South Asia | 2.5 | 2.2 | 0.2 | 4.4 | 6.2 | 6.5 |
| India | 6.2 | 1.0 | 0.1 | 8.7 | 6.5 | 8.3 |
| Pakistan | 0.0 | 12.4 | 0.5 | NA | 3.9 | 1.6 |

Table 1.3Regional portfolio investment holdings, as % share of total
overseas investments

Note: NA = not available.

Source: IMF Coordinated Portfolio Investment Survey, http://data.imf.org/ (accessed 16 December 2014).

Asia to South Asia in 2012 was small, at about \$896 million. Outstanding portfolio investment from South Asia to Southeast Asia in 2012 totaled only \$90 million – a fraction of total investment into Southeast Asia – although representing about 6.5 percent of South Asian outward investment (Table 1.3). There are also limits to cross-border bank loans and bank entry in to foreign markets in many cases, as well as onerous restrictions on foreign exchange transactions. Development of regional-level financial supervision and regulation could contribute to supporting greater volumes of international capital flows (Kawai and Morgan 2014).

Trade barriers of various kinds (including tariffs, non-tariff measures, and services trade restrictions) continue to constrain the scope for trade and investment between South Asia and Southeast Asia. Tariffs for agriculture and manufactured goods have typically fallen to historically low levels in South Asia and Southeast Asia. As Table 1.4 shows, simple average most favored nation (MFN) tariff rates for agriculture in South Asia fell from 43.2 percent to 19.2 percent between 1990 and 2013, while those for manufactures fell from 48.9 percent to 12.9 percent. Meanwhile, MFN tariffs for agriculture in Southeast Asia fell from 15.8 percent to 8.3 percent and those for manufactures from 14.7 percent to 7 percent. While the pace of tariff reduction in South Asia has been significant since 1990, overall tariff levels for agriculture and manufactures are higher than in Southeast Asia. Furthermore, while tariff barriers have generally fallen

| | Simpl | e average | MFN tari | NTMs implemented 2009–13 | Services Trade Restrictions Index, 2014 | |
|----------------------|-------------|-----------|--------------|--------------------------------|--|---------|
| | Agriculture | | Manufactures | | - | |
| | 1990 | 2013 | 1990 | 2013 | _ | Overall |
| South Asia | | | | | | |
| Afghanistan | NA | 6.3 | NA | 5.9 | 2 | NA |
| Bangladesh | 99.5 | 17.2 | 123.3 | 14.5 | 1 | 44 |
| Bhutan | 14.3 | 37.1 | 15.5 | 18.4 | 0 | NA |
| India | 77.5 | 28.8 | 84.1 | 9.2 | 337 | 66 |
| Maldives | 18.2 | 17.9 | 20.4 | 20.7 | 1 | NA |
| Nepal | 9.4 | 11.2 | 18.9 | 12.4 | 3 | 43 |
| Pakistan | 45.7 | 14.6 | 52.9 | 14.3 | 36 | 28 |
| Sri Lanka | 38.2 | 20.7 | 27.0 | 7.6 | 13 | 38 |
| Simple average | 43.3 | 19.2 | 48.9 | 12.9 | 49.1 | 43.8 |
| Southeast Asia | | | | | | |
| Brunei Darussalam | 0.6 | 0.7 | 2.7 | 3.1 | 0 | NA |
| Cambodia | 17.8 | 16.4 | 16.5 | 14.2 | 3 | 24 |
| Indonesia | 20.1 | 4.9 | 12.4 | 7.2 | 75 | 50 |
| Lao PDR | 17.4 | 8.1 | 17.8 | 8.3 | 1 | NA |
| Malaysia | 9.0 | 2.4 | 14.8 | 8.3 | 16 | 46 |
| Myanmar | 8.2 | 8.3 | 5.1 | 5.2 | 4 | NA |
| Philippines | 23.3 | 8.9 | 19.6 | 6.0 | 6 | 54 |
| Singapore | 0.1 | 0.0 | 0.5 | 0.0 | 15 | NA |
| Thailand | 44.2 | 18.6 | 43.3 | 8.7 | 27 | 48 |
| Viet Nam | 17.7 | 14.8 | 14.4 | 8.6 | 39 | 42 |
| Simple average | 15.8 | 8.3 | 14.7 | 7.0 | 18.6 | 44.0 |

Table 1.4 Trade barriers in South Asia and Southeast Asia

Notes:

For MFN tariffs, where data are not available, the most recent year is used.

The World Bank's Services Trade Restrictions Database collects information on services trade policy across 103 countries, five sectors (telecommunications, finance, transportation, retail, and professional services), and the key modes of service supply. A high score suggests greater restrictiveness.

Lao PDR = Lao People's Democratic Republic; MFN = most favored nation; NA = not available; NTM = non-tariff measure.

Sources: World Bank World Integrated Trade Solution, http://wits.worldbank.org/WITS/ for MFN tariffs; Global Trade Alert Database, http://www.globaltradealert.org/site-statistics for non-tariff measures; World Bank Services Trade Restrictions Index Database, http:// iresearch.worldbank.org/servicetrade/aboutData.htm (accessed 28 November 2014).

with the exercise of MFN rates, the application of preferential tariff rates, which are lower than MFN tariff rates, has not been significant. The effectively applied tariff rates on cross-regional trade by both regions are relatively close to the MFN applied tariff rates, which means that there is still ample room for reducing tariffs between the two regions as a means of boosting trade, FDI, and economic growth.

In addition, non-tariff measures (NTMs) can be reduced significantly. These are policy measures apart from customs tariffs that can potentially have an effect on trade costs by changing prices, quantity traded, or a combination of both. Table 1.4 also shows data on various types of NTMs (including bailouts/state aid measures, trade defense measures, import bans, import subsidies, sanitary and phytosanitary measures, technical barriers to trade, and local content measures). The data suggest that during the post-global era (2009–13) the numbers of NTMs implemented were 393 in South Asia compared with 186 in Southeast Asia. The largest economies in both regions are the most active in imposing NTMs: India (337), Pakistan (36), Indonesia (75), Viet Nam (39) and Thailand (27).

The services sector has grown rapidly in South and Southeast Asia; it accounts for over 50 percent of GDP in many South Asian and Southeast Asian economies and is making a growing contribution to trade in Asia (Noland et al. 2013). However, there is evidence of impediments to crossregional trade and investment in services. Measuring services trade restrictiveness is a challenging undertaking beset by data gaps and subjective judgments. Bearing this qualification in mind, the World Bank's Services Trade Restrictions Index attempts to capture the policies and regulations that discriminate against foreign services or foreign services providers as well as certain key aspects of the overall regulatory environment that impact on trade in services. A high score indicates greater restrictiveness. Similar to the case of NTMs, the largest economies in both regions are particularly active in imposing restrictions on services trade - India (66), the Philippines (54) and Indonesia (50). Meanwhile, Cambodia and Pakistan have relatively low services trade restrictions, while other economies fall in between these extremes (Table 1.4).

Expanding broad-based FTAs between the two regions is a means to reduce barriers to trade and investment as well as to provide an environment for greater connectivity. In November 2012, ASEAN members and their FTA partners agreed to negotiate an RCEP. According to the guiding principles, the core of the RCEP negotiating agenda is expected to cover trade in goods, services trade, investment, economic and technical cooperation, and dispute settlement (RCEP Ministers 2012). There is also an open accession clause to enable participation of any ASEAN FTA partner, as well as other external economic partners, at a future date. Once it is concluded, the RCEP will become the world's largest trading bloc and members are likely to experience notable economic benefits. However, there are many challenges to be addressed during the negotiations and afterwards, including the political challenge of respecting the central role of ASEAN in the RCEP negotiations amid the presence of major economies, gradually improving the coverage of WTO-plus issues, the risk that small and medium-sized enterprises may underuse RCEP preferences, and dealing with losses at the sector level within countries (Wignaraja 2014b). Currently, India is the only South Asian country to join the negotiations, but other South Asian countries may join the process in the future. Bangladesh expressed an interest in joining APEC once its moratorium on new members is lifted, which would allow it potentially to become part of Asia-Pacific regional integration initiatives.

1.4 SURVEY OF BOOK CHAPTERS

A number of barriers have limited deeper cross-regional integration and the potential benefits thereof. Hence, identifying these barriers and policies to reduce them needs to be a high priority on the agendas of constituent governments and regional institutions. Addressing the above constraints can be both technically and politically difficult. 'Low-hanging fruit' in the policy realm is easy to get at but actually generates little in return; the biggest pay-offs derive from deep integration that tackles 'high-hanging fruit'; this means NTMs, services, competition policy, intellectual property protection and politically sensitive goods such as agriculture. Petri et al. (2012) note that economic estimates of 'mega-regional' trade agreements such as the Trans-Pacific Partnership (TPP), the RCEP or the APECbased Free Trade Area of the Asia-Pacific (FTAAP) critically depend on the template of integration used. In terms of the public goods of integration, this entails finding effective means of developing and financing crossregional projects.

This book focuses not only on identifying the high-hanging fruit but also on finding the most effective ways to harvest them. These issues are covered in both the 'functional' chapters on land transport infrastructure, seaborne transport, trade and transport facilitation, infrastructure finance and institutional aspects, and in the country studies. In this section, we summarize the main results from the book chapters dealing with these issues.

Functional Studies

Chapter 2: Land-based cross-border transport infrastructure

Improving physical connectivity in South Asia and Southeast Asia is a key step to greater economic integration. In Chapter 2, Jean-Francois Gautrin provides a comprehensive assessment of potential highway and railroad connections between the two regions. Key physical barriers or hindrances to cross-regional trade are located mainly in Myanmar, the only land bridge between these regions, while other gaps are identified in Bangladesh, Cambodia, India, the Lao PDR and Thailand. The key issue with roads in most cases is the need to upgrade them, but the situation with railroads is more complex, as national networks are not connected, there are large missing sections, and there are other connectivity problems such as gauge size and braking systems. Major ports in the area also suffer from inadequate connectivity to road and rail networks. A number of key studies provide the bases for these assessments, including the ADB (2008, 2011, 2013), the Economic Research Institute for ASEAN and East Asia (ERIA 2010), the South Asian Association for Regional Cooperation (SAARC 2006) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP 2006, 2011).

Most trade between South Asia and Southeast Asia is by sea. However, with improved infrastructure and easier border-crossing procedures, the volume of goods and passenger traffic by land has the capacity to grow significantly. Empirical studies have confirmed that trade costs and infrastructure quality are strongly correlated with trade volume and economic performance. This chapter finds that the main constraints to physical land connectivity include: (1) high cost of land transport infrastructure and low volume of traffic; (2) policy problems associated with making regional (as opposed to national) links a priority; (3) lack of demand; (4) red-tape constraints affecting road corridors and border crossings; (5) the need to connect disjointed railway networks; and (6) financial constraints making it difficult to meet regional commitments.

Gautrin first reviews the history of initiatives to support improved land connectivity between South Asia and Southeast Asia. These include the Asian Highway network sponsored by UNESCAP, the India–Myanmar– Thailand trilateral highway project, the Mekong–India economic corridor (including a sea link from Chennai to Dawei and a land link from Dawei to Bangkok), the Kaladan multimodal transit transport project, the Delhi– Ha Noi railway link and the Singapore–Kunming Rail Link (SKRL).

Gautrin takes a two-step approach to identifying priority transport corridors and projects for both highways and railroads. Corridors are defined to link 'gateway' ports in the two regions. First, he identifies candidate 'port-to-port' through corridors linking the two regions. In South Asia, all candidate corridors originate from Kolkata and Chittagong ports in the Bay of Bengal. In Southeast Asia, candidate road corridors follow existing Greater Mekong Subregion (GMS) corridors with the eastern gateway port cities in Viet Nam being either Ho Chi Minh City, Da Nang or Hai Phong. The candidate corridors are then scored on criteria including total distance from gateway port to gateway port, number of border crossing points, overall quality of road infrastructure, level of security, resettlement and land acquisition problems, overall cost of road improvements; the priority corridors are then selected.

The second step is to identify priority projects for the high priority corridors. These projects are identified from existing pipelines of projects, including those of regional programs such as the ASEAN, GMS, SAARC, the South Asia Subregional Economic Cooperation (SASEC) and BIMSTEC, as well as national development plans. These projects are then scored on criteria including connectivity rationale, traffic and trade intensity, project recognition and acceptance, and project preparedness, socio-environmental problems, extent of benefit sharing among participating countries; the priority projects are then selected.

There is no rail connectivity between South and Southeast Asia, no connectivity within the GMS, and only limited connectivity within South Asia. There are, however, plans to construct missing links within the GMS and South Asia and also to connect the two regions. Providing full rail connectivity is costly and as yet, no time schedule is available for implementation.

The analysis of highways finds that the highest scoring corridor is the Kolkata–Ho Chi Minh City corridor passing through the 'Chicken's Neck' of northeast India, running through Myanmar, Thailand and Cambodia. Other high-scoring corridors include the Chittagong–Ho Chi Minh City corridor and the Chennai–Dawei–Ho Chi Minh City corridor. However, corridors running through Bangladesh score less well because of the lack of a transit agreement between Bangladesh and India. Priority highway projects were identified mainly in northeast India (Imphal–Moreh), Myanmar (Eindu–Myawaddy at the Thai border), Thailand (from the Myanmar border at Mae Sot to Tak) and the Thailand–Cambodia border (Aryanaprathet–Poipet). Corridors to Hai Phong and Da Nang were less attractive because of higher costs and lower traffic.

In terms of railway connections, the study underscores the challenges of increasing connectivity, owing to decreasing freight and passenger traffic, poorly maintained rail tracks and rolling stock needing replacement. Hence, the scoring analysis generates lower scores for railroads compared to highways, with no project receiving a high score. Similar to the case for highways, the highest scoring corridor was Kolkata–Ho Chi Minh City passing via the Chicken's Neck in northeast India. Other high-scoring corridors included Chittagong–Ho Chi Minh City, Dawei–Ho Chi Minh City and Kolkata–Hai Phong (via Kunming in Yunnan Province, the PRC).

Chapter 3: Infrastructure to support seaborne trade between South Asia and Southeast Asia

As mentioned above, sea trade is the workhorse of trade between the two regions. Therefore, any policies aimed at increasing trade between the two regions must address the various hindrances to such trade attributable to port infrastructure. In Chapter 3, David Wignall and Mark Wignall examine the seaports responsible for handling the majority of trade around the Bay of Bengal with a view to identifying projects that will contribute to improving maritime infrastructure and enable trade in and around the Bay of Bengal. The chapter reviews the nature of trade and how that trade could evolve, and analyzes the primary types of maritime trade around the Bay of Bengal and the ships that carry that trade. It also considers the changes that could occur with significant impact on trade patterns, taking into account the great potential for changes in trade patterns, particularly with respect to the Indian East Coast Corridor. It also examines the main ports on the Bay of Bengal to understand their history, regulatory regimes, purposes, capabilities, primary specifications, constraints, productivity, fitness for purpose when compared to other ports in comparable situations and their opportunities to improve and develop. Certainly, improvements in ports benefit trade in all directions, and cannot be ascribed specifically to trade between South Asia and Southeast Asia. However, it is likely that trade between the two regions would benefit at least proportionately from reductions in trade costs, owing to the proximity of the regions and the potential to expand supply chain networks.

The analysis of the nature of trade in the Bay of Bengal finds that container trade is the key to stimulate regional economic integration, as it accounts for most trade in merchandise goods, representing 40 percent of total trade by volume and a far higher percentage in terms of value. However, the container trade around the Bay of Bengal is relatively high cost, because it is almost exclusively based on transshipment of containers from small feeder ships to large efficient container ships at hub ports such as Colombo, Port Klang and Singapore. These high transport costs are a substantial impediment to the development of supply chain networks in the Bay of Bengal area. The key to reducing transport costs is to encourage increased calls to ports around the Bay of Bengal by large container ships and thus avoid costly transshipment of containers at hubs.

Wignall and Wignall review operating conditions at major ports in the Bay of Bengal. Aside from Chennai/Ennore, the major ports are too

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shallow to allow access by large deep-draft container ships. They recommend investments to develop new deepwater ports at Kolkata, Chittagong and Yangon/Thilawa. Second, reducing the distance between dedicated and effective container terminals in ports around the Bay of Bengal by investing more in 'second-tier' ports would also increase the attractiveness of port calls by large container ships. Third, most Bay of Bengal ports have poor road and rail links to inland markets, and these need to be improved to lower costs and turnaround time.

Wignall and Wignall also consider more exotic port projects such as Dawei and Sittwe in Myanmar, which are linked to the Mekong–India corridor and the Kaladan project mentioned in Chapter 2. However, they find the rationale for such ports less compelling, given the lack of catchment areas to support trade in those ports.

Chapter 4: Infrastructure finance and financial sector development for cross-border connectivity

Asia's infrastructure financing needs are huge. Bhattacharyay (2012) estimates that South Asia and Southeast Asia will need at least \$3.6 trillion over the period 2010–20 in domestic infrastructure investment if they are to meet the needs of their growing populations and rising incomes. However, the underlying issue is not a shortage of money per se: according to data from the ADB, gross national savings in the two regions totaled \$1.36 trillion in 2011 alone, and there are plenty of funds in East Asian and developed financial markets looking for reliable long-term returns to meet a significant part of this financing requirement.

In Chapter 4, Shubhomoy Ray examines the challenges facing financing of infrastructure projects in the two regions and analyzes the various financing solutions and policy options that could be brought to bear. Regional and cross-border projects face particularly big challenges where spillover benefits can be substantial and unequal, and some countries involved may be more constrained than others in terms of financial capacity, institutional infrastructure and governance levels. Countries with less developed financial markets face funding gaps both in terms of the overall size of potential savings and the maturity and currency of investment flows. Although savings in the region as a whole are more than adequate to finance needed infrastructure investment, there are large disparities in the distribution of savings and financial development across countries that require cooperative measures and institutional developments to attract needed funds for investment projects.

Public funds can only cover a fraction of infrastructure projects, and the contributions from bilateral donors and multilateral institutions are limited, pointing to the need for substantial private sector investment. Moreover, project lending by banks, the traditional workhorse of infrastructure finance, has a significant mismatch of maturity of assets and liabilities, and is facing increasing constraints. On the other hand, institutional infrastructure to support public–private partnership (PPP) arrangements is also inadequate in many cases. Such constraints are important in most South Asian countries, as well as Cambodia, the Lao PDR, Myanmar and Viet Nam in Southeast Asia. This calls for a broad collection of policies to encourage increased private sector financing of infrastructure projects. Financing options include governments, postal savings, multilateral development banks, sovereign wealth funds, export credit agencies, PPPs, international infrastructure funds and the private sector.

Another factor is the immaturity of the domestic capital markets in the two regions. Bond market investors in the region – especially in times of turmoil – tend to prefer plain investments, preferably with solid ratings. As the market is not sophisticated and contract performance risks are not appropriately defined, traditional project financing structures invariably receive sub-investment grade ratings, particularly when seeking financing on a non-recourse basis. Additionally, the illiquidity of regional bond markets, lack of market making, lack of yield curve and related benchmarks, and mistrust in financial reporting by corporates, keep institutional and retail investors away from corporate bonds which could finance developers' equity in projects. Finally, there exists a low level of regional financial integration, which suggests that there is untapped potential for cross-regional capital flows. For example, cross-regional portfolio investment remains limited.

Ray sees large potential interest in infrastructure finance investment products by institutional investors such as insurance companies and pension funds, which have long-term investment horizons and the capacity to accept higher risk in exchange for higher returns. However, he finds two main obstacles to increased participation by such investors: (1) regulatory restrictions in areas such as foreign ownership of infrastructure projects and restrictions on the risk classes in which institutional investors can invest; and (2) institutional constraints such as lack of market infrastructure and insurance mechanisms that reduce risk for private investors, immature regulatory frameworks, volatile and non-transparent political environments, and legal and regulatory changes that can substantially affect returns to investors.

Ray also finds that the role of the government institutions and the parastatals in infrastructure financing will have to be supplemented by multilateral development banks (MDBs) such as the World Bank and ADB. Multilateral development banks have an important role to play in narrowing the funding gap in national and cross-border infrastructure projects, as well as in influencing the policy environment, impacting procurement processes and providing risk covers to private sector developers. Multilateral development bank support can take numerous forms, including augmenting or supplementing national budgets through sovereign lending, leveraging private sector participation through guarantees covering political and credit risks, financing feasibility studies through technical assistance and providing project-structuring support. In an increasingly complex financing and political risk environment, MDBs are also expected to play a critical role in improving the regulatory environment, supporting transfer and diffusion of technology, and improving business and governance practices, particularly in emerging economies such as those in the ASEAN. As nonconflicted transaction facilitators, MDBs can play the key role of being a coordinator for regional integration among multiple stakeholders. There is also a greater potential role for regional infrastructure funds. Ray notes that the ASEAN Infrastructure Fund is already active in this area, and could be expanded to become an Asian infrastructure investment fund.

Chapter 5: Policies to enhance trade facilitation

Trade facilitation includes all factors affecting the time and monetary cost of moving goods. Trade facilitation measures are critical to ensure the benefits of infrastructure investment result in an actual reduction in trade-related costs. While customs activity has the most visible impact on increasing the time and cost of trade moving through borders, this can often mask the adverse effect of other agencies and operators in raising border transaction costs. Most trade between South Asia and Southeast Asia will continue to move by sea. Hence, port facilitation covering all the processes between the ship's arrival and the goods leaving the port - and vice versa in the case of exports - should be encompassed within the scope of trade facilitation. Similarly, the means of transport across land borders, often referred to as transport facilitation, is also included. In Chapter 5, Anthony Bayley assesses the current state of trade facilitation in the two regions and important measures to encourage further integration. He notes that conditions of trade facilitation vary markedly by country, with some, such as Singapore, Malaysia and Thailand, scoring highly in international rankings, while others score poorly, including Bangladesh, Cambodia, the Lao PDR and Myanmar, which makes it difficult to generalize.

Bayley identifies the following major trade facilitation areas that need to be addressed in South Asia and Southeast Asia: (1) excessive documentation required by the customs, immigration, quarantine, and security organizations for clearance and processing purposes; (2) inadequate implementation of modern customs procedures; (3) limitations to the application of information and communication technology, particularly in relation to customs operations; (4) the absence of national and regional single windows; (5) lack of transparency and unclear import–export requirements; (6) legislative constraints related to customs; (7) compliance with national technical standards, including the diverse conformity assessment practices and the persistent use of individual standards and approaches in different countries; (8) poor border infrastructure; (9) delays at ports, through which most regional trade takes place; (10) delays in transit traffic to landlocked countries; (11) transport facilitation issues related to cross-border transit, with negotiation of through-transport arrangements having proved difficult within and across regions; (12) governance issues, particularly in regards to rent-seeking and corruption at the border; and (13) lack of effective consultation mechanisms to improve trade facilitation.

Awareness of the importance of trade facilitation has increased dramatically over the last decade in both South and Southeast Asia. National governments and the major MDBs, such as the Asian Development Bank (ADB), have become increasingly active in formulating initiatives to help eliminate many of the non-trade tariff barriers (NTBs) related to the physical movement of trade. In particular, the finalization of the Trade Facilitation Agreement at the Bali Ministerial Conference held in December 2013 – which at the time of writing has yet to be ratified – focuses on resolving many of these issues. This reflects a clearer understanding of the interrelation between trade growth and trade facilitation.

Some trade facilitation measures have been initiated at the multilateral, regional and subregional levels involving accelerating the modernization of customs administration, for example, the Revised Kyoto Convention, the World Trade Organization Customs Valuation Agreement and the implementation of the World Customs Organization's Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework), the ASEAN Single Window, and the ADB-supported GMS program on trade and transport facilitation. However, not all countries in the two regions have signed the Revised Kyoto Convention as yet.

The ASEAN Single Window initiative is now being implemented and member countries are engaged in realizing this initiative. Country-level trade facilitation programs are also being undertaken in South Asia to accede to the Revised Kyoto Convention and to modernize customs management and administration. The ADB is actively involved in providing support for regulatory reforms aimed at improving customs operations. Progress by country is uneven, though. Bayley argues that regional economies should consider the development of a regional single window initiative, similar to the ASEAN Single Window but also covering the South Asian region (or possibly SASEC alone).

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Transit is likely to become an increasingly important issue in connecting the two regions, both for inland and international transit. On the one hand it will be critical to move shipments from the frontier, be it a port or land border, to an 'inland' point for clearance. This is to eliminate congestion at the frontier, to move cargo through countries to serve landlocked nations, or ultimately to undertake multi-country journeys such as from Thailand to India. In some countries, there are inland transit arrangements, and where arrangements do exist they are often suboptimal in expediting transits. For either region to be able to cope with the predicted growth, it will be essential to develop mechanisms to facilitate the movement of uncleared cargo away from the immediate border interface.

Bayley expects that the development of trade facilitation will follow a pattern of deepening regional cooperation and enhancement but significantly differing levels of progress will be achieved by individual countries in the two regions, with the most developed trade facilitation countries in Southeast Asia advancing more rapidly than their less developed regional partners. In effect, the best are getting better and the gap between the best and many of the poorer countries is widening, mainly due to the magnitude of differences in resources, funding and levels of automation. Many regional initiatives are programmed to provide support to help close that gap by assisting the less developed countries to improve their national trade facilitation environment. For example, in order to pursue the goal of through-land transport between the regions, specific assistance may be required for Myanmar, whose trade facilitation environment is not currently compatible with its trading partners to the east or west. Also, there should be a gradual shift of emphasis from customs reforms toward addressing more of the non-customs issues, such as sanitary, quarantine, phytosanitary, veterinary and trading standards.

Chapter 6: Implementation challenges and coordination arrangements

Building institutions that will improve cross-regional coordination and address coordination gaps in areas such as cooperative planning and implementation processes is a major challenge. National-level coordination alone is already an arduous process, but problems rise geometrically when coordination policies need to be developed across two or more countries since these involve the coordination of diverse political and legal systems, economic institutions and even sociocultural traditions.

In Chapter 6, Moe Thuzar, Rahul Mishra, Francis Hutchinson, Tin Maung Maung Than and Termsak Chalermpalanupap examine the implementation challenges and coordination arrangements necessary for connecting South Asia and Southeast Asia. They provide a background on the political economy and sociocultural implications of the different regional and subregional arrangements and their connectivity initiatives. These different arrangements include the economic integration initiatives under the ASEAN and the SAARC and their various subregional programs and arrangements including the SASEC, BIMSTEC and GMS.

The ASEAN has embraced connectivity as a vehicle for regional integration, particularly in the economic sectors. Having announced an ambitious goal to achieve a single market and production base as part of an integrated ASEAN Community by 2015, ASEAN policymakers have recognized the importance of internal and cross-border connectivity, in order to link to global supply chains. Within the ASEAN, the GMS group of countries is perhaps most relevant for cross-regional connectivity, since it includes those countries closest to South Asia, and it has a highly developed program of economic corridors and infrastructure projects, some of which have the potential to be extended to South Asia.

The SAARC is South Asia's institutional counterpart to ASEAN, though it is less advanced. Its aspiration to achieve a South Asian Free Trade Area is nowhere near the implementation level of its Southeast Asian equivalent and it has no equivalent of the ASEAN Economic Community (AEC). However, similar to the ASEAN, there are institutional arrangements for shared responsibility (and ownership) in regional cooperation. Within the SAARC, the SASEC group of countries is the equivalent of the GMS, since it mostly represents countries close to Southeast Asia; it is a 'functional' entity focused on infrastructure, and it has ADB as its secretariat. Therefore, increased cooperation between the GMS and the SASEC is a promising route to promote greater integration.

The BIMSTEC also provides a key stepping-stone for closer ASEAN– South Asian connectivity, since it is the main regional grouping that straddles both regions. Bangladesh, India and Myanmar, in particular, have a common interest to initiate and support BIMSTEC programs in their shared border areas, particularly for the necessary infrastructure, both hard (transport and energy) and soft (trade and transport facilitation) connectivity.

Risks to and uncertainties regarding regional integration implementation include: (1) political difficulties associated with economic integration, particularly in South Asia; (2) uncertainties in Myanmar, which is a key country linking the two regions but still at an early stage of its reform program; (3) social issues related to integration – including illegal immigration – and the potential for increased illegal cross-border trade; (4) security considerations, such as the anti-Indian tribal insurgents that have been an irritant to India–Myanmar relations; (5) unequal distribution of benefits deriving from connectivity projects; and (6) the need to have measures to compensate sectors or regions that lose from greater integration. To improve implementation of economic cooperation, the authors argue that it is important to: (1) develop public messaging on the benefits of connectivity to complement regional (local) development projects; (2) align national priorities with regional and bilateral undertakings; (3) dovetail physical and institutional connectivity needs, for example, development of communication and transportation links in project areas should be prioritized under national and bilateral plans; (4) achieve rapid implementation of India's Northeast Region Vision 2020, which provides eight recommendations to connect northeast India with Southeast Asia; (5) provide broad support for Myanmar's economic reforms, especially in the border areas; and (6) include state governments in plans designed to advance connectivity.

Chapter 7: Economic implications of deeper South Asian–Southeast Asian integration: a CGE approach

Assessing the economic effects of regional economic integration – be it market- or policy-led – is complicated. In addition to the many relevant economic variables that need to be considered, formal preferential trade agreements such as FTAs are inherently 'second best,' that is, they are characterized by both positive and negative efficiency effects. This suggests that FTAs may or may not be beneficial to the integrating economies or even to themselves. Empirical estimation, which is also complicated, is required in order to assess the merits of an agreement.

Would it make sense to forge a South Asian–Southeast Asian FTA? In Chapter 7, Ganeshan Wignaraja, Peter J. Morgan, Michael G. Plummer and Fan Zhai assess how the potential effects of economic integration on the region's economies might be estimated. They then generate estimates of the potential gains and losses from South Asian–Southeast Asian economic integration using an advanced computable general equilibrium (CGE) model. They estimate that the potential gains are large, assuming that both soft (for example, trade facilitation) and hard infrastructure are put in place to reduce inter-regional trade costs, which currently are high.

The study considers four scenarios for cross-regional integration. For example, if the two regions succeed in dropping inter-regional tariffs, reducing NTBs by 50 percent and decreasing other trade costs by 15 percent – which the study suggests is ambitious but nevertheless attainable – welfare in South Asia would rise by \$375 billion (8.9 percent of GDP), and in Southeast Asia by \$193 billion (6.4 percent of GDP) by 2030, relative to the baseline. These gains will be driven by rising exports and competitiveness, particularly for South Asia, whose exports would rise by almost two-thirds. Hence, the study underscores that relative large investments in cross-regional connectivity are likely to be justified.

In addition, it emphasizes that the governments of the regions' economies need to take into account the inevitable problems that arise in the integration process, for example, the effects of structural change on the most vulnerable workers and sectors. Initiatives related to economic integration also need to be nested in the context of other social priorities, such as food security and the protection of migrant workers.

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Chapter 8: Myanmar: the land bridge

In Chapter 8, Hector Florento and Maria Isabela Corpuz point out that land-based connectivity between South Asia and Southeast Asia must go through Myanmar, the only land bridge between the two regions. Major land routes have been identified in Chapter 2 but there are critical gaps that exist, mainly in Myanmar. This is especially true for the rail sector. For the road sector, gaps usually stem from poor quality roads that cannot reliably accommodate all-weather travel. Strengthening physical connectivity requires a multimodal perspective, including the development of non-land transport modes such as air and maritime transport. The implications for gas and oil shipments that can be transported by pipe, ship, rail and, in some cases, road also need to be considered.

For Myanmar, analyzing the costs and benefits and presenting an economic rationale for public sector funding of key projects will be crucial in prioritizing major projects according to national development objectives, getting political buy-in, helping ensure value for money and facilitating bilateral assistance plans. At the regional level, an analysis of costs and benefits will help identify the potential welfare gains from connecting South Asia and Southeast Asia, and how Myanmar could get a proportionate share based on its contribution to establishing physical connectivity. The importance of regional cooperation to support regional transport projects should not be overlooked, to ensure that the economic benefits outweigh the costs and that regional public goods will be created.

Chapter 9: India: building connectivity under the Act East Policy

In Chapter 9, Prabir De finds that India's regional integration with Southeast Asia has been advancing well and several projects are currently being implemented. India's policy for regional connectivity is based on two pillars: northeast India for multimodal and intermodal operations, and southern India for multimodal operation. De presents India's broad proposals on connectivity projects with Southeast Asia, and policy recommendations to strengthen connectivity in Asia in general and between the ASEAN and India in particular. He argues that enhancing connectivity between South Asia and Southeast Asia is a multifaceted task that will require the implementation of strong policy initiatives but with significant attendant benefits especially for industrial development in India and its trade potential.

While prospects for India–Southeast Asia trade have grown rapidly, challenges too have become more complex, making it an under-performer in realizing trade potential. Non-tariff policy barriers have gained importance as tariff-based barriers to trade have gradually declined. Among others, shortcomings in connectivity undoubtedly play a critical role in the failure of India to reach its trade potential with the ASEAN. India and Southeast Asian countries are committed to achieving greater trade volume through policy initiatives such as the ASEAN–India FTA and the RCEP – in which India is the only South Asian negotiating member – with expanding trade facilitation initiatives in particular holding much promise. Both India and the ASEAN require a shared strategic vision, political will and strong commitment among countries, as these will be key to success of connectivity projects in the region.

Chapter 10: Thailand: key subregional hub

In Chapter 10, Suthiphand Chirathivat and Kornkarun Cheewatrakoolpong assess Thailand's potential connectivity with South Asia. Thailand has been an active member of the ASEAN from the beginning. With the dramatic transformations taking place in the ASEAN – particularly in terms of the AEC and developments in mainland Southeast Asia, including the latest changes in Myanmar – Thailand has a natural advantage in regional community-building. Contrary to the Cold War period, the country's geographical location and development experience endow it with a strategic comparative advantage in linking its neighboring countries in the GMS and beyond. Unique opportunities are especially evident in respect of projects dealing with physical connectivity.

The authors review the current state of Thailand's intra-regional trade, physical connectivity, trade facilitation, energy cooperation and infrastructure funding, for which there are planned projects in all areas, with potential impact on Thailand and its links to the Southeast Asian region and South Asia. However, Thailand's political instability has impeded the progress and implementation of such projects. They also examine the current financing mechanisms for Thailand's infrastructure projects, which rely heavily on public spending. They provide suggestions for strategies to promote physical infrastructure, trade facilitation and energy cooperation between Thailand, the rest of the ASEAN, and South Asia.

Chapter 11: Bangladesh: perspectives on deepening cross-border links

In Chapter 11, Mustafizur Rahman, Khondaker Golam Moazzem, Mehruna Islam Chowdhury and Farzana Sehrin conclude that economic integration between Bangladesh and its partners in South Asia and Southeast Asia is seriously inhibited by the poor state of transport connectivity. Their study reviews connectivity initiatives of Bangladesh and the two neighboring regions and proposes ways to deepen regional and inter-regional connectivity. Since the early 1990s, as a consequence of their trade-led growth strategies, South Asia and Southeast Asia have emerged as important economic partners of Bangladesh, both in terms of export destination and import sourcing. However, constraints 'at the border' and 'behind the border' have tended to undermine the prospects of reaping the benefits accruing from closer economic cooperation.

There is now an increasing realization among policymakers in Bangladesh of the importance of transport integration as an effective tool for market integration, and for attracting efficiency-enhancing and market-seeking investment. This changed perspective has been reflected in Bangladesh's long-term development policies. The authors identify cross-border initiatives with Bangladesh's involvement particularly at the bilateral, subregional and regional levels. Some of these initiatives are also integrated with Asian-wide broader connectivity particularly through the Asian Highway and Trans Asian Railway initiatives discussed in Chapter 2.

Ongoing initiatives include construction and upgrading of multi-lane highways and railways, road and rail bridges, procurement of locomotives and wagons, and construction of internal container river ports. However, progress has been slow and cross-border transit remains an unaddressed issue. A consensus is emerging regarding the need to adopt standard operating procedures and harmonize standards and customs procedures, including service charges and user fees for transit facilities. Additionally, significant investment will be required for trade facilitation and to upgrade border trade facilities at land ports, inland waterways and seaports.

Chapter 12: Nepal: a connectivity-driven development strategy

In Chapter 12, Pradumna B. Rana and Binod Karmacharya make the case for a connectivity-driven strategy for Nepal. Nepal's lackluster economic performance during the post-conflict period (that is, after November 2006) has been driven by remittances from the export of labor services and the improved performance of the agriculture sector, which is still very much weather dependent. The authors argue that improved connectivity within Nepal and cross-border connectivity with its neighbors in South Asia, the ASEAN and the PRC can convert Nepal from a landlocked into a 'landlinked' state, which in turn could be a crucial 'engine of growth' for the country. They argue that such a development strategy is not new for Nepal, as in the past it was strategically located on the Southwestern Silk Road. A number of factors have revived the case for making Nepal a land-linked state in Asia. Nepal has adopted a multi-track approach to promoting regional cooperation and integration in connectivity with its neighbors. However, a lot more needs to be done, especially in the context of the difficult political situation in the country, with a clear role for development assistance partners to play in the country's future development.

Chapter 13: Sri Lanka: regional sea transport hub

In Chapter 13, Dushni Weerakoon and Nipuni Perera analyze Sri Lanka's pivotal role as a hub port for connecting South Asia and Southeast Asia. Colombo is the only port in the Bay of Bengal that approaches global standards in terms of operational efficiency and throughput. Investments to expand capacity at Colombo port are underway as part of Sri Lanka's renewed efforts to develop its infrastructure following the long internal separatist conflict that ended in 2009. However, despite significant improvements in physical infrastructure connectivity, Sri Lanka has made only limited headway in strengthening its trade and investment links with the rest of the region. Moreover, the country has seen a sharp decline in its overall ratio of exports to GDP ratio, which is worrying in view of the growing external debt financing of many large infrastructure projects through state-led investment initiatives.

The authors conclude that Sri Lanka needs to focus on two priority areas: (1) engaging private investment in infrastructure by strengthening the country's institutional and regulatory environment; and (2) implementing a more open and strategic trade policy geared to enhancing regional integration efforts. Regarding the latter, Sri Lanka has not undertaken to enter into fresh agreements since the SAFTA came into force in 2004. In particular, expanding the current bilateral free trade agreement with India into a broader agreement to cover services and investment has been kept on hold since 2008. They argue that Sri Lanka must tap into strategic economic integration opportunities, particularly with India, and revise the stalled CEPA process.

1.5 SUMMARY

The wealth of analysis in each functional and country chapter includes policy analysis and recommendations for policymakers, bilateral and multilateral donors, and other development partners and stakeholders to improve South Asian–Southeast Asian connectivity. These recommendations address both hard infrastructure (land and sea transport) and soft infrastructure (trade facilitation, finance and institutions).

Regarding hard infrastructure, the analysis identifies several highway and railroad corridors and associated projects that have the best prospects for augmenting connectivity via land routes. For highways, the Kolkata– Ho Chi Minh City route through the Chicken's Neck in northeast India and the Chittagong–Ho Chi Minh City route receive the best scores, owing to the short distance and low improvement costs for the latter and trade and supply chains that could be improved through the former. For railroads, the routes from Kolkata to Ho Chi Minh City and to Hai Phong via the PRC have the best prospects. However, connectivity through rail is more challenging, with many missing links and various technical incompatibilities. Therefore, it may be preferable to place priority on upgrading national rail networks first before trying to link them up.

Sea transport is still the workhorse of cross-regional trade, and reducing shipping costs and delivery times holds the most promise for promoting trade between the two regions, although such benefits will obviously accrue to trade with other regions as well. In view of the importance of efficient container trade for developing supply chain networks, largescale deepwater ports should be constructed at Kolkata, Chittagong and Yangon/Thilawa in order to encourage more direct calls by large container ships. This should be combined with improving road and rail connections with domestic catchment areas.

In addition, there should be policies to support the development of smaller container terminals in ports on the east coast of India, reform cabotage laws, particularly those in India, to encourage the development of coastal shipping (but with careful attention to local politics), and review competition laws and their application to the container shipping sector with a view to encouraging the development of robust competition on cost and service between shipping lines.

Regarding finance, a broad suite of measures is needed to attract sufficient funds for infrastructure financing in the region. At the national level, development of domestic bond and equity markets needs to be encouraged to supplement the role of the banking sector. Also, the environment for attracting private funding for infrastructure needs to be improved. This includes strengthening the frameworks for PPP projects and providing a greater range of government guarantees against political and other risks where needed. At the regional level, restrictions on capital flows and foreign ownership need to be relaxed in an orderly way, and the options for international financing by regional infrastructure funds and sovereign wealth funds need to be widened. Restrictions on the investment vehicles allowable for long-term institutional investors such as pension funds and insurance companies also need to be relaxed, and instruments and policies to enhance the risk characteristics of project bonds should be introduced. In all of these measures, MDBs can play an important advisory and coordinating role.

Improving trade and transport facilitation also requires a comprehensive approach. Perhaps the single biggest barrier is excessive paperwork and reliance on physical paper processes for customs clearance. Adoption of information and communication technology-based procedures such as the National Single Window and regional Single Windows is needed. Also, cross-border transit agreements can expedite the physical flow of goods across borders. In some cases, physical infrastructure at land borders also needs to be improved. National and regional institutions need to be refined and adjusted to promote regional integration. Greater cooperation between the GMS and the SASEC could help to jump start cross-border infrastructure projects. Since the BIMSTEC is the only regional organization that currently straddles the two regions, increased cooperation between it and other regional institutions could make an important contribution. Most importantly, there needs to be greater alignment of national and regional priorities for infrastructure and trade policy, otherwise it will not be possible to achieve 'buy-in' by the relevant national authorities.

Given differences in benefits, costs, incomes and political priorities, regional compensation mechanisms will also need to be developed to mitigate the costs borne by sectors and regions that may suffer from increased integration. Other political- and social-related aspects of integration, such as food security and migration, are also relevant as policymakers envision new forms of economic integration. Economic cooperation can actually enhance food security for integrating countries, and put constraints on domestic initiatives that could potentially harm partner countries. Very few regional cooperation initiatives include labor flows, particularly in the developing world, and it is unlikely that they would be included in any formal trade agreement between South Asia and Southeast Asia. Yet, from a policy point of view, it is important to anticipate rising migration by jointly advancing programs and initiatives that protect and promote the rights of migrant labor.

If substantial reductions in tariffs, non-tariff barriers and transport costs can be achieved by adopting these policies, the analysis finds that there are potentially large gains from increased economic integration of South Asia and Southeast Asia, especially for South Asia. It concludes that, the deeper the integration template, the greater the gains via efficiency and productivity improvements. In the deepest case of integration considered, welfare in South Asia would rise by \$375 billion (8.9 percent of GDP), and in Southeast Asia by \$193 billion (6.4 percent of GDP), by 2030, relative to the baseline. These results support the view that substantial investments in cross-regional connectivity would be justified.

However, the results also underscore that the dramatic increases in efficiency from economic integration derive from structural changes, which can change the distribution of income in ways that could exacerbate existing problems, such as the trend toward rising income inequality in many Asian economies since the global financial crisis. This does not imply that the initiatives should not be embraced; it only emphasizes the importance, as discussed above, of active government policies to facilitate economic integration and ensure that the gains are widely spread and the big 'winners' of integration will compensate the most vulnerable that lose from it.

NOTE

 This report follows the convention that South Asia and Southeast Asia are two regions of Asia. South Asia includes Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka, while Southeast Asia includes Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic (Lao PDR), Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam.

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PART I

Hard Infrastructure and Financing

2. Land-based cross-border transport infrastructure¹

Jean-François Gautrin

2.1 INTRODUCTION

South Asia and Southeast Asia have been connected for centuries, with the degree of connectivity varying over time. This study analyzes how to strengthen that connectivity and the role of cross-border transport infrastructure investments to improve connectivity.

Most trade between South Asia and Southeast Asia is by sea. However, the underlying hypothesis of this study is that with improved infrastructure and easier border crossing procedures, the volume of goods and passenger traffic by land would grow. Empirical studies have confirmed that trade costs and infrastructure quality are strongly correlated with trade volume and gross domestic product (GDP) (Limao and Venables 2001; De 2008; Edmonds and Fujimura 2008; Banik and Gilbert 2010; Stone and Strutt 2010; Brooks 2010; Stone et al. 2012; ADB 2009).

Though increasing, the volume of trade between South Asia and Southeast Asia is still low.² South Asian trade with the Greater Mekong Subregion (GMS) and the Association of Southeast Asian Nations (ASEAN) countries accounted for 2 percent and 7 percent of their total trade, respectively (ASEAN 2011; UN Comtrade Database). Trade through land routes constitutes a small portion of that trade. Trade by land between India and Myanmar is low, but significant trade by land takes place between Thailand and Myanmar.³ There are many reasons for the lack of connectivity and trade between India and Myanmar through the northeast region of India. This region is isolated from the rest of India and has limited trading goods to offer. Security has also been a serious obstacle.

This chapter reviews the possible road and rail land corridors that could strengthen connectivity between South Asia and Southeast Asia. The study identifies transport infrastructure projects, and screens and prioritizes the projects. For the selected projects, phased investments are recommended.

2.2 SOUTH ASIA–SOUTHEAST ASIA TRADE AND TRANSPORT CORRIDORS

Transport connectivity exists between South Asia and Southeast Asia, but it is outdated. Making it seamless, whether by road or rail, will require building many missing links. The cost of these infrastructure investments is high and therefore, can only be carried out on optimal routes. Currently, South Asia connects with Southeast Asia only by road, and therefore road corridors are reviewed with priority.

2.2.1 South Asia–Southeast Asia Road Corridors

Initiatives to support improved land connectivity between South Asia and Southeast Asia, include the India–Myanmar–Thailand trilateral highway project, the Mekong–India economic corridor, the Kaladan multimodal transit transport project and the Delhi–Ha Noi railway link. The corridors described below are consistent with these initiatives. In South Asia all corridors originate from Kolkata and Chittagong ports in the Gulf of Bengal. In Southeast Asia, road corridors follow existing GMS corridors with the eastern gateway port in the Mekong Delta being Saigon port (Ho Chi Minh City or HCMC),⁴ though Danang and Hai Phong are gateway ports that are also included.

South Asia

South Asia includes the northeast Indian states plus the economies directly connected to them: Nepal, Bangladesh, Bhutan, Utar Pradesh, Bihar and West Bengal. In all cases, Kolkata and Chittagong are the gateway ports. Discussions about transport corridors from South Asia to Southeast Asia involve India and Bangladesh as they connect with Myanmar, but corridors have to offer access to Nepal and Bhutan as well.

Nepalese goods reach Myanmar and the GMS by road either through the 'Chicken's Neck' corridor or through Bangladesh. In northeast India, Siliguri is a major hub for Sikkhim, Bhutan and Nepal. Siliguri is 560 kilometers (km) from Kolkata and approximately 1,150 km from the Myanmar border at Moreh. Most Bhutanese exports and imports transit in India via the Phuentsholing border crossing point. Bhutan's international trade currently goes through Kolkata. However, with improved road conditions, some trade could use the Assam highway and reach the Myanmar border at Moreh.

Because of its geographic location, most Nepalese trade is through border crossings in south Nepal. Most Nepalese trade is with India (65 percent) but the rest transits through Kolkata port. However, when

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travelling by road, Nepalese trade with Bangladesh and Southeast Asia uses the eastern border crossing of Kakarvitta.

There are no advantages for Nepalese goods passing through Kakarvitta to transit through Bangladesh for exporting and/or importing, or for carrying out trade with Southeast Asia. Chittagong is not an option compared to Kolkata, and reaching the Myanmar border is longer through Bangladesh than through the Chicken's Neck (1206 km compared with 1000 km).

However, for Indian goods, the Bangladesh road corridor to Southeast Asia is available. This corridor links Benapole border crossing point (BCP), Dhaka and Argatala (Tripura in northeast India) before continuing to Silchar (Assam) and Moreh (Manipur). Bangladesh has a border crossing with Myanmar at Teknaf, but vehicles and people are not permitted to enter Myanmar at this BCP.

Indian goods originating from the Kolkata region could reach Southeast Asia by land through Bangladesh or through the Chicken's Neck and the Assam highway.

Based on distance, there is an advantage to reach Myanmar through Bangladesh when starting from Kolkata. There are five possible road corridors for South Asia: the Kolkata–Chicken's Neck corridor (Manipur), the Nepal–Bangladesh corridor, the Kolkata–Bangladesh corridor, the Kolkata–Chicken's Neck corridor (Mizoram) and the Chittagong corridor. Details of the road corridors are listed in Gautrin (2014, table 1, p. 6).

Not all the above corridors will be retained for analysis. Corridor 1 (the Kolkata Chicken's Neck or Assam corridor) represents the maximum 'hinterland' for the land connection with Myanmar. Besides attracting the possible northeast India trade with Southeast Asia, it also provides a passage for Nepalese trade (Kakarvitta) and Bhutanese trade (Phuentsholing). Corridor 2 (Nepal–Bangladesh) should be discarded as there are no advantages for Nepalese goods to transit through Bangladesh owing to additional border crossings and longer distances. The Chittagong corridor (corridor 4) cannot be considered as a main corridor but could eventually qualify as a feeder corridor. Bangladesh has not yet confirmed transit facilities for northeast Indian goods and there are no reasons to expect significant trade volumes between Chittagong, Myanmar and the rest of Southeast Asia.

Therefore, the main road corridors originating from South Asia toward Southeast Asia are the Kolkata–Chicken's Neck and the Kolkata– Bangladesh corridors. The Bangladesh corridor has the advantage of providing a passage for Bangladeshi trade with Southeast Asia as well as being a shorter distance than the Chicken's Neck.

The Chicken's Neck corridor has two variants: one reaching to the Moreh BCP in Manipur and the other to Myanmar through Mizoram at

Mobu. The two variants are retained for this analysis. To reach Silchar from Guwahati, an alternative, shorter route is through Shillong in Meghalaya. The current Assam four-lane project, however, passes through Nagaon.

Southeast Asia

Road corridors leading to South Asia will be through the GMS. Traditionally, Ho Chi Minh City has been the gateway port city. The choice of optimal routes is, however, more difficult if, in addition to Ho Chi Minh City, Hai Phong is added as a gateway port.

The most geographically natural GMS corridors for South Asia connectivity are the southern corridor originating from Ho Chi Minh City and Vung Tau leading to Dawei in Myanmar; and the east–west corridor originating from Danang (Viet Nam) to Mawlamyine (Myanmar) and leading to Yangon. This last corridor, when added to the GMS western corridor in Myanmar, provides land access to South Asia through the Tamu/Moreh BCP.

Myanmar authorities want the corridor to pass through Mandalay.⁵ This is because in addition to being the second largest city in Myanmar, Mandalay is also a strategic node for transportation to the PRC and Thailand.

A possible corridor could combine the GMS southern corridor and east–west corridor to give a route from Ho Chi Minh City to Myawaddy/ Mae Sot BCP, passing through Bangkok and Tak. This route has more economic potential than the east–west corridor even though the distance is about 200 km longer.⁶

There are two possible routes to connect Ho Chi Minh City to Dawei in Myanmar. The first and more common is the GMS southern corridor through Phnom Penh and Bangkok, with the second through the Mekong Delta along the GMS south coastal corridor. The development of a deepwater port in Dawei with an adjacent special economic zone is the key element to foster trade between Chennai port and Southeast Asia.

The two Ha Noi/Hai Phong–India corridor options are through Luang Prabang and Vinh or through Dien Bien Phu. Both routes are convoluted and major road rehabilitation and construction of missing links would be needed, especially in the Lao PDR. The option through Dien Bien Phu is the one preferred by GMS administration. For details on components of the possible road corridors form Southeast Asia, see Gautrin (2014, table 2, p. 9).

2.2.2 South Asian–Southeast Asian Rail Corridors

There is no rail connectivity between South Asia and Southeast Asia, no connectivity within the GMS, and only limited connectivity within South

Asia. There are, however, plans to construct missing links within the GMS and South Asia and also to connect the two regions. The rail corridors described below are based on these plans. Providing full rail connectivity is costly and no time schedule for implementation is available yet.⁷

South Asia

There are two missing rail links in South Asia: the completion of the rail network in the SASEC region and the connection of SASEC with the GMS through Myanmar.

Completing the rail network means, first, building short spur rail lines to connect the Bairahawa and Biratnagar BCPs in Nepal and Phuentsholing BCP in Bhutan to the Indian railway. Second, it means connecting Manipur and Mizoram in northeast India. Assuming these connections are to be implemented, four possible corridors could be defined (details in Gautrin 2014, p. 11).

The first two corridors start from Kolkata. The rail distance from Kolkata to Siliguri is 575 km. Therefore, Kolkata–Moreh by rail through the Chicken's Neck is 1503 km, compared to 898 km if transiting through Bangladesh. Chittagong is well placed to serve northeast India and part of Myanmar with the Chittagong–Myanmar section being only 625 km.

The rail corridors in South Asia are a mix of meter and broad gauge rail tracks. However, Indian Railways is converting all the meter gauge tracks in the Northeast Frontier Railway into broad gauge. Before connecting to Southeast Asia, Indian Railways priorities are to provide rail access to all Indian state capitals, including Imphal in Manipur and Aizwal in Mizoram.

Southeast Asia

In the GMS, national railways operate in a disjointed way. Railway integration is an unfulfilled objective of ASEAN under the Singapore–Kunming Rail Link (SKRL). Any rail connection between South Asia and Southeast Asia would require first that Southeast Asian rail networks be connected.

There are many missing rail lines in mountainous terrain. Construction would be expensive and could raise environmental issues. Also, as freight traffic has been declining, any major new rail investment would be difficult to justify economically. For these reasons, only a few rail corridors could be envisaged to constitute a link between South Asia and Southeast Asia through Myanmar. The logical rail corridors would be, first, through crossing Thailand to Myanmar at the Three Pagodas Pass and, second, through Yunnan Province with corridors originating from Bangkok/Laem Chabang, Ho Chi Minh City or Ha Noi (Hai Phong).

The Asian Development Bank (ADB 2010) reviewed the options under the SKRL and proposed four alternatives:

Connecting Asia

- Alternative 1 (Cambodia–Viet Nam): The route selected originally by ASEAN, requiring connection from Phnom Penh to Loc Ninth (Viet Nam) and then to Ho Chi Minh City. The updated cost of constructing the two missing links was estimated at \$1.1 billion.
- Alternative 2 (Yunnan–Lao PDR): The PRC proposal to connect Yunnan to Vientiane. ADB estimates a cost of \$5.3 billion, with the current figure quoted by the Lao PDR being \$7 billion.
- Alternative 3 (Vientiane–Vung Ang [Viet Nam]): Along alignment of RN8 in the Lao PDR with the estimated cost of \$2.3 billion.
- Alternative 4 (North Thailand–Lao PDR–Yunnan): Needs extensive new rail construction with an estimated cost of \$ 6.3 billion.

From a South Asian–Southeast Asian connectivity perspective, alternatives 1 and 3 may be the best alternatives. Five possible rail corridors were considered (details in Gautrin 2014, p. 13). To reach South Asia from Hai Phong, three corridors were reviewed: (1) through Vientiane, (2) through Savannakhet and (3) through Yunnan. The Savannakhet option is the longest and the Yunnan option is more than 1100 km shorter than any route through the Lao PDR and Thailand.

2.3 PRIORITIZATION OF TRANSPORT CORRIDORS

The purpose of defining transport corridors is to identify routes where seamless travel for goods and passengers can be achieved. All corridors can become seamless transport corridors. However, to make them effective, road and railroad improvements are required at a cost of billions of dollars. In this context, it is important to prioritize the corridors in order to channel financial resources in an optimum way. Cost and benefit criteria are used to prioritize the corridors.

2.3.1 Road Sector

Cost criteria

The net transport cost of a 20-foot container (or a 15-ton loaded truck) is the ideal cost criterion. Where this is not available, the following criteria are used as proxies for cost:

- Total distance from gateway port to gateway port, since fuel consumption and delivery time vary with distance.
- Number of BCPs crossed, since these impose delays, costs and can incur transshipments.

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- Quality of road infrastructure, as poor or congested roads increase vehicle operating costs.
- Level of security, as this has an impact on transport costs (due to delays, need to travel in convoys and risk of hijacking) and benefits (missed trade opportunities).
- Resettlement and land acquisition problems, as these affect construction costs and cause delays in implementation.
- Overall cost of road improvements, as this reflects the importance of budget constraints.⁸

Benefit criteria

Seamless transport corridors would generate microeconomic and macroeconomic benefits that could be measured using the following criteria:

- Savings in user costs from reduction in vehicle operating costs and time. These estimates are not readily available, so qualitative estimates would then be used.
- At the macro level, economic benefits would be in trade volume increases and induced economic activity along corridors.
- Additional economic benefits would be the generation of passenger movement and increases in tourism.

A simple methodology was adopted with scores per variable varying between -3 and +3.9 The range of possible total scores varies from -12 to +12. In order to get an equal balance between costs and benefits, benefits were given a higher weight (2 instead of 1). Details are in Table 2.1.

The study analyzed eight road corridors, with five of them originating from Kolkata, two from Chittagong, and one multimodal corridor (connecting Chennai port, Dawei, and Ho Chi Minh City). Destination ports were either Hai Phong or Ho Chi Minh City, and in South Asia, routes were either through the Chicken's Neck or through Bangladesh.

The results are presented in Table 2.2. The three highest scorers are the Kolkata–Ho Chi Min City corridor through the Chicken's Neck (+4), the Chittagong–Ho Chi Minh City port corridor (+2) and the Chennai–Dawei–Ho Chi Minh City corridor (+3). The Chennai–Dawei port corridor does not compete with the other corridors and meets different connectivity objectives.

The two Kolkata–Hai Phong corridors and the Chittagong–Hai Phong corridor got lower scores (-3, -5, and -5, respectively). These corridors require extensive road rehabilitation and construction in difficult mountainous terrain in Myanmar and the Lao PDR. Traffic and economic development is expected to be less than on the Kolkata–Ho Chi Minh City

| In | dicator | Objective | Scoring | Weight |
|----|---|--|---|--------|
| 1. | Distance (kilometers) | Distance is a good proxy for transport and trade cost | Scoring between -1 and -3 . Values around the mean get -2 ; distances lower than mean, -1 ; and greater than mean, -3 | 1 |
| 2. | Improvement cost (\$ million) | High costs associated with new project construction make corridors less attractive | Same methodology as distance, with scores from -1 to -3 | 1 |
| 3. | No. of BCPs along corridor | No. of BCPs is correlated with delays and trade costs | Same methodology as above. With 4 BCPs, -1, 5 BCPs, -2; 6 BCPs, -3 | 1 |
| 4. | Road quality | Road conditions are highly correlated with transport costs | Scores are estimates based on GMS and BIMSTEC documents. Scores from -1 to -3 | 1 |
| 5. | Security risk | Corridors passing through 'insecure' zones are less attractive | Scores from 0 to -3 , according to perception of the degree of insecurity | 1 |
| 6. | Resettlement and land acquisition | Could be a major cause of delays in implementation | Scores from 0 to -3 , according to perception of the degree of problem | 1 |
| 7. | Road-user savings | Assesses the benefits of infrastructure improvements to road users | Scores from +1 to +3, depending on expectations of traffic increases | 2 |
| 8. | Trade and economic prospects | Qualitative assessment of capacity of corridor to contribute to trade and economic growth | Scores from 0 to +3, according to perception of the degree of success of corridor | 2 |
| 9. | Passenger and tourism flows | Qualitative assessment of corridor capacity to contribute to increases in flows of passengers and tourists | Scores from 0 to +3, according to perception of the degree of success of the corridor | 2 |

 Table 2.1
 Criteria for corridor evaluation

Note: BIMSTEC = Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation; BCP = border crossing point; GMS = Greater Mekong Subregion.

Source: Author's compilation.

| Road corridor | Distance (km) | Improvement cost (\$ million) | Number Overall of BCPs road qu | Number Overall of BCPs road quality | Security risk | Resettlement Road-user land savings acquisition | Road-user savings | Trade and economic prospects | Tourism Total passenger volumes | Total |
|---|-------------------|---|-----------------------------------|--|---|--|---|---|---|--------|
| Kolkata– Hai Phong (Chicken's Neck) | 3767 Score: -2 | 2827 (Dien Bien Phu; minimal cost in Lao PDR and Viet Nam) Score: -3 | 4 Score: -1 | Assam road not completed; major rehabi- litation needed in Lao PDR Score: -3 | High risk in NE India and Myanmar Score: –3 | Problems in NE India; unknown elsewhere Score: – 3 | High traffic and investment levels Score: 3 | Not major trade route Score: 1 | Relatively good prospects Score: 2 | r T |
| Kolkata– Hai Phong (Bangladesh) | 3402 Score: -1 | 1397 (no road improvement in Bangladesh) Score: -1 | 6 Score: -3 | Same (above) congestion in Bangladesh Score: -3 | High risk in NE India and Myanmar Score: –3 | Problems, less than above Score: -2 | High traffic and investment levels Bangladesh congestion Score: 2 | Not major trade route Score: 1 | Mixed prospects Score: 1 | S S |
| Kolkata- Ho Chi Minh City (Chicken's Neck) | 4430 Score: -3 | 2981 (Assam improvements) Score: –3 | 4 Score: -1 | Assam road not completed Score: -2 | High risk in NE India and Myanmar Score: -2 | Problems in NE India; unknown elsewhere Score: 3 | High traffic and investment levels Score: 3 | Prospects for trade and economic activities Score: 3 | Good prospects Score: 3 | + |

Table 2.2 Road corridor evaluation

| Total | +2 | - v | - S |
|---|---|--|--|
| Tourism Total passenger volumes | Relatively +2 good prospects Score: 2 | Relatively good prospects Score: 2 | Mixed prospects Score: 1 |
| Trade and economic prospects | Prospects for trade and economic activities Score: 3 | Mixed prospects for trade and economic activities Score: 2 | Not major trade route Score: 1 |
| Road-user savings | High traffic and investment Bangladesh congestion Score: 2 | Less traffic on EWEC Score: 2 | High traffic and investment Bangladesh congestion Score: 2 |
| Resettlement Road-user land savings acquisition | Problems, less than above Score: -2 | Problems in NE India; unknown elsewhere Score: –3 | Problems, less than above Score: -2 |
| Security risk | High risk in NE India and Myanmar Score: –2 | High risk in NE India and Myanmar Score: –2 | High risk in NE India and Myanmar Score: –3 |
| Overall road quality | Same (above) congestion in Bangladesh Score: -2 | Assam road not completed Score: -2 | : Major rehabi- litation in Myanmar and Lao PDR Score: -2 |
| Number Overall of BCPs road quality | 6 Score: -3 | 4 Score: -1 | 5 Score: -2 |
| Distance Improvement (km) cost (\$ million) | 1445 (no road improvement in Bangladesh) Score: -1 | 2971 (no improvement in Lao PDR or Viet Nam) Score: -3 | 2657 (Dien Bien Phu; minimal cost Lao PDR and Viet Nam) Score: –3 |
| Distance (km) | 3875 Score: -2 | 4278 Score:3 | 3049 Score: – 1 |
| Road corridor | Kolkata- Ho Chi Minh City (Bangladesh) | Kolkata–Da Nang (EWEC) | Chittagong- Hai Phong |

Table 2.2 (continued)

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| +2 | | | | | | | +3 | | | | | |
|-------------|-------------|------------|------------|------------|------------|----------|-----------|-------------|---------------|----------------|------------|----------|
| Relatively | good | prospects | Score: 2 | | | | Mixed | prospects | Score: 1 | | | |
| Mixed | prospects | for trade | and | economic | activities | Score: 2 | Prospects | for trade | and | economic | activities | Score: 3 |
| High | traffic and | investment | Bangladesh | congestion | Score: 2 | | Unknown | traffic | volume | prospects | Score: 1 | |
| Minor | problems | Score: -1 | | | | | Minor | problems | Score: -1 | | | |
| High risk | in NE | India and | Myanmar | Score: -2 | | | Minimal | risk | Score: -1 | | | |
| Only | Myanmar | rehabi- | litation | Score: -1 | | | Few road | links | missing | Score: -1 | | |
| 5 Score: | -2 | | | | | | 5 Score: | -2 | | | | |
| 2885 | Score: -3 | | | | | | 1510 (no | Chennai and | Kanchanaburi- | Bang Yai cost) | Score: -1 | |
| 3288 | Score: -1 | | | | | | 3214 | Score: -1 | | | | |
| Chittagong- | Ho Chi Minh | City | | | | | Chennai- | Ho Chi Min | City (through | Dawei) | | |

Note: BCP = border crossing point; EWEC = east-west economic corridor; km = kilometer; Lao PDR = Lao People's Democratic Republic; NE = northeast.

Source: Author's compilation.

corridor. Road corridors through Bangladesh significantly reduce distance and required investment; however, difficulties with border crossings and congestion on national roads outweigh the distance advantages.

Road conditions are generally good in Southeast Asia, but this is not the case for South Asia. Only 16 percent of the planned improvements between Kolkata (Barasat) and Siliguri have been completed, with 19 percent estimated for the Assam highway between Siliguri and Moreh. It is estimated that only 50 percent of the planned investments would be completed by 2017 (ADB 2014).

2.3.2 Railway Sector

Railway operations face challenges of decreasing freight and passenger traffic, poorly maintained rail tracks, rolling stock needing replacement, and budget deficits draining government resources. There is little or no connectivity among Southeast Asian railway networks with the exception of the Thailand–Malaysia link, and limited connectivity in South Asia. Establishing regional connectivity is an expensive proposition.

The situation varies by country. In India, freight services comprise 30 percent and passenger services 20 percent of the total traffic, but shares are decreasing. In Bangladesh, railways represent 7 percent of freight and passenger traffic. The situation is not any better in Thailand and Viet Nam, where shares are 5 percent and 2 percent, respectively, for freight traffic, and 2 percent and 6.5 percent for passenger traffic. In Myanmar, the share is estimated to be 30 percent for freight and passenger traffic.

As in the case of roads, rail corridors can be prioritized using cost and benefit criteria.

Cost criteria

- Overall distance is an important proxy for transport cost.
- Filling the gaps is expensive and a burden to the public budget. Private participation is unlikely to happen.
- Changes in rail gauges and mandatory transshipments are a more serious constraint than problems associated with border crossing.
- Seamless transportation would depend on the quality of railway services and their operational efficiency.
- Security is less of an issue, but resettlement and land acquisition associated with construction of new links could constitute obstacles.

Benefit criteria

- Qualitative estimates of operating costs savings are the first benefits to consider.
- Qualitative estimates of trade increases and trade prospects are the second major benefit.
- Some railway operations are converting to predominantly passenger services. Therefore, contribution to offering better passenger and tourism services should be important.

This study analyzed five rail corridors, all originating from Kolkata. There are many ways to reach Hai Phong from South Asia and three possible corridors were considered. Reaching Ho Chi Minh City requires travelling through the Chicken's Neck or through Bangladesh.

The scoring methodology is identical to the one used for roads with scores per variable ranging from -3 to +3 and total scores varying from -12 to +12. The results are presented in Table 2.3. None of the corridors had high scores. The Dawei–Ho Chi Minh City corridor had the highest score (+3) though it is not a full through corridor. Marginal results were obtained for the Kolkata–Hai Phong corridor through Yunnan Province (+1) and the Kolkata–Ho Chi Minh City corridor through the Chicken's Neck (+1). Other corridors did not score as well because of the number of missing links.

2.3.3 The Selected Road and Rail Corridors

Finally, which road and rail corridors should be retained to evaluate and prioritize the transport cross-border investments? For road corridors, the Kolkata–Ho Chi Minh City route through the Chicken's Neck and the Chittagong–Ho Chi Minh City route had good scores. The Chittagong–Ho Chi Minh City score could be explained because of its short distance and low improvement costs, since it does not require the cost of making the Chicken's Neck corridor attractive and less congested. But as trade and supply chains are concerned, Kolkata with its manufacturing production centers has more to offer. Preference is then given to the Kolkata–Ho Chi Minh City road corridor through the Chicken's Neck. The Dawei–Ho Chi Minh City road corridor has a high score but it can be considered as part of the South Asian–Southeast Asian connectivity corridor only when the sea segment between Dawei and Chennai is added.

The results are different for rail corridors. Missing links for road corridors refer to poor roads, which cannot offer connectivity through all seasons. Missing links for railways mean the absence of rail tracks. The

| Table 2.3 Rail corridor evaluation | ail corridor | evaluation | | | | | | | | |
|---|--|-------------------------------------|---|----------------------|--|--|--------------------------------|--|---------------------------------|----------------|
| Rail corridor | Distance (km) | Improvement cost (\$ million) | Number of BCPs and gauge changes | Missing links | Operations and operability efficiency | Missing Operations Resettlement links and land operability acquisition efficiency | Freight traffic benefits | Trade and Tourism economic passenger prospects volumes | Tourism passenger volumes | Total |
| Kolkata-Hai Phong (through Lao PDR- | 5318 (1578 in SA, 3742 in SEA) | 4120 Score: -2 | BCPs: 4 Gauge changes: 1 Score: -1 | 1699 Score: -2 | Low Score: –3 | Problems in Lao PDR Score: -2 | Low Score: 1 | Some prospects Score: 2 | Medium to low Score: 2 | - 1 |
| Vientiane) Kolkata-Hai Phong (Lao PDR, Savannakhet) | Score: -3 5492 (1578 in SA, 3914 in SEA) | 5105 Score: -3 | BCPs: 4 Gauge changes: 1 Score: –1 | 1784 Score: -2 | Low Score: –3 | Problems in Thailand and Viet Nam | Low Score: 1 | Low Score: 1 | Medium to low Score: 2 | L- |
| Kolkata–Hai Phong (through Yunnan) | Score: -3 4199 (1,578 in SA, 2621 in SEA) Score: -1 | 1809 Score: -1 | BCPs: 3 Gauge changes: 3 Score: –3 | 1288 Score: -1 | Medium Score: -2 | Score: –3 Problems in Myanmar Score: –1 | Medium Score: 2 | Some prospects Score: 2 | Low Score: 1 | - + |

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| Ŧ | | | | | | 0 | | | | | | +3 | | | | |
| Medium | Score: 3 | | | | | Medium | Score: 3 | | | | | Low | Score: 1 | | | |
| Some | prospects | Score: 2 | | | | Some | prospects | Score: 2 | | | | Higher | prospects | Score: 3 | | |
| Medium | Score: 2 | | | | | Medium | Score: 2 | | | | | Medium | Score: 2 | | | |
| Problems in | Viet Nam | Score: -2 | | | | Problems in | Viet Nam | Score: -2 | | | | Problems in | Viet Nam | Score: -2 | | |
| Low | Score: -3 | | | | | Low | Score: -3 | | | | | Low | Score: -3 | | | |
| 2,178 | Score: | - S | | | | 2188 | Score: | - S | | | | 1189 | Score: | | | |
| BCPs: 4 | Gauge | changes: 1 | Score: -1 | | | BCPs: 6 | Gauge | changes: 3 | Score: -3 | | | BCPs: 3 | Gauge | changes: 0 | Score: -1 | |
| 4110 | Score: -2 | | | | | 4125 | Score: -2 | | | | | 2515 | Score: -1 | | | |
| 4,536 | (1,578 in | SA, 2,958 | in SEA) | Score: -2 | | 3856 (898 | in SA, | 2,958 in | SEA) | Score: -1 | | 1397 | Score: -1 | | | |
| Kolkata-Ho | Chi Minh | City (through | Chicken's | Neck and | Cambodia) | Kolkata-Ho | Chi Minh | City (through | Bangladesh | and | Cambodia) | Ho Chi Minh | City-Dawei | | | |

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Source: Author's compilation.

railways in the GMS countries have reached a turning point. They have to decide whether it is cost effective to carry out massive investments to modernize their services and achieve competitiveness, and whether passenger or freight services should be favored. In any case, South Asia–Southeast Asia connectivity is probably not a priority for the next ten years.

However, there are exceptions. First, connecting South Asia to Hai Phong in Viet Nam through Yunnan presents advantages. The railway infrastructure in Yunnan is either complete or under completion. The focus of this chapter is not on South Asian–PRC connectivity, and therefore this corridor has less importance even if the missing link in Myanmar is constructed before the other missing links. Also, providing that Dawei becomes a reality, building a rail connection to the future port could be considered. This connection would be cheaper and easier to construct than the Three Pagodas rail link between Thailand and Myanmar, and could be considered an alternative.

The road and rail corridor evaluations are in Tables 2.2 and 2.3.

2.4 TRANSPORT INFRASTRUCTURE PROJECTS: IDENTIFICATION AND PRIORITIZATION

This section investigates potential infrastructure projects that could contribute to improving South Asia–Southeast Asia connectivity (Table 2.4).

2.4.1 Prioritization Criteria

This study used qualitative indicators to evaluate and rank projects based on the criteria in Table 2.5.

The above indicators were used for both road and rail projects. Scores were calculated only for the projects related to the selected corridors. The maximum possible score was 21. Recommendations for the road and rail sectors are based on the analysis of (1) the road and rail corridors evaluation (Tables 2.2 and 2.3), (2) the new road or rail projects, and (3) the scoring of road and rail investment projects.

2.4.2 Road Project Investments

Details on required new projects with information on distance and cost for six corridors are given in Gautrin (2014, pp. 28–9, table 16). Only the Kolkata–Ho Chi Minh City and Ho Chi Minh City–Dawei corridors were assessed to be priority corridors; information on other corridors is useful for comparison. Project information comes from the GMS Regional

| Country | Road project distance (kilometers) | Road project cost (\$ million) | Rail project distance (kilometers) | Rail project distance ^a (\$ million) |
|------------|--|--------------------------------------|--|---|
| SASEC | | | | |
| Bangladesh | 648 | 2564 | 261 | 1604 |
| India | 1623 | 2637 | 511 | 2096 |
| Subtotal | 2271 | 5201 | 772 | 3700 |
| GMS | | | | |
| Cambodia | 45 | 85 | 643 | 1275 |
| Lao PDR | 1042 | 780 | 704 | 4265 ^b |
| Myanmar | 1593 | 1534 | 3379 | 1590 |
| Thailand | 569 | 2250 | 824 | 2028 |
| Viet Nam | 180 | 410 | 129 | 900 |
| Subtotal | 3429 | 5059 | 5679 | 10059 |
| Total | 5700 | 10260 | 6451 | 13759 |

Table 2.4 Summary of potential road and rail projects

Notes:

GMS = Greater Mekong Subregion; Lao PDR = Lao People's Democratic Republic; SASEC = South Asia Subregional Economic Cooperation.

New roads and new rail line projects are included in the table, including some ongoing projects.

^a Only new rail projects; rail connections to Yunnan, People's Republic of China, not included.

^b \$4200 million for Savannakhet–Lao Bao project.

Sources: Author's compilation from ADB Southeast Asia Department Regional Investment Framework 2013, ADB South Asia information, various ADB TA projects.

Investment Framework (ADB 2012), the BIMSTEC and other ADB sources. No road improvements are allocated to Bangladesh, Cambodia (except for the Poipet BCP), and Viet Nam. In these countries, the roads are paved along the corridor route, but widening and rehabilitation might be needed in the long term.

For the Kolkata–Ho Chi Minh City corridor through the Chicken's Neck, the cost of rehabilitating the northeast Indian corridor is \$1.9 billion, which accounts for two-thirds of the total corridor project cost. Most contracts along that route have already been allocated, but less than 20 have been completed, and it is expected that only 50 percent will be completed by 2017. If that cost is removed, arguing that rehabilitation is already ongoing, then the net cost for the Kolkata–Ho Chi Minh City corridor would be only \$1.1 billion for an overall distance of 4430 km. Total project costs on all corridors are about the same amount; the exception is the

| Indicators | Objectives | Scoring | Weight |
|-------------------------------------|--|--|--------|
| Connectivity rationale | The most important indicator evaluating degree of contribution to regional connectivity | Missing link to border: +4 Rehabilitation of road/rail to border: +3 Missing link not to border: +2 Rehabilitation of road/rail not to border: +1 | 1.5 |
| Traffic and trade | Projects should have current and potential traffic and trade | High current and prospective traffic and trade: +4 Low current and high prospective traffic and trade: +3 High current and low prospect traffic and trade: +2 Low current and low | 1.0 |
| Project recognition | Projects should be listed on national plans and priorities | prospective traffic and trade: +1 Yes listed in national plans and priorities and RIF: +2 Yes mentioned at least in one technical assistance project or plan: +1 | 2.0 |
| Project preparedness | Ease of implementation would depend on project preparedness, including financing | Not listed in National Plans and Priorities: 0 Existing financial service and clear financing intentions: +3 Ongoing financial service and some financing intentions: +2 | 1.0 |
| Socio- environmental problems | intentions Projects with potential socio-environmental problems (resettlement, land acquisition, and | Preliminary work, vague financing intentions: +1 No work or financing: 0 High problem level: -3 Medium level: -2 Low level: -1 No problem: 0 | 1.0 |
| Benefit sharing | environmental degradation) are less attractive. Security issues are included Projects should bring benefits to connected countries and sharing is important | High level of equal sharing: +3 Some unequal sharing: +2 Low sharing: +1 No sharing: 0 | 1.0 |

Table 2.5Criteria for project evaluation

Note: **RIF** = regional investment framework.

Source: Author's compilation.

| Country | Road project | Distance (kilometers) | Cost (\$ million) | Score |
|----------|----------------------|--------------------------|----------------------|-------|
| India | Imphal–Moreh | 95 | 160 | 17.0 |
| Myanmar | Endu-Kawkareik | 70 | 150 | 18.5 |
| | Kawkareik–Myawaddy | 46 | 37 | 20.0 |
| Thailand | Myawaddy-Mae Sot | 17 | 55 | 19.0 |
| | Mae Sot–Tak | 78 | 90 | 17.5 |
| Cambodia | Aryanaprathet-Poipet | 10 | 40 | 18.0 |
| Total | * | 316 | 532 | 18.5 |

Table 2.6 Priority road investments

Sources: Author's compilation from ADB Southeast Asia Department Regional Investment Framework 2013, ADB South Asia information, various ADB TA projects.

Kolkata-Ho Chi Minh City corridor through Bangladesh, since road improvement in Bangladesh is not included.

Details on scoring of new road projects can be found in Gautrin (2014, p. 30, table 17). All the selected projects have scores above the computed mean. This suggests that all projects would be worth implementing through a series of investment waves. The first wave of investment projects (\$500 million) should be for the high scorers as presented in Table 2.6.

The six priority projects are either roads connecting BCPs or improvements to the BCPs. All the above road projects have high scores and are part of the highly ranked and selected Kolkata–Ho Chi Minh City corridor. The rationale for implementing such projects is simple. Roads leading to BCPs are neglected and not maintained properly. In India, the Imphal– Moreh road is below standard. The same applies to the roads in Myanmar. The Tamu–Kalewa road was financed and built by India in 2001. The road has deteriorated and full rehabilitation is needed, but security concerns could delay implementation. Security is less of a concern for roads from Myanmar leading to Thailand, especially for the road leading to the Mae Sot border. However, poor maintenance and bridge reconstruction make improvements necessary. In Thailand, the road projects are aimed to create a seamless four-lane road network.

Investments on the road corridor would be through phases reflecting different priorities (Tables 2.7 and 2.8).

The full cost of developing the Kolkata–Ho Chi Minh City corridor is \$3 billion, but only \$1.1 billion without the cost of connecting Kolkata to northeast India. It is expected that this construction would take place independently. The corridor provides the optimum route for trade passing through the Myanmar/Thailand BCP at Myawaddy/Mae Sot.

| | Distance (kilometers) | Cost (\$ million) | \$ million/km |
|---|--------------------------|----------------------|---------------|
| First priority: Highly scored road investments directly contributing to regional connectivity | 316 | 532 | 1.68 |
| Second priority: New road projects along corridor not listed in first priority | 835 | 578 | 0.69 |
| Third priority: Completion of the four- lane road investment in northeast India from Kolkata to Silchar | 1622 | 1871 | 1.15 |
| Total road projects Overall total | 2773 4430 | 2981 2981 | 1.07 |

Table 2.7 Kolkata–Ho Chi Minh City (Chicken's Neck) road investments

Note: km = kilometers.

Sources: Author's compilation from ADB Southeast Asia Department Regional Investment Framework 2013, ADB South Asia information, various ADB TA projects.

Table 2.8 Chennai–Ho Chi Minh City multimodal investments

| | Distance (kilometers) | Cost (\$ million) | \$ million/km |
|--|--------------------------|----------------------|---------------|
| First priority: Missing links in Myanmar (Dawei–Phu Nam Ron), in Thailand | 212 | 360 | 1.70 |
| (Phu Nam Ron–Kanchanaburi) Second priority: Other missing link road projects from Dawei to Ho Chi Minh | 334 | 150 | 0.45 |
| City Total land corridor from Dawei to Ho Chi | 1149 | 510 | NA |
| Minh City Full corridor Chennai–Ho Chi Minh City without cost for Chennai port improvements | 3214 | 1510 ^a | NA |

Notes:

NA = not available.

^a Includes \$1 billion for Dawei port and maritime distance from Chennai to Dawei.

Sources: Author's compilation from ADB Southeast Asia Department Regional Investment Framework 2013, ADB South Asia information, various ADB TA projects.

The Chennai–Dawei–Bangkok–Laem Chabang–Ho Chi Minh City corridor scored highly. The Chennai–Dawei–Ho Chi Minh City corridor has the potential to be a successful economic corridor (Isono and Kumagai 2013). Turning potential into reality, however, would mean removing obstacles. Thailand wants to build a deepwater port on the Andaman Sea to fulfill its 'Look East' policy and receive liquid and dry bulk cargo. Such interest explains the plans to develop Pak Bara in the south of Thailand as a deepwater port linking it to the Gulf of Thailand through a land bridge. The Pak Bara development drawbacks include shallow water in the Andaman Sea, environmental issues and no immediate hinterland.

Dawei port is located in South Myanmar, but Thailand wants it developed. Dawei is 300 km away from Bangkok and could provide an option for trade generated from the Bangkok area, as well as the eastern seaboard area. Trade would probably – at least in the beginning – be limited to South Asia. Thailand's trade with the rest of Asia, Europe and the Middle East would continue to be by sea. The situation would be different if the planned industrial park materialized in Dawei. Then, production units could be fully integrated into a complex system of supply chains running from Bangalore to Chennai in India and Bangkok, and Laem Chabang and the eastern seaboard in Thailand. Trade from Viet Nam to South Asia would continue to be largely by sea, but an active Dawei port and fast land connections may present advantages for industries located in the Ho Chi Minh City area.

None of the Kolkata–Hai Phong corridors received scores higher than average, because of the number of expensive missing links. This does not mean that connectivity would not be established once Myanmar and Lao PDR complete their missing links. The Kolkata–east-west corridor did not receive a good score because of low expected economic prospects.

2.4.3 Rail Project Investments

Following the same method as for roads, rail projects were first identified and then scored. Details on projects are found in Gautrin (2014, pp. 31–2, tables 18 and 19). None of the rail corridors score highly. There are too many missing links to make the Kolkata–Hai Phong route through the Lao PDR economically justifiable. The best way to reach Hai Phong from South Asia is through Yunnan since rail facilities are in place or under completion in the PRC. Along that corridor, projects in Myanmar and Viet Nam have the highest scores. Rail projects are summarized in Tables 2.9, 2.10 and 2.11.

The weighted average scores for the Kolkata–Hai Phong project is 12.3 and for Dawei–Ho Chi Minh City project 12.5.¹⁰ On a cost basis, the Kolkata–Hai Phong link projects through Yunnan are the cheapest.

| Rail Link | Distance (km) | Cost (\$ million) | \$ million/ km | Score | Project type |
|-----------------------|------------------|----------------------|-------------------|-------|-----------------------------|
| Jiribam–Imphal | 125 | 520 | 4.16 | 11.5 | New rail line |
| Imphal-Moreh | 95 | 400 | 4.21 | 11.0 | New rail line |
| Tamu–Kalay | 127 | 98 | 0.77 | 10.0 | New rail line |
| Kalay–Mandalay | 539 | 162 | 0.30 | 9.0 | Rehabilitation |
| Three Pagodas | 110 | 250 | 2.27 | 13.0 | New rail line |
| (Myanmar) | | | | | |
| Three Pagodas | 153 | 490 | 3.20 | 12.0 | New rail line |
| (Thailand) | | | | | |
| Bangkok-Aryanaprathet | 260 | 15 | 0.06 | 13.5 | Rehabilitation |
| Poipet-Phnom Penh | 386 | 175 | 0.45 | 14.5 | Rehabilitation ^a |
| Phnom Penh-Loc Ninh | 254 | 1,100 | 4.33 | 10.0 | New rail line |
| Loc Ninh-Ho Chi Minh | 129 | 900 | 6.98 | 10.0 | New rail line |
| City | | | | | |
| Subtotal/average | 2178 | 4110 | 1.89 | 11.4 | |

Table 2.9 Kolkata–Ho Chi Minh City rail projects

Notes:

km = kilometer.

^a Includes 46 km of missing link construction between Cambodia and Thailand.

Sources: Author's compilation from ADB Southeast Asia Department Regional Investment Framework 2013, ADB South Asia information, various ADB TA projects.

| Rail link | Distance (km) | Cost (\$ million | \$ million/km) | Score | Project type |
|--|------------------|---------------------|--------------------|-------|----------------|
| Jiribam–Imphal | 125 | 520 | 4.16 | 11.5 | New rail line |
| Imphal-Moreh | 95 | 400 | 4.21 | 11.0 | New rail line |
| Tamu–Kalay | 127 | 98 | 0.77 | 10.0 | New rail line |
| Kalay–Mandalay | 539 | 162 | 0.30 | 9.0 | Rehabilitation |
| Lashio-Ruili (Yunnan) | 142 | 480 | 3.38 | 17.0 | New rail line |
| Ha Noi–Lao Cai (border crossing point) | 260 | 149 | 0.57 | 18.5 | Rehabilitation |
| Subtotal/average | 1288 | 1809 | 1.40 | 12.3 | |

Table 2.10 Kolkata-Hai Phong (Yunnan) rail projects

Note: km = kilometer.

Sources: Author's compilation from ADB Southeast Asia Department Regional Investment Framework 2013, ADB South Asia information, various ADB TA projects.

| Rail link | Distance (km) | Cost (\$ million) | \$ million/ km | Score | Project type |
|------------------------------|------------------|----------------------|-------------------|-------|----------------|
| Dawei–BCP Myanmar | 130 | 325 | 2.5 | 12.0 | New rail line |
| BCP–Nam Tok | 30 | 75 | 2.5 | 13.0 | New rail line |
| Bangkok-Aranyaprathet | 260 | 15 | 0.06 | 13.5 | Rehabilitation |
| Poipet–Phnom Penh | 386 | 175 | 0.45 | 14.5 | Rehabilitation |
| Phnom Penh–Loc Ninh | 254 | 1100 | 4.33 | 10.0 | New rail line |
| Loc Ninh–Ho Chi Minh City | 129 | 900 | 6.98 | 10.0 | New rail line |
| Subtotal/average | 1189 | 2590 | 2.18 | 12.5 | |

Table 2.11 Dawei–Ho Chi Minh City rail projects

Note: BCP = border crossing point; km = kilometer.

Sources: Author's compilation from ADB Southeast Asia Department Regional Investment Framework 2013, ADB South Asia information, various ADB TA projects.

Decisions on implementation would depend on answers from the feasibility studies with traffic forecasts taken into account. The Kolkata–Ho Chi Minh City and Kolkata–Hai Phong projects meet the wish of the Government of India to connect Delhi to Viet Nam by rail. By the same token, they would also fulfill the objective of the ASEAN to connect Kunming to Singapore with the SKRL.

Doubts have been expressed on the viability of building a rail line through the Three Pagodas Pass, but alternatives exist. A rail line from Nam Tok in Thailand to Dawei in Myanmar may be technically and economically more feasible. All rail projects on the above three corridors are recommended to be eventually implemented when proven economically justifiable. It is only when national railways become profitable and increase their share of freight transport that constructing missing links for regional purposes can be seriously envisaged.

2.5 CONSTRAINTS TO CROSS-BORDER INVESTMENTS

Implementing even a reduced number of road and rail projects is not going to be easy. There are constraints to cross-border investments in transport infrastructure in South Asia and Southeast Asia. While reviewing these constraints below, no attempt was made to prioritize them.

2.5.1 High Cost of Land Transport Infrastructure and Low Traffic Volume

Most trade between South Asia and Southeast Asia is by sea. Sending goods by sea is cheaper – the question is whether the time saved through traveling by road is sufficient to attract freight.¹¹ Minimal road connectivity already exists. Building a seamless road corridor between India and Viet Nam requires road rehabilitation and widening, and in some cases, complete reconstruction. The total cost of such programs is going to be high. Such investments would benefit individual countries and domestic trade. However, with the current volume of traffic, incremental regional economic benefits may be low and economic justification would be a constant problem. It could be argued that regional freight traffic is low because roads are in poor condition, with hindrances from delays and procedures at BCPs. The provision of good road infrastructure would increase regional trade. However, would it increase enough to justify the high cost of new cross-border infrastructures?

2.5.2 South Asian–Southeast Asian Connectivity versus Regional and National Connectivity

For governments, national connectivity and regional connectivity come first. In India, connectivity by road and rail to the northeastern states is not satisfactory. In 1991, India launched the Look East policy but achievements started only in 2002–03. This translated into financing roads in Myanmar near the border with India to establish corridors and reach the rest of Southeast Asia by land. Despite such moves, strengthening corridors with and through Bangladesh remains the main concern for India. Bangladesh is making efforts to strengthen its road and rail networks, and increase its overall transport capacity. For Bangladesh, connectivity with Southeast Asia is not a first priority; connecting with the PRC is a more pressing issue.

Within the GMS, the situation varies by country. Thailand has a paved road network with important corridors having four-lane highways. Viet Nam has a complete paved road network but congestion prevails on the main corridors. There has been progress to complete the road network in Cambodia and Lao PDR. However, from a regional perspective, more specifically in Lao PDR, there is a need to develop corridors connecting Thailand to northern Viet Nam. Despite periods of internal conflict, Myanmar has achieved a paved road network with connections to major cities. Connecting India and Thailand is not so successful.¹² The trilateral highway linking India to Thailand through Myanmar has been on the agenda for more than 15 years with only 160 km built, from Tamu to Kalewa, ending nowhere. Myanmar is facing pressure to improve its domestic transport infrastructure to support economic growth expansion, and connecting with India is not its first priority. So far the GMS countries have not expressed a desire to improve connectivity with South Asia.

2.5.3 Lack of Demand, Trade Patterns and Land Transit Traffic

Bangladesh, Nepal, and Bhutan export little to Southeast Asia. However, they import goods from Thailand (electronic goods, household products, cars and rice). There is a small but growing trade between India and Southeast Asia. India imports large quantities of coal from Indonesia, palm oil from Malaysia and Indonesia, and oil and gas products from Malaysia and Singapore. India exports trucks and vehicle parts to the GMS and to ASEAN countries. India also imports – as measured in value – large volumes of gold and precious stones. Because of the type, origin and volume of traded goods, most South Asia–Southeast Asia trade in volume is by sea.

There is a lack of demand for transit freight traffic by land through Myanmar. The northeast Indian states cannot generate exports for Myanmar and the rest of Southeast Asia. Most of the export goods come from Kolkata, located more than 1500 km away. This explains the low traffic recorded at the Moreh/Tamu border. But this is not the only reason why traffic is low. There is a large volume of goods coming from Yunnan Province and entering India that is not recorded – the unrecorded volume is estimated to be as much as ten times the recorded volume. In the medium term, Myanmar's trade prospects with Thailand and Yunnan Province are better than with India.

2.5.4 Road Corridors and Border Crossing Procedures

Building effective road corridors will bring an increase in trade if border crossing facilities and procedures are improved, including customs facilities and harmonization. An important step would be the ratification of a transport transit agreement between India, Myanmar and Thailand.

2.5.5 Connecting Disjointed Railway Networks

Connecting disjointed railway networks is a formidable and expensive challenge. First, rail connectivity is far from being complete in the SASEC and the GMS.

In the GMS, rail connectivity has centered on building a rail connection between Kunming and Singapore. There is still no agreement among ASEAN members on the best route. Whatever the final route, there are many missing links and the cost of building new lines in mountainous terrain is high, being \$4 million to \$5 million per kilometer. Furthermore, before thinking of regional connectivity, Viet Nam, Cambodia and Thailand, among others, need to modernize and strengthen their railway operations. In all cases, freight traffic has been declining. Poor track infrastructure and old rolling stock have negatively affected the competitiveness of rail operations compared to road freight services. The above analysis shows how expensive it would be to build connecting rail corridors. In that context it is hard to see how rail connectivity with South Asia could receive priority in the medium term.

There is better internal rail connectivity in South Asia, and in particular in the SASEC countries – however, problems persist. Rail connectivity between India and Bangladesh is inadequate. There are only a few entry points, many missing links, rail gauge differences and transshipment problems. Some capitals in northeast India are not connected by rail. There, rail gauge was traditionally of the meter type, but India Railways has decided to convert them to broad gauge. This represents a burden on the government budget. In this context, rail connectivity with Myanmar is likely to receive second priority.

2.5.6 Indian Financial Support for South Asian–Southeast Asian Connectivity

India launched effectively the Look East policy in 2003 and moved to give financial help for the development of two road corridors in Myanmar to improve connectivity. These are the trilateral highway project and the Kaladan project. Despite signing memorandums of understanding, and some construction being completed, progress has been slow. India's economy is experiencing financial difficulties and it is likely that the funding of transport infrastructure projects in the northeastern states and Myanmar would be affected. Thailand has asked India to participate in the development of Dawei. India has not yet confirmed financial involvement.

2.6 CONCLUSIONS AND RECOMMENDATIONS

2.6.1 Conclusions

Conclusion 1: The best road corridor option to connect South Asia to Southeast Asia is the Kolkata–Ho Chi Minh City corridor through the Chicken's Neck

The corridor is 4430 km long and will require an investment of \$3 billion to offer adequate road connectivity. \$1.9 billion would come from the road program that India is slowly implementing for the northeastern states independently of the objective of connectivity with Southeast Asia.

Conclusion 2: The Kolkata–Ho Chi Minh City rail corridor and connections through Yunnan are the preferred options. Implementation should come after national railways have undertaken substantial modernization reforms Rail connectivity is a second priority after road connectivity. The Kolkata–Ho Chi Minh City corridor, at a length of 4770 km, will require investments of \$4.1 billion, without accounting for gauge conversion and rehabilitation costs in India from Kolkata to Jiripam. The rail connection through Yunnan to reach Ha Noi and Hai Phong port offers substantial savings with a total cost of \$1.8 billion and a length of 4225 km.

Conclusion 3: The focus of the study is on land connectivity, though most trade between South Asia and Southeast Asia is by sea. Correlating required port investments with improvements in South Asia–Southeast Asia connectivity will be difficult

Most trade between South Asia and Southeast Asia is by sea. Trade flows and shipping routes involve many ports: Kolkata, Chennai, Colombo, Chittagong, Yangon/Thilawa, Penang, Klang, Tanjung Pelapas, Singapore, Bangkok, Laem Chabang, Tanjung Priok, Saigon/Vung Tau and Hai Phong.

South Asia–Southeast Asia trade is growing but still limited, and this trade, for the ports listed above, accounts for only a small fraction of their international throughput. Ports have plans to install additional capacities. However, correlating incremental capacity with current and future trade would be a difficult task.

Conclusion 4: Though the focus is on land corridors, the prospect of developing a multimodal corridor linking Bangalore and Chennai to Dawei, Laem Chabang and Ho Chi Minh City has been noted

Major changes in trade flows could be on the horizon in the Gulf of Bengal. The desire to strengthen manufacturing production along the Indian east

Connecting Asia

coast with greater supply chain integration between Indian producers and Thai and Japanese producers (car assembly) points to developing a maritime corridor between Chennai and Dawei port. Eventually, other ports of the Indian east coast and other Myanmar and Southeast Asia ports may be part of this new industrial expansion. This also implies that building good transport infrastructure between Thailand and Myanmar should be supported.

Conclusion 5: Land corridors discussed in this study are transport corridors. Transforming them into economic corridors will take time. The suggested approach is to first develop economic links in more limited geographic areas

Designing transport corridors in regional groupings is only the first step, with the objective being to establish economic corridors. So far, in the SASEC and the GMS, results have been deceptive. It is argued that instead of transforming the full transport corridor into an economic corridor, it would be better to work with the concept of economic links defined along a more restrictive geographic area. For instance, in the case of the Kolkata–Ho Chi Minh City corridor, the potential economic links could be around the Myawaddy/Mae Sot BCP covering, for instance, Tak in Thailand and Kawkareik or Thaton in Myanmar. A second potential economic link could be around the India–Myanmar border (Moreh/Tamu) including the towns of Imphal and Kale.

Conclusion 6: Linking trade and transport has been one of the main elements behind the design of the corridors. However, the social benefits associated with greater connectivity are often overlooked. One of the first impacts of an improved corridor is the increase in passenger and tourist movements across borders

The evaluation of GMS transport corridors has revealed that one immediate benefit of cross-border road improvements is the significant increase in passenger and tourist movements mostly by bus, but also by car. Increased cross-border passenger movements have positive effects on economic growth and contribute to developing social bonding among populations.

2.6.2 Recommendations

Recommendation 1: Construct the recommended road and rail priority corridors in phased implementation periods (Table 2.12)

The road corridor in northeast India will not be completed before 2020. Therefore, it is only in 2020–25 that the seamless Kolkata–Ho Chi Minh

| | Road sector activities | Rail sector activities |
|--------------------------|--|--|
| 2014 | Feasibility studies for priority road projects | Master plans for national railway modernization in Thailand, Viet Nam and Myanmar to map and review future directions Complete connections in Viet Nam |
| 2015–20 | Build missing links and carry out rehabilitation on roads leading to key BCPs in connectivity Complete four-lane project from Kolkata to Imphal (Manipur, India) Build Dawei port and industrial park Feasibility studies and detailed design for road connection projects for 2020–25 Harmonize and ease procedures at BCPs, implement an effective transport transit agreement | Implement national modernization programs in Thailand, Viet Nam and Myanmar Feasibility study of linking the Lao PDR to Thailand and Viet Nam railway networks Feasibility studies and detailed design for rail connection projects for 2020–25 Construct committed projects in Bangladesh and Cambodia |
| 2020–25 | Complete Kolkata–Ho Chi Minh City road projects not covered under the 2015–20 period Complete development of Dawei and its integration in multimodal corridor, Chennai–Dawei– Bangkok–Laem Chabang–Ho Chi Minh City port Rehabilitate road connections in Myanmar to Mae Sai and build road connection from the Lao PDR to Dien Bien Phu (Viet Nam) | Build rail connection to Dawei Port Build rail connection between Indian railway and Myanmar railway (Moreh–Kalay) Build rail connection from Myanmar to Yunnan Design Kolkata–Hai Phong rail connection to be built 2025–30 Complete modernization program and start building high-speed trains if economically justifiable |
| 2025–30 and beyond | Build missing links in Kolkata– Hai Phong corridor (after evaluating success of Kolkata– Ho Chi Minh City corridor) | Build missing links in Myanmar, Thailand and Lao PDR for Kolkata–Hai Phong and Kolkata– Ho Chi Minh City port corridors |

 Table 2.12
 Phased transport corridor implementation policy

Note: BCP = border crossing point; Lao PDR = Lao People's Democratic Republic.

Source: Compiled by author.

| | 2014 | 2015-2020 | 2020-2025 | 2025-2030 | Total |
|-------------|------|-----------|-----------|-----------|-------|
| India | NA | 1095 | 468 | Undefined | 1563 |
| Myanmar | NA | 387 | 920 | Undefined | 1307 |
| Thailand | NA | 305 | 110 | Undefined | 415 |
| Cambodia | NA | 40 | NA | Undefined | 40 |
| Lao PDR | NA | NA | 90 | Undefined | 90 |
| Viet Nam | NA | NA | NA | Undefined | 0 |
| TA projects | 10 | 10 | 10 | Undefined | 30 |
| Total | 10 | 1837 | 1598 | | 3445 |

 Table 2.13
 Road project costs by phase and country (\$ million)

Note: Lao PDR = Lao People's Democratic Republic; NA = not available; TA = technical assistance.

Source: Compiled by author from ADB (2013) and various ADB TA projects.

City corridor could be expected to be finished. There are doubts about the economic justification of rail corridors. Constructing South Asian– Southeast Asian rail corridors will only take place once the national railways have carried out modernization and reforms to make their operations attractive and profitable. Therefore, the bulk of the construction of the rail missing links would be after 2020 and more likely in 2025 onwards. Details on the phased road and rail projects are in Gautrin (2014, pp. 38–9, tables 21and 22).

Recommendation 2: Regional cooperation initiatives for building crossborder road infrastructure will be justified when the net benefits for the two participating countries are higher than the net costs. This is not the case for road corridors, especially in Myanmar. India and Thailand will need to finance some road developments in Myanmar constituting the key sections of the transport corridor

Success of building seamless transport corridors depends on whether participating countries perceive it as a win–win situation. Tables 2.13 and 2.14 show that some countries will bear higher costs. National and regional economic benefits have not been calculated but a 'financial sharing mechanism' will need to be put in place to guarantee a win–win situation.

| | 2014 | 2015-20 | 2020-25 | 2025-30 | Total |
|-------------|------|---------|---------|---------|-------|
| | 2011 | 2013 20 | 2020 20 | 2023 30 | Iotui |
| India | NA | NA | 400 | NA | 400 |
| Bangladesh | NA | 15 | NA | NA | 15 |
| Myanmar | NA | 240 | 825 | NA | 1065 |
| Thailand | NA | 15 | 75 | NA | 90 |
| Cambodia | NA | 175 | NA | 1100 | 1275 |
| Lao PDR | NA | NA | NA | 1920 | 1920 |
| Viet Nam | 149 | NA | NA | 1180 | 1329 |
| TA projects | 10 | 16 | 10 | NA | 36 |
| Total | 159 | 461 | 1310 | 4200 | 6130 |

 Table 2.14
 Rail project costs by phase and country (\$ million)

Note: Lao PDR = Lao People's Democratic Republic; NA = not available; TA = technical assistance.

Source: Compiled by author from ADB (2013) and various ADB TA projects.

NOTES

- This is an edited version of ADBI Working Paper No. 483 (Gautrin 2014). For a longer discussion of land-based cross-border infrastructure investments, readers may consult the ADBI working paper at http://www.adbi.org/files/2014.05.27.wp483.connecting. south.asia.southeast.asia.pdf (accessed 19 March 2015).
- 2. For this study, South Asia refers to the South Asia Subregional Economic Cooperation (SASEC) economies of Bangladesh, Bhutan, Nepal and eastern and northeastern India. For Southeast Asia, this study focuses on the Greater Mekong Subregion (GMS) countries of Cambodia, Lao People's Democratic Republic, Myanmar, Thailand, Viet Nam and Yunnan Province in the People's Republic of China. SASEC trade with the GMS was \$45 billion out of \$615 billion in 2010, though it reached \$55 billion in 2012 (ADB and ADBI 2013).
- 3. Trade between Myanmar and India in 2010 was \$1.5 billion, of which Myanmar's exports to India comprised \$1.3 billion, and Myanmar's imports from India equaled \$0.2 billion. Of that trade, less than \$4 million was recorded at the main border crossing point of Moreh/Tamu. The total trade between Thailand and Myanmar in 2012 was \$5.6 billion, with \$3.43 billion being Thailand's imports from Myanmar (95 percent gas products) and \$2.17 billion exports from Thailand to Myanmar. In 2012, at Mae Sot border crossing point (BCP), the value of Thai exports was approximately \$150 million-\$200 million, or 10 percent of total exports (RIS 2011; Chirathivat 2013).
- Ho Chi Minh City is the official name of the city, but the official name of the port is Saigon Port.
- This is confirmed by the Updating and Enhancement of the BIMSTEC Transport Infrastructure and Logistics Study, Myanmar section (ADB 2014).
- The east-west corridor has not reached its expected potential. There are many reasons for this, with one being that Danang is a small port compared to Saigon and Hai Phong.
- ASEAN and GMS are talking of 2017 for the completion of the Singapore–Kunming Rail Link (SKRL), which would have an impact on future South Asia–Southeast Asia rail connectivity.

Connecting Asia

- Improvement cost is the sum of all the costs from required projects along the corridor. Projects are described in section 2.4.
- 9. For quantitative estimates, scores were assigned according to statistical distribution around the mean value. For non-quantitative criteria, scores are the author's estimates based on information from ADB reports and BIMSTEC reports.
- 10. Scores were weighted according to distance.
- 11. BIMSTEC (ADB 2008) argues that Bangkok–Kolkata by sea is 4020 km, \$2325 for a 10T/TEU shipment taking 26 days, with travel by land being 4323 km, and \$4583 for 19 days. The author has revised calculations and found the distance by sea is 5360 km (2,894 nautical miles) and the distance by road 3540 km. This would normally increase the shipping cost. But more important are the changes to land time and cost which become 14 days (35 km/h, ten hours driving/day, four days for BCPs) at maximum cost of \$4000.
- 12. 'The Indian government spent \$30 million building 160 km of new road from the India– [Myanmar] border at Moreh-Tamu across Sagaing Division in 2001, but it still ends in dust and mud in the middle of nowhere' (*The Irrawaddy*, 17 October 2013).

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Infrastructure to support seaborne trade between South Asia and Southeast Asia¹

David Wignall and Mark Wignall

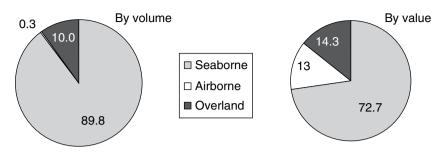
3.1 INTRODUCTION

This chapter examines the seaports responsible for handling trade around the Bay of Bengal with a view to identifying port development projects that will enable trade and contribute to improving maritime infrastructure. The study reviews the nature of trade in and around the bay and the ways in which trade could evolve. It also analyzes the primary types of maritime trade and the ships that carry that trade. Next, it reviews the changes that could have a significant impact on trade patterns. The chapter examines the main ports on the Bay of Bengal to understand their history, regulatory regimes, purposes, capabilities, primary specifications, constraints, productivity, fitness for purpose when compared to other ports in comparable situations and their opportunities to improve and develop. Finally, the chapter develops strategic options through which the seaports around the Bay of Bengal can adjust and develop to support the evolution of trade, and assesses policy, practical and other constraints.

3.2 TRADE AROUND THE BAY OF BENGAL

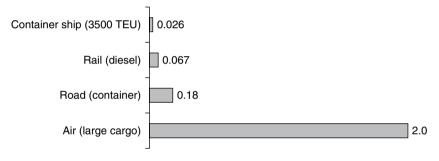
Maritime transport is essential to the world's economy as over 80 percent of world trade measured by volume is carried by sea. It is the most cost-effective way of moving goods and raw materials around the world (ITF 2013).

There is a major difference between the value and volume of trade. Considered in tonnage terms, the value of 'one ton' of trade of coal, for example, is valued at \$80–\$90 per ton,² petroleum products at \$610 per ton³ and containerized cargo at \$6,500 per ton.⁴ The share of world trade carried by sea measured by value is considerably less than when assessed by volume or tonnage (Figure 3.1).



Source: UNCTAD (2013).

Figure 3.1 International trade by mode, assessed by value and volume, 2012



Note: KW = kilowatt.

Source: Michel and Noble (2008).

Figure 3.2 Energy input into transport costs (KW hours per ton-kilometer)

When focusing on connecting South Asia and Southeast Asia, three strategic factors to be taken into account are: (1) sea freight is substantially cheaper per ton than road or rail haulage; (2) haulage distances between the regions are long; and (3) interconnectivity of road and rail networks across the two regions is limited. Of these factors, only the last one can realistically be changed.

Figure 3.2 shows the differential in energy requirements for transport. Given that energy costs represent a high percentage of transport costs and other costs for seaborne trade are significantly lower than for road or rail, the energy differential can be taken as a proxy for the cost differential between the transport modes. There is evidence that when trade is

| | Kuala Lumpur | Bangkok | Singapore | Ho Chi Minh City |
|------------|--------------|---------|-----------|------------------|
| Kolkata | 4650 | 3400 | 5000 | 4200 |
| Chennai | 6300 | 5050 | 6750 | 5860 |
| Chittagong | 3775 | 2500 | 4150 | 3300 |
| Yangon | 2200 | 950 | 2560 | 1750 |

 Table 3.1
 Distances between population centers by road (kilometers)

Source: Compiled by authors.

 Table 3.2
 Distances between population centers by ship (kilometers)

| | Kuala Lumpur ^a | Bangkok ^b | Singapore | Ho Chi Minh City |
|------------|---------------------------|----------------------|-----------|------------------|
| Kolkata | 3300 | 5220 | 3720 | 5020 |
| Chennai | 3100 | 5000 | 3500 | 4800 |
| Chittagong | 3050 | 4950 | 3450 | 4750 |
| Yangon | 2100 | 4000 | 2500 | 3800 |

Notes:

^a Port Klang, the entry port for Kuala Lumpur, is in the same conurbation as Kuala Lumpur.

^b Laem Chabang, entry port for Bangkok, is a worst-case assessment for trade into Thailand from South Asia. It is 110 km to the south of Bangkok on the eastern seaboard of Thailand. An assessment using the older Bangkok port would be better.

Source: Compiled by authors.

transported by sea, it is more sensitive to transport costs given the highly competitive nature of the shipping sector.

Tables 3.1 and 3.2 show, respectively, the road (and by implication rail) and sea distances between key population centers in the Bay of Bengal. Tables 3.3 and 3.4 show the multipliers over sea transport costs of road and rail costs (adjusted for differences in distances).

With the exception of cross-border trade and some potential for a Bangkok–Yangon rail connection, seaborne trade will maintain a major cost advantage over land-based trade for the foreseeable future. This is because, even if appropriate road and rail links existed, the difference in cost between seaborne trade and rail-based trade is on average more than 2.5 times, and for road-based trade more than six times.

In conclusion, reviewing the geography of South Asia and Southeast Asia, the following are apparent:

| | Kuala Lumpur | Bangkok | Singapore | Ho Chi Minh City |
|------------|--------------|---------|-----------|------------------|
| Kolkata | 8.45 | 3.91 | 8.06 | 5.02 |
| Chennai | 12.19 | 6.06 | 11.57 | 7.33 |
| Chittagong | 7.43 | 3.03 | 7.22 | 4.17 |
| Yangon | 6.29 | 1.43 | 6.14 | 2.76 |

Table 3.3 Overall road transport costs as multipliers of seaborne costs

Note: Multiplier is the total cost for road transit divided by total cost for seaborne transport.

Source: Compiled by authors.

| Table 3.4 | Overall rail | transport costs | as multipliers | of seaborne costs |
|-----------|--------------|-----------------|----------------|-------------------|
| | | | | |

| | Kuala Lumpur | Bangkok | Singapore | Ho Chi Minh City |
|------------|--------------|---------|-----------|------------------|
| Kolkata | 3.52 | 1.63 | 3.36 | 2.09 |
| Chennai | 5.08 | 2.53 | 4.82 | 3.05 |
| Chittagong | 3.09 | 1.26 | 3.01 | 1.74 |
| Yangon | 2.62 | 0.59 | 2.56 | 1.15 |

Note: Multiplier is the total cost for rail transit divided by total cost for seaborne transport.

Source: Compiled by authors.

- Haulage distances between population centers used as a proxy for economic activity are substantial (Tables 3.1 and 3.2).
- The majority of trade between South Asia and Southeast Asia will go by sea for the foreseeable future.
- All trade with Sri Lanka has to travel by sea or air (meaning any rail or road trade has to be re-handled).
- All trade with Indonesia and Brunei Darussalam has to travel by sea or air (again, other trade modes have to be re-handled).
- Significant trade by land transport between South Asia and Southeast Asia is limited to cross-border trade between Bangladesh and India, Bangladesh and Myanmar, and Myanmar and Thailand (this may extend to a rail connection to Bangkok in the future).

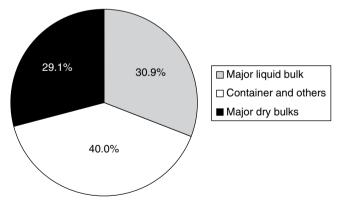
3.2.1 Seaborne Trade around the Bay of Bengal

In considering seaborne trade around the Bay of Bengal, three primary facets to consider are the type of cargo being moved, how the cargo is being moved, and the origin and destination of the trade. This study looks briefly at these facets with respect to trade around the Bay of Bengal.

3.2.2 Cargo Type

The three primary types of cargo that represent the majority of seaborne trade are containers (primarily for merchandised goods transport), liquid bulk (the main volume being crude oil and petroleum products) and dry bulk (the main volume being coal, iron ore, grains, bauxite⁵ and fertilizer⁶). Two other categories exist because they have specialist handling requirements: roll on–roll off (RORO) and general cargo. These are not discussed in this report as they represent less than 5 percent of the total trade volume, a small volume compared with the trade mentioned above.

Overall the volume of Asian trade in 2012 was 9165 million tons. Figure 3.3 shows the breakdown of Asian trade by type of seaborne cargo. If the average weight of a container is taken as 15 tons per twenty-foot equivalent unit (TEU) this suggests that over 95 percent of trade in Asia is either container, liquid bulk or dry bulk. In terms of growth rates, this varies by port, country and nature of seaborne cargo. Overall in the past five years, container growth has been about 5 percent per annum,⁷ liquid bulk trade has been about 10 percent per annum and dry bulk trade about



Source: UNCTAD (2013).

Figure 3.3 Share of Asian seaborne trade by cargo type, 2012

| | TEU | Other tonnage | Date of statistics |
|---------------|------------------|--------------------------------|--------------------|
| India | | | |
| All ports | 8 3 3 1 0 0 0 | 473851000 | 2012 |
| Bay of Bengal | 2352000 | 191749000 | 2012 |
| Sri Lanka | 2316849 | 10370312 | 2012 |
| Bangladesh | 1 392 104 | 43140042 | 2011 |
| Myanmar | 380675 | 5 3 2 8 4 3 2 | 2011 |
| | After correction | for transshipment ^a | |
| India | | | |
| All ports | 8 3 3 1 0 0 0 | 473 851 000 | 2012 |
| Bay of Bengal | 2352000 | 191749000 | 2012 |
| Sri Lanka | 731864 | 19436947 | 2012 |
| Bangladesh | 1 392 104 | 43140042 | 2011 |
| Myanmar | 380675 | 5 3 2 8 4 3 2 | 2011 |

Table 3.5 Port throughput, container and other tonnage

Notes:

TEU = twenty-foot equivalent unit.

There is a need to adjust for the weight of transshipped containers or the net trade volume is incorrect. In the upper section of Table 3.5 the average weight of a TEU is less than 5 ton, an impossibly low figure. In the lower section, the average weight of a TEU is 26 ton/TEU; this is high, but plausible after making adjustment for general cargo traffic.

Sources: Chittagong Port Authority (2013), India Ministry of Shipping (2013), Mongla Port (2011), Myanmar Port Authority (2011), Sri Lanka Ministry of Ports and Highways (2012).

30 percent per annum.⁸ Regulatory factors have been as influential as economic drivers in these growth rates, and falls in commodity imports can be as influential as increases, for example a ban on iron ore exports from some states in India.

Table 3.5 compares the tonnage handled at South Asian ports and suggests container trade has a far smaller share of trade in volume than in the rest of Asia.

Trade around the Bay of Bengal depends on seaborne transport that relies on ships and ports. These sections examine the ships and ports operating in the Bay of Bengal and how these may change over time. They do not examine customs and trade regulations but do comment on other significant regulations that impact seaborne trade and how it may develop.

Ships

The availability of ships for international trade is not a concern at present; container ships, bulk carriers and most forms of tankers are in oversupply.

Connecting Asia

Although ship availability for international trade is not a problem, ship availability for coastal or domestic trade around the Bay of Bengal is substantially affected by cabotage laws, that is, laws designed to ensure foreign ships are not allowed to trade between two domestic ports. All four countries around the Bay of Bengal have varying levels of cabotage regulations and enforce them in different ways. India's coastal trade (shipping cargo on local routes) is reserved for ships registered in India, and foreign ships are allowed to operate only when Indian ships are not available. Bangladesh and Myanmar reserve inland waterways and domestic trade for ships, barges and inland waterways craft registered and operated by domestic owners. Sri Lanka has only a very limited coastal trade and is subject to regulations similar to those in India.

India's cabotage law has a significant potential external impact. In theory, ships operating between ports in Sri Lanka and ports in India come under the same regulations as domestic shipping; in return Indian ships can operate in Sri Lanka. However, India does not enforce this restriction, allowing international feeder operators to use Colombo as a hub to distribute containers to Indian ports. If India enforced the law, the two probable outcomes would be either that transshipments into India would move to ports on the Strait of Malacca or close to the Arabian Gulf, or that hub ports would develop in India and distribute containers by domestic container services. These outcomes may resolve themselves in India's favor, though that cannot be assured as this would require substantial expansion and change in the Indian shipping and port sector. In the short to medium term, there would be significant disruption and an increase in container shipping costs into India.

The development of a hub as described is part of the development plan for Valapardam on the west coast of India. This development has been restricted by the lack of supportive cabotage regulations. The minor relaxations effected have failed to attract international operators into multiple calls in India or into the Indian domestic market. This is because the investment is out of proportion to the benefit over the short-term horizon of the relaxation.

Cabotage is an emotive political subject in most countries. This is certainly true in India. With the exception of India, there would appear limited impact from cabotage on trade around the Bay of Bengal. For India it is one element constraining the development of the domestic coastal container trade; it is probable that there are ways to amend the Indian cabotage regulations or encourage the development of the domestic container trade within the existing regulations. Either of these could have a significant impact on trade patterns and the cost of transport into and around India. Wignall and Wignall (2014, table 6) described the nature of ships trading into ports in and around the Bay of Bengal and the potential changes to these ships over the short and medium terms. Their key conclusions are (1) that container ships will grow in size significantly and require substantially deeper draft container terminals to enable growth and its associated transport cost reduction to happen, and (2) there will be limited growth in other ship types, although the total number of larger ships serving dry bulk and liquid bulk trade will increase, requiring the development of additional deepwater berths.

Ports

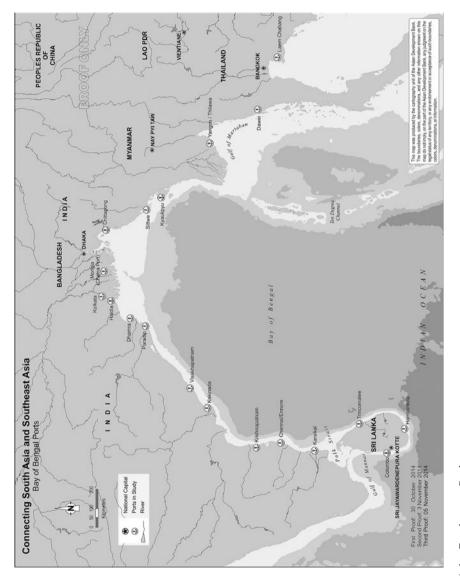
Port capability around the Bay of Bengal can be described in three areas with similar characteristics. The northern and eastern Bay of Bengal, defined by their location on major river deltas, the Irrawaddy, the Ganges and the Brahmaputra; east coast India, where there are deepwater port locations; and Sri Lanka, with some of the great harbors of the world. Figure 3.4 shows the locations of major ports, proposed ports, new developments and some minor ports around the Bay of Bengal.

The east coast of India is not well served for ports, though initiatives from the Government of India, state governments and the private sector are beginning to address this concern. However, the distance between ports and the lack of dedicated, international standard container handling capacity remain major problems.

Wignall and Wignall (2014, table 7) provide an overview of the capabilities and productivity of these ports. Ports need to serve significant populations (with their associated economic activity), industrial areas and concentrations (often associated with significant population density), and areas that produce and export primary resources, coal, iron ore and agribulk; and offer strategic transshipment or logistical opportunities.

In this context, it can be concluded that the following actions are necessary:

- Develop alternatives to Kolkata and Haldia.
- Encourage the development of Ennore rather than further development at Chennai.
- Identify and encourage new port development or further development of minor ports between Krishnapatnam and Kakinada, and Vizag, and Paradip.
- Improve container handling facilities in terminals of management at Vizag.
- Improve the channel and terminal management at Kakinada.





- Develop additional terminals and especially dedicated container terminals at as many ports that focus on bulk handling and industrial cargoes as is practical.
- Integrate private ports into hinterland infrastructure planning.
- Develop hinterland infrastructure that focuses on the ports as well as seeks to integrate and support trade within India.
- Develop a replacement port for Chittagong through a new deepwater port or accept that Chittagong cannot be replaced or further developed and develop a logistics strategy based on floating terminals.

Sri Lanka is well served with ports. There is scope for a review of the ports outside Colombo to ensure they have a clear market focus and that terminals at Colombo port are developed to exploit their key advantages. Without prejudging more detailed studies, Trincomalee may have a role as a liquid or dry bulk hub for South Asia (and potentially further afield). Hambantota needs to identify appropriate industrial development opportunities and focus on supporting these developments through the provision of supporting terminals.

The development of ports at Sittwe, Kyaukpyu and Dawei should not distract Myanmar from its key port infrastructure need, which is the further development and/or replacement of Yangon/Thilawa. In many ways the situation of these ports is similar to that of Chittagong except that the problems are easier to resolve. The development of hinterland infrastructure to support Thilawa should provide an effective solution for many years but not obviate the need for the identification of a greenfield site for a port to replace both Yangon and Thilawa.

Sittwe, Kyaukpyu, and Dawei are projects that do not provide opportunities in the short term to support development across Myanmar, instead they solve other countries' problems or are visionary commercial developments. One exception would be if a major oil refinery was to be developed at Kyaukpyu or Dawei. This would be a major benefit, though probably not something that Myanmar should focus on in the short to medium term.

Addressing the cabotage issue through the four countries to permit an increase in coastal and inland waterways trade may stimulate trade and permit the development of hub ports that could reduce transport costs without substantial investment.

Origins and destinations of trade

Tables 3.6 and 3.7 provide an overview of imports and exports from countries in South Asia and Southeast Asia with major coastlines around the Bay of Bengal.

| Country | Value of exports (\$ billion) | Export partners | |
|---|---|--|--|
| India | 294 (est. 205.0 by sea ^a) Agriculture – 42.33 | 51.6% from top 5 partners (Singapore ranked fifth at 4.6%) | |
| | Energy/minerals - 64.38 | ASEAN less than 10% | |
| | Manufactured – 179.92 | South Asia less than 5% | |
| Sri Lanka | 9.38 (est. 7.0 by sea) Agriculture – 2.72 Energy/minerals – 0.10 | 68.3% from top 5 partners (none of top 5 partners in ASEAN) ASEAN less than 5% | |
| | Manufactured – 6.50 | South Asia less than 5% | |
| Bangladesh | 25 (est. 18.0 by sea) Agriculture – 1.30 Energy/minerals – 0.28 Manufactured – 23.40 | 86.1% from top 5 partners (none of top 5 partners in ASEAN)ASEAN less than 3%South Asia less than 5% | |
| Myanmar 8.9 (est. 3.2 by sea) Agriculture – 3.03 Energy/minerals – 4.17 Manufactured – 1.69 | | 42% to Thailand, mainly primary products transported by land Significant land exports to India and the PRC ASEAN less than 5% South Asia less than 5% | |

Table 3.6Exports of South Asian and Southeast Asian countries around
Bay of Bengal, 2012

Notes:

ASEAN = Association of Southeast Asian Nations; PRC = People's Republic of China.

^a Authors' estimates based on UNCTAD (2012) and datasets from published statistical reviews.

Source: WTO (2013).

The statistics suggest that for trade between Southeast Asia and South Asia, two conclusions can be reached:

- Southeast Asia is not a major seaborne trading partner of South Asia. Including dry bulk, liquid bulk and containers, less than 10 percent of trade in South Asia is with Southeast Asia.
- Southeast Asia is more important to South Asia than vice versa.

If bulk products such as coal, petroleum products, and transshipped trade whose origin is unclear were removed from the equation, less than 5 percent of manufactured trade into South Asia would clearly originate from Southeast Asia.⁹ The PRC, the European Union and the United States are more important trading partners of South Asia at present than is Southeast Asia.

| Country | Value of imports (\$ billion) | Import partners |
|------------|---|--|
| India | 489.67 (est. 350.0 by sea) Agriculture – 25.43 | 42.5% from top 5 partners (none of top 5 partners in ASEAN) |
| | Energy/minerals – 209.78 | ASEAN less than 10% |
| | Manufactured – 188.27 | South Asia less than 5% |
| Sri Lanka | 19.13 (est. 15.0 by sea) | 58.5% from top 5 |
| | Agriculture – 2.27 | (India rank 1st at 19.7% and |
| | Energy/minerals – 4.05 | Singapore ranked 5th at 7.2%) |
| | Manufactured – 11.21 | ASEAN less than 15% |
| | | South Asia less than 5% |
| Bangladesh | 34.13 (est. 30.0 by sea) | 50.8% from top 5 partners |
| | Agriculture – 9.76 Energy/minerals – 3.21 | (Indonesia 5th ranked 5.1%, mainly energy related) |
| | Manufactured – 19.55 | ASEAN less than 15% |
| | | South Asia less than 5% |
| Myanmar | 9.2 (est. 4.0 by sea) | 76.9% from top 5 partners, 27% |
| | Agriculture – 0.83 | from Singapore thought to be |
| | Energy/minerals -2.21 | transshipped (rebadged from |
| | Manufactured -6.45 | other countries), 11.4% from |
| | | Thailand transported by land |
| | | South Asia less than 5% |

Table 3.7Imports of South Asian and Southeast Asian countries around
Bay of Bengal

Note: ASEAN = Association of Southeast Asian Nations.

Source: WTO (2013).

Seaborne trade and how it could evolve

The evolution of trade around the Bay of Bengal will be driven by macroeconomic factors, and logistics and infrastructure responses to those factors. With respect to regional trade, the South Asian Association for Regional Cooperation and the South Asian Free Trade Area are positive factors through their impacts on tariff and non-tariff barriers to trade. On a more cautionary note, the limited ability of governments to stimulate economic growth and trade development through applying a fiscal stimulus to their economies, for example through substantial investment in infrastructure to support growth, also has to be considered when examining the speed and development of trade in the region.

Trade in services and domestic consumption rather than trade in merchandise have driven India's growth. That said, major expansion in car manufacturing and the exploitation of primary resources is having a positive impact on trade and growth. Further growth in car exports, for example, will drive further development in external trade.

A continuation of slow container growth and the need for further coal, iron ore and petroleum-related liquid bulk (crude or product imports) is the most likely scenario. However, India's container penetration in terms of domestic transport remains half the international standard, and a spurt of container growth with associated reductions in transport costs stimulating further trade expansion could happen.

The shift of the garment trade from centers in the PRC and Viet Nam to Bangladesh has been a significant driver of economic external trade growth in Bangladesh. There is no obvious reason why this should not continue and spur further, more diversified manufacturing growth in Bangladesh. This will further drive external trade. This growth is likely to lead to increasing pressure on an already strained port system. Investment in Chittagong port or a new port will be critical to sustaining long-term growth.

Myanmar has the potential for a rapid economic expansion albeit from a low base of activity. The country is resource rich and has an underdeveloped pool of cheap labor. The country has the potential to expand rapidly through a combination of resource exploitation stimulating domestic consumption and export-led growth pushed by initially labor-intensive manufacturing, such as garments. All of these will require substantial improvements to government regulatory actions.

Developments in Sri Lanka have significant positive and negative potential impacts on regional trade, in particular on the external trade of Bangladesh, eastern India and to a lesser extent Myanmar. Slow implementation of the Colombo outer harbor development plan has already caused significant damage to Colombo as a transshipment hub. The development of ports in India (Chennai and Valapadam, for example) could further damage Colombo's role. The volume of transshipment undertaken has significant benefits in terms of transport costs for the economy of Sri Lanka. This advantage will reduce as Indian ports improve and could decrease further if the volume of transshipment starts to fall substantially. This is a possible, though unlikely, scenario.

There is a range of potential trade pattern change agents related to infrastructure, transport, and port developments, including inland waterways (Irrawaddy and the Deltas, among others), the Indian east coast corridor, eastern Indian port developments (and coastal trade), Colombo outer harbor, Dawei, Sittwe and Kyaukpyu port developments, and development of supply chains across the region and with Southeast Asia. The impact of these could be amplified by three factors that suggest that South Asia has suppressed demand for trade. One example is that container growth is often related to population growth. South Asian population growth remains high, but the level of containerization in South Asia is only about half that in the rest of the world, suggesting that with appropriate facilities it could double in a short time. Second, as industrial expansion and exportoriented growth and trade develop, there is a multiplier effect between growth and trade. This means container growth can be two or three times the rate of growth of gross domestic product (GDP).

The development of inland waterways such as the Irrawaddy, Ganges and Brahmaputra deltas could provide high-quality and low-cost transport systems to large areas of West Bengal, Bangladesh and Myanmar. This development would depend on providing effective long-term solutions to issues at Kolkata, Haldia, Chittagong and Yangon. The development of the Rhine and inland waterways trade in Europe and the Mississippi are two examples. However, the risks are also highlighted by the history of the Irrawaddy Flotilla Company that was the world's largest and most effective user of inland waterways to provide cargo movement prior to all ships being scuttled in 1942.

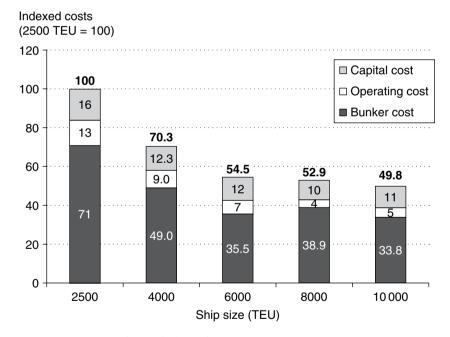
It is unclear how effective the Indian east coast corridor project would be in supporting international trade. By cutting transport costs and improving the competitive position of India, it could provide a solution to the shortage of ports on the east coast of India. The improvement of eastern Indian ports combined with an expansion of coastal trade could be complementary to the corridor as well as encouraging for growth of India's international trade. The development of Colombo outer harbor and the maintenance of adequate or excess container capacity, ensure that some transshipment over the short term will relocate from Singapore and other Malacca Strait ports to Colombo. This will improve trade with Europe in terms of connectivity and cost, and thus stimulate trade. In the longer term, other developments are likely to reduce the relative importance of Colombo and its impact on trade patterns. As noted above, Dawei, Sittwe and Kyaukpyu port developments are projects that solve other countries' problems or are visionary commercial developments. However, should a major oil refinery be developed at Kyaukpyu or Dawei, a major change to trade patterns across the Bay of Bengal can be anticipated. This would imply that petroleum product trade would remain in relatively small tankers, and would interact with cabotage restrictions in unpredictable ways.

Integration of production across South Asia and with Southeast Asia will depend on the development of regional container trade in terms of direct connectivity and reliability. Integration cannot happen without the move to regional trading patterns, since transshipment adds costs and potential delays.

3.3 CONTAINER TRADE AND THE BAY OF BENGAL

Containerization has transformed shipping over the past 50 years.¹⁰ From a situation where merchandise trade relied on general cargo ships, now almost all merchandise trade is handled in containers.

Two primary drivers have allowed the container revolution to usher in spectacular growth in global trade over the last 50 years. The first is unitization, which has a substantial impact on handling and transport costs; so long as a port has an effective container terminal, unitization is possible. The second is scale and the benefits of scale in terms of unit cost. Put simply, there is a strong relationship between the size of the container ship and the cost per TEU of operating container ships (Figure 3.5). The relationship has been strengthened by advances in technology over the past ten years.



Note: TEU = twenty-foot equivalent unit.

Source: A.T. Kearney (2012). Copyright A.T. Kearney, 2012. All rights reserved. Reproduced with permission.

Figure 3.5 Relationship between container ship size and operating costs

At present, the three major, interlinked trends of container trade are (1) introduction of new 'mega' ships carrying 12500-18000 TEU, (2) older 'mega' ships carrying 6000–9000 TEU being relegated to minor shipping routes well before their useful life has expired, and (3) the emergence of a large number of underused container ships carrying 3000-6000 TEU. These trends in container trade in the Bay of Bengal will increase pressure for container shipping lines to use larger ships to carry the volume of containers being generated from the region. This translates into pressure on ports and container terminals to be ready to accept larger ships, or see volume move to those ports that can accept large ships. Unless ports provide access for larger ships they will only receive calls from small container ships 'feeding' containers to 'mega' hubs for onward transshipment. Where it is possible to haul containers by road or rail to ports that can accept the larger ships there will be a tendency for containers to drive the extra distance to be loaded onto larger ships. Both these will increase the overall cost of transporting the container. By implication, transport cost as a percentage of overall costs increases for merchandise goods, making the immediate hinterlands of the affected ports less competitive in the global or regional economy.

3.3.1 Merchandise Trade around the Bay of Bengal and between South Asia and Southeast Asia

Merchandise trade is almost exclusively handled in containers. The main container ports on the Bay of Bengal based on 2012 port statistics are Chennai (India), 1.6 million TEU per annum; Kolkata/Haldia (India), 0.6 million TEU per annum; Chittagong (Bangladesh), 1.5 million TEU per annum; and Thilawa/Yangon (Myanmar), 0.45 million TEU per annum. Some other ports (Vizag, Mongla and Kuttapalli, for example) do handle containers but, either because they are new or handle small volumes, they do not provide helpful information on the main container trade in the region. It should be noted that very few containers are transshipped at any of these ports. Colombo, which is a significant transshipment center, handles 4.0 million TEU with 70 percent being transshipped, leaving approximately 1.2 million TEU as origin and destination containers.

From an analysis of World Trade Organization trade statistics, less than 10 percent of these containers would appear to be destined for Southeast Asia, although this assertion is not supported by an analysis of container destination data from these ports of origin. An analysis of port data suggests a far higher percentage of the containers are routed to Singapore, Colombo, Port Klang and Port of Tanjung Pelepas, the major regional transshipment centers (WTO 2012). However, further integration of South Asian and Southeast Asian through trade will depend significantly on the further development of the container trade in the Bay of Bengal and the container line connections the ports in the Bay of Bengal develop with ports in ASEAN, and to some extent East Asia.

In comparison, the origin and destination containers handled by the major ports of Southeast Asia are Port Klang, 3.7 million (another 6.4 million were transshipped); Singapore, 6.5 million (another 26.0 million were transshipped); Penang, 1.4 million (limited transshipment); and Port of Tanjung Pelepas, 7.7 million (almost all transshipment).

The nature of the container ships calling into the ports is also of interest when considering the nature of merchandise trade in the Bay of Bengal. Almost all containers from South Asian ports are transshipped before reaching their final destination. Wignall and Wignall (2014, table 10) compared the container trades in the major ports of South Asia and Southeast Asia and the characteristics of the port of direct relevance to container shipping.

Many major shipping companies offer services that apparently call at ports such as Chittagong, Chennai and Kolkata. However, when these calls are examined the services are not operated by the major shipping lines but represent vessel-sharing agreements or slot charters between shipping lines. One example of this is that OOCL, Wan Hai and Hapag Lloyd advertise such services but the service is actually provided by Sea Consortium (X-Press Feeders). Wignall and Wignall (2014, tables 11–14) detail the actual container services calling at Yangon/Thilawa, Chittagong, Kolkata/Haldia and Chennai.

Several issues are identified through the examination of container services in various ports. First, all containers from Yangon, Chittagong and Kolkata are transshipped. From Chennai at least 70 percent of the containers handled are carried on feeder ships to transshipment terminals, mainly to Colombo. All transshipped containers from these ports are subject to additional costs. Second, excepting Chennai, there are no direct calls from any of the top 20 international shipping line to ports in the Bay of Bengal. These lines have slot charters with common feeder operators. This means limited competition for one element of the containers' transit, which pushes up costs. Here it is noteworthy that Regional Container Lines (RCL) and Sea Consortium control 90 percent of container shipping capacity into Chittagong. Third, although the ASEAN ports have a greater range of container services and trade route options, this cannot be fully explained by container volumes. Penang is smaller than Chittagong and Chennai but has a greater range of services. Location is also a factor. Lastly, the sizes of container ships calling at ports around the Bay of Bengal are small compared to ports in the ASEAN, with sizes rarely

exceeding 3000 TEU compared with 6500–12000 TEU in comparable ASEAN ports; this increases costs for containers handled at ports in the Bay of Bengal.

3.3.2 Container Terminals and Merchandise Trade around the Bay of Bengal

Container shipping is influenced by the terminals available. Only Chennai has world-class facilities for container ships. Chittagong, Yangon and Kolkata have major physical disadvantages with long, shallow approach channels. Vizag and Paradip have excellent marine access, but no major container volumes. In Paradip, this is because of the limited container handling facilities. For Vizag the reason is unclear; it appears to have good hinterland connections and reasonable container handling facilities; the issue may be reliability and marketing.

Further understanding of the impact of container terminals on merchandise trade around the Bay of Bengal can be gained from examining the geography of the bay and the distribution of its ports. The distance between significant container terminals around the bay is greater than, for example, along the coast of the PRC. This observation takes into account the gaps in relative population density along the north coast of Myanmar.

The sizes of container ships calling at container terminals around the Bay of Bengal are not dictated solely by the capability of the ports to accept ships, but also by the availability of efficient terminals and supporting soft infrastructure. Distance from the major container trade lanes may also be a factor. The average distance from the major trade lanes for ports on the Bay of Bengal is 1250 km. For the major ports in the ASEAN it is 500 km.

3.3.3 Conclusions Related to Merchandise Trade around the Bay of Bengal

Several conclusions can be reached on how to improve merchandise trade around the Bay of Bengal and thereby the ability of South Asia and Southeast Asia to improve their level of economic integration and manufacturing base. These conclusions are:

• The ports and container terminals need to attract direct calls from major container shipping lines that offer the potential to avoid transshipment and/or a move to in-line¹¹ transshipment and thus significantly reduce costs.

- Many ports need to develop or expand deepwater container terminals. As a minimum, 6500 TEU ships should be accommodated. Deeper and more capable terminals should be considered.
- There is a need to reduce the distance between container terminals along the coast of the Bay of Bengal where that coastline is heavily populated to reduce the haul distance within the hinterlands and to provide better access to trade opportunities for industry and thereby stimulate economic growth.
- For the foreseeable future, there is going to be a need for good, lowcost transshipment hubs to serve the economies around the Bay of Bengal.
- There is a need to improve competition and improve access to container feeder services for ports and economies around the Bay of Bengal. These two may be in conflict at times. However, in Bangladesh in particular, close attention would be paid to improving competition in respect of container feeder ships.
- There is a need to research and consider radical solutions to the issues facing some ports with long and shallow approach channels. These could include major new greenfield port developments close to the entrance of the ports (in line with trends in Europe and ports such as Saigon) or floating terminals that offer mega ship to local barge transshipment in the northern parts of the Bay of Bengal. These could eliminate significant road access issues as well as resolving access to mega container ships.

3.4 LIQUID BULK

Trade in liquid bulk primarily requires an understanding of trade in crude oil and petroleum products. Other liquid bulk such as crude palm oil and specialty chemicals are moved in smaller volumes by tankers that require considerably less water depth to enter a port.

3.4.1 Review of Petroleum Products Market

Over the past 40 years, the petroleum trade, covering both crude and petroleum products shipments, has grown by between 2 percent and 2.5 percent per year. According to Arthur D. Little (2009), in 1990, 90 percent of the petroleum shipments were crude but by 2009 this had fallen to less than 60 percent; the trend continues. The trend implies petroleum product shipments have grown strongly since 1990, achieving growth rates closer to 10 percent per year. This is forecast to continue to

fall as committed investment in refineries particularly in the Middle East comes into production.

The impact of this on growth in petroleum products storage demand, a key element of port infrastructure, has been significant. It has grown far faster than the rate of growth in total petroleum and crude trades. Indeed, it has grown faster than the petroleum products trade taken on its own. This is because there has been an increase in the diversity of products being refined, traded and stored.

The analysis supports a view that, even with the discovery and development of crude production in many other locations, the Middle East remains (and will remain) the dominant source of supply for many years to come. The development of refining capacity in the Middle East has outstripped development in all other regions, even the PRC, over the past 20 years. It is forecast to continue to do so over the next 20 years, with total Middle East refinery capacity potentially doubling by 2020. Similar trends can be found in most downstream products.

In addition, the market is demanding a broader range of petroleum products. This is typified by the increasing use of more environmentally friendly products, and cleaner, lighter and more highly specified products for niche uses. This will tend to support shipping smaller packet sizes, cause more concern about contamination, and lead to more change and development required in shipping and storage. Summarizing, there will be a continuing global dependence on petroleum products for energy, natural global growth in demand for petroleum products, maintenance of the market share of Middle East crude production and continuing increases in Middle East refining capacity.

3.4.2 Petroleum Trade Drivers around the Bay of Bengal

Table 3.8 provides an overview of production, imports and consumption of petroleum products in the countries around the Bay of Bengal.

With respect to trade in the Bay of Bengal, Table 3.8 is not very informative. Though India is a net exporter of petroleum products, much of these exports are destined for Europe or Singapore (as a staging port and/ or trading hub). Bangladesh and Sri Lanka import crude to feed local refineries, mainly from the Middle East. Product imports into Myanmar, Bangladesh and Sri Lanka are driven mainly by external factors relating to supply and demand balance in broader world markets. The growth of Singapore and adjacent petroleum product storage in Malaysia is providing much of the supply into these countries with the original supplies being sourced from the ASEAN and other local producers and balancing supplies primarily coming directly into Singapore from the Middle East.

| Data point | Bangladesh | India | Myanmar | Sri Lanka |
|---------------------|------------|----------------------|---------|-----------|
| Crude production | 98 | 41965 | 816 | 0 |
| Crude imports | 1409 | 171729 | 4 | 1932 |
| Refinery production | 1451 | 207278 | 770 | 1900 |
| Product imports | 3573 | (46872) ^a | 225 | 2729 |
| Demand | | | | |
| NGL/LPG/ethane | 40 | 15532 | 12 | 199 |
| Naptha | 44 | 11105 | 54 | 63 |
| Mogas | 416 | 15272 | 384 | 709 |
| Av gas | 301 | 5536 | 76 | 315 |
| Kerosene | 477 | 8229 | 2 | 169 |
| Diesel | 2612 | 62414 | 457 | 1930 |
| Fuel oil | 511 | 9542 | 65 | 1140 |
| Other | 508 | 20323 | 28 | 76 |
| Refinery fuel | 71 | 15422 | 55 | 16 |
| Total ^b | 4980 | 163316 | 1133 | 4617 |

Table 3.8 Petroleum sector balances, 2012 (000 tons)

Notes:

LPG = liquefied petroleum gas; NGL = natural gas liquids.

^a India exports petroleum products.

^b Excludes marine bunkers.

Source: IEA (2013).

3.4.3 Review of Impact of Port Infrastructure on Liquid Bulk Trade around the Bay of Bengal

The evolution of liquid bulk trade depends on refinery construction, though the fundamental economics (and politics) should favor large refineries close to areas of crude production. This suggests that there will be few refineries developed that impact the structure of trade in the Bay of Bengal. As mentioned, the one possible exception to this could be the development of a major refinery complex at Kyaukpyu or Dawei in Myanmar. This would benefit from scale to ensure purchasing power in the crude market and the influence of the PRC in terms of politics. The Jamnagar refinery in Gujarat is an example of how such a refinery could develop, though the risks of any such development remain significant.

It is interesting to note that the evolution of these trades is not likely to be affected by the port facilities provided around the Bay of Bengal. That should not lead to the conclusion that the provision of these facilities and the nature of that provision is not important, but rather that the nature of

| | Bangladesh | India | Myanmar | Sri Lanka |
|-------------------------------|--------------------------|---|------------------------------|--------------------------|
| Coal Iron ore ^a | < 1 mtpa Not relevant | Major importer Exporter ^b | Not relevant Not relevant | < 1 mtpa Not relevant |
| Alumina | Not relevant | Exporter | Not relevant | Not relevant |
| Grains Fertilizer | Significant but | unstable trade with | strong seasonal of | elements |

Table 3.9 Major dry bulk trades and their impact in the Bay of Bengal

Notes:

mtpa = million tons per annum.

^a The People's Republic of China, Japan, the Republic of Korea and Europe account for almost all world iron ore imports.

^b Some Indian states have banned iron ore exports to protect domestic steelmaking. The government has imposed heavy export taxes that are making Indian exports uncompetitive.

Source: UNCTAD (2013).

the trades will not fundamentally change. It is, however, important to ensure the trades are not stymied by an absolute lack of capacity in terms of berths and, perhaps more relevantly, storage capacity and the storage of strategic reserves. The introduction of larger tankers and the provision of more appropriate and adequate storage to support these trades would reduce the overall cost to the relevant economies of these trades.

3.5 DRY BULK TRADE

The five main bulk commodities are coal, iron ore, alumina, grain and fertilizer (phosphate rock).

This chapter does not examine these in detail except to observe their relative importance. Table 3.9 outlines how each of these impacts trade around the Bay of Bengal. The overall conclusion is that this trade is not so relevant. Table 3.10 provides more details with respect to the coal trade that does have a major impact in Indian ports and has been the base cargo for several actual and proposed private port developments.

In the absence of all but the agribulk trades, the impact of dry bulk on trade and port development will be considerably reduced. The small dry bulk trades use handy and handy max bulk carriers (or smaller). A further factor that could influence the development of these trades is the increased use of containers to transport grain over the past ten years.

The conclusion is that, with the exception of India, where ports have

| Data point | Bangladesh | India | Myanmar | Sri Lanka |
|-------------|------------|---------|---------|-----------|
| Production | | | | |
| Coking | | 47 2 24 | 0 | 0 |
| Thermal | 1000 | 504296 | 1128 | 0 |
| Lignite | | 43 491 | 0 | 0 |
| Net imports | | | | |
| Coking | | 36577 | 0 | 0 |
| Thermal | 1000 | 47740 | 11 | 962 |
| Lignite | | 78822 | 0 | 0 |

Table 3.10 Coal production and imports, 2012 (000 tons)

Source: IEA (2013).

evolved already to handle specific dry bulk trades, dry bulk is not relevant to trade in the Bay of Bengal as it impacts public port development. That is not to say that provision for grains and agribulk is not required, but that these trades are not of sufficient scale to support major development. Also, the potential for these trades to be handled as efficiently in containers could influence significantly broader trade development around the Bay of Bengal.

3.6 CONCLUSIONS AND POLICY RECOMMENDATIONS

Over 90 percent of international trade by volume in South Asia and Southeast Asia is transported by sea in three forms: container, dry bulk and liquid bulk. Sea transport has a large cost per ton kilometer advantage over other modes of transport. This cost advantage will not be eroded significantly over the next 20 years.

Intraregional trade between South Asia and Southeast Asia is a minor part of their overall international trade (between 5 percent and 10 percent of total trade, imports and exports).

Dry bulk and liquid bulk trade represents a substantial part of overall trade by volume but is considerably less important when the value of the trade is considered. Container trade is the critical form of trade to stimulate regional and subregional economic integration as it accounts for most trade in merchandise goods, representing 40 percent of total trade by volume and a far higher percentage in terms of value. Container trade around the Bay of Bengal is almost exclusively based on the feeding of containers to large container ships at hub ports such as Colombo, Port Klang and Singapore.

Improving access to international container trade and reducing the ton per kilometer cost of container transport will promote international trade and intraregional trade in South Asia and Southeast Asia. Developing main container line calls to ports around the Bay of Bengal and thus avoiding transshipment of containers at hubs can encourage access to international container trade. Ensuring deep-draft container ships can gain access to ports around the Bay of Bengal (container ships of 12.5 meters, 15 meters and in the future 16.0 meters, can access the ports).

Distance between dedicated and effective container terminals in ports around the Bay of Bengal should be reduced. Focus should be placed on ensuring that existing and new container terminals around the Bay of Bengal offer world-class container handling services, and improving hinterland links (inland waterways, road and rail) from container terminals with a view to improving container (and other forms of unitization) penetration into domestic transportation markets.

3.6.1 Policy Proposals

The main infrastructure policy goals proposed in this chapter and for further study are the replacement of Kolkata, Chittagong and Yangon/ Thilawa with large-scale deepwater ports combined with appropriate hinterland inland waterway, road and rail connections. In addition, encouraging the development of inland waterways and the barge companies and services operating on them in West Bengal, Bangladesh and along the Irrawaddy should be a major policy initiative. This study recommends the following:

- There should be a policy to support the development of initial small container terminals in ports on the east coast of India.
- There should be a policy of encouraging the development of hinterland road and rail connections from existing and planned container terminals.
- Strategic refinery developments need detailed assessment; specific transport or port policy initiatives should not play a major role in this area.
- The development of dry bulk terminals should be led by energyrelated policy or such developments should be led by the private sector.
- Cabotage laws, particularly those in India, should be reformed to encourage the development of coastal shipping but such policies

and their interaction with local politics and the development of the Port of Colombo should be carefully analyzed. This is linked to the potential development of a hub port in India.

• Competition and the application of competition laws to the container shipping sector should be reviewed with a view to encourage the development of robust competition on cost and service between shipping lines.

NOTES

- 1. This chapter is an edited version of ADBI Working Paper No. 508 (Wignall and Wignall 2014). For a more detailed discussion, readers may consult the working paper at http:// www.adbi.org/files/2014.12.22.wp508.seaborne.trade.south.asia.southeast.asia.pdf (accessed 2 February 2015).
- 2. 5600 kcal coal at market prices, March 2014.
- 3. BW 380 (Bunker World specification for ship fuel) ex Singapore market.
- 4. Based on Organisation for Economic Co-operation and Development (OECD) lowerquartile estimates of container values and mean load 15 tons per container in line with actual loads from ports around the Bay of Bengal providing a low estimate of value per ton.
- 5. Representing all ores of aluminum.
- Fertilizers are primarily phosphate rock.
 This may be constrained by the availabili
 This is almost exclusively related to coali
- This may be constrained by the availability of container handling facilities.
- This is almost exclusively related to coal imports to India.
- 9. Statistics are potentially confused by the port of destination and origin quoted on transshipped containers and petroleum products distributed from storage.
- 10. Containerization is the use of a standard size and design of boxes that can be prepacked with a broad range of cargoes.
- 11. In-line transshipment is where containers are moved from one very large container ship to another at some ports of call along their mutual routes.

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Infrastructure finance and financial sector development for cross-border connectivity¹

Shubhomoy Ray

4.1 OVERVIEW

This chapter seeks to identify the financing needs and issues governing cross-border infrastructure projects connecting South Asia and Southeast Asia. It identifies the emerging trends in project finance in the two regions, assesses the capacity and the level of development of the regional financial markets and reviews the financing sources that could play a significant role. It analyzes the depth and capabilities of the two regions' credit and equity capital markets for financing infrastructure projects and the supplementary sources of capital that could augment both the quantum and tenor of the local financial resources. The chapter also describes financial market and policy-related issues needed to free up the flow of local and foreign capital into connectivity-related infrastructure projects, and proposes ways to increase the sustainability of local level equity and credit market financing.

Case studies highlight the criticality of regional cooperation, project documentation and transaction structuring in making a project commercially bankable and attractive for financing. The chapter also examines institutional models and initiatives introduced in the two regions and comments on the success stories. In doing so, the study assesses the relative merits of investment finance funding methods, including public, private, public–private partnerships (PPP) and international infrastructure funds and their applicability. Finally, the study discusses framework structures suitable for financing various types of projects in the port, power transmission and road sectors.

4.2 RATIONALE FOR IMPROVED FINANCE BETWEEN SOUTH ASIA AND SOUTHEAST ASIA

The Asian Development Bank (ADB) estimates that South Asia and Southeast Asia will need at least \$3.6 trillion from 2010 to 2020 in infrastructure investment if they are to meet the needs of their growing populations (Bhattacharvay et al. 2012). However, the underlying issue is not about a shortage of money: according to data from the International Monetary Fund (Cameron 2012), in all of Asia, savers put away \$1.3 trillion in 2011 alone, and there is enough excess liquidity in developed economy financial markets looking for reliable long-term returns to meet a significant part of this financing requirement. The problem is that the framework and instruments needed to bridge the gaps between savings and investment in the regions are in their infancy. Governments, the traditional providers of funds for essential public infrastructure, are facing increasing budget pressures, making private funding crucial for development funding and financing of infrastructure projects. Bank finance, the regions' traditional source of private capital, is becoming scarcer and more expensive, and bond markets are still a work in progress in many countries in the two regions. Much of the funding problem stems from the immaturity of South Asia's and Southeast Asia's capital markets. The regions have traditionally relied on bank loans for expansion, while bond market investors – especially in times of turmoil – tend to prefer plain investments, preferably with solid ratings attached. As the market is not sophisticated and contract performance risks are not appropriately backstopped, traditional project financing structures invariably procure sub-investment grade ratings, particularly when seeking financing on a non-recourse basis, thus forcing risk-averse household savings away. Additionally, illiquidity in the regional bond markets, lack of market making and a reliable long-term yield curve, and low reliability of financial reporting by corporations keep retail investors away even from corporate bonds that could finance developers' equity in projects.

Changes are taking place in the two regions, albeit slowly and unevenly. For example, some more mature regional banking networks, such as in Singapore, have demonstrated an appetite for longer-term infrastructure financing products across the regions. The available amount of liquidity for longer-term financing for local infrastructure projects has gone up in countries such as Thailand and the Philippines, with local banks increasing funding to long-term infrastructure projects, especially in local currencies. Malaysia has shown the way for tapping local and regional capital markets for refinancing projects once they have been built or risks have been mitigated, thus freeing up bank funding for new projects. There are also signs of greater flexibility in transnational financing. In 2011, HSBC arranged the financing for a \$1.95 billion power plant currently being built in northern Viet Nam. The 1240 megawatt (MW) Mong Duong 2 project set many new benchmarks: at \$1.46 billion it represents the largest amount of debt ever raised in Viet Nam; the longest debt tenor (18 years); and the first large-scale involvement of Republic of Korea export credit agencies in Viet Nam (Cameron 2012). Such structured deals need to be promoted in the region, and governments can use loan guarantees to encourage commercial participation.

4.3 FINANCIAL SECTOR AND MARKET ASSESSMENT

4.3.1 Asian Credit Markets

Asian financial markets have been characterized by the predominance of banks, and Asian financial systems are generally very 'loan-centric'. The development of debt capital markets across the region (except Singapore, and to some extent, Thailand and Malaysia) has been slow. There are restrictions on cross-border investments owing to factors such as exchange rate risks, lack of market depth and legal and regulatory hurdles, all contributing to markets being isolated from each other.

4.3.2 Project Financing

Traditional, non-recourse project financing in Asia has been impacted by a combination of three credit market situations:

- lack of a mature and liquid debt capital market creating an excessive reliance on financing of projects with bank loans;
- the high rate of inflation in the region that has left interest rates high; and
- lack of innovation of structured financing schemes, unlike their developed economy counterparts.

Core infrastructure, such as regulated assets in the energy sector and lowerrisk transport assets, has constituted the bulk of demand for bank financing with partial or no recourse. According to the World Bank (2013a, 2013c), in 2012, 128 new private sector infrastructure projects achieved financial closure in South Asia and 64 in Southeast Asia, which included a total of 108 energy projects and 68 transportation sectors projects. Total investment commitment in infrastructure sector during the year was in the order of \$52.2 billion, out of which \$20.3 billion were invested in energy projects and \$22.4 billion in transportation.

4.3.3 Private Participation in Infrastructure

In South Asia, India has historically witnessed the largest volume of capital flows in the region targeted at privately developed infrastructure projects, even though most of these private developers have largely been dependent for project financing loans from state-owned banks. Because of high leverage and a combination of market forces and policy uncertainties, the sector has become highly indebted and several projects have been under stress to meet their debt-servicing obligations. With worsening credit quality and peaked exposure limits, most banks are reluctant to participate in further credit expansion in the sector. Additionally, with depreciation of the Indian rupee by almost 35 percent against most major currencies in the past two years, foreign debt service obligations have come under stress.

The state-owned infrastructure investment vehicle, India Infrastructure Finance Company (IIFCL), is expected to play a central role, as there are over 300 projects in the pipeline having a total value of \$90 billion. It is anticipated that the infrastructure project pipeline of IIFCL will increase by more than 40 projects every year from 2014 to 2019 (World Bank 2013c). In order to facilitate direct project lending, the ADB is planning to loan \$700 million to the IIFCL. An additional \$750 million is under discussion with a consortium of the European Investment Bank, the Japan International Cooperation Agency (JICA) and the French Development Agency. Together with the IIFCL, the ADB has also built an enabling structure for infrastructure bonds. The ADB and the IIFCL have jointly structured a partial credit default cover for projects having a minimum of three years of operation since commissioning. Furthermore, the government has authorized the IIFCL to issue \$2 billion in tax-free bonds.

In the other countries of the regions, the local financial market, including the banking system, is very shallow compared with the infrastructure financing needs of these countries. Bangladesh is seeking financial assistance for a number of projects in power generation, water, sanitation and transportation services, which are mostly being supported by Asian export credit agencies (ECAs), the JICA, the ADB and the International Finance Corporation (IFC). Given the limited options in public financing and lack of depth in local financial markets, Pakistan has no choice but to turn to the private sector for financing its vast infrastructure funding gap. The IFC is working with the government to help make the financing market attractive for private participation. Nepal is addressing the wide-ranging international perception of local political risks and seeking to develop enabling legislation and contractual provisions to attract debt financing for its large number of hydropower projects in various stages of development. In Sri Lanka, policy creation is in progress to invite international developers to participate in its vast wind power potential. The financing for the same is expected to come under the ECA route and from local banks.

There have been some initiatives for cross-border connectivity in South Asia in recent times, with India playing a pivotal role in most of these projects in the power generation, power transmission and transportation sectors. There is a bilateral arrangement between the governments of India and Bhutan for constructing 10800 MW of hydropower projects in Bhutan, of which almost the entire power generation will be sold to India under a long-term, bilateral power purchase agreement or through the cross-border power trading route. The terms provide direct access to over 14000 gigawatt-hours (GWh) of free electricity annually to the Government of Bhutan for trading in India and Bangladesh.

Similarly, in Nepal, there are nearly 20165 MW of bilateral hydropower projects and another 6449 MW of private sector hydropower projects for cross-border power trade from Nepal to India (Central Electricity Authority 2014), through five dedicated 400 kilovolts (kV), double circuit cross-border transmission corridors connecting Dhalkebar–Muzaffarpur, Butwal–Gorakhpur, Duhabi–Purnea, Duhabi–Siliguri and Lamki–Bareilly between Nepal and India respectively (World Bank 2011, 2014). All of these transmission lines are being developed in joint ventures between the Nepal Electricity Authority and the Power Grid Corporation of India, supported by loans and additional equity from private sector developers, the World Bank, the IFC and the ADB.

Between India and Bangladesh, a 400 kV cross-border transmission project, connecting through a 500 MW high-voltage direct current substation in Bangladesh, was commissioned in 2013 (ADB 2013), initiating trade of power from India to Bangladesh under a bilateral power trade agreement for the sale of 250 MW of electricity by the power trading arm of NTPC (India's largest power utility) to the Bangladesh Power Development Board. The ADB helped finance the \$199 million interconnection facilities in Bangladesh with a \$112 million loan.

Apart from the above bilateral initiatives, there are about 30 projects with a total capital outlay of \$5365 million in the South Asia Subregional Economic Cooperation (SASEC)² region, which are already approved and have either been implemented or are in advanced stages of implementation. These include 21 transportation projects, seven energy projects and one project each in trade facilitation and information and communication technology. The ADB, serving as the secretariat to the

SASEC program, assists the SASEC countries to strengthen domestic ties for growth and facilitates cooperation providing monetary and technical support for enhancing connectivity, bolstering institutions and trade links, and expanding human capital.

Southeast Asia has witnessed even more outbound foreign direct investment (FDI) in the region and better historic inter-governmental coordination. Between 1990 and 2013, Malaysia was the largest contributor of private investment in infrastructure in the region, having provided financing of \$79.4 billion (26 percent) out of total Southeast Asian financing of \$306 billion (consumer price index – CPI – adjusted), followed by the Philippines (24 percent, \$74.7 billion), Indonesia (23 percent, \$69.9 billion) and Thailand (17 percent, \$51.6 billion) (World Bank 2013a).

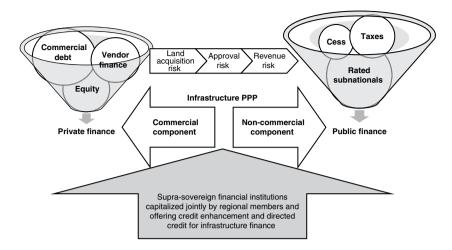
4.4 INVESTMENT FINANCE FUNDING METHODS: ASSESSMENT OF OPTIONS

4.4.1 Background

Historically, traditional infrastructure financing models relied on a leverage structure supported by development finance institutions (DFIs), government institutions, multilateral institutions and ECAs, even while seeking to take advantage of private sector capabilities in project execution, cost optimization and operational efficiencies. With the predominantly monopolistic revenue models of such projects, largely sponsored by state-owned developers and executed by competitively bid private sector counterparties, leverage was sustainable and mostly risk adjusted. Subsequently, with the entry of the private sector into developing and sponsoring projects, there was a conscious focus on breaking up monopolies, leading to revenues being determined by market forces and the leastcost bidding model, making financing on high leverage a risky proposition.

4.4.2 Public Sector Financing Options

The experiment with private sector development and financing of infrastructure, particularly involving private capital from within the regions, has yielded mixed results. To a large extent, the high capital cost of infrastructure, long gestation periods, lumpiness of capital and high financing costs have deterred, and will continue to deter, private sector investment in development stage projects, particularly where crucial issues relating to land acquisition, rehabilitation and resettlement, environmental approval and infrastructure connectivity have not been resolved, requiring either



Note: Cess = taxes earmarked for special purposes; PPP = public–private partnership.

Source: Author's illustration.

Figure 4.1 Public and private financing of infrastructure

direct funding by the governments or some type of bankable risk cover guarantee by government entities.

Moreover, a number of public infrastructure projects have commercial and non-commercial components, making it unattractive for the private sector to invest in a bundled transaction. In such cases, the noncommercial components are required to be unbundled for government funding through budgetary allocations, supported and supplemented by financing from DFIs and under government-to-government programs (Figure 4.1).

The role of government institutions and parastatals in infrastructure financing will necessarily have to be supplemented by multilateral development banks (MDBs), such as the World Bank and the ADB. Multilateral development banks have an important role to play in narrowing the funding gap in national and cross-border infrastructure projects, as well as in influencing the policy environment, impacting procurement processes and providing risk cover to private sector developers.

Recently, many South Asian and Southeast Asian countries' foreign exchange reserves have exceeded the minimum requirement of central banks for maintaining exchange rate stability, hence part of those reserves has been channeled into sovereign wealth funds (SWFs). South Asia and Southeast Asia have several SWFs and they are allowed to invest in

| Export credit agency | Value (\$ million) | Number of deals |
|--|--------------------|-----------------|
| Japan Bank for International Cooperation | 35938 | 56 |
| Export-Import Bank of the United States | 18519 | 27 |
| Export-Import Bank of Korea | 11 574 | 37 |
| Export-Import Bank of China | 8394 | 18 |
| Export Development Canada | 8034 | 67 |

Table 4.1 Export credit agency league table, 2008–13

Source: Baker and McKenzie (2013).

foreign assets that offer reasonable returns under central bank investment guidelines.³ Sovereign wealth funds can play an important role in funding infrastructure projects spanning multiple countries.

Finally, the role of the ECAs is expected to be crucial in the coming years, financing a large number of projects in the regions. In the current regime of global slowdown in industrial demand, governments around the world are now targeting energy and infrastructure projects as vital conduits to exporting high-value machinery, labor, expertise and technology packaged as project engineering, procurement and construction (EPC). Export credit agencies are proving a vital tool for supporting these policies (Table 4.1).

4.4.3 Private Sector Financing Options

In South Asia and Southeast Asia, the household savings rate has been extremely high. This is a result of policy environments and favorable demographics that either persuade or force households to save a large portion of their incomes. Also, the fraction of household savings that are kept in the bank as deposits remains exceptionally high across most of Asia (Table 4.2).

The regional commercial banks, even while capable of high leverage due to a buoyant deposit base, tend to either stay away from or have an ultra-conservative perspective while faced with non-recourse project finance proposals of infrastructure entities. The concern arises from risk concentration, peaking exposure limits, low asset yields, high moratorium and high payback periods of loans, all of which are a deterrent to financing, particularly in the light of these banks' inability to augment the low net interest margin by accessing fee-based income through sophisticated structuring and transaction advisory services.

Insurance companies and pension funds are affected by statutory constraints restricting these funds from investing in infrastructure assets,

| Country/region | Investment requirement up to 2020 (\$ million) | Annual savings, 2012 (\$ million) |
|-------------------------------------|--|---|
| Cambodia ^a | 13364 | 503 |
| Indonesia | 450 304 | 280974 |
| Lao PDR | 11 375 | 1906 |
| Malaysia | 188084 | 97610 |
| Myanmar | 21 698 | NA |
| Thailand | 172907 | 109 790 |
| Philippines | 127 122 | 38 280 |
| Viet Nam | 109761 | 49862 |
| Southeast Asia | 1094615 | 578925 |
| Bangladesh | 144 903 | 43 0 5 1 |
| Bhutan | 886 | 705 |
| India | 2172469 | 626181 |
| Pakistan | 178 558 | 15757 |
| Sri Lanka | 37908 | 14262 |
| Nepal | 14330 | 7775 |
| South Asia | 2 549 054 | 707 731 |
| Total (South Asia + Southeast Asia) | 3643669 | 1 286 656 |

Table 4.2 Financing requirements and savings

Notes:

Lao PDR = Lao People's Democratic Republic; NA = not available.

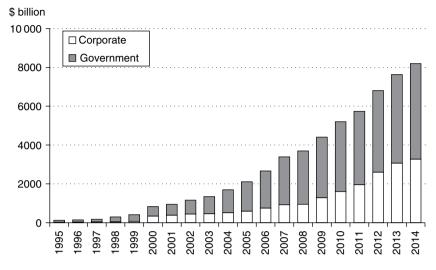
^a Pertains to 2011 data.

Sources: Bhattacharyay et al. (2012); World Bank (2012).

being allowed to invest only in instruments having an investment grade rating, which is impossible for a project financing asset class to achieve, particularly in the absence of appropriate commercial credit guarantee mechanisms in the region.

4.4.4 Bond Market

As stiffer banking regulations and covenants made bank financing of infrastructure projects limited, there was an attempt by credible infrastructure developers with strong track records to explore the regional bond markets. Overall local currency bond issuance has maintained steady growth across the two regions. Since 2007, local currency bond markets across Asia have more than doubled, reaching over \$8 trillion in 2014, out of which 40 percent was accounted for by corporate bonds (Figure 4.2).



Note: For the Indonesia, Japan, Republic of Korea, Malaysia, Philippines, Singapore, Thailand and Viet Nam markets.

Source: Asian Bonds Online Database, http://asianbondsonline.adb.org/regional/data.php (accessed 13 March 2015).

Figure 4.2 Local currency bond market in Asia

On country-level assessment in the region, Malaysia in particular has a vibrant bond market which contributed approximately half of the country's private infrastructure investments during 1993–2006. New fiscal policies, a resources boom and strong regional economic growth in Indonesia have led to a decrease in the debt-to-GDP ratio, from 110 percent in 1999 to about 24 percent, in 2012 (Standard and Poor's 2014). Likewise, the Philippines maintained momentum from 2012, with issuances close to \$3 billion in the first half of 2013, from \$2.5 billion during the same period in 2012. Other regionally significant corporate bond markets include the People's Republic of China (PRC) and Thailand.

A major reason for the slow uptake of infrastructure project bonds is the lack of clarity among project sponsors regarding the feasibility of bond finance relative to the proven, traditional route of bank debt financing, multilateral and/or ECA finance and capital contributions. However, refinance bond structures of the type created by the ADB and the IIFCL in India have evoked deep interest among several infrastructure companies to explore the publicly listed bond market.

No dominant project bond model has yet emerged. The financing source

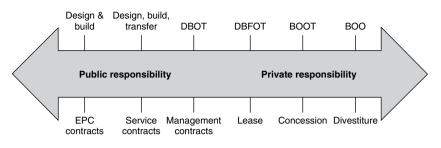
for infrastructure is likely to increasingly transition from bank debt to institutional investors. A logical infrastructure project debt market would use short-term bank debt for construction finance (which can even be in the form of a suppliers' credit with a take-out finance underwriting) and refinancing the same in the long-term institutional markets, as seen increasingly in the regulated infrastructure utilities and leveraged infrastructure acquisition domain. The key risk with this model is what refinancing risk arises in terms of projects operations, regulation, interest and exchange rate, and who is the ultimate bearer of such risk. A natural mitigation of such project-specific risks can be found in the securitized debt market, where banks can package a bundle of project finance loans and sell them as securitized debt in the institutional markets, thus obviating the need for institutions to invest/lend directly to the projects themselves.

4.4.5 Public–Private Partnerships

Over more than three decades, PPPs have emerged as an often preferred tool in South Asia and Southeast Asia to complement sovereign efforts in developing infrastructure and providing related services. During this period, India has emerged as the world's largest PPP market and the Government of India has used the PPP model with success in the transportation and electricity transmission sectors. As a general observation, PPPs in Asia and the Pacific have been successful.

However, parallel to the success stories are several disappointing experiences. These have arisen as a result of inadequate pre-investment work, insufficient project planning, absence of proper feasibility studies, flawed project evaluations, absence of competitive tendering, poor contract design, complexities in land acquisition and inaccurate estimation of demand. Lack of transparent governance mechanisms have further complicated project situations, leading to conflicted regulatory structure, arbitrary and populist government interference, lack of judicial independence and lack of a strong legal framework defining the rights and obligations of private investors.

The PPP development model is undergoing a change and private sector participants are becoming very particular about minimizing developmental and execution risks, asking governments to present better structured, readily financeable and ready-to-construct project propositions for competitive bidding. There is increasing emphasis from developers and financiers to being awarded permitted, pre-construction projects, instead of concessions with unsettled land acquisition, permitting, resource linkage and environmental clearance issues. There is also an emphasis on unbundling operational risks and allocating external risks to project entities,



Note: BOO = build, own, operate; BOOT = build, own, operate, transfer; DBFOT = design, build, finance, operate and transfer; DBOT = design, build, operate and transfer; EPC = engineering, procurement and construction.

Figure 4.3 The changing face of the public–private partnership model

internal risks to project sponsors, and residual risks to government shareholders (Figure 4.3).

In the future, in order for the PPP model to have a better success rate, four specific improvements are imperative:

- 1. Adopting global best practices to ensure transparency and accountability. To achieve this goal, bid criteria need to be fully disclosed and easily available for public scrutiny.
- 2. Developing PPP units in the regions based on international best practice, such that these units are designed to facilitate the PPP procurement and delivery process before contracts are signed, enabling all linkages, permits and approvals, and having a transparent interface with the authorities that approve or deny projects.
- 3. Creating an independent, non-conflicted regulatory environment that is capable of monitoring project progress, commissioning and operation, as well as implementation of a reward and penalty structure through market mechanisms.
- 4. Investing in human resources for PPP to improve skills and knowledge across a broad spectrum of specialties, from institutional to technical to financial, by partnering with experienced countries (UNESCAP 2012).

Also, foreign exchange predictability, central-bank backed foreign exchange support and institutional credit enhancement options can help in attracting foreign investors. However, even if the foreign exchange risk allocation issue is resolved, the capacity of central and local governments to implement a transition to a full cost-recovery mechanism remains inadequate. Public-private partnerships of the future may witness governments and public entities being more involved partners during the entire project life with appropriate risk sharing and/or risk mitigating contributions.

4.4.6 Cross-border Public–Private Partnerships

Financing cross-border infrastructure projects through the PPP route presents even larger challenges as countries involved have different levels of financial capacity. Countries with less developed financial markets not only face funding gaps, but even a gross deficiency in the institutional infrastructure for supporting PPPs. Financing is complicated further since costs and benefits are not evenly distributed between countries participating in cross-border projects. Domestic politics in each country also hinders the development of such projects as the tenure is often very long with few immediate tangible benefits in the short term.

The key challenges in implementing cross-border infrastructure projects through the PPP route include:

- incongruent cross-border economic regulations between countries;
- lack of capital market coordination and variance in sovereign risk and rating of the participating countries reduce investor exit options for the entire project;
- lack of integration between regional financial markets affects the ability to procure long-term infrastructure finance;
- multiple currency revenues lead to unpredictability in income and debt service estimation; and
- lack of coordination between countries.

The need for involvement of multilateral development banks is strengthened by the fact that such projects usually involve complex project management, and commercial and sovereign risk management that lengthen the preparation time and time required for raising funds. The involvement of a technically competent, neutral third-party honest broker and the availability of considerable concessional financing are often crucial.

Some of the short-term steps that could be considered for promoting cross-border PPPs are:

- creating regional funds along the lines of the Association of Southeast Asian Nation (ASEAN) Infrastructure Fund;
- creating non-discriminatory measures for managing currency risk, for example, innovative swap instruments;

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- creating a strong sovereign guarantee mechanism; and
- increasing effort spent in identification and development of projects to make them bankable.

4.4.7 International Infrastructure Funds

Among the South Asian and Southeast Asian countries, only a few, such as the PRC and Malaysia, can satisfy their financing needs in the domestic private capital markets. Other countries in the two regions need to create an enabling environment and incentives for attracting foreign capital. In spite of improvements in investment, procurement and regulatory environments the obstacles are too many, creating urgent intervention needs through multilateral-sponsored regional project development funds, such as InfraCo Asia.⁴

A regional infrastructure fund (RIF) can facilitate the timely availability of capital to large regional infrastructure projects (Table 4.3 shows some examples). Regional infrastructure funds can prove effective in fine-tuning projects from outline proposals to customized solutions with robust financial and economic merits. These funds can also be structured as regional companies which invest and manage regional sector-specific projects. Major Asian countries could invest in these companies or the RIF itself as a financial entity (for example, the Asian Infrastructure Investment Bank), initially at the sovereign level to nurture project development, and thus create a platform for larger private sector participation at a later stage. Subsequently, once operational, the companies could raise funds in the capital markets through equity or infrastructure bonds by monetizing predictable annuity payments.

4.4.8 Investment Case Studies: Asian Cross-border PPP Projects

Second Stage Cipularang Tollway Project, Indonesia

The 41-kilometer Second Stage Cipularang Tollway project was conceptualized to reduce traffic congestion along the Puncak route and Purwakarta area, the main alternative routes between Jakarta and Bandung. In 1994, the Government of Indonesia originally appointed PT Citra Ganesha Marga Nusantara, a local private company, as the main investor and contractor. However, owing to the Asian financial crisis in 1997, the project was suspended. The project was revived in 2000, and the government appointed state-owned PT Jasa Marga as the main developer. In order to expedite the project, PT Jasa Marga divided the project into nine packages, accelerated the construction process and selected nine local contractors through a tendering process (Alfen et al. 2009).

| Asian Infrastructure Fund/ AIF Capital | ASEAN Infrastructure Fund | InfraCo Asia |
|--|--|---|
| Hong Kong, China domiciled fund with \$750 million closed in 1994 with a fund life of 10 years; current assets under management>\$2 billion Pan-Asian approach to investing in infrastructure projects engaged in: power generation, transmission and distribution; gas production and distribution; transportation; telecoms; water supply; and waste management Co-sponsored by Frank Russell Company with initial investors from ADB, the International Finance Corporation, and Asian Infrastructure Development Early investments in project finance included the first independent power producer (IPP) in India, IPP business in Taipei, China and the PRC, fixed line telecoms in the Philippines, and container terminals and warehousing in Hong Kong, China | An innovative regional co-operative and integration initiative for funding the region's large unfunded infrastructure requirements Formed in 2012 with ADB support and domiciled in Malaysia with a corpus of \$485 million; investments from Brunei Darussalam, Cambodia, Indonesia, Lao PDR and Malaysia Objective to provide financial assistance of up to \$300 million annually to ASEAN infrastructure projects, contributing to poverty reduction, inclusive growth, environmental sustainability, and regional integration Current investment of a \$25 million loan for a T-network expansion project in Indonesia | The Asian fund was raised in 2010 under InfraCo group with support from the Private Infrastructure Development Group (PIDG) and the Department for International Development (DFID) (UK) Creates viable infrastructure investment in Asia that balances the interests of host governments, the private sector, and debt providers Acts as principal by participating in early stage development expertise through its team Priority for situations with strong host country support and conditions supporting private sector participation Current investments in gas power in Bangladesh, hydropower in Nepal and Viet Nam, storage facilities in India, wind power in Pakistan and waste to energy in Sri Lanka |

 Table 4.3
 Successful regional investment funds

Note: ADB = Asian Development Bank; ASEAN = Association of Southeast Asian Nations; Lao PDR = Lao People's Democratic Republic.

Source: Author.

Given the constraints on construction time and limited availability of capital, the Indonesian government, represented by PT Jasa Marga, sought financing under the novel contractor's pre-finance (CPF) program, with a view to ensuring financial security and maintaining healthy cash flows. Under the CPF, a consortium of banks made a commitment to PT Jasa Marga to finance the project by providing loans to all nine contractors, with fixed interest rates during the entire loan period. This was on the back of a guarantee from PT Jasa Marga that the project would be completed and would not be suspended at any time during the construction phase. The guarantee agreement was formulated as a letter of comfort, which was used by the contractors to seek loans from the banks.

Under the CPF system, as opposed to build, operate and transfer (BOT) or conventional project financing, the project did not need an investor to finance the project equity and project owners were not in debt to the banks that provided the loans during the construction phase because the contractors borrowed the money directly from the bank. The debts were only acknowledged by the project owner after the project was completed and handed over to the owner. In the construction phase, the full responsibility of the debt was with the contractor. After project completion, the project owner had the responsibility of repaying the loans procured by the contractors within a certain period as agreed upon previously by the owner and the banks (Alfen et al. 2009).

At the time of writing, income from the Cipularang Tollway has reached Rp1.2 billion (around \$100000) per day, a 100 percent increase compared with the income during the toll road's first year of operation in 2005.

Nepal–India Electricity Transmission and Trade Project

The Nepal–India Electricity Transmission and Trade Project, conceived bilaterally and financed by the International Development Association (IDA) and MDBs, envisages a 130-kilometer transmission corridor of 400 kV double circuit line, connecting Dhalkebar in Nepal with Muzaffarpur in India. The objectives of the project are to: (1) establish cross-border transmission capacity between India and Nepal of about 1000 MW to facilitate electricity trade between the two countries, and (2) increase the supply of electricity in Nepal by the sustainable import of at least 100 MW (World Bank 2011, 2014).

The project has three components:

1. Design, construction and operation of two connecting 400 kV double circuit transmission corridors across the border: (a) 90 km of transmission line on the Indian side between Muzaffarpur and

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Sursand on the Indian border, and (b) 40 km of transmission line on the Nepal side between Dhalkebar and Bhittamod on the Nepal border.

- 2. Construction of the Hetauda–Dhalkebar–Duhabi transmission line, grid synchronization and installation of properly tuned power system stabilizers in the major power-generating stations and other measures in Nepal to synchronize its power system with that of India.
- 3. Providing technical advisory services to the Nepal Electricity Authority (NEA) for the preparation of a transmission system master plan for future transmission system development in Nepal and for development of additional cross-border interconnections.

On the Nepal side, the project will be implemented by the NEA with IDA assistance of \$99 million. On the Indian side, the project will be implemented by a joint venture special purpose vehicle formed by Infrastructure Leasing and Financial Services (IL&FS) Energy Development Company, Power Grid Corporation of India and Sutlej Jal Vidyut Nigam (SJVN). The total project cost is \$182.3 million.

The project, which has already attained financial closure, is currently in the implementation stage. It was originally scheduled for commissioning on 31 December 2016 and is at the time of writing running behind schedule by seven months.

4.4.9 Lessons Learnt

The review of the case studies of cross-border energy and infrastructure projects indicates that the main problems encountered were non-economic and primarily related to reluctance from government agencies in adopting the organizational and infrastructure framework necessary to operate at a supranational level.

Eventually, these were overcome by the evolution of strong and highlevel political commitment, strong institutional network and capabilities and strong external support from MDBs and the private sector.

The key learning outcome was that regional projects are often based on a need for collective action not registered by markets or governments, which can be largely orchestrated by credible and sophisticated regional institutions. In developing countries, however, such institutions, if they do exist, tend to be underfunded and their mandates limited to secretarial roles of intergovernmental coordination.

4.5 IDENTIFICATION OF INSTITUTIONAL AND REGULATORY CONSTRAINTS

4.5.1 Regulatory and Statutory Issues

Financial institutions face several regulatory and institutional problems that constrain their participation in infrastructure projects. Restrictive government policies and regulatory guidelines constrain the participation of insurance companies and pension funds in infrastructure. Secondly, an enabling fiscal environment is a pre-requisite for attracting private sector players to inherently high risk ventures. The incentives need to be transparent, covered under change-in-law immunities and uniformly applicable. Another area of concern is the reluctance of governments in rationalizing user charges and creating a market-making environment. Instead, the host government often uses the existing regulatory framework to impose its agenda and thus create a conflicted regulatory environment, deterring private sector investments. Lastly, the private investor often pursues multiple, tedious and time consuming approval processes.

In consideration of the above, the key areas of regulatory concern or ineffective interface creating impediments to private sector participation and FDI in infrastructure in the region include:

- Commercial banks are impaired by the possibilities of asset-liability mismatch, exposure caps and stringent provisioning norms.
- Long-term savings in insurance and pension funds are subject to stringent guidelines with respect to the credit ratings of the facilities in which they invest.
- Foreign direct investment limitations and the inability of the developer to exit fully developed projects by selling to a more conservative but deep-pocket utility-scale private investor.
- Pricing of user charges by a regulator is often conflicted and governed by political motives without taking into consideration the real cost of infrastructure services and the market pricing of the associated risks.
- Host-country regulations may not permit combinations of fiscal subsidy by way of exemptions from taxes and duties, revenue subsidies to supplement user charges and bankable credit enhancement for lowering risk pricing.
- Lack of depth in the foreign exchange market may constrain the procurement of foreign currency not only for repatriation of capital and profits, but also for payments for overseas EPC costs.

Connecting Asia

- Central banks may exercise autocratic powers beyond the existing regulations by using discretion in approving foreign exchange remittances for costs, fees repayments and repatriation, even when sectoral regulations do not require such approvals.
- Frameworks for multi-party project implementation agreements with participation of all host nations, identifying the roles, responsibilities, obligations and liabilities of each host nation, may still not be developed.
- Tariff and non-tariff barriers, such as imposing price restrictions on export of resources or localization requirements for EPC and services.
- Public-private partnership projects promoted in host-country environments where the regulatory framework is not fully developed potentially create impeding situations where the government role is not committed to specific non-performance liabilities, the regulatory dispute resolution mechanism is often conflicted and the government parastatals do not have the ability to infuse enough equity commensurate with its role in the project.
- The lack or inadequacy of provision of a termination payment in the event of a counterparty default or a political *force majeure*.

Several Asian countries do not allow equity investment by foreign companies in certain infrastructure sectors or limit the share of such investments (Table 4.4). Also, in certain situations, policies and regulations relating to FDI and investment incentives are impacted by host-country central bank imperatives in striking a balance between the country's fiscal and monetary policies.

In this context, the ASEAN Comprehensive Investment Agreement (ACIA) has the potential to emerge as an enabling legislation. The ACIA, having liberalization, protection, facilitation and promotion as its four pillars, aims to enhance the attractiveness of the ASEAN region as a single investment destination. It is expected to result in a more conducive business environment, encourage investors who are not yet in ASEAN to do business in the region, provide greater confidence among current investors in the region to continue and expand their investments and increase intra-ASEAN investment.

4.5.2 Institutional Constraints

Constraints faced by institutions in financing infrastructure projects include the regulatory level, such as restrictions based on asset rating and capital adequacy, and the statutory level, including qualifying specific asset classes as adequately fiscally incentivized for institutional participation.

| Sector | India | Indonesia | Viet Nam | Thailand | Philippines |
|--------------------|------------------------|-----------------------|-----------|-----------|-------------|
| Power | 100 [100] | 100 [95] | 100 [100] | 100 [100] | 100 [100] |
| Airports | 100 [74] | 100 [49] | 0 [0] | 100 [100] | 100 [40] |
| Ports | 100 [100] | 100 [49] | 100 [49] | 100 [100] | 100 [40] |
| Roads | 100 [100] | 100 [95] | 100 [49] | 100 [100] | 100 [100] |
| Railways | 100 [100] ^a | 100 [55] | 100 [49] | 100 [100] | 100 [100]° |
| Telecommunications | 100 [74] | 100 [49] ^b | 49 [49] | 100 [100] | 100 [40] |
| Water | 0 [0] | 100 [95] | 49 [0] | 100 [100] | 100 [100] |

Table 4.4Private sector participation and foreign direct investment
restrictions in Asian investment markets (%)

Notes:

^a Only in railway infrastructure.

^b In fixed line telephony; 65 percent in mobile telephony.

^c 100 percent in greenfield projects only; 40 percent in brownfield projects.

Figures in brackets are FDI restrictions.

Source: Tahilyani et al. (2011).

Public insurance and pension fund companies are inherently very risk averse. The safest way for these institutions to participate in the financing of new infrastructure could be through 'take-out financing'.⁵ The regulatory authorities could support the enabling environment by permitting the insurance and pension funds to subscribe to post-commissioning projects after two or three years of commercial operations, having appropriate credit enhancement against credit default guarantee (for example, the structure conceived by the IIFCL and the ADB in India) and an investment-grade credit rating in the local market. This will free up project finance debt raised from banks and DFIs and make them available for subsequent greenfield projects.

In India, which has nearly 60 percent of the total infrastructure financing needs of South Asia and Southeast Asia, it is being increasingly felt that, together with reforms to insurance and pension sector asset allocation and the credit rating framework, there is also an urgent need to add depth and liquidity in the debt capital markets by introducing deeppocket, balance sheet backed market making, which can provide costeffective exits to investors in debt instruments and derivatives before the full term of the underlying assets. This, with an objective credit rating, will go a long way to attracting retail and household savings in these financial products.

One way to facilitate debt capital market investment by the retail and household sectors could be to offer fiscal incentives to such investments in the form of tax rebates or tax credits, as has been done in India. The result of this has been observed in the project finance institutions' track records in attracting substantial retail and household investments in their tax-free bonds that often offer rates comparable to, or slightly higher than, time deposit interest rates of commercial banks.

Another area is creating hedging solutions against interest and currencyrelated risks. Foreign exchange hedging is not available for long tenures, especially for a period of more than eight years and, even if available, attracts high premiums. One effective way of backstopping the currency risk could be through central bank intervention enabling foreign banks and ECAs to lend in local currency from their overseas resources. For example, the Reserve Bank of India has taken steps in this regard through discussions with the Japanese Bank for International Cooperation (JBIC) and JICA to provide currency hedging to Japanese banks willing to lend to Indian PPP projects, facilitating project-level procurement of long-term foreign currency loans at a small mark-up to official Japanese interest rates.

One area of concern for foreign investors seeking opportunities in Asia relates to the high risk in several countries in South Asia and Southeast Asia in areas of contract enforcement. In (Ease of) Doing Business ranking of 189 economies for 2014 investments by the World Bank, several South Asian and Southeast Asian countries rank in the bottom fifth percentile with respect to contract enforcement risk (Table 4.5).

Finally, governments should support the provisioning of credit enhancement. However, most host-country governments in South Asia and Southeast Asia do not subscribe to the view that infrastructure projects need sovereign support in the form of default guarantees, even while partially recognizing the requirement for fiscal incentives. Countries such as India do not even permit multilateral institutions like the Multilateral Investment Guarantee Agency (MIGA) to provide political risk cover, in their conviction that the local political risk is bankable on a stand-alone basis, and does not require any mitigation. It is important for project developers to have recourse under sovereign guarantee to terminate a project and exit by recovering a termination payment if such changes become untenable for project ownership, construction and/or operation.

| Economy | Doing Business rank | Construction permitting rank | Contract enforcement rank | |
|----------------|------------------------|------------------------------|------------------------------|--|
| Southeast Asia | | | | |
| Cambodia | 137 | 161 | 162 | |
| Indonesia | 120 | 88 | 147 | |
| Lao PDR | 159 | 96 | 104 | |
| Malaysia | 6 | 43 | 30 | |
| Myanmar | 182 | 150 | 188 | |
| Thailand | 18 | 14 | 22 | |
| Philippines | 108 | 99 | 114 | |
| Viet Nam | 99 | 29 | 46 | |
| South Asia | | | | |
| Bangladesh | 130 | 93 | 185 | |
| Bhutan | 141 | 132 | 37 | |
| India | 134 | 182 | 186 | |
| Pakistan | 110 | 109 | 158 | |
| Sri Lanka | 85 | 108 | 135 | |
| Nepal | 105 | 105 | 139 | |

Table 4.5 Doing Business ranking, 2012

Note: Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China. *Source:* World Bank (2013b).

4.6 INFRASTRUCTURE FINANCING FRAMEWORK: POLICY PROPOSALS TO EASE CONSTRAINTS

The broad policy initiatives which are crucial for facilitating infrastructure financing in the region have been discussed in detail in the earlier sections and can be summarized as below:

- 1. Create policy enablers for insurance and pension funds to lend in debt refinancing of post-construction infrastructure projects.
- 2. Liberalize FDI limits in non-strategic infrastructure businesses to create a larger investment pool.
- 3. Facilitate the policy environment for bank financing of promoter buyout of financial investors in profitable operational projects.
- 4. Undertake sector reforms to levy market-determined user charges, indexation, and pass through provisions without being conflicted and governed by political compulsions.

- 5. Permit well-directed fiscal and revenue subsidies to reduce project payback and attract investment.
- 6. Procure measures for debt market reforms by incentivizing market making in debt securities.
- 7. Create policy interventions to provide sovereign level support for mitigating currency and interest rate risks.
- 8. Encourage rating institutions for creating an infrastructure rating framework, enabling well-structured projects with bankable contracts to access funds in debt capital markets.
- 9. Promote an environment of transparent documentation, project allocation, and contract enforcement to instill confidence in private participants.
- 10. Support regional cooperation mechanisms for cross-border projects by identifying the roles, responsibilities, obligations and liabilities of each host nation.
- 11. Promote transparent policies for cross-border and international trade in capital equipment and services by lowering non-tariff barriers.
- 12. Implement judicial reforms for better contract enforcement and faster disposal of legal disputes.
- 13. Develop a mature regulatory framework for PPP projects, clearly identifying the roles, responsibilities, and overall accountability of the government counterpart.
- 14. Consider project specific sovereign support towards credit enhancement, including provisions of termination payment on account of default by a state entity or in situation of political *force majeure*.

Most importantly and at the highest level, it is critical to align regional connectivity initiatives with national projects to facilitate resource mobilization. More often than not, regional projects are given less importance than national projects by domestic policymakers, resulting in lower budgetary support. There is a need to educate all stakeholders that development of regional infrastructure has a positive bearing on national connective infrastructure and vice versa. Governments should be encouraged to support much needed cross-border projects. The MDBs need to play a crucial role by budgeting larger resources for technical assistance in order to generate adequate pre-development documentation that can create a threshold level of interest in alignment of government objectives.

4.6.1 Loan Guarantee Mechanisms

Credit guarantee is an inherent need of infrastructure projects, particularly those with high execution, payment and perceived political risks. While

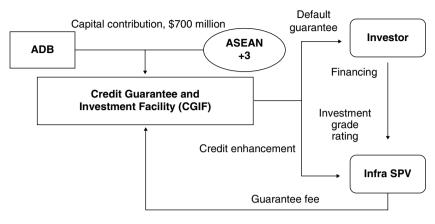
the construction and operational risks can be backstopped through guarantees from relevant project stakeholders, sovereign entity performance impacting project execution (for example, delays in land acquisition in a PPP, environmental clearance and retrospective legal changes) revenue and related *force majeure* events need credit default backstops. There is also a demand for guarantees against breach of contract by sub-sovereign authorities. While the ADB and the MIGA largely perform this function in Asia through their partial-risk guarantee programs, the need for a specialized guarantee institution is strongly felt in the region.

In this context, GuarantCo, a guarantee fund promoted by the donor agencies of four AAA-rated European governments, has been active in the Asian markets, offering guarantees against credit default risks (full or partial) and political risks to infrastructure projects in lower-income countries. GuarantCo has a total committed equity of \$300 million, with sponsor support for callable equity, and can extend guarantees in excess of \$1.5 billion.

However, GuarantCo only guarantees local currency loans and bonds. This makes the effective cost of borrowing in the guaranteed structure high as the best price that local debt markets can offer will be their local cost of funds, irrespective of the rating of the structured obligation being superior to even the sovereign rating of most host countries. Also, a number of domestic debt markets and banks in South Asia and Southeast Asia do not have the depth or balance sheet to assume large single obligor limits, making local currency borrowing very difficult in spite of the GuarantCo guarantee.

Asia needs to have its own version of GuarantCo with the variation that the guarantee should be applicable to foreign currency borrowing. However, in order for such an entity to be bankable, the sponsor profile will be crucial as – unlike in the case of GuarantCo – AAA sovereign sponsors are non-existent in South Asia and Southeast Asia, which may necessitate not only a high capitalization for obtaining strong investment grade rating, but also incorporation of backstop mechanisms through a larger reinsurance entity as callable capital from shareholders may not be dependable.

The Credit Guarantee and Investment Facility (CGIF) is a similar facility that was established in November 2010 as a trust fund of the ADB, with initial capital of \$700 million from the ADB and the ASEAN countries plus the PRC, Japan and the Republic of Korea (ASEAN+3). As a key component of the Asian Bond Markets Initiative (ABMI), the CGIF was established to develop and strengthen local currency and regional bond markets in the ASEAN+3 region. The CGIF seeks to support the issuance of corporate bonds in ASEAN+3 by providing credit enhancement,



Note: ADB = Asian Development Bank; ASEAN+3 = 10 ASEAN member countries plus the PRC, Japan and Republic of Korea; Infra = infrastructure; SPV = special purpose vehicle.

Source: CGIF (2013).

Figure 4.4 CGIF guarantee structure

mainly in local currencies, to allow eligible issuers in the ASEAN+3 region to access local currency bond markets. The CGIF commenced its guarantee operations on 1 May 2012 and issued its first guarantee in December 2013 (Figure 4.4).

4.6.2 Infrastructure Funds

A lot has been discussed about regional infrastructure funds in the previous section and how the ASEAN Infrastructure Fund (AIF) is expected to play a crucial role in catalyzing infrastructure investments in the region. However, while the AIF is a helpful source for financing of economically viable regional infrastructure projects, the fund is not sufficiently large to cater to all the infrastructure needs of South Asia and Southeast Asia. If the fund could be enlarged into a pan-South Asian and Southeast Asian infrastructure fund through participation of the +3 countries (the PRC, Japan and the Republic of Korea), it could go a long way in funding the financing gap.

4.6.3 Multilateral Development Banks

In the post-financial crisis scenario, MDBs are expected to play multiple roles: acting as money banks, by providing loans and guarantees and catalyzing private sector participation; knowledge banks, by providing policy and technical advice; as progress evaluators and capacity builders for legal regulatory, policy and procedural components; and as honest brokers, by coordinating with multiple stakeholders. They can play a crucial role, through early-stage project participation, in improving the investment climate of the region and as involved counterparties with the host government in creating project development framework. They can also help eliminate currency and maturing risks by providing long-term local currency loans and strengthen local-currency infrastructure bond markets by issuing local currency bonds with long-term maturities. In the context of cross-border connectivity and regional infrastructure projects, MDBs can facilitate regional cooperation for the provision of regional public goods, promote greater transparency and information dissemination, and contribute to policy dialogue. They can also play a catalytic role in financial market reforms and assist in enhancing the flow of private savings and capital into infrastructure investments through the development of bankable projects; designing suitable innovative financial instruments; assisting countries to improve their knowledge and technical capacity; improving the depth, efficiency and liquidity of the financial market, and adhering to international and regional best practices; and fostering further financial integration within South Asia and Southeast Asia

4.6.4 Promote Financial Sector Development

Asian Development Bank member economies differ widely in their income levels, population sizes and densities, and levels of development of financial markets, leading to different priorities and needs for financial sector development in each of these countries. Accordingly, the ADB has identified five common strategic agendas on which to focus for its financial sector operations:

- 1. Support developing public debt markets, strengthen central banking and establish basic infrastructure that can be a foundation for building public confidence in the financial system.
- 2. Promote enhanced financial access for traditionally underserved households and small and medium-sized enterprise (SME) sectors.
- 3. Develop capital markets and an institutional investor base that generate long-term finance and risk capital by way of supporting the development of capital markets, including subnational debt markets and enhancement of access to long-term finances.

- 4. Promote and support improvement of macro- and micro-prudential regulation and supervision of financial institutions and markets with a view to enhancing accountability and transparency.
- 5. Facilitate integration of the region's financial sector for channeling of savings from savings surplus to savings deficit economies by being involved in regional initiatives in liberalizing capital accounts and FDI in the financial sector.

As part of an effort to develop and strengthen the regional financial sector, multilateral institutions may also participate in the capital structure of local DFIs by making contributions to tier-two capital and making investments in long-term, subordinated infrastructure bonds, which can form part of the core capital of these institutions for leveraging their balance sheet and overcoming single obligor or sectoral caps while financing large domestic and regional infrastructure projects.

4.7 FINANCING SOLUTIONS FOR REGIONAL PROJECTS

As this chapter has addressed in the previous sections, an infrastructure project goes through multiple financing cycles, starting with development stage finance and maturing to financing of investor exit through promoter buyback, merger, acquisition or public listing (Figure 4.5).

At each stage of the project lifecycle, its financing needs will likely be fulfilled by a provider of credit whose appetite and understanding of risk is in agreement with the risk profile of the project presented at that stage. However, the most difficult stage for a project to raise market financing is in its development phase, dovetailing into the pre-construction phase, which leads to financial closure of the project. Depending on the business economics, the nature of government involvement and backstops and risk mitigation solutions procured in counterparty contracts, a project will need to be structured in a manner that enforces investor and lender confidence for making financing commitments without the comfort of a balance sheet fallback.

4.7.1 Sector-wise Connectivity Infrastructure Financing: Possible Structures

Figure 4.6 shows a representative project participation structure for financing port projects. The biggest advantage lies in the large degree of user exclusivity that a port project has, with no direct cross-border revenue

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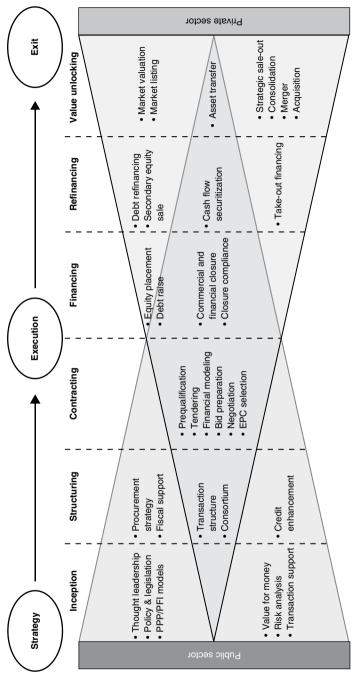
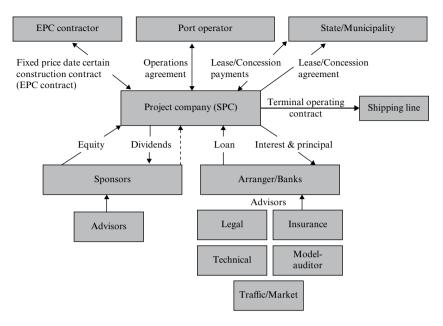




Figure 4.5 Financing solutions for lifecycle of infrastructure project

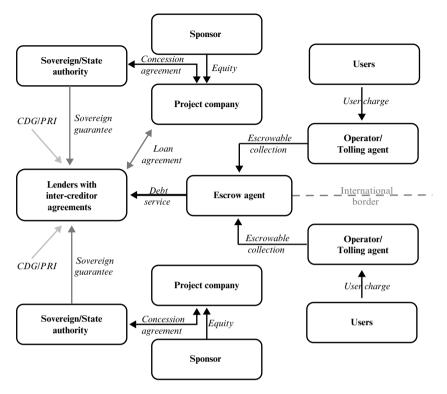


Note: EPC = engineering, procurement and construction; SPC = special purpose company.

Figure 4.6 Financing structure for port projects

bearing component. The project-specific special purpose company (SPC) is the eventual carrier of all rights and duties in connection with the project and its financing. The SPC's credit standing depends on the bankability of the project feasibility. This can be a classical scenario for project recourse financing, with the project risks being structured to be allocated among the involved parties with the best capability to mitigate or absorb those risks.

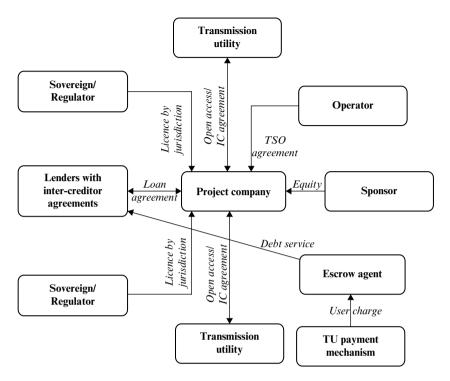
Figure 4.7 shows a representative project participation structure for financing cross-border road and railroad projects. Typically, these projects are more appropriate when structured as a combination of several concessions to reduce financing, sponsor and operator risk. Each concession can be an SPC, complying with local regulations, funded at the local level and providing for tolling in the local stretch. Financing can be project recourse, that is, liability is limited to the project if development risk is mitigated through the auction of fully permitted SPCs. However, coordinated project development and adherence to milestones across borders will be most crucial to fulfill linkage objectives.



Note: CDG = credit guarantee; PRI = political risk insurance.

Figure 4.7 Financing structure for cross-border road and railroad projects

For project participation in the case of cross-border transmission lines, as shown in Figure 4.8, the underlying contracting documentation is both more evolved and more bankable, with the projects having a high degree of user exclusivity. Determining of tariff is crucial and needs to be evolved through bilateral discussions between the governments of the two host countries. The tariff could be on a regulated basis for bilaterally allocated transmission, in which case the project will evolve more as an annuity without any business risk but lower returns. On the other hand, a project can be developed through a commercial joint venture between private or subnational counterparties, selling capacities to regional generation projects under a negotiated transmission agreement on a merchant basis.



Note: IC = inter-creditor; TSO = transmission service operator; TU = transmission utility. *Source:* Author.

Figure 4.8 Financing structure for cross-border transmission line projects

4.8 CONCLUSIONS

This chapter has identified the various sources, options and impediments to creating a sustainable alternate financial model for financing infrastructure projects in South Asia and Southeast Asia. It has discussed how at each stage of project maturity, a different category of credit provider finds it most appropriate to participate, based on its risk-return perspective. It also discussed the issues affecting the local financial markets in their present form and the policy initiatives necessary for removing the lacunae. The chapter has tried to identify the various credit market interventions and credit enhancement mechanisms that are likely to channel contractual and retail savings into infrastructure financial assets. This study points to the importance of government involvement in creating enabling policy, environment and financial infrastructure to ensure greater private sector participation in cross-border integration projects owing to the clear externalities that would not otherwise be reaped. It also points to the importance of coordination for the project to be successful. Finally, the chapter identifies structured finance solutions to some of the envisaged project situations and the critical issues influencing the success of those projects.

Multilateral development banks like ADB should play multiple roles in a project's financial lifecycle, starting as a provider of development support to the host-country parastatal by way of participating in development equity and allocating budget toward technical assistance for project development and documentation. As a project progresses, this role will evolve into that of a policy influencer, technical advisor and honest broker in ensuring efficient and transparent project allocation and effective private sector participation. Subsequently, at financial closure, MDBs will be expected to commit capital and debt to the project and leverage their network among other MDBs. Finally, as a project gets commissioned and attains a reasonable track record of successful operation, it can provide credit enhancement through partial credit and political risk guarantees to enable the project to seek cheaper refinancing in the commercial debt capital market. Multilateral development banks will also need to play an active role in influencing capital market reforms. promoting policy initiatives and introducing effective risk management tools for deepening regional financial markets and ensuring larger private sector participation in financing of domestic and regional infrastructure projects.

NOTES

- This chapter is an edited version of ADBI Working Paper No. 522 (Ray 2015). For a more detailed discussion of financing issues, readers may consult the working paper available at http://www.adbi.org/working-paper/2015/04/13/6593.investment.finance. sector.dev/ (accessed 15 May 2015).
- 2. The SASEC program, set up in 2001, brings together Bangladesh, Bhutan, India, the Maldives, Nepal and Sri Lanka in a project-based partnership to promote regional prosperity by improving cross-border connectivity, boosting trade among member countries. The SASEC helps countries strengthen road, rail and air links, and create the conditions necessary to provide reliable energy and boost intraregional trade in South Asia to cater to the needs of the region's growing economies.
- The Government Investment Unit of Indonesia, the State Capital Investment Corporation of Viet Nam, the Government Investment Corporation and Temasek Holdings of Singapore, and Khazanah Nasional of Malaysia are fairly active in the regional crossborder investment space.

- 4. InfraCo Asia Development is a donor-funded infrastructure development company. It is a part of the InfraCo group funded by the Private Infrastructure Development Group.
- 5. Take-out financing refers to a structured refinancing of an existing debt through a pre-committed loan buyout by another lender upon attainment of certain pre-agreed milestones.

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PART II

Soft Infrastructure and Impacts

Policies to enhance trade facilitation¹

Anthony Bayley

5.1 INTRODUCTION

Awareness of the importance of trade facilitation has increased dramatically since the early 2000s in both South Asia and Southeast Asia. National governments and the major international finance institutions (IFIs), such as the Asian Development Bank (ADB), have become increasingly active in formulating initiatives to help eliminate many of the non-tariff barriers (NTBs) related to the physical movement of trade. In particular, the finalization of the Trade Facilitation Agreement at the Bali Ministerial Conference in December 2013 has focused attention on resolving many of these issues. Indeed, the development of trade facilitation in general has grown to unprecedented popularity. To some extent, this reflects a clearer understanding of the interrelation between trade growth and trade facilitation. It has been suggested that expansion in trade due to enhanced trade facilitation could lead to increases in per capita gross domestic product (GDP) in Asia and the Pacific economies by about 2.5 percent (Dollar and Kraay 2001; Duval and Utoktham 2009). Similarly, it has been calculated that decreasing direct and indirect trade transaction costs by 1 percent can result in an average of 0.25–0.4 percent increase in GDP (OECD 2009). Hence, it is evident that improvements in trade facilitation can potentially generate more trade and thus raise national welfare. Consequently, institutions and governments have focused on trade facilitation as one possible approach to help raise GDP levels, especially in developing countries, with a view to poverty alleviation.

The economies of South Asia and Southeast Asia have tended to grow independently of each other, and in most cases international trade has concentrated on distant markets, rather than on neighboring countries or regions. Among the reasons for this are that the main demand for export products comes from developed countries, export products are often homogeneous, and neighboring countries are competitors rather than customers whose import demand is not for the type of products exported by close neighbors.² While major exporting countries such as India, Malaysia, Singapore, Thailand and Viet Nam trade with each other and with other countries in South Asia and Southeast Asia, the volume is a small percentage of their overall trading activities.

Trade is not necessarily dictated by distance between centers of production and demand. Traders in South Asia and Southeast Asia are more attracted to trading with distant markets such as North America, Japan and Europe, which are seen as stable and generate 'hard' currency, rather than trading with neighbors where the risks are perceived as being higher. Despite the recent economic problems in some of these developed markets. conditions are now improving and they are still seen as the key centers of demand in the short to medium term. Ongoing developments in the maritime sector with ever larger vessels, and the formation of major consortiums suggest that long-distance transport will remain relatively stable. thus bringing these distant centers of demand to within easy reach of the region's exporters. While the progress achieved in the People's Republic of China (PRC), India and Indonesia has led to a growing 'middle class' with greater spending power, much of this increase in demand is expected to be satisfied by national production and remote outside sources, rather than by imports from immediate neighbors. The policies in many Asian countries have been to attempt to stimulate domestic demand, particularly to satisfy the needs of this new 'wealth generation,' in order to offset potential shortto medium-term reductions in export demand. Initial evidence suggests that domestic demand is not rising at a sufficient rate to cover the reduced export demand. This wealth creation is fueling import growth, which is being satisfied by trade from outside rather than from within the region. Import demand in countries in South Asia in particular continued to expand in 2012-13 despite declines in exports, thus in many cases increasing their balance of payments deficits.

In essence, the growth of the South Asian and Southeast Asian economies predicted for future years is expected to generate trade demand on the global markets as a whole, rather than within the South Asia Subregional Economic Cooperation (SASEC) or the Greater Mekong Subregion (GMS) in isolation. Enhanced physical connectivity will not generate significant intra-regional trade in itself. Instead, trade will have to be 'fought for' and therefore proactive measures that facilitate the movement of trade in the South and Southeast Asian countries will be critical to ensure export goods are competitive and import transaction costs are minimized. While trade will remain focused on distant markets, there is a latent demand for trade within and between the regions that could be realized within a more progressive trade facilitation environment.

This chapter provides a profile of the trade facilitation environment

in South Asia and Southeast Asia, highlighting the key related issues and constraints, and indicating the existing and potential developments needed to resolve the present NTBs. Section 5.2 clarifies the scope of trade facilitation in the context of this study and section 5.3 is an overview of the situation in both regions. Section 5.4 describes the specific key issues and bottlenecks and section 5.5 discusses the current regional initiatives designed to address them. Sections 5.6 and 5.7 present conclusions with recommendations on strategies that will potentially enhance trade facilitation and promote trade between the two regions.

5.2 SCOPE OF TRADE FACILITATION

One of the difficulties in addressing trade facilitation has been its imprecise definition, and to date no common interpretation has been used institutionally. While trade facilitation is simply about making trading easier, international organizations have each developed their own individual interpretations. The Economic Commission for Europe (ECE) defines it as 'the simplification, harmonisation and automation of international trade procedures and information flows' (ECE 2003, p. 11). The World Trade Organization (WTO) Bali Agreement of 2013 refers to it as 'provisions for expediting the movement, release and clearance of goods, including goods in transit' (WTO 2015) and the Organisation for Economic Co-operation and Development (OECD) defines it as 'all the steps that can be taken to smooth and facilitate the flow of trade.' (OECD 2005, p. 2). The common theme in these definitions is the simplification and rationalization or harmonization of procedures with some organizations, such as the ECE, making a link with the need to balance facilitation with appropriate control measures.

In the context of this chapter, trade facilitation is considered to be the resolution of the processes adversely impacting the free flow of international trade in the various countries in South Asia and Southeast Asia, excluding trade policy matters. These constraints manifest themselves most clearly at the borders between countries, for example, at road borders, rail borders, seaports and airports. While customs activity has the most visible impact on increasing the time and cost of trade moving through borders, this can mask the adverse effect of other agencies and operators in raising border transaction costs. Most trade between South Asia and Southeast Asia will continue to move by sea. Hence, port facilitation covering all the processes between the ship's arrival and the goods leaving the port – and vice versa in the case of exports – should be encompassed within the scope of trade facilitation. Similarly, the means of transport across land borders, often referred to as transport facilitation, should also be included.

5.3 OVERVIEW OF TRADE FACILITATION IN SOUTH ASIA AND SOUTHEAST ASIA

In examining trade facilitation in South Asia and Southeast Asia, it is important to recognize the economic and development differences both between and within the regions. A key issue is that most trade facilitation procedures are governed by national, not international, legislation. Thus, the various border control agencies are mandated by national acts, regulations, or instructions issued by the respective ministries. The net result is that trade facilitation constraints are not necessarily standardized.

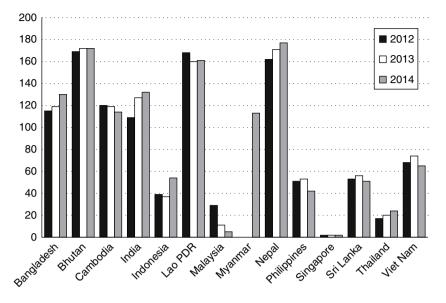
International organizations and conventions represent the standards to which these agencies should aspire in terms of establishing benchmarks, but compliance with such standards is dependent on national policies. Consequently, while there may be similar constraints among the member countries, their relative impacts could differ significantly. Differences in trade facilitation environments present significant problems for donor agencies developing regional and even subregional initiatives because of this lack of commonality.

Variations in trade facilitation environments are shown in the World Bank's Doing Business annual surveys, which are used as an international benchmark for the relative performance of economies by providing quantitative indicators across 189 economies over time. The survey covers various aspects including 'trading across borders'. Figure 5.1 shows the 2012, 2013 and 2014 trading across border rankings that are relevant to trade facilitation.

The individual rankings of each country are less important than the overall trend they suggest in terms of consistency of results. The survey highlights quantum differences between the more-developed and less-developed countries in the two regions, indicating that in the geographic center – Singapore, Malaysia and Thailand – trade facilitation is better and with fewer constraints. However, as one extends either east or west from this central north–south core, the much lower rankings suggest the trade facilitation environment becomes more problematical. The three most developed countries at the center of the region, which also have some of the best-rated customs organizations, appear to have the best trade facilitation environment. The survey also suggests that to the east and west the constraints in the GMS and SASEC are potentially equal and that improvements are slow to materialize.

The World Bank also publishes a Logistics Performance Index that measures how efficiently trade is being moved. It is based on a worldwide survey of global freight forwarders and express carriers in 160 economies

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Note: Lao PDR = Lao People's Democratic Republic.

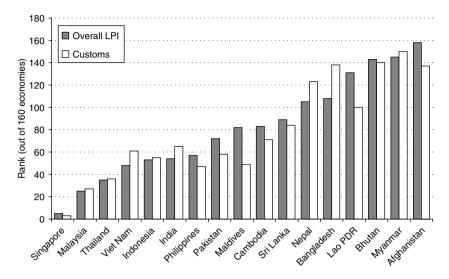
Source: World Bank (2012, 2013, 2014).

Figure 5.1 Trading across borders rankings, 2012, 2013 and 2014

and provides feedback on the logistics 'friendliness' of the economies in which they operate and with whom they trade (Figure 5.2).

Trade between the two regions is expected to remain predominantly by sea, but with an increase in intra-subregional trade by surface transport, provided the infrastructure can be significantly enhanced (Arnold 2009).³ However, trade facilitation is generally non-modal specific, where the processes and procedures applied by the relevant agencies are common to each mode. For instance, while airports often have some expedited processes, and ports have special port procedures, customs and other government agency practices are virtually identical. Similarly, procedures apply generally to all import or export movement, irrespective of country of origin or destination. Despite variations in the case of bilateral trade between neighboring countries, particularly involving free trade agreements (FTAs), most documentary and physical compliance checks are similar. Therefore, trade facilitation in most countries should be considered in relation to overall trade, rather than to or from another region in isolation.

With the exception of the landlocked countries of Bhutan, the Lao People's Democratic Republic (Lao PDR) and Nepal, all other countries



Note: Lao PDR = Lao People's Democratic Republic.

Source: World Bank, Logistics Performance Index 2014, available at http://lpi.worldbank. org/ (accessed 1 October 2013).

Figure 5.2 Logistics Performance Index, selected Asian economies, 2014

in the region are highly dependent on maritime trade through their ports; their trade facilitation environments are highly orientated toward seaports as opposed to land borders. In most cases automated customs processing commenced at airports and seaports and only much later spread to the key land borders. It is noteworthy that the three highest ranked countries have the best-performing seaports. Consequently, it is important to examine trade facilitation in an overall context irrespective of mode, rather than focusing on specific transport corridors, such as that between India and Thailand that will potentially act as the key link between the two regions.

5.4 ISSUES AND BOTTLENECKS

Identifying specific issues in South Asia and Southeast Asia, consisting of 17 countries each with their individual trade facilitation environment, is difficult. Consequently, the focus is on identifying key issues present in many of the countries. In practice, these constraints or NTBs are most prevalent in those countries with the lower rankings in the Doing Business surveys. While the high number of NTBs highlighted below reflects the complexity of the issues and the number of countries involved, it should not be interpreted as indicating that problems abound. While there is recognition that both regions have ongoing trade facilitation issues, this situation should not denigrate the gradual improvements in trade facilitation being achieved in many countries. These issues merely reflect that further progress is needed to keep pace with changes in an increasingly competitive global trade environment, whereas countries such as Singapore and Malaysia are setting the standards for other countries on the region to follow.

Many of these trade facilitation constraints are common throughout both regions, but their specific impact may vary nationally due to differences in legislation, the presence of bilateral or free trade agreements, and the types of product being traded. The main constraints are concentrated around import and transit traffic, where the control aspects are most prevalent. With the removal of duties and other charges, the processing of exports should become increasingly an administrative exercise, thus rarely incurring delays, with relatively low transaction costs. The importance of the issues discussed below varies from country to country, and are not in any order based on their adverse impact on regional connectivity, or their priority in being resolved. Given the large number of countries and their different trade facilitation environments, it is only possible to highlight some of the key issues.

Excessive Documentation

Customs, immigration, quarantine and security (CIQS) organizations mainly require documentation for clearance and processing purposes. Importers and exporters have to provide predefined documentation to confirm the shipment complies with appropriate import, export or transit regulations. Customs usually acts as the lead agency at the border for the processing of freight traffic, but at most borders there are at least four or five other public service agencies with a clearance role requiring the production of documentation.

There have been improvements in both regions in relation to excessive documentation, particularly in terms of standardization and harmonization of their formats, mainly driven by the automation process within the customs environment. However, ADB (2002) identified that the core problem is the volume of documentation required to achieve clearance, rather than its format. The more documents required, the longer clearance takes, and the higher the border transaction costs. Delays depend more on the size of the document pack than on the actual processing times at the

| Economy | Documents for export (number) | Time to export (days) | Documents for import (number) | Time to import (days) |
|-------------|----------------------------------|--------------------------|-------------------------------|--------------------------|
| Singapore | 4 | 5 | 4 | 4 |
| Malaysia | 5 | 11 | 6 | 8 |
| Thailand | 5 | 14 | 5 | 13 |
| Indonesia | 4 | 17 | 7 | 23 |
| Sri Lanka | 6 | 20 | 6 | 19 |
| Viet Nam | 6 | 21 | 8 | 21 |
| Bangladesh | 6 | 25 | 8 | 34 |
| Philippines | 7 | 15 | 8 | 14 |
| India | 9 | 16 | 11 | 20 |
| Cambodia | 9 | 22 | 10 | 26 |
| Myanmar | 9 | 25 | 9 | 27 |
| Bhutan | 9 | 38 | 12 | 38 |
| Lao PDR | 10 | 26 | 10 | 26 |
| Nepal | 11 | 41 | 11 | 38 |

 Table 5.1
 Number of documents and time taken for export and import transactions, 2012

Note: Lao PDR = Lao People's Democratic Republic.

Source: World Bank (2013).

frontiers. Interviews with clearing and forwarding (C&F) agents reveal that collecting all the necessary paperwork at one physical location to lodge a clearance entry is the greatest obstacle.

Table 5.1 shows the number of document types required in different South Asian and Southeast Asian countries to undertake import or export clearance and the time taken for an overall transaction. This indicates there is a correlation between the numbers of documents required and the time taken for a transaction. The more-developed countries in the center (Singapore, Malaysia and Thailand) of the two regions require fewer documents than those countries to the east and west.

Unfortunately, the issue is more complicated as a number of copies are required along with the originals when a declaration is lodged with the authorities. Many countries require six or seven copies of the customs declaration and three or four copies of each of the other documents. In most cases, the automation process has not reduced the number of forms and copies required. In a recent audit on the India–Bangladesh border, an import entry from India into Bangladesh required 55 separate forms and copies to be submitted, though 20–30 is more common (Commonwealth Secretariat 2012). To make intra-regional trade more attractive there is an

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urgent need to find ways to reduce documentation and rely more on electronic processing and filing.

Inadequate Implementation of Modern Customs Procedures

The pressure on customs to facilitate trade has increased in recent years, whereby the traditional authoritarian control approach is gradually giving way to the need to keep trade flowing through the frontiers. The World Customs Organization's (WCO's) Revised Kyoto Convention (RKC) represents an international development roadmap for customs modernization and international best practice by providing a series of time-based recommendations covering a wide spectrum of customs activities designed to enhance overall performance.

Key recommendations within the RKC include the introduction of modern customs approaches such as risk management, audit-based controls and advanced rulings. These techniques are designed to facilitate the movement of traffic passing through the frontiers by significantly reducing inspection and examination levels. The inspection or examination process tends to be the most time-consuming activity in border clearance, and is a prime source of delays at many frontiers. The current approach by customs authorities in many of these countries to enforce compliance is still based on a combination of both physical and documentary control mechanisms that potentially conflict with the trade facilitation role of a modern customs organization. The concepts promoted by the RKC to reduce the levels of examination involve such interventions being based on exception rather than by routine, as is currently the case in many of the GMS and SASEC countries. Customs throughout the region are familiar with these advanced concepts, with many international institutions and the WCO having provided specialist training in such disciplines and arranged overseas tours to demonstrate their application. Unfortunately, the results of this capacity building have scarcely been implemented due to legal constraints at the national level.

Limitations to the Application of Information and Communication Technology

The use of information and communication technology (ICT) systems in the trade facilitation environment is most pronounced in relation to customs operations. Customs declarations are now generally submitted across both regions in electronic format. Unfortunately, the implementation of ICT within the customs environment has, in many cases, widened the gap between the most developed and least developed countries in the region. This situation has evolved partly as a result of differences in both the application and funding of ICT, and partly due to ICT expertise being available within particular customs organizations.

The first issue is that some of the countries have introduced ICT systems in such a way that they act solely as a transaction recording system, a database of submitted declarations rather than an actual processing system. A common complaint by C&F agents and traders in South Asia and parts of Southeast Asia is that the introduction of ICT by customs has not resulted in any significant enhancement of clearance timeframes or a reduction of documentation.

The end result in many countries in both regions is that automated and manual systems are being operated in parallel. In practice, clearances are still undertaken using manual processes with approval stamping and signatures by officers, but with these manual actions additionally being recorded in the ICT system. Stakeholders have suggested that automation has increased the workload of agents and individual customs officers with no clear benefit for the major investment.

The significant growth in the application of customs ICT systems in both regions has rarely been matched by parallel levels of automation in the other organizations involved in trade facilitation. There are various reasons for this situation. First, the requirements in each country differ and there is no 'off-the-shelf' system that could easily be introduced. Secondly, the automation process is less complex, and therefore less likely to justify loans from international donors. Thirdly, these other organizations may not be seen as having the same priority as customs, which generates substantial funds to central government, whereas these other agencies often generate only small recoveries to individual ministries.

Countries with high rankings such as Singapore, Malaysia and Thailand have the most advanced ICT systems, thus there is a correlation between ICT development and levels of good trade facilitation. While the reverse is not true that those countries with poor rankings have the poorest ICT application, it is clear that good facilitation will be difficult to achieve without ICT systems that process and record shipments. In the moredeveloped countries, the technical skills within the customs ICT departments enable them to manage and develop their systems, whereas in the less-developed countries the ICT departments are small and fully occupied merely maintaining their systems.

A concern in some countries is the appointment and retention of trained ICT personnel. The various border agencies often come under civil service pay scales that are well below those being offered within the private sector. Some countries find it increasingly difficult to attract ICT specialists to work within customs given these limitations. Moreover, with the growth in web-based applications, existing personnel become more 'marketable' to the private sector and leave.

Single Window

Linked to the development of ICT systems is the concept of national and regional Single Windows. Single Window is 'a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfill all import, export, and transit-related regulatory requirements' (UN/CEFACT 2005, p. 5). The main value for having a Single Window is to increase efficiency for traders, through time and cost savings, in their dealings with authorities to obtain clearance and permit(s) for moving cargo across national or economic borders. In the traditional pre-Single-Window environment, traders had to deal with multiple government agencies at multiple locations to obtain the necessary papers, permits and clearances to complete their import or export processes.

The development of a regional Single Window by 2015, as promoted by the Association of Southeast Asian Nations (ASEAN), is dependent on all the member countries having National Single Windows (NSWs) that can be interfaced into a regional window. Singapore, Malaysia and Thailand are leading the way with NSWs already having been established, while further east, NSWs are in the planning phase with the 2015 target becoming increasingly unachievable, and 2018 appearing to be a more realistic implementation date. To the west, only India is currently engaged in developing an NSW, and this is limited at this stage to linking customs with only one other agency. Thus, it can be seen that the goal of an NSW replicates the overall ICT situation, where those customs authorities with a more advanced application of automated systems are moving further ahead by developing NSWs, leaving the less-developed customs authorities behind at the planning stage.

Lack of Transparency and Unclear Import-Export Requirements

Modern customs operations – and to a major extent trade facilitation – is about 'informed compliance'. Under this concept, traders who 'comply' with the appropriate legislation and regulations on a regular basis should be entitled to a facilitated service, usually in the form of expedited clearances. In order to be compliant, it is essential to be aware of the import, export and transit requirements. Previous studies on trade facilitation have highlighted the governance issues arising from a lack of transparency, but this problem often arises from inadequate publication of clear import–export requirements (ADB 2002).

Connecting Asia

Non-compliance can either be deliberate, as in the case of 'smuggling', or accidental, where a genuine error has been made because the rules were either not clear or were misinterpreted. The latter cases are the most common, especially in an environment of large numbers of one-off importers or small traders, as well as many small C&F agents with limited experience. While the most familiar documentation problems are simple typing errors during data entry or in the transposition process, there are many instances of the submission of incorrect supporting documents or the lack of them. The latter occurs principally because the relevant party has failed to comprehend what was required.

There appears to be an indirect relationship between access to trading requirements and levels of ICT use. Those countries with complex Single Window operations provide easier public access to their trading requirements, while in countries with low ICT or where ICT is used solely as a transaction database, the requirements are often more difficult to access. Access to regulations applying to imports relating to the non-customs border organizations has often been cited as a problem, particularly as many of these organizations do not have their own websites and have low ICT accessibility. Development partners have recognized a lack of trade portals in many countries in both regions. Thus, both ADB and the World Bank are helping to establish such portals in both the GMS and SASEC countries.

Legislative Constraints

In many developing countries in both South Asia and Southeast Asia the primary legislation is often more comprehensive, incorporating additional detail and including secondary legislative coverage. On the one hand, this means parliament has more control over implementation of activities generating revenue for the national budget but, on the other hand, the price of this centralized control is less flexibility to make even minor changes because of the need for parliamentary approval. Legislators normally wait until there are a significant number of changes required before drafting and proposing a submission to parliament. Introduction of modern customs practices is not only inhibited by the absence of supporting legislation, but under the existing legislation many of these new RKC concepts are often not permitted in the first place. The timeframe for introducing new or amended primary legislation via parliament is approximately three to five years (ADB 2011).

Compliance with National Technical Standards

One of the challenges facing the international trading system is the diverse conformity assessment practices and the persistent use of individual standards and approaches in different countries. The root causes of problems relating to technical standards in both regions are that the technical regulations, standards and conformity assessment procedures vary between countries. Having different standards, procedures and regulations presents difficulties for producers and exporters alike, which is then compounded by the lack of a harmonized approach to using the correct standard and conformity assessment procedure to ensure compliance. There are also wide differences in the levels of development and implementation of the national quality infrastructure, systems, and technical capabilities. These result in the need for constant product re-testing and re-certification. A recent survey by the South Asian Association for Regional Cooperation (SAARC) Committee of Experts showed that sanitary and phytosanitary technical barriers are the most frequent NTBs as far as the SAARC countries are concerned. Indications are that in the GMS, similar issues are commonplace for certain products, such as rice and other food products (ADB 2012). To date, the initiatives of the donor agencies have concentrated on customs, and only very recently have some been directed into this area.

A constant theme is demands for more testing equipment at the borders in the form of 'mini-laboratories', where approvals can be undertaken at the frontier and relevant certificates issued. However, at most borders there are no staff with the appropriate technical qualifications to undertake such complex testing. Site visits to borders where such facilities have been developed often indicate they are underused, poorly maintained and lack basic testing materials, or that the chemicals are beyond their use-by date (ADB 2002). The need is to place such testing facilities in more accessible locations, rather than at the borders, which are often remote locations where access to trained personnel is limited.

Border Infrastructure

Poor border infrastructure is often cited as an important NTB. This manifests itself in long queues at borders and resultant delays in transit. Where these problems arise they relate partly to the nature of the location or poor design. Many border crossings are congested because they are located in border towns that either existed originally or have grown due to the cross-border trading activity developing around the border link. Many SASEC and GMS road borders are congested, arising mainly from

the mix of large volumes of pedestrian, non-motorized transport and motorcycles, as well as freight traffic. In some GMS countries the borders are blocked by the construction of hotels and casinos such as between Thailand and Cambodia and Viet Nam and Cambodia, and in SASEC constraints arise from roadside retail activities such as those between India and Bangladesh.

In recognition of this adverse situation, a number of countries are responding positively. India is investing in the development of large integrated check posts (ICPs) at its main land borders with Bangladesh, Bhutan, Myanmar, Nepal and Pakistan to resolve this issue by moving the existing border operations outside the border towns and creating large border terminals connected by bypasses. Pedestrian traffic will continue to use the existing urban crossings, but vehicles will be diverted to the new facilities. Thailand is adopting a similar strategy by separating freight and passenger traffic, with freight bypassing the border towns to connect with new border terminals being constructed at the borders with Myanmar and Cambodia.

Another issue is that many borders are poorly designed. Modern design techniques recognize the border security zone as essentially a processing area, thus using an architectural approach referred to as 'form follows function'. Under this concept, the processing and ergonomics (functions) are mapped and the form (infrastructure) is then developed according to these processes. This ensures that the layout is optimally focused on operational needs. However, at many borders in both regions form rather than function has become dominant, with image being seen as paramount. The result is that these facilities are more difficult to operate and materials flow is suboptimal, thus making processing slower and more convoluted with users having to leave their vehicles to submit documentation (ADB 2012). In some cases, such as the ICPs and at the Thai borders, the new border infrastructure is so large that staffing and effective control are becoming potential issues for the relevant border authorities.

In developed countries, congestion is alleviated by the presence of inland clearance depots (ICDs), at which the final clearance takes place 'inland' from the border, and the border crossing acts only as a 'checkpoint'. This speeds up processing, as it means that only the driver and vehicle, but not the cargo, are checked at the border. In both South Asia and Southeast Asia the use of ICDs is limited. In Bangladesh, India and Thailand ICDs are mainly connected by rail with their seaports. This is because the state railways have become 'custodians of the cargo' in transit between the port and the ICD, and rail transit is seen as more secure than road transport. While there is pressure to speed up the processing by the removal of cargo from the border to an inland point, the response in both regions has been to position an ICD, land port or dry port close to, or even within, the border crossing. The main reason for this approach is the absence of effective inland transit agreements, which means that all road traffic has to be cleared at or adjacent to the border.

Despite the issues identified above, the primary cause of delayed freight movements through land borders is the physical processing, rather than border infrastructure. Poor infrastructure merely compounds the situation and makes the problems more visible. Despite the investment in new facilities in recent years, the average transit times for freight vehicles at borders have in many cases changed only marginally. For example, the transit times through the India–Bangladesh, India–Nepal and Myanmar–Thailand borders examined in 2013 are almost identical to those from audits undertaken in 2007 and 2010, even with the new facilities. Where lower transit times have been achieved this is usually due to improvements in the road infrastructure on routes to and from the border, rather than the actual border infrastructure.

Port Facilitation

Although ports are borders, trade-facilitation-related 'border delays' are often masked within the overall port activities. When cargo is languishing in a container yard, delays are not as visible as when cargo is on a truck at a land border. The reality is that the greatest trade facilitation constraints or delays often occur at ports, yet this remains less of a priority to resolve. Development partners, such as the ADB and the World Bank, have concentrated their assistance on enhancing trade through the land borders, with the goal of promoting intra-regional trade, with only the occasional port facilitation initiative. Given that, in future, the majority of trade between South Asia and Southeast Asia will move by sea, irrespective of land links established between the two regions, increased focus on port facilitation is necessary.

Most advanced ports in the world have port community systems. These are similar to the Single Window system in that the various members of the port community, including customs, can link into a common system that has processing, tracking and tracing mechanisms. While most major Southeast Asian ports have such systems, many South Asian ports do not, or their capabilities are rudimentary. The result is that users have to interface separately with all the different parties involved in a port clearance, including the port authority, shipping agents and transporters, as well as with the standard government agencies. It is no coincidence that the major ports with port community systems, such as Singapore, Port Klang, Tanjung Pelepas, Laem Chabang and Colombo have among the lowest port dwell times. The ADB has been assisting in developing such systems at Chittagong.

Delays in Transit Traffic to Landlocked Countries

The landlocked countries, in particular Bhutan and the Lao PDR, require the largest number of documents and incur the longest transaction times. The Doing Business surveys are based on global trade activity rather than bilateral trade, and therefore overemphasize the disadvantages of landlocked countries that have much higher percentages of bilateral trade with neighbors. For instance, Bhutan and Nepal trade mainly with India, and the Lao PDR with Thailand, and thus only a small proportion of their goods, often classified as 'third country trade', are subject to the international logistics chains with their high documentation requirements. Nonetheless, it is clear that while neither region has simple transit mechanisms, the responsibility for this situation does not solely lie with the transit country. In Kolkata, for example, documents have to be lodged with Nepalese or Bhutanese authorities in Kolkata, as well as with the Indian authorities. A common problem cited is obtaining the required data from the landlocked countries to enable presentation of the necessary documentation at the port. In effect, such traffic is subject to a 'double clearance' routine

If international land routes are to be developed, such as between India and Thailand through Myanmar, a long-distance transit system will need to be developed in areas where simple effective transit systems have been elusive. Some countries in both regions do not regard transit traffic as a priority, perceiving it as more of a benefit to others rather than to themselves. This may make it more difficult to agree on multi-country transit arrangements.

Transport Facilitation

Transit systems as discussed above relate to the movement of uncleared cargo between the port and/or border in one country to an inland point of clearance in the same country or through to another country, or across the territory of one country to and from a third country. Transport facilitation relates to the means of undertaking bilateral or transit movements and is concerned with the vehicle rather than with its contents. In both South Asia and Southeast Asia the international transport industry is small because few vehicles from one country can transit the border and ply the roads of another country, even those of their neighbors. In relation to freight vehicles, India allows Nepalese and Bhutanese trucks on their roads, and vice versa, provided they are carrying international traffic. Foreign trucks are not permitted in Bangladesh or Myanmar. In the GMS, freight vehicles can travel longer distances on neighboring countries' roads, but usually only if they have a permit negotiated under the Cross-Border Transit Agreement (CBTA). Vehicles from Viet Nam and Thailand can transit into both the Lao PDR and Cambodia, and vice versa. However, in practice, most road freight traffic tends to be transshipped at or near the border areas.

A feature of trade in both regions is the major trade imbalances with the smaller countries. For example, India is a much greater exporter than importer in relation to Bangladesh, Bhutan and Nepal. Similarly, Thailand and Viet Nam export more to Cambodia and the Lao PDR than they import. This relationship will always favor the transporters in the major export countries because the routing control of the major shipments lies with the exporters who predominantly use their national carriers. Where through-transport is allowed, such as between India–Bhutan and India–Nepal, Indian carriers dominate the transport. Similarly, between Thailand–Lao PDR and Thailand–Cambodia, Thai transporters dominate international through-transport where allowed. The same is true for traffic from Viet Nam to Cambodia and to the Lao PDR with Viet Nam transporters dominating.

Negotiating through-transport arrangements has proved difficult within regions, let alone between regions. The main problem is one of trust, related to the competence of drivers and their vehicles, particularly as through transport remains uncommon. However, there is also the problem of dominance in the international transport sector from carriers from major countries like India and Thailand. This leads to pressure from the national road transport sectors in the smaller countries to take protective measures. Transshipment at the border may cost more, but national transporters can obtain at least some income from this approach, whereas with through transport they stand to get nothing. Given this situation, there is an understandable reticence to open up the market to even bilateral traffic rights. The problems with rapid implementation of the CBTA demonstrate the difficulty in opening up the market (ADB 2012). This potentially represents a significant NTB for long-distance road transport between the two regions, particularly as foreign vehicles are not allowed through Myanmar.

Lack of Effective Consultation Mechanisms

Previous SASEC studies have highlighted the absence of effective consultation mechanisms, both at the inter-institutional and stakeholder levels. With regard to institutional cooperation, customs in SASEC and GMS countries meet regularly as members of the WCO, in addition to participating in initiatives promoted by the IFIs and regional organizations such as the ASEAN, SAARC and UNESCAP. Such meetings generally tend to be high level and therefore contain a 'political' dimension; rarely do they involve discussion of issues related to bilateral enhancement of trade facilitation between their respective subregional countries. At the border level, customs and immigration authorities meet their counterparts frequently to discuss operational problems, often on an ad hoc basis. However, their authorization to adjust procedures is limited. To address the gap between these high- and low-level meetings, various IFIs have promoted the establishment of regional customs cooperation committees (CCCs) to focus on common regional aspects.

Effective consultation between trade facilitation stakeholders, consisting of the border agencies and C&F agents, forwarders and transporters, is also lacking in many countries. Unlike more-developed countries, the border agencies in most GMS and SASEC countries are still predominantly orientated toward control and revenue collection functions, as opposed to trade facilitation. Therefore, the need to converse with the private sector may not be seen as important. Private sector businesses operate in a commercial environment and attempt to minimize transaction costs; therefore, they often have strained relationships with the border agencies, particularly customs. The result is a limited degree of trust between the public and private parties that would enable the formation of an effective cooperation mechanism that would benefit both parties.

Trade facilitation committees (TFCs) have been established with good intentions, such as to offer a forum where two parties (public–private) can mutually discuss issues. Unfortunately, constraints on both sides can compromise this objective. On the one hand, customs feels that it is perceived by the private sector as a complaints mechanism; on the other hand, the private sector raises issues affecting them as individual operators, rather than issues in the interests of the overall membership. The result is that these committees, which are designed to promote inclusivity in trade facilitation reform, tend to gradually meet less often and the representation quality diminishes. Many trade and transport facilitation committees in developing countries have been formed with the help of IFIs, only to later become inactive as particular technical assistance projects come to an end.

5.5 REGIONAL INITIATIVES DESIGNED TO ADDRESS THE ISSUES

Both the SASEC and the GMS are undergoing dynamic changes as part of the overall global restructuring in anticipation of Asia becoming increasingly economically prominent in the twenty-first century. Such developments predict that the growing economic power blocs of India and the PRC will have a positive effect on growth in the surrounding countries in their respective regions. Projections suggest that the level of growth will differ between countries, while following a more general underlying regional growth scenario. Intra-regional trade growth is also forecast to expand from its current low levels, as the supply and demand patterns gradually alter and countries become able to supply others within their respective regions without the current high reliance on external trade with developed countries.

The development of trade facilitation is expected to follow a similar pattern, with overall regional enhancement but significantly differing levels of progress being achieved in individual countries within each of the two regions. This has been the situation over the past decade and is not expected to change radically. The overall concept of most of the regional-based initiatives is to provide a framework for change, rather than relying on national initiatives that address only national NTBs. Unfortunately, the current scenario is that the most developed trade facilitation countries, such as Singapore, Malaysia and Thailand, are advancing more rapidly than their less-developed regional partners. In effect, the best are getting better and the gap between the best and many of the poorer countries is widening, mainly due to the magnitude of differences in resources, funding and levels of automation. Many regional initiatives are programmed to provide support to help close that gap by assisting the less-developed countries to improve their national trade facilitation environment.

The region has a plethora of institutions engaged in trade facilitation development. The major institution for Southeast Asia is ASEAN and in South Asia its counterpart is the SAARC. Both are essentially political organizations whose main input to trade facilitation is the development of FTAs between their member countries and with external trading blocs. However, each has specific initiatives designed to address key aspects of trade facilitation. The ASEAN's highest profile initiatives is the ASEAN Single Window (ASW) initiative and for SAARC, its initiatives on dealing with technical standards and development of mutual recognition agreements (MRAs) are paramount. Essentially, both organizations provide a cooperation framework among member states designed to implement common standards throughout their respective regions.

The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) was established as an interregional group in June 1997 to promote free trade within the region, increase cross-border investment and tourism, and to promote technical cooperation. While this organization has been dormant, the reintegration of Myanmar into the international community following political changes means it is the only regional cooperation institution specifically linking the two regions. The ADB is providing technical assistance to the BIMSTEC to develop policies and strategies designed to enhance physical connectivity and to develop the region's trade facilitation environment.

The IFIs, led by ADB and the World Bank, are involved in trade facilitation initiatives at the national and regional levels. Asian Development Bank trade-facilitation initiatives are predominantly subregional, coming under the auspices of GMS and SASEC programs, whereas World Bank initiatives are mainly national, in response to individual countries' requests for assistance. The trade facilitation efforts of both organizations have historically focused mainly on customs reform and modernization, though they have also covered transport facilitation and development of trade portals, among others. To date, the ADB has adopted different strategies for each region, its focus in the GMS being mainly on transport facilitation, and in the SASEC on customs modernization.

5.6 CONCLUSIONS

With two areas as diverse as South Asia and Southeast Asia it is difficult to provide conclusions applicable to all countries that specifically relate to enhancing connectivity between the two regions. It is evident that land links between the two regions, other than in relation to bilateral trade, are unlikely to be able to handle appreciable levels of trade in the short to medium term. The distance, the state of infrastructure and lack of heavy transport capacity combine to make the land route between the two regions commercially unattractive at present. However, such a link is seen as strategically important with potential in the longer term. Therefore, as trade facilitation enhancement takes significant time from planning to implementation, early action is recommended. The conclusions below indicate the primary issues in assessing trade facilitation in the context of connectivity between the two regions:

1. Connectivity between South Asia and Southeast Asia is currently not constrained by adverse trade facilitation environments in either region. The low level of international trade between and within each of the regions is due predominantly to other trading factors, such as similarity in export products and emphasis on trading with distant markets perceived as being more remunerative. While trade within and between the two regions is expected to grow appreciably, this will be determined principally by changes in supply and demand patterns. Nonetheless, improvements in trade facilitation would make trading both easier and more stable and thus the case for overall enhancement of the trade facilitation environment in support of economic growth in both regions is compelling.

- 2. The development of trade facilitation is a national rather than a regional issue. In general, national trade facilitation procedures are common and do not discriminate between the origin or destination of the cargo being processed. This situation suggests it could be difficult to isolate particular trade facilitation measures that will specifically enhance trade between South Asia and Southeast Asia; the main exceptions being development of specific border infrastructure and the promotion of bilateral or multilateral transport agreements.
- 3. Non-tariff barriers are predominantly due to constraints within a particular country, and therefore their resolution needs to be nationally focused. Given the major variations in the national trade facilitation environments within both regions, less-developed countries have a higher incidence of NTBs than developed countries. This clearly amplifies the need for national-based assistance, though possibly within a regional framework. The objective would be to raise the standards in the less-developed countries to narrow the gap between them and the more-developed countries.
- 4. It will become increasingly important to take a holistic view of trade facilitation development. Automation has been the major driver for change over the last decade and the development of National and Regional Single Windows in both regions is foreseen as the most important development in the next few years. However, the overall profile remains one of crowded customs offices with agents carrying papers from one processing window to another. Hence, reliance on a single strategy of ICT development will need to be augmented by other measures.
- 5. Potentially, the most constraining NTB is the amount of paperwork required to undertake clearance. Clearing and forwarding agents in South Asia in particular cite the major problem as being the time taken to collect and copy all the documents to support an electronic declaration. More emphasis may be needed on rationalizing and reducing documentation as a specific issue, rather than an inherent

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expectation that increased automation will ensure progress toward paperless operations.

- 6. Regional initiatives can be a useful mechanism to motivate change. While implementing improvements in trade facilitation measures may be primarily nationally based, a regional dimension as 'part of a team or family' within a structured regional framework is considered beneficial. For the less-developed countries, their more-developed regional partners can provide assistance, experience, and advice toward achieving the goal of enhanced regional trade facilitation. This is a key objective of initiatives involving the formation of customs cooperation committees or subgroups.
- 7. In initiating change there is a need for a more comprehensive understanding of 'why things are the way they are' rather than relying on pushing the 'end goal' of compliance with international agreements or best practice. Both regions consist of diverse countries with their own individual circumstances, and it is critical to consider these factors when promoting change.
- 8. Trade facilitation efforts supported by the IFIs should be more multimodal, as opposed to being focused on road transport borders. The promotion of transport and economic corridors may have led to an overemphasis on the land corridors, rather than activities at the terminals. While road borders are important for bilateral trade and in the landlocked countries, maritime transport is the critical mode connecting the two regions, as well as with the rest of the world, now and in the future. This indicates that port facilitation should become a more integral element in trade facilitation initiatives.
- 9. The development of NSWs is critical in both regions. It is no coincidence that the most advanced trade facilitation environments are in those countries with already developed NSWs. The main barriers to the development of NSWs are institutional rather than technical. In the less-developed countries, the ADB and the World Bank can play a key independent facilitating role in bringing the parties together and providing technical advice. They can also assist in introducing automation to other border agencies where current utilization of ICT is negligible.
- 10. The development of through transport should not be underestimated. In addition to the resistance to change, the smaller countries oppose opening up their road network to foreign transport as they feel they will be dominated, particularly where trade imbalances exist.
- 11. Legal assessments should be an integral element in development initiatives. Both regions have a history of capacity building, training

in advanced techniques, and development of automated systems, only to be thwarted in implementation by constraints in the existing legislation. Enhancing the trade facilitation environment will require changes to the legislation with appreciable lapse times expected between submission of drafts and parliamentary approval. Hence, the legal aspects need to be addressed at the 'front end' of capacitybuilding initiatives, so the results can be implemented when the external support program is completed.

- 12. While it is important to establish modernization benchmarks, such as all countries signing the RKC, compliance is more important than a signature. The RKC contains recommended practices that signatories are supposed to implement within given timeframes. Merely signing the RKC does not mean the relevant customs organization is compliant; it indicates a level of commitment to change, but does not guarantee that change has or will take place.
- 13. The importance of border infrastructure for trade facilitation may be overstated. In both regions the dwell times at land borders predominantly depend on processes and procedures, rather than any lack of physical infrastructure. Better infrastructure in terms of larger border processing zones often merely moves the point of congestion from outside the zone to inside. In both regions the main cause of border congestion is the inability of the clearance process to cope with demand.
- 14. In both regions there is a potential dichotomy between the approach to the development of border infrastructure and the introduction of advanced clearance processing. The modern concept of advanced customs operations strives to minimize processing at the frontier in favor of moving the goods 'inland', or closer to the end-user for clearance. The development of inland clearance depots and dry ports, as well as techniques such as post-auditing, means that borders would increasingly become merely checkpoints as opposed to clearance points. However, in both regions the border-crossing infrastructure is growing rapidly. Thus, major constructions inherently suggest that border clearances are here to stay.
- 15. Transit is likely to become an increasingly important issue in connecting the two regions, both for inland and international transit. It will be critical to move shipments from the frontier, be it a port or land border, to an inland clearance point to eliminate congestion at the frontier and to move cargo through countries to serve landlocked nations, or ultimately to undertake multi-country journeys such as from Thailand to India. In some countries, but not in others, there are inland transit arrangements, and where arrangements do exist

they are often suboptimal in expediting transits. For either region to be able to cope with the predicted growth, it will be essential to develop mechanisms to facilitate the movement of uncleared cargo away from the immediate border interface.

5.7 RECOMMENDATIONS

The recommendations are based on enhancing trade facilitation in general, rather than specific connectivity between the two regions. As indicated in the conclusions above, trade facilitation tends to be independent of mode or cargo origin and destination. Consequently, there is a demand to improve the trade facilitation environment in general, and probably more urgently in the less-developed countries where NTBs are more prevalent. Eleven recommendations flow from the above analysis:

- 1. Trade facilitation initiatives (other than infrastructure development) should be nationally or regionally based, rather than corridor based. Except for transport facilitation, it is unlikely that countries will adopt special procedures for a specific route or on a corridor basis, since in most cases legislation does not allow for such exceptions.
- 2. Trade facilitation should encompass both port and transport facilitation, as both can also represent NTBs. The majority of trade between the two regions will continue to be by sea, rather than between immediate neighbors. Therefore, ensuring ease of movement between surface and maritime interfaces should generate savings in transactions costs, as well as improve performance.
- 3. In the short term, the issue of excessive documentation is a priority in the less-developed countries. Reliance on increased automation and NSWs will not necessary resolve this issue, thus it should be treated separately.
- 4. There is a need to consider the development of a regional NSW initiative, similar to the ASW, but also covering the South Asian region (or possibly SASEC only). The objective is not to provide direct ICT interconnectivity, but to provide a framework under which all the countries are engaged in the planning and development process of NSWs. In some cases, external assistance will be needed to facilitate the planning activities.
- 5. While CBTAs have been partially successful in Southeast Asia, they may not necessarily be optimal for developing through transport in South Asia, or between the two regions. A more logical approach

would be to seek the application of bilateral arrangements, which later may evolve into a multilateral agreement.

- 6. In order to pursue the goal of through land transport between the regions, specific assistance may be required for Myanmar, whose trade facilitation environment is not compatible with those of its trading partners to the east or west.
- 7. In trade facilitation programs in both regions potential legal aspects should be considered. Proposals for changes in procedures and capacity-building initiatives in the past have been compromised by the inability to later implement change due to legal constraints.
- 8. When requests are made for the funding of new border infrastructure, an assessment of the functionality of the border crossing and its design should be undertaken. Current methodologies potentially lead to excessive expenditure on border facilities without any tangible benefits to users.
- 9. There is a need for development of more effective internal transit systems to reduce congestion at the frontiers and to be able to provide surface transport links between the two regions.
- 10. There should be a gradual transfer of emphasis from customs reforms toward addressing the non-customs issues, such as sanitary, quarantine, phytosanitary, veterinary, and trading standards.
- 11. There needs to be a clear phased program for trade facilitation efforts to connect the two regions based on a combination of national or regional developments, but within an inter-regional connectivity framework. Currently, trade facilitation developments are diverse in both regions and there is a case to be made for providing synergy between initiatives.

The WTO Trade Facilitation Agreement reflects the importance of trade facilitation in its key role of promoting global trade. Unfortunately, while such agreements tend to be non-binding, they provide a focus on many of the issues discussed above and generate a collective emphasis on resolving such issues. Many developed countries and IFIs have already responded by promising support to the less-developed countries in assisting them to comply with the tenets of the agreement. The agreement may be less relevant to the connectivity between South Asia and Southeast Asia in that both regions have some countries whose trade facilitation environments are already advanced and others where initiatives are under way. The agreement does, however, provide a context for these developments within a global framework.

NOTES

- 1. This chapter is an edited version of ADBI Working Paper No. 489 (Bayley 2014). For a more detailed discussion, readers may consult the working paper at http://www.adbi.org/files/2014.07.09.wp489.trade.facilitation.south.southeast.asia.pdf (accessed 19 March 2015).
- 2. See Bhattacharyay et al. (2012) for a more elaborate discussion.
- 3. With this in mind, the ADB is updating and enhancing the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) Transport Infrastructure and Logistics Study (ADB 2013).

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6. Implementation challenges and coordination arrangements¹

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6.1 INTRODUCTION

Since its uncertain beginnings in 1967 amid bilateral tensions among the five founding members, the Association of Southeast Asian Nations (ASEAN) has accomplished a considerable amount in promoting regional integration among its members. ASEAN's effect of advancing the political and security interests of its member states, while contributing to economic growth, has attracted countries in the region – most notably the formerly closed economies of Viet Nam, Myanmar and the Lao People's Democratic Republic (Lao PDR) – to apply for membership. ASEAN's ability to keep major powers engaged in the region through a dialogue system has also drawn more countries from the wider Asia and the Pacific region and other continents to enter into partnerships with the group. The interrelated nature of politics and economics led to a calibration of ASEAN's outward-looking policy toward greater connectivity with the world at large, even as the group seeks to integrate its economies more closely through its drive to accomplish a single market and production base envisaged as an integrated ASEAN Economic Community by the end of 2015.

With closer integration, there is growing interest – on the part of ASEAN's dialogue partners and within ASEAN itself – in the potential gains of connecting Southeast Asia with South Asia. India, through its 'Look East' policy and its status as the only South Asian country that is a full dialogue partner of the ASEAN, engages with the region through various mechanisms.² Myanmar's recent opening up offers a unique opportunity for the two regions to connect. Thailand, as Myanmar's immediate neighbor to the east and an active participant in other regional initiatives, is also keen to serve as a conduit point for mainland Southeast Asia's

connectivity. However, for this connectivity to occur and be sustainable, regional and bilateral initiatives need to be geared toward supporting connectivity as defined in the ASEAN context, that is, physical connectivity (rail and road infrastructure), institutional connectivity (coordination or harmonization of policies) and people-to-people connectivity (to support greater awareness of and communication between different peoples and cultures in the region). For the purpose of this study, 'connectivity' refers to physical connectivity unless otherwise specified.

The multilateral multi-country initiatives also need to consider the negative externalities – often underpinned by political and strategic considerations – that can arise from the initiatives for closer regional integration.

This chapter examines the implementation challenges and coordination arrangements necessary for connecting South Asia and Southeast Asia. It provides a background on the political economy and sociocultural implications of the regional and subregional arrangements and their connectivity initiatives.

The study briefly discusses incentives for the regional cooperation arrangements, highlighting the impediments to successful cooperation. The impediments are mainly the political or economic challenges of enhanced connectivity, including cross-border issues. It also discusses three examples of cross-border infrastructure projects. The projects represent multimodal cross-border connectivity, land connectivity and maritime connectivity; and serve as examples of the political and economic implications of increased physical connectivity between South Asia and Southeast Asia.

Finally, the chapter proposes options for intergovernmental cooperation. These suggestions are complementary to, and, in some cases, necessary for the success of the sector-specific projects raised in the study.

6.2 CURRENT REGIONAL AND BILATERAL INITIATIVES

This section lays out the organizational backdrop for greater South Asian– Southeast Asian connectivity, by identifying key regional subgroups, organizations and initiatives, as well as their relations with key countries.

6.2.1 The ASEAN and Asia-related Initiatives

The ASEAN has embraced connectivity as a vehicle for regional integration, particularly in the economic sectors. Having announced the goal to achieve a single market and production base as part of an integrated ASEAN Community by 2015, ASEAN policymakers have recognized the importance of internal and cross-border connectivity to link to the global supply chain. The ASEAN's connectivity efforts revolve around implementing the Master Plan on ASEAN Connectivity (MPAC) (adopted at the Seventeenth ASEAN Summit in 2010) at regional, subregional and national levels (ASEAN 2013). The ASEAN presents the MPAC as the region's main 'vehicle' for achieving regional economic integration. It is expected to give effect to the recent move for establishing a Regional Comprehensive Economic Partnership (RCEP) among the ASEAN and six of its partners with which it has a free trade agreement: Australia, the People's Republic of China (PRC), India, Japan, the Republic of Korea and New Zealand. Members of the RCEP may, in future, also become closer partners in connectivity. The 6th East Asia Summit (EAS), held in November 2011 in Bali, Indonesia, raised the possibility of developing a 'Connectivity Master Plan Plus' to include ASEAN's EAS partners (ASEAN Secretariat 2011).

The RCEP aims to establish a 16-country trade pact, which, if successfully concluded, would offer one of the world's largest trade blocs involving a combined GDP of more than \$17 trillion, and an approximate 40 percent share of world trade. This ambitious project has a timeline that coincides with the announcement of the ASEAN Economic Community (AEC) in 2015 (ASEAN 2011). At the same time, four ASEAN members (Singapore, Malaysia, Brunei Darussalam and Viet Nam) are participating in the Trans-Pacific Partnership (TPP) negotiations under the Asia Pacific Economic Cooperation (APEC) process.³ The main difference between the TPP and the RCEP is that the latter includes all ASEAN's free trade agreement (FTA) partners, while the PRC and India are not part of the TPP.

India's involvement in the RCEP negotiations has implications for South Asian–Southeast Asian economic integration. India is the only South Asian country negotiating the RCEP with the ASEAN as a dialogue partner of the group. It is also the largest economy in South Asia and is a key proponent of strengthening economic ties with Southeast Asia. The successful conclusion of the RCEP can thus serve as an incentive for the remaining South Asian countries to apply to join the RCEP, although this will also require seeking more formal status with the ASEAN.⁴ There are some push factors to do so. Inter-regional trade between the two regions, albeit still low, has increased significantly in the past two decades.⁵ Still, for the RCEP to fulfill its potential as a building block for South Asian– Southeast Asian economic integration, India's own RCEP status needs to improve. The degree of trade liberalization under the ASEAN–India FTA remains relatively low owing to limitations on tariff coverage by the wide array of sensitive sectors, and modest tariff concessions. The degree of liberalization is also low with each ASEAN country. Also, trade facilitation costs in South Asia are substantially higher than those in Southeast Asia (ADB 2012a).

6.2.2 Greater Mekong Subregion

The Greater Mekong Subregion (GMS) encompasses a market of more than 240 million people and a land area of 2.3 million square kilometers (km²).⁶ The gross domestic product of the subregion reached \$863 billion in 2010, more than triple that of 1996. Shrestha and Chongvilaivan (2013) attribute this to abundant resources, including a large pool of a motivated, cheap workforce, a rich agricultural base, extensive timber and fisheries resources, considerable mineral potential, and vast energy resources in the form of hydropower and coal and petroleum resources.

Since its inception in 1992, the GMS has focused on a number of infrastructure projects to connect the countries in the subregion via economic corridors. These projects have developed road and rail networks and air transport in the GMS countries that can be useful 'ready-made' links for South Asia–Southeast Asia connectivity. An additional consideration is the role of the Asian Development Bank (ADB). It serves as a secretariat to subregional arrangements in the GMS as well as in South Asia, such as the South Asia Subregional Economic Cooperation (SASEC).

The main attraction of the GMS for boosting economic ties between South Asia and Southeast Asia is linking the GMS and the SASEC subregions. It can be said that the GMS is to ASEAN what SASEC is to SAARC. However, incorporating the northeastern region of South Asia (links with India via Bangladesh and Bhutan) is a daunting task. Although India has developed initiatives to boost cross-border connectivity with Southeast Asia via Myanmar, cross-border connectivity is plagued by geographic remoteness, deficiencies in financial resources, ethnic strife and military activities. These hindering factors have made the northeastern part of South Asia less conducive to trade and investment. Also, developing the GMS as a land bridge between South Asia and Southeast Asia requires considerable financial resources for infrastructure investment to expand the economic corridors. The ADB (2012a) estimates indicate that from 2010 to 2020, East and Southeast Asia will need \$5.5 trillion in infrastructure investment projects, especially in the electricity and transportation sectors, and nearly \$2.4 trillion for infrastructure investment in South Asia (Table 6.1).

An avenue where South Asia, in particular India, could overcome these barriers and take part in GMS development potentially rests with

| Sector | East and Southeast Asia | South Asia | Central Asia | Pacific | Total |
|----------------------|----------------------------|------------|--------------|---------|--------|
| Electricity | 3182.5 | 653.7 | 167.2 | | 4003.3 |
| Transportation | 1593.9 | 1196.1 | 104.5 | 4.4 | 2898.9 |
| Telecommunications | 524.8 | 435.6 | 78.6 | 1.1 | 1040.1 |
| Water and sanitation | 171.3 | 85.1 | 23.4 | 0.5 | 280.2 |
| Total | 5472.3 | 2370.5 | 373.7 | 6.0 | 8225.5 |

 Table 6.1
 Asia's infrastructure requirement, 2010–20 (2008 \$ billion)

Source: ADB (2012a).

the Mekong-India Economic Corridor (MIEC) which is a nexus of the four GMS countries: Myanmar, Thailand, Cambodia and Viet Nam, and India, connecting Chennai Port in India to Bangkok by extending the link through the envisaged deepwater port at Dawei in Myanmar and linking up with the road connections to Viet Nam and Cambodia. The GMS has the potential to serve as a building block for MIEC, thanks to growing cross-border connectivity via existing economic corridors, and Myanmar's development of special industrial/economic zones along its domestic economic corridors and trade posts at the border areas with both India and Thailand. Building on these, the MIEC is expected to augment trade ties between South Asia and Southeast Asia and widen the economic opportunities for the entire region, especially in Cambodia, Myanmar, Thailand, Viet Nam and India (ERIA 2009). A June 2013 report by the Center for Strategic and International Studies (CSIS) on enhancing ASEAN-India connectivity has called for India, the ASEAN and the United States (US) to work with multilateral development banks to expand the ADB's GMS program to include the MIEC and to address 'bottlenecks' in transportation and other infrastructure gaps (Osius and Mohan 2013).

However, the key recommendations in the CSIS report indicate that there are challenges in bridging the existing infrastructure gaps. Much of the region covered by the MIEC is underdeveloped. Any implementation plan for achieving the MIEC will need to prioritize connecting the missing links, as well as leveraging on existing transport connections, including the Asian Highway Network and the Trans-Asian Railway projects. The need for developing deepwater ports (for example, Dawei in Myanmar) and improving the existing rail and road connections requires large infrastructure investments beyond the reach of most national budgets. While ADB is supporting ASEAN's efforts to establish an ASEAN Infrastructure Fund (AIF) to further develop key infrastructure needs for ASEAN connectivity, it is not yet clear whether the AIF can be expanded to include South Asia–Southeast Asia connectivity needs. It is an option worth exploring, however, in view of the ASEAN's objective to expand regional connectivity beyond the confines of the ten ASEAN nations. This is where the importance of bilateral economic relations with long-standing donors such as Japan cannot be neglected. Japan has a significant role in developing Myanmar's port infrastructure, as well as that of Chennai.

Under ASEAN's MPAC framework, policymakers have called for developing and negotiating public-private partnerships (PPP) for internal and cross-border projects. The investment opportunities in energy and telecommunications sectors in Myanmar provide incentives for attracting private sector participation. At the ASEAN level, the need for PPPs is emphasized for speeding up the connectivity initiatives. Myanmar, India and Thailand can start working out bilateral arrangements for involving the private sector in the relevant connectivity projects. However, it is difficult to implement PPP arrangements across borders. There are complexities surrounding what constitutes equal partnership and equal responsibility, as well as ensuring the accountability of all concerned. Myanmar and the ASEAN do not yet have policy frameworks for PPPs that specify roles, responsibilities and risks. Moreover, building infrastructure in the hilly terrain of northeast India and western Myanmar is not easy, especially as the pace at which it is to be executed needs investment, technical know-how, and a sense of ownership from the private sector players.

Neither do there seem to be any institutional arrangements clarified as yet for realizing the potential of the MIEC, although the Economic Research Institute for ASEAN and East Asia (ERIA) has researched the impact of infrastructure investment in the MIEC on the 'hard' and 'soft' infrastructure growth rates of countries along the MIEC route that include Myanmar, Cambodia, Thailand, Bangladesh, Viet Nam and eastern India (Kimura and Umezaki 2011).

Although the ERIA and CSIS reports emphasize the importance of multi-modal (transport) connectivity, it should be noted that the MIEC aims primarily to connect India and the Mekong countries by sea. How this will affect the ongoing drive to improve land connectivity via projects, such as the India–Myanmar–Thailand Trilateral Highway, the Asian Highway Network and the Trans-Asia Railway, needs further study if synergies and complementarities are to be identified. In addition, policy statements made at the highest level of government need to be backed up with the will to implement the vision for creating the MIEC region as a dynamic development hub in South Asian–Southeast Asian connectivity.

6.2.3 South Asia

South Asia's counterpart to ASEAN is the South Asian Association for Regional Cooperation (SAARC). Its thirtieth anniversary is in December 2015, but the aspiration to achieve a South Asian Free Trade Area (SAFTA) is not near the implementation level of its Southeast Asian equivalent. Similar to the ASEAN, there are institutional arrangements for shared responsibility (and ownership) in regional cooperation. Focused SAARC regional centers give effect to SAARC summit decisions. The SAARC member governments try to remain relevant with initiatives that highlight the link between the strategic and the economic. For example, the work of SAARC now includes new and non-traditional security issues that have economic implications: pandemics, terrorism and energy security, among others.

The SAARC differs from the ASEAN in its low success rate of progressing economic cooperation. Deep-rooted mutual suspicions, rivalries, and ethnic tension have affected bilateral relations among SAARC members. The SAARC's inability to progress as fast as its founding objectives intended has affected its regional programs, particularly those aimed at closer connectivity among the member states through economic integration. Despite having been in existence for close to three decades, SAARC member states have resorted to individual, bilateral or subregional activities. This has taken place with little or no input from regional processes under the SAARC framework. The SAARC's processes are not well known or discussed beyond the circles of government officials coordinating the annual meetings of senior officials. In short, despite both groups having been labeled 'talk shops', the ASEAN programs are much more active compared with the passive role of SAARC in their efforts for regionalism.

This is frustrating for several members of SAARC, most notably India, at a time when more incentives are emerging for closer connectivity among the members and with neighboring countries across regions. Owing to the SAARC's limited progress, India has long looked to engage with other countries with Southeast Asia a key area of interest for the country. The start of India's closer engagement with the ASEAN can be linked to its Look East policy, initiated under the premiership of P.V. Narasimha Rao in 1992. Starting with sectoral dialogue partner status in 1992, India became a full dialogue partner of the ASEAN in 1995, subsequently joining the ASEAN Regional Forum in 1996. It was a founding member of the EAS in 2005 and the ASEAN Defence Ministers' Meeting Plus group in 2010. Dialogue relations were elevated to a strategic partner status in 2012.

Southeast Asia thus figures prominently in India's foreign policy

calculations. The ASEAN-India Free Trade Agreement (AIFTA), signed in 2009, is now operational. India is ASEAN's fourth largest trading partner. Bilateral trade reached \$80 billion in 2012, with a target of \$100 billion set for 2015 and \$200 billion by 2022 (Kimura and Umezaki 2011). This target is attainable if the current negotiations for investment and services agreements under the AIFTA come through. However, India-ASEAN trade volume is small compared with the trade volume of \$400 billion between the PRC and the ASEAN. Poor connectivity between India and the ASEAN is one of the major reasons for this inability to scale up economic engagement. The crucial region is India's northeastern border and Bangladesh, bordering Myanmar's northwestern and western regions. Together, these are the 'gateway' regions for South Asian-Southeast Asian connectivity. The low levels of internal connectivity are compounded by the high transportation costs in these border regions. Political tensions along the borders between these countries, as well as tensions within domestic borders also hinder smooth trade flows between India and its Southeast Asian neighbors. Effective infrastructure and unhindered physical connectivity are prerequisites for bringing India-ASEAN relations to the next level in integrating with the wider East Asian region, but this will be difficult to achieve without resolving the domestic and bilateral issues that exist along the border regions of these countries.

India's engagement with Thailand through the Look East policy is complemented by Thailand's Look West policy that was announced in 1996. Building on these platforms for bilateral cooperation, there are now several regional platforms on which India and Thailand engage with each other and other countries in the region. India is an integral member of the Asia Cooperation Dialogue, a Thai initiative. The governments of the two countries are working closely to curb the menace of insurgency and organized crime through counterinsurgency and counterterror operations.⁷

India and Thailand are also involved in regional connectivity initiatives such as the India–Myanmar–Thailand Trilateral Highway, the Asian Highway Network (under UNESCAP), and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) Transport Infrastructure and Logistics Study (BTILS) (for details, see Embassy of India–Bangkok 2013). Attention is being given to completing the Trilateral Highway as it links northeast India with Myanmar and Thailand. Another 'corridor' project, the Dawei deepwater port and special economic zone to be completed in Myanmar's southern coastal province, lends an ambitious tone to the project. The scope and impact will be massive, requiring 205 km² (about 50675 acres) of land, about a quarter of Singapore's land area, for the entire project.⁸

6.2.4 The BIMSTEC and the SASEC: Potential Building Blocks?

Established in 1997, the BIMSTEC aims to achieve its own free trade area by 2017. Though the group (comprising Bangladesh, India, Myanmar, Sri Lanka, Thailand, Bhutan and Nepal) has a more focused mission for collaboration in economic development, progress in implementation has not been as effective as initially expected.⁹ This could be due to the lack of a dedicated coordinating body similar to the secretariats for the larger regional groupings of the SAARC or the ASEAN.

The BIMSTEC's functional cooperation has, however, continued. In recent years, BIMSTEC cooperation seems to have been more active in the economic-related sectors, which focused much attention on progressing negotiations to implement agreements on trade in goods and services, transport and energy, and tourism.

Regional cooperation agreements such as BIMSTEC can be additional catalysts in energizing development in the areas that constitute northeastern India and western Myanmar regions.¹⁰ India and Myanmar have a common interest to initiate and support BIMSTEC programs in their shared border areas, particularly for the necessary infrastructure (both hard and soft) for physical (road and rail) connectivity and people-to-people connectivity through sustainable tourism development. Also, Myanmar's role as a lead country in the BIMSTEC energy cooperation framework indicates the possibility of exploring greater energy interconnection.

The BIMSTEC seems to present more potential for moving forward than the SAARC mechanisms for partnership with the ASEAN, with the advantage of members from Southeast Asia within its framework. Even so, the importance of other subregional frameworks in South Asia, such as SASEC, should also be considered. In fact, with an even more focused mission than the BIMSTEC, it can be argued that the SASEC presents an opportune window for complementary projects on regional connectivity to be undertaken with ASEAN countries. The SASEC, which brings together Bangladesh, Bhutan, India and Nepal, has a more explicitly defined focus on promoting regional growth through trade.

The SASEC's shared vision is to 'increase intra-regional trade by moving people, goods and business across borders faster and at least cost, and to improve the quality of life and opportunity for the people of the SASEC countries' (ADB 2013a). The assessment of the tremendous potential of the SASEC framework, if fully achieved, is correct and can only add to the dynamism of intra-regional connectivity. However, it is also true that SASEC members face challenges similar to the newer ASEAN members in the GMS and Mekong–India initiatives. The constraints of poor infrastructure exacerbate the lack of access by landlocked SASEC countries, such as Nepal and Bhutan, to more venues for foreign direct investment and to regional and global markets. In the SASEC context, as in the ASEAN collaboration context, the common link is India, as well as the links that countries in both regional arrangements have established with ADB.

6.2.5 Role of the Asian Development Bank

The AIF, administered by ADB, became operational in 2013.¹¹ The first project financed from the AIF was a \$410 million project powering electricity links in Indonesia; the AIF has provided a \$25 million loan for the project (ADB 2013b). While the AIF aims to finance up to \$300 million a year for ASEAN's priority infrastructure projects, ASEAN's infrastructure needs are projected to amount to up to \$60 billion a year.¹²

The ADB has also supported infrastructure needs in SASEC countries. Although no similar loan structure to the AIF exists for the SASEC, the ADB has approved almost \$4.7 billion in loans and grants to SASEC countries (with the governments contributing more than \$1.9 billion) since 2001, in the SASEC priority areas of trade facilitation, transport, energy and information and communication technology (ICT) (ADB 2013c).

If and when complementary connectivity projects can be negotiated between the ASEAN and SASEC countries, especially those with contiguous borders (for example, India, Myanmar and Bangladesh), it may be worth exploring the synergy of funding mechanisms with partners like the ADB. Comparative studies on the ADB's role in the GMS and the SASEC, its mode of operation and the transnational management function of the ADB's cooperation approach should further examine the implications of transnational dynamics and the supranational role of the ADB, ASEAN and SAARC. This will help identify more pragmatic approaches to connectivity and growth via intergovernmental processes. The role of the ADB as a central actor in strengthening regional mechanisms for connectivity may also encourage the bypassing of political tensions in favor of economic development.

Table 6.2 summarizes the institutional arrangements and costs of connectivity discussed in this section.

| Institutional/ regional arrangements | Initiatives/projects/ programs | Challenges/constraints | Sectors/institutions involved | Significant issues |
|--|---|--|--------------------------------------|---|
| ASEAN | • Individual | • Concluding the | • Trade, transport, | Linking Myanmar with |
| • RCEP • ASEAN- | r I AS, bliateral arrangements | ASEAIN-Inula Free Trade Area | regional and central/union | nortneast muia requires political will |
| India | to complement | Political/security | governments | • Myanmar needs to step |
| Connectivity | ASEAN-level | and infrastructure | • Business | up poverty alleviation |
| | agreements | challenges of | community | initiatives in border areas |
| | Trilateral Highway, | connecting northeast | External donors, | Myanmar has more |
| | Kaladan Multimodal | India to Myanmar | including | focus/attention on |
| | project | Slow progress in | bilateral | connecting with |
| | India's Look East | Look East policy | partners and | countries to the east of |
| | policy | implementation | multinational | it, rather than the west |
| | | | corporations | |
| GMS | Singapore–Kunming | The ASEAN Mekong | • ASEAN | Greater Mekong |
| The ASEAN | Rail Link | Basin Development | economic | Subregion countries |
| Mekong Basin | • The EWEC, | Cooperation focus | ministers | may not see or feel the |
| Development | NSEC and SEC | is more focused on | Trade, transport | relevance of connecting |
| Cooperation | complementing | connecting with the | Japan is an | to South Asia |
| Economic | the Asian Highway | People's Republic of | important | Routes to and trade with |
| corridors | Network and Trans | China | partner for | the People's Republic |
| Mekong- | Asia Railway | Infrastructure gaps in | Mekong–India | of China are better |
| India | • Deep sea port and | most corridor nodes | Economic | established |
| Economic | port projects | Behind-the-border | Corridor success | Political situation |
| Corridor | | issues for seamless | | of Greater Mekong |
| | | uravei | | Subregion countries may |
| | | Huge investment needs | | affect project progress |

| | f connectivity | 6 44 44 44 44 44 44 44 44 44 44 44 44 44 |
|---|----------------------------|--|
| | 5 | |
| | COSt | 200 |
| , | and | ~ |
| | l arrangements and cost of | |
| | arrang | 0 |
| | Institutional | |
| | Table 6.2 | |

| The SASEC may present better opportunities for economic integration and connectivity There are no ASEAN members closely involved in the subregional projects under the SAARC or the SASEC, although Myanmar is an observer and has expressed interest to join the SAARC. So too, has the People's Republic of China | Thailand and Myanmar are BIMSTEC members and thus provide the link to the ASEAN/ Southeast Asia Is there a role for Bangladesh to play a larger role in BIMSTEC processes? |
|--|--|
| SAARC member governments The Asian Development Bank (for SASEC and for India's North East road connectivity) | BIMSTEC member governments, particularly the foreign and trade ministries The Asian Development Bank (for transport and logistics study) |
| Overall slow progress for SAARC integration due to political differences/ issues between SAARC member states Links with the ASEAN at the working level but not progressing beyond that | Overlapping aims/ initiatives for free trade with the SAARC and the ASEAN Secretariat not yet operational although MOU has been signed Rotational nature of secretariat? |
| The South Asia Free Trade Area leading toward economic union The SASEC: focus on transport, energy, ICT and trade facilitation | BIMSTEC Free Trade Area (by 2017) Cooperation focused on economic-related sectors; poverty alleviation is a priority area |
| SAARC and SASEC | BIMSTEC |

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Note: ASEAN = Association of Southeast Asian Nations; BIMSTEC = Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation; EWEC = East–West Economic Corridor; GMS = Greater Mekong Subregion; MOU = memorandum of understanding; NSEC = North–South Economic Corridor; SAARC = South Asian Association for Regional Cooperation; SASEC = South Asia Subregional Economic Cooperation; SEC = Southern Economic Corridor.

Source: Authors' compilation.

6.3 BARRIERS TO SUCCESSFUL COOPERATION AND INTEGRATION

6.3.1 Risks and Uncertainties

Barriers to successful cooperation and integration exist at both country and regional levels. At the country level, the constraints are similar: poor infrastructure and lack of capacity, large investment needs that do not attract equivalent interest, lack of interest by the business community and domestic and/or bilateral concerns that distract governments. Also, there is overlap of the projects under each of the regional arrangements, causing confusion for implementing agencies and donors. Country-level constraints are found mainly in Myanmar, although Bangladesh, Thailand and India also have internal constraints.

Chapter 8 on Myanmar discusses obstacles and options for the country to join the regional connectivity experiment. Domestic sociopolitical and security issues feature largely in the challenges Myanmar faces in its move for closer integration into regional processes. Some additional points to consider are:

- Despite successive liberalization measures in the foreign trade sector since March 2011, illegal border trade remains a significant cause of revenue losses, corruption and market distortion. The current administration in Myanmar should focus on regularizing current illegal border trade practices, especially as this would also contribute to tackling development and poverty reduction issues in the border areas. There is hope for change with the signing of two agreements between Myanmar and the ADB on rural poverty reduction and HIV/AIDS treatment services, financed by the Japan Fund for Poverty Reduction.¹³ The agreements emphasize a community-driven approach, targeting vulnerable communities and areas. However, perceptions of broken trust imply that economic development in the depressed regions and reconciliation will take time.
- The lifting of authoritarian control and the course taken toward greater democratization have also led to a proliferation of civil society organizations that can now advocate for greater transparency and social justice in the decisions made over the use of land and other natural resources in major infrastructure projects. Examples for South Asia–Southeast Asia connectivity are the challenges made by advocacy groups over the Indian-sponsored Kaladan Multimodal Transit Transport project and the Thai–Myanmar joint initiative in Dawei. These are important nodes in the regional integration

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network. The latter, in particular, attracted negative reactions from local communities, more of which is discussed in the following sections.

- Greater connectivity could aggravate existing transboundary issues of illegal migration, human trafficking, narcotics use and drug trafficking.¹⁴ The problem of illegal immigration from Bangladesh into Rakhine State in western Myanmar that flared up in 2012 as the 'Rohingya problem' has alarmed the government and the majority ethnic polity to the extent that their responses toward enhanced connectivity (with its potential for abuse) might become more negative and less accommodating.
- This is also linked to the outward migration (largely illegal) by many Myanmar citizens, mainly from the ethnic areas, to countries such as Thailand. While Myanmar migrant workers fill gaps in the Thai labor market, this phenomenon is increasingly seen as undesirable by Myanmar authorities (Chantavanich 2012). The downside of improved connectivity would be the added impetus to the pull factor for potential migrants and might further facilitate human trafficking. A concern for India is that an increased influx of illegal migrants and refugees from other countries such as the Rohingyas from Myanmar and the Chakmas from Bangladesh will flow to India once the railway line between India and Southeast Asia is completed.
- Although relations between Myanmar and both India and Thailand have been mostly cordial under President Thein Sein's government, the existence of ethnic armed groups on both borders as well as the unsettled border demarcations with Myanmar are unsettling issues for all three countries,¹⁵ especially between Myanmar and Thailand. Unless the ongoing peace talks with these groups succeed and a political settlement is reached, the security situation along the Myanmar–Thai border could deteriorate. A resumption of violent conflict would undermine efforts to enhance overland connectivity with Thailand (Della-Giacoma and Horsey 2013).
- As for security concerns, India and Myanmar have agreed to open four checkpoints for increasing trade between the two countries despite the northeastern land route not being considered safe or cost-effective. The International Narcotics Control Bureau's annual report (2001) states that the 1643 km India–Myanmar border is utilized as a transit point between the Golden Triangle and the Golden Crescent, and that the mismatch between India and Myanmar's trade statistics is largely due to the drug trade.
- Another apprehension is that insurgent groups active in northeastern states might have unhindered access to Southeast Asia, and that

could pose greater challenges to Indian authorities to monitor the activities of insurgents and curb the menace. Indian security forces are concerned about the likely fallout of unhindered cross-border movement. In addition, authorities on both sides of the India–Myanmar border are concerned that a crisis could emanate from increased interaction among people of the same ethnicity residing across international borders, which might cause ethnic issues to flare up. Ethnic nationalism and insurgency have delayed the socioeconomic development of the region. They have also posed consistent challenges to effective and smooth border management, thus raising the uncertainties of the relationship between India and its neighboring countries. According to intelligence reports, Islamic insurgency is a threat to northeast India–Myanmar connectivity.

- One of the biggest security concerns for India that dissuades it from taking proactive measures with regard to connectivity is that radical elements have marred domestic politics. Similar to the protests by local communities in Myanmar, communities in northeast India have protested against land acquisition for road projects, delaying implementation of the projects.
- Another security issue is the increased opportunity for the spread of contagious diseases across borders. The arrival of a growing number of Myanmar workers in Thailand has led to the spread of drugresistant malaria and tuberculosis in some Thai provinces.

The challenges faced at the country level indicate the nature of strategic and economic concerns that pose barriers to successful regional and subregional cooperation.

6.3.2 Strategic and Political Barriers and Risks

Southeast Asia is where the strategic interests of the PRC, India, the US and Japan converge. Based on its comparative advantage and geographical contiguity, the PRC is most active in promoting north–south connectivity between mainland Southeast Asia and southern PRC, particularly through Myanmar. The PRC is also collaborating with India despite occasional incidents in border areas. Part of the revived Southern Silk Road includes developing a PRC–India highway link. The PRC and India signed a bilateral land transport cooperation agreement in Beijing during the visit of the Prime Minister of India in mid-October 2013.

The PRC's influence in Myanmar – albeit waning after the 2011 reforms started – would concern India more than the other countries in the region, mainly because of the historically close ties between India and the then

Burma, since the days of independence movements. Bilateral relations suffered a hiatus after the military junta seized power in Myanmar in 1988, but were revived under Prime Minister Manmohan Singh's administration. Developing closer ties with Myanmar will open new economic opportunities for northeast India. The PRC's influence in Thailand, on the other hand, adds to the difficulties of a nation that is currently polarized. Beijing's warmth toward Thailand is partly due to Thailand's role as the ASEAN's representative for coordinating the ASEAN–PRC Strategic Partnership in 2012–2015.

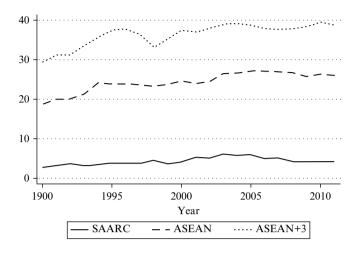
Perceptions of unequal benefit and uneven development

Myanmar's state of development and the internal challenges for greater investment in infrastructure suggest that India and Thailand stand to gain more from connectivity between South Asia and Southeast Asia. To ease negative perceptions, India and Thailand are assisting Myanmar's infrastructure development. The Trilateral Highway will connect other ASEAN members, such as the Lao PDR and Viet Nam, through the GMS corridor. Similarly, the Dawei project will benefit Cambodia and Viet Nam. However, some difficulties persist in convincing the Myanmar authorities and the local people in Dawei of the long-term benefits of the project, especially the special economic zones. Siting Dawei as a deepwater port and the first special economic zone in Myanmar may overshadow the port and industrial estate development projects around Yangon, Myanmar's current commercial hub.¹⁶ Sourcing the professionals and skilled labor needed to manage the Dawei deepwater port and industrial estates remains a major question. A large-scale influx of foreigners would aggravate the perception of unequal benefit and uneven development, when coupled with expropriation of land and relocation of villagers. Also, underinvestment in education in the Dawei area indicates that the local population is unlikely to benefit from the potential formal sector jobs that the project could generate. For connectivity initiatives to succeed, investments in 'hard' infrastructure need to be accompanied by investments in 'soft' infrastructure. Managing local resentment of foreign workers will remain a sensitive issue – politically and socially – for years to come.

6.3.3 Economic Barriers and Risks

Three aspects of impediments and risks associated with the path toward seamless economic integration between South Asia and Southeast Asia are different stages of intra-regional economic integration, limited interregional economic ties, and underdevelopment of inter-regional physical and institutional connectivity.

Connecting Asia



Notes:

ASEAN = Association of Southeast Asian Nations; ASEAN+3 = ASEAN members plus People's Republic of China, Japan and Republic of Korea; SAARC = South Asian Association for Regional Cooperation.

Intra-regional trade share is measured by the percentage of intra-regional trade to total trade of the region.

Source: International Monetary Fund (2013).

Figure 6.1 Intra-regional trade share of SAARC, ASEAN and ASEAN+3, 1990–2011 (percentage)

Stages of intra-regional economic integration

There are gaps in the stages of intra-regional economic integration under the different regional arrangements. While the ASEAN has been at the forefront of intra-regional economic integration, the level of economic integration within the SAARC is weak. Figure 6.1 presents the intraregional trade share among the ASEAN, ASEAN+3 (including the PRC, Japan and the Republic of Korea) and SAARC. Intra-regional economic integration under the SAARC lags that of the ASEAN. The reasons for the slow progress in strengthening intra-regional economic integration in South Asia include inadequate intra-regional connectivity, lack of political commitment to liberalization, and weak national and regional institutions (Bhattacharyay 2012).

At this pace, the risk is that closer economic ties between the two regions are focused on India–Southeast Asia economic integration, not on South Asia–Southeast Asia. The exclusion of other South Asian countries, owing to limited intra-regional economic links, exacerbates the scope of economic complementarities, production sharing under regional networks, and mutual benefits from economic integration.

Gaps in supply chain development

There are significant gaps of supply chain development in South Asia and Southeast Asia. The gaps prevail in two dimensions – underdevelopment within South Asia and at the connecting point, Myanmar. Myanmar's role as the bridge between the two regions poses problems to regional connectivity, as it is currently the second lowest in logistics capacity in South Asia, after Nepal. Without supply chain development and connectivity in South Asian countries and, particularly, Myanmar, the spectrum of outsourcing activities spanning across the regions will be limited only to the existing East Asian production networks, diluting gains from South Asian–Southeast Asian economic ties.

Sensitive sectors and economic adjustments

Like other FTAs, South Asian-Southeast Asian economic integration could be hampered by some sectors that are sensitive to liberalization. The India-ASEAN FTA provides a lesson for South Asian-Southeast Asian economic integration: that sensitive sectors potentially trigger delays of agreement ratification among member countries and undermine successful implementation of trade and investment liberalization (Sikda and Nag 2011). While India and ASEAN countries signed an agreement for trade in goods in 2010, conflicts and delays have emerged, critically in the agreement on services and investment. The reason is that India has a bigger stake in the services agreement as it is a major provider of information technology services and a source of engineers, education and medical professionals, among others. However, liberalization of trade in services is highly sensitive in Malaysia and Thailand where professional licenses are legally mandated to preserve national interests. In the case of a bigger platform such as South Asian-Southeast Asian economic integration, the range of sensitive sectors is likely to be wider and deeper. For instance, the agricultural sectors could be problematic as Southeast Asian countries such as Indonesia, Malaysia and Thailand are major exporters of palm oil, and an influx of palm oil into South Asian countries such as India and Bangladesh could threaten farmers' livelihoods there.

Sensitivity issues underline the apprehension over who will be the winners and losers from South Asian–Southeast Asian economic integration, and the ensuing economic adjustments will be painstaking for both regions. To address the risks of stalled negotiations under economic integration, collective action from both South Asian and Southeast Asian countries is imperative to compensate the economic sectors losing out from closer economic ties and to ensure smooth industrial adjustments. In doing so, the negotiations need to identify the sectors that are sensitive to liberalization. The sectors that require protection should be put on a negative list so that they have time to adjust. The safeguard measures and dispute settlement mechanisms need to be developed and addressed to tackle the possible conflicts that could emerge from economic adjustments.

6.4 OPTIONS FOR MOVING FORWARD

The following options merit further consideration in facilitating greater South Asian–Southeast Asian connectivity. The recommendations bear in mind the imperatives of regional connectivity – at times overlapping – under the ASEAN, SAARC, SASEC, GMS or BIMSTEC arrangements, but also attempt to link national and bilateral priorities with the broader regional picture. Without domestic commitment (political will) to achieve multilateral objectives, many well-intentioned plans have stalled. Incentives, where appropriate and relevant, should also be considered.

- 1. Assess and prioritize pending connectivity projects, with a view to accelerating implementation and completion. First, initiatives such as the Dawei project, a rail link from Jiribhum (India) to Ha Noi (Viet Nam) via Myanmar, the Asian Highway network and Trilateral Highway project need to be completed on time. Second, overdue projects such as the Kaladan Multimodal Transit project that involves sea (Kolkata to Sittwe), inland water (Sittwe to Setpyitpyin) and land routes (Setpyitpyin to the India-Myanmar border) and aims to connect Sittwe port in Myanmar and Indian ports on the eastern seaboard, should be accelerated and completed. Third, air connectivity, which has been neglected, needs attention. The inauguration of direct flights via Jet Airways between India and Viet Nam in November 2014 is a welcome move, complementing other ASEAN airlines plying flights from Viet Nam to India. Fourth, the causes of delays in road connectivity between northeast India and the ASEAN need to be checked. Red tape needs to be avoided and there needs to be a balance between infrastructural development and environmental protection. Personnel working on both sides of the border should be trained and recruitment drives should be in place (for engineers and construction workers).
- 2. Develop public messages on the benefits of connectivity to complement regional (local) development projects. Public messaging needs are acute as local governments are the first line of contact and communication

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with the local communities. Explanations of the benefits (and adjustments) stemming from greater connectivity between South Asia and Southeast Asia could help dispel mistrust and any fear of change among local communities. Public awareness initiatives need to be calibrated carefully to suit cultural differences and diversity.

- Align national priorities with regional and bilateral undertakings. 3. Myanmar, Thailand and India have recourse to regional platforms under the ASEAN-India dialogue and the EAS commitment for implementing MPAC priorities. Additionally, all three countries participate in BIMSTEC initiatives that connect the two Southeast Asian countries to the more focused South Asian economic integration move under the SASEC. Bangladesh's location as neighbor to both India and Myanmar is also an important consideration. To strengthen the capacity of countries such as Myanmar and Bangladesh to realize their potential as the land bridge between South Asia and Southeast Asia, it is important for bilateral projects to refer to ASEAN commitments in the case of Myanmar, and to emphasize the BIMSTEC and SASEC overlap for Bangladesh. For Myanmar, this is relevant in the context of Myanmar's recognition that the current reforms should be consistent with ASEAN's economic integration objectives. To this end, India can explore hydropower cooperation with Myanmar in the Chindwin River, in support of Myanmar's physical and institutional connectivity needs.
- 4. Dovetail physical and institutional connectivity needs. The development of communication and transportation links in the project areas should be prioritized under national and bilateral plans. In addition, governments need to evolve a calibrated policy framework for developing or strengthening soft infrastructure for better connectivity. The GMS experience shows that the policy framework must be strengthened by including stakeholders and providing the right incentives and appropriate institution arrangements, and sharing costs of infrastructure investment, capacity building and PPPs. Public-private partnerships are often promoted as the foundation for speeding up connectivity, but governments and business communities need to agree on how PPPs would be carried out in national and cross-border contexts. It is important to ensure that the partnerships are equal. It is equally important to ensure the accountability of all concerned. The countries most concerned with South Asian-Southeast Asian connectivity will need to develop a shared framework for PPPs that specifies roles, responsibilities and risks for cross-border connectivity projects, as well as the internal connectivity projects linking to these cross-border initiatives. Current approaches in involving private

sector participation are largely ad hoc and driven mostly by the public sector. The business community will require detailed information on the nature and viability of the connectivity projects before making financial commitments. Governments must be ready and willing to provide such information.

- Implement the recommendations of India's Northeastern Region Vision 5. 2020. The Northeastern Region Vision 2020, developed by India's Ministry of Northeastern Development, provides eight recommendations to connect northeast India with Southeast Asia (Ministry of Development of Northeastern Region, India 2008). India needs to produce an implementation plan and budgetary commitments to achieve the recommendations. While it is encouraging that the Tamu-Kalewa-Moreh road upgrading recommended by the 1997 Shukla Commission Report is complete, the other recommendations pertaining to the rail link to Bangladesh, and developing the Asian road link through Myanmar to the Lao PDR and Thailand still need to be realized (Rao 2007). The Northeastern Vision 2020 (Ministry of Development of Northeastern Region, India 2008, pp. 285-6) recommends policies and practical measures for facilitating cross-border trade with Myanmar, and through Myanmar to the other ASEAN countries, via the northeastern states, matching the northeast region's resource strengths (wood, rubber, industrial goods, including cement, coal and steel) to ASEAN's needs. Behind the border, barriers restricting trade, including improvements in current ICT infrastructure and customs procedures, should be examined. Security measures should also be taken to provide secure transport corridors for goods. These domestic development priorities should be linked to existing country and subregional programs supported by development partners.
- 6. Support for Myanmar's economic reforms, especially in the border areas. After embarking on a poverty alleviation agenda early in the reform phase, there are few concrete projects to show for the reformist president's commitments to improve the situation of communities in the border areas. Myanmar's President Thein Sein has reiterated the importance of economic development in the border areas, to facilitate 'lasting peace'.¹⁷ The question that arises now is whether connectivity via the ASEAN initiatives and with large neighbors such as India and the PRC can further enhance economic reforms in Myanmar. Members of Myanmar's National Economic and Social Advisory Council have identified transport, railway, information technology and energy as priority sectors for connectivity initiatives, for which external assistance, both technical and financial, is required. Myanmar is seeking this assistance under bilateral and regional (ASEAN)

cooperation frameworks. Requirements for institutional connectivity include trade liberalization, national Single Window implementation, investment, transport facilitation, cross-border procedures, and tourism and culture for people-to-people connectivity.

- Promote the role of state governments in promoting connectivity. 7. Northeast India's states and Chittagong in Bangladesh are involved in linking with Myanmar, and through it to the ASEAN region. For multimodal projects linking the three countries, the state governments have the primary responsibility to implement and support the projects funded by central government. This seems to have worked better between Myanmar and India. Some initiatives including a Myanmar-Northeast Indian state leaders meeting and a northeast India-Myanmar business conclave have started. There are several projects that the state governments have initiated and are working on, though at a slower speed than expected owing largely to issues relating to environmental clearance and land acquisition difficulties mentioned in section 6.3. To boost private sector partnership, the Confederation of Indian Industries (CII) has set up the CII-Northeast Council to work with the northeast state governments in making that region a new hub for domestic and foreign investments. Similar arrangements should be explored for the regional governments (that is, local governments) in the states bordering Bangladesh. In Myanmar, the Federation of Chambers of Commerce and Industry can play a lead coordinating role with counterparts from India and Bangladesh. For this to happen, the Myanmar government will need to provide more information on the benefits to be reaped from greater private sector involvement in projects.
- Consider the feasibility of a common funding mechanism for priority 8. infrastructure and connectivity projects in the overlapping subregions. It is worth embarking on a study of the ADB's central role in assisting transnational networks for connectivity. The ADB's role in addressing the infrastructure needs of the ASEAN countries under the MPAC priority projects and the secretariat function that it serves for the GMS and the SASEC point to the ADB's potential bridging role for infrastructure financing in Asia in view of the PRC-led Asian Infrastructure Investment Bank. Representatives of 21 Asian nations signed an agreement on 24 October 2014 (Economist 2014). However, it will be necessary to have a common agreement on what constitutes safeguard policies, requirements for social and environmental impact assessments, and governance issues. A study into the dynamics of 'topdown' connectivity initiatives where neutral third-party organizations (such as the ADB) take on the role of transnational management will

be a valuable addition to existing academic and policy literature on this subject.

6.5 CONCLUSION

It is well established that strong South Asian–Southeast Asian relations and connectivity present potential for Asia's economic growth and development. However, current initiatives at the national, subregional and regional levels also need to be viewed in the context of the complex political realities of contemporary times. Endeavors for greater connectivity will be successful only when they are linked with efforts for internal connectivity in each of the countries concerned. These are national responsibilities where broad regional commitments should be translated into practical action. The role of regional partners such as the ADB takes on added significance in helping to rationalize and unify the different strands of large-scale projects in each country.

NOTES

- 1. This chapter is an edited version of ADBI Working Paper No. 501 (Thuzar et al. 2014). For a more detailed discussion, readers may consult the working paper at http://www.adbi.org/files/2014.09.30.wp501.connecting.south.southeast.asia.challenges.pdf (accessed 21 August 2015).
- 2. Pakistan has sectoral dialogue status. India, Pakistan, Bangladesh and Sri Lanka participate in the annual security discussions of the ASEAN Regional Forum.
- 3. Brunei Darussalam and Singapore (together with Chile and New Zealand) were original members of the Trans-Pacific Strategic Economic Partnership Agreement (TPSEP, or simply P4) before the United States (US) joined the negotiations in 2011 and expanded it to the TPP.
- 4. The ASEAN currently has a moratorium on accepting requests for dialogue partnership. Apart from India, Pakistan is the only other SAARC member with formal links to the ASEAN as a sectoral dialogue partner. India, Bangladesh, Pakistan and Nepal participate in the 27-member ASEAN Regional Forum. The secretariats of ASEAN and SAARC have established a working relationship. See http://www.asean.org/news/asean-secretariatnews/item/asean-and-saarc-secretariats-enhance-relation (accessed 21 August 2015).
- 5. Southeast Asia's bilateral trade share vis-à-vis South Asia spiked to more than 3.5 percent in 2011, from around just 1.3 percent in the mid-1990s. South Asia's bilateral trade share vis-à-vis Southeast Asia also revealed an increasing trend from less than 7 percent in 1990 to approximately 10 percent in 2011 (authors' calculations based on data from International Monetary Fund 2013).
- 6. The GMS members are Cambodia, Yunnan Province and Guangxi Zhuang Autonomous Region in the PRC, the Lao PDR, Myanmar, Thailand and Viet Nam.
- 7. The 'four Cs' counterinsurgency, commerce, connectivity and cultural connections have the potential to redefine and add new dimensions to India–Thai relations. In that regard, both New Delhi and Bangkok have been working closely on issues over the past few years. For details see Mishra (2013).

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- This is the figure from Italian–Thai Development (ITD) and the Dawei Development Company (DDC). News media use 250 km² as the estimated total of land involved in the Dawei project. See also analysis by Umezaki available at http://www.oilseedcrops. org/wp-content/uploads/2013/07/Mekong-India-Economic-Corridor-Dawei-Project-Myanmar-Analysis.pdf (accessed 21 August 2015).
- The BIMSTEC cooperation areas include trade and investment, transport and communication, tourism, energy, technology, fisheries, poverty alleviation, cultural cooperation, agriculture, counter terrorism and transnational crime, environment and disaster management, and public health. See http://www.bimstec.org/ (accessed 21 August 2015).
- Myanmar is an important part of India's Look East policy as it has traditionally been considered India's gateway to ASEAN countries. It was for this reason that India invited Myanmar to join the BIMSTEC in December 1997. (Authors' personal discussions with former policymakers.)
- 11. Current shareholders of the AIF are the 10 ASEAN members and ADB.
- 12. For a reference guide on the AIF, see ADB (2012b).
- 13. The agreements were signed in February 2014, in Nay Pyi Taw. http://www.adb. org/news/myanmar/adb-myanmar-sign-grants-japan-rural-livelihoods-hiv-prevention (accessed 21 August 2015).
- 14. For elaboration of these problems, see for example, United States Department of State (2013).
- 15. Heads of governments of both countries had paid official visits to Myanmar and President Thein Sein had also returned the favor. Myanmar's military top officials have also exchanged visits with military leaders of the two neighboring states. For examples, see Ministry of External Affairs, India (2012), Pandit (2013) and New Light of Myanmar (2013).
- 16. Though it is the capital of the Tanintharyi region, Dawei is a small provincial city with a population of around 200 000. The southern region around Dawei is sparsely populated, mostly by Mon, Karen and other ethnic groups.
- 17. This was made in the February 2012 broadcast of President Thein Sein's monthly radio messages to the public. See http://www.rnw.nl/english/bulletin/myanmar-president-vows-end-ethnic-conflict (accessed 1 December 2014). The reference to lasting peace was also reiterated in his October 2013 radio broadcast, where he highlighted the peace-process linkages with national reconciliation. Full text of the October 2013 radio broadcast is posted on the Myanmar Permanent Mission to Geneva's website at http://www.myanmargeneva.org/index(more%20news).htm (accessed 1 December 2014).

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Economic implications of deeper South Asian–Southeast Asian integration: a CGE approach¹

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7.1 INTRODUCTION

In the twenty-first century, the external dimension to sustainable growth is more important than ever before. Asia is at the forefront of globalization: in all successful Asian economies, trade is a key source of growth on both the demand and supply sides, the former due to the benefits of integrating into the international marketplace and the latter due to technology and other spillovers associated with exports and imports. The role of global capital in growth and development varies across economies, but trends in globalization in Asia have been fueled by international supply chains and production networks, which in turn are propelled by foreign direct investment (FDI). That is, modern growth is being driven by an interdependent, simultaneous process in which rapid growth in trade, FDI, and other financial flows have been leading the process of globalization, and globalization itself is making trade and FDI increasingly important in the growth process.

South Asian and Southeast Asian policymakers have demonstrated a keen understanding of these issues, which is why Asia has been at the forefront of trade and investment liberalization over the past two decades. The results have been positive; these regions are among the most dynamic in the world and have produced impressive socioeconomic improvements, with most of the Millennium Development Goals having been achieved in many economies. While challenges remain, these regions are on the right path.

Thus, economic integration has been an important determinant of past economic success and a key ingredient in the recipe for future growth in South Asia and Southeast Asia. But have these two outward-oriented regions integrated well with each other? Have they been able to exploit dynamic synergies that might be tapped via closer economic integration? Prior to 1990, South Asian and Southeast Asian economies were isolated from one another and there was little talk of inter-regional economic integration. The only trade agreement that covered the two regions was the Bangkok Agreement signed in 1975 that included Bangladesh, India, the Lao People's Democratic Republic (Lao PDR) and Sri Lanka as well as the Republic of Korea and the People's Republic of China (PRC). There was little bilateral trade and investment among these countries. The adoption of the Look East policy by India and greater focus on outward orientation in 1991 marked the start of a new era in South Asian and Southeast Asian economic relations. Since then, there has been heightened policy interest in the process of inter-regional integration. Six trade agreements have come into effect between South Asian and Southeast Asian economies, including the landmark Association of Southeast Asian Nations (ASEAN)–India Comprehensive Economic Cooperation Agreement in 2010.

This awareness of the potential of inter-regional trade and investment has led to impressive responses in terms of rising economic interchange. Inter-regional exports and imports have risen significantly since the early 1990s, with bilateral trade flows growing even faster than the overall trade of these two dynamic regions, and FDI more than doubling over the past decade. However, these changes have proceeded from a small base; interregional economic integration is still low and far below what one would expect given regional characteristics (François et al. 2009; Dasgupta et al. 2012). While overall trade and investment liberalization in both regions has been remarkable over the past generation, inter-regional barriers have only fallen proportionately, even though, for example, intra-regional trade in the ASEAN is now essentially tariff free and the region has embraced deep integration in favor of a stylized unified market, the ASEAN Economic Community (AEC). Difficulties related to trade and investment facilitation are ubiquitous; infrastructural links are problematic; and interregional economic cooperation initiatives cover only parts of South Asia. In short, while economic integration is rising, it has a long way to go before it can reach its potential.

The goal of this study is to estimate the potential gains from South Asian–Southeast Asian economic integration using an advanced computable general equilibrium (CGE) model. Section 7.2 begins with a review of the current status of inter-regional trade links. Section 7.3 considers the few studies that have been used to evaluate the effects of South Asian–Southeast Asian economic integration and introduces the CGE model used in this study. Section 7.4 presents and evaluates the results of several potential scenarios of economic integration for South Asia and Southeast Asia in terms of their effects on national income, exports, factor prices (in order to gauge distributional effects) and structural change.

In short, the chapter estimates the potential gains to be large, assuming that 'soft' (for example, trade facilitation) and 'hard' infrastructure are put in place to reduce inter-regional trade costs, which at present are high. As Myanmar is a key inter-regional bridge and recently launched ambitious, outward-oriented policy reforms, the prospects for making progress in these areas are strong. For example, if the two regions succeed in dropping inter-regional tariffs, reducing non-tariff barriers (NTBs) by 50 percent, and decreasing other trade costs by 15 percent – which the chapter suggests is ambitious but nevertheless attainable – welfare in South Asia would rise by \$375 billion (8.9 percent of gross domestic product – GDP) and in Southeast Asia by \$193 billion (6.4 percent of GDP) by 2030, relative to the baseline. These gains will be driven by rising exports and competitiveness, particularly for South Asia, whose exports would rise by almost two-thirds. Hence, the chapter concludes that investments in connectivity would justify a high level of investment.

7.2 SOUTH ASIAN–SOUTHEAST ASIAN TRADE LINKS

The growth of South Asian and Southeast Asian inter-regional trade has been remarkable, from \$4 billion in 1990 to \$86 billion in 2012, an increase of almost 22-fold (Figure 7.1). Both regions embraced outward-oriented reforms to deepen links with the global economy over this period. From 2000 to 2012, effective applied manufacturing tariffs fell from 22 percent to 12 percent in South Asia and from 9 percent to 7 percent in Southeast Asia, making Southeast Asia arguably the most open in the developing world (ADB and ADBI 2015). This liberalization has been an important driver behind the internationalization of these economies; for example, the exports-to-GDP ratio of ASEAN rose to 57 percent and that of India increased to 18 percent (ADB and ADBI 2015). Cross-regional trade growth was even faster: Southeast Asia's share of South Asian trade rose slightly from 11 percent to 12 percent in 2011, with a slight dip in 2012 at 10 percent, whereas South Asia's share of Southeast Asian trade doubled from about 2 percent to 4 percent (Figure 7.2). This suggests that while cross-regional trade for both regions is low compared to trade with the rest of the world, it has risen from being insignificant to being important to both regions, particularly South Asia. In fact, South Asian and Southeast Asian trade is 2.5 times larger than intra-South Asian trade (Table 7.1). Intra-Southeast Asian trade is higher, at about 25 percent of its total trade, but this share has been steady over the past two decades.

In short, trade between South Asia and Southeast Asia has been rising



Note: Figures reported by importers.

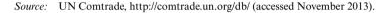
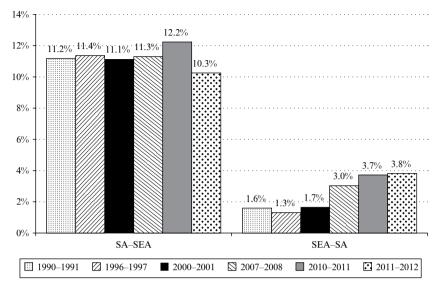


Figure 7.1 Total trade between South Asia and Southeast Asia, 1990–2012 (\$ billion)

significantly, but it is still low compared with these regions' overall trade. Does this suggest a problem? In fact, even if trade between the two regions was seamless, inter-regional trade would not be dominant for several key reasons. First, is the issue of size. While the economies of South Asia and Southeast Asia have been growing rapidly, their markets constitute a small share of global trade; the biggest global markets lie outside the region and will continue to be the most important markets for the two regions. Second, as noted in the empirical trade literature, geography matters: countries that have common borders and/or commercial centers that are close together should, other things equal, have a tendency to trade more with each other. In terms of South Asian and Southeast Asian connectivity, only Myanmar has common borders with South Asia, and Myanmar's outward-oriented development strategy is only in its infancy. Third, while diverse factor endowments exist across these economies, there are similarities. This might suggest that there is less room for trade; net rice exporters would not be expected to trade a lot of rice with each other, or producers of textiles to trade a great deal in textiles.

However, this final point needs qualification. True, the low-income countries that export unskilled labor and natural-resource intensive products would not be expected to trade much with each other, as they



Notes:

Figures reported by importers. Year ranges refer to financial year beginning in April of the earlier year.

SA = South Asia; SEA = Southeast Asia.

Source: UN Comtrade, http://comtrade.un.org/db/ (accessed November 2013).

Figure 7.2 Share of South Asian and Southeast Asian cross-regional trade to total trade, 1990–2012

specialize in the same types of homogeneous products. Still, most global trade takes place between developed countries with similar factor endowments; the difference is that they engage in intra-industry trade of products with heterogeneous characteristics, for example, automobiles and electronics. These products tend to be capital- and skill-intensive goods; hence, as South Asian and Southeast Asian economies move up the value chain and produce more sophisticated products, the potential for greater intra-regional trade will rise.

One way to gauge whether inter-regional trade is underperforming is to utilize an econometric model of trade determination that allows separation of regional and non-regional effects. The most popular model in the international trade literature used for this purpose is the 'gravity' model, which posits bilateral trade flows to be a function of distance-related variables, economic characteristics of the trading economies, and additional explanatory variables, including binary fixed-effect (or 'dummy') variables like

| Economy | | | | Imp | Imports | | | | | | | Total trade | rade | | | |
|----------------|-------------|---------------|-------------|-------------|-------------|---------------|----------------|-------------|--------------------|---------------|---------------|-------------|-------------|----------------|----------------|--------------------|
| | | Sout | South Asia | | | Southe | Southeast Asia | | | Sout | South Asia | | | Southea | Southeast Asia | |
| | 1990- 91 | 2000- 2001 | 2010- 11 | 2011- 12 | 1990– 91 | 2000- 2001 | 2010- 11 | 2011– 12 | $\frac{1990-}{91}$ | 2000- 2001 | 2010- 11 | 2011– 12 | 1990– 91 | 2000- 2001 | 2010- 11 | $\frac{2011-}{12}$ |
| South Asia | 777 | 1346 | 13065 | 11985 | 2081 | 4132 | 25463 | 28 221 | 1727 | 5477 | 30353 | 30480 | 5592 | 14257 | 81268 | 86096 |
| Afghanistan | 6 | 23 | 301 | 317 | 0 | 3 | 1 | 1 | 59 | 216 | 2915 | 3187 | 77 | 19 | 258 | 245 |
| Bangladesh | 55 | 46 | 587 | 683 | 59 | 153 | 255 | 303 | 477 | 1173 | 4697 | 5753 | 596 | 1608 | 6440 | 6613 |
| India | 420 | 887 | 9478 | 8035 | 1614 | 3479 | 23866 | 26 540 | 490 | 2185 | 11248 | 9440 | 3191 | 9710 | 63976 | 68322 |
| Maldives | 8 | 18 | 41 | 31 | 22 | 10 | 41 | 41 | 24 | 105 | 202 | 211 | 125 | 181 | 514 | 531 |
| Nepal | 22 | 179 | 517 | 411 | 5 | 10 | 9 | 8 | 91 | 478 | 2752 | 2988 | 83 | 145 | 216 | 218 |
| Pakistan | 194 | 120 | 1392 | 1657 | 308 | 352 | 824 | 858 | 291 | 474 | 3584 | 3584 | 1006 | 1491 | 6686 | 6631 |
| Sri Lanka | 68 | 74 | 749 | 850 | 74 | 125 | 470 | 470 | 295 | 845 | 4955 | 5318 | 514 | 1103 | 3178 | 3536 |
| Southeast Asia | 2591 | 4075 | 43904 | 50603 | 25616 | 77025 | 240668 | 252 199 | 4002 | 11 839 | 74083 | 85599 | 54295 | 167 993 | 522802 . | 554770 |
| Brunei | 0 | 1 | 457 | 822 | 391 | 693 | 1277 | 1350 | 0 | 9 | 904 | | 1069 | 1472 | 3259 | 3786 |
| Darussalam | | | | | | | | | | | | | | | | |
| Cambodia | 1 | 1 | 6 | 11 | 26 | 125 | 781 | 913 | 1 | 15 | 111 | 146 | 37 | 1204 | 7478 | 7007 |
| Indonesia | 255 | 821 | 13084 | 15638 | 602 | 4836 | 39761 | 42 328 | 435 | 2218 | 18799 | 22163 | 1333 | 8256 | 95057 | 106034 |
| Lao PDR | 0 | 0 | 45 | 107 | 46 | 170 | 1321 | 1423 | 0 | 5 | 57 | 128 | 117 | 667 | 4079 | 4830 |
| Malaysia | 952 | 1030 | 10716 | 13029 | 10853 | 27783 | 65408 | 69010 | 1175 | 2863 | 14669 | 17142 | 19696 | 57 129 | 136842 | 145266 |
| Myanmar | 79 | 214 | 1261 | 1368 | 256 | 746 | 3519 | 3897 | 85 | 397 | 1636 | 1871 | 615 | 1899 | 8030 | 9230 |
| Philippines | 26 | 51 | 485 | 536 | 634 | 6161 | 14325 | 11 635 | 104 | 340 | 1532 | 1702 | 1973 | 13 261 | 34479 | 30926 |
| Singapore | 911 | 1418 | 10402 | 10439 | 9503 | 22641 | 62804 | 67 585 | 1503 | 3975 | 23106 | 25340 | 21114 | 54 481 | 125308 | 32703 |
| Thailand | 296 | 520 | 5974 | 6674 | 2951 | 11730 | 41338 | 40 935 | 603 | 1734 | 8622 | 9666 | 7953 | 23 663 | 76253 | 77488 |
| Viet Nam | 71 | 19 | 1471 | 1978 | 248 | 2137 | 10134 | 13 122 | 94 | 286 | 4647 | 5835 | 388 | 5960 | 32019 | 37500 |
| Total | 3368 | 5421 | 56969 | 62588 | 27697 | 81157 | 266131 | 280419 | 5729 | 17316 | 104436 116079 | | 59886 | 59 886 182 250 | 604070 | 640866 |
| | | | | | | | | | | | | | | | | |

Table 7.1 Value of merchandise trade between South Asia and Southeast Asia, 1990–2012 (\$ billion)

Notes: Figures reported by importers. Year ranges refer to financial year beginning in April of the earlier year. Lao PDR = Lao People's Democratic Republic.

Source: World Integrated Trade Solution, http://wits.worldbank.org/ (accessed 11 December 2013).

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regions. By isolating influences beyond potential regional effects, such an approach can determine whether trading with a region leads to a positive or negative bias. One such study of South Asian trade (Akhter and Ghani 2010) estimates a statistically significant, positive Southeast Asian effect. Over 2003–08, the authors estimate that South Asian trade with ASEAN was 2.4 times higher than one would expect controlling for all other variables.² This would suggest that the impressive rise in inter-regional trade has some ASEAN-specific underpinnings. However, this effect is less impressive when compared with other studies employing gravity models to capture regional effects. For example, in a comprehensive study of trading blocs throughout the world, Frankel (1997) estimates that the ASEAN had almost three times as large an effect.³ Therefore, there appears to be substantial scope for increasing trade between the two regions.

7.3 MODELING CLOSER SOUTH ASIA–SOUTHEAST ASIA CONNECTIVITY

The above analysis suggests that economic integration across South Asia and Southeast Asia is proceeding, but that cross-regional trade growth is falling below its potential. The ADB and ADBI (2015) underscore that major bottlenecks significantly impede the realization of this potential; most likely, these constraints will become increasingly binding over time. These include, for example, shortcomings in transport links (particularly rail and road); high tariffs, NTBs and other policy-induced barriers to trade; and issues related to customs clearance and additional aspects of trade facilitation.

Improvements in some of these areas will be less costly than others: policy reforms in trade facilitation are far less expensive than building new ports and rail links. The goal of this study is to gauge whether investments in hard and soft infrastructure will be worth the investment. That is, it focuses on what potential economic benefits and costs can be expected via various degrees of deep integration. This section first considers the (scarce) previous work that addresses this issue, followed by a description of the novel CGE model used in this study to estimate the economic implications of deeper South Asian–Southeast Asian economic integration.

7.3.1 Earlier Studies of Benefits and Costs of Cross-regional Integration

Studies of benefits and costs of greater connectivity between South Asia and Southeast Asia are few, and so far have focused mainly on connectivity between India and the ASEAN under the auspices of the East Asia Summit.⁴

Bandara and Yu (2003) use a global CGE model to evaluate the effects of tariff elimination under a South Asian–ASEAN free trade agreement (FTA). They pessimistically report that all South Asian countries, including India, would incur welfare losses from such an FTA, while the ASEAN as a whole would see modest gains. However, more recent and comprehensive simulation studies report different results.

As part of the work related to the Comprehensive Asia Development Plan prepared by the Institute for Developing Economics (IDE) and the Economic Research Institute for ASEAN and East Asia (ERIA) for the East Asia Summit, Kumagai et al. (2013) use the IDE/ERIA geographical simulation model, a detailed regional model, to estimate the impacts on the cumulative increase of GDP of countries in the two regions from 2010 to 2030 relative to the base case for some connectivity projects, including the Mekong–India Economic Corridor (MIEC), the Dawei and Kyaukphyu deepwater ports in Myanmar, and the India–Myanmar–Thailand Trilateral Highway. For the MIEC alone, they found cumulative impacts of over 5 percent for Cambodia, Myanmar, Thailand and Viet Nam, and over 2.5 percent for India.

Regarding trade integration, a CGE study by Mohanty and Pohit (2008) shows welfare gains for members of the ASEAN+3–India FTA ranging from \$52 billion for a simple FTA (involving only liberalization of tariffs) to \$114 billion for a more comprehensive FTA (involving liberalization of tariffs as well as reduction in barriers to investment and services).⁵

Using a slightly different regional unit of analysis (ASEAN+3 and South Asia), another study estimates large gains of about \$260 billion, or 2 percent of GDP, from an East and South Asian FTA, under conservative assumptions (François and Wignaraja 2008). Countries obtaining large positive income impacts (over 2 percent) include the Republic of Korea, Indonesia, Malaysia, the Philippines, Singapore, Thailand, Viet Nam, India and Sri Lanka.

7.3.2 CGE Model Used in this Study

Computable general equilibrium analysis takes account of interactions among a wide range of markets and provides quantitative answers to policy questions about integration.⁶ The crux of the analysis is to calculate prices, production and demand levels that make expenditures equal incomes, and supply equal demand in many markets and countries. To calculate the equilibrium, prices are assumed to adjust until consumers have chosen a desired basket of goods given their incomes, firms have set production at levels that maximize profits, and the demand for factors of production equals available endowments. Computable general equilibrium models simulate the effects of policy innovations such as FTAs by introducing the effects of policy changes (such as tariff reductions) into a pre-agreement equilibrium and adjusting prices until a new equilibrium is reached.

Computable general equilibrium analysis uses data from a benchmark year, and its mathematical modeling is based on neoclassical assumptions about the motivation of economic agents, market structure, consumer preferences and production technology. These assumptions are coded as mathematical relationships and contain parameters that capture behavioral relationships, including elasticities (measuring the responsiveness of one variable to changes in another) and production and demand parameters – for example, the share of food consumption in total consumption demand. The parameters of the mathematical model are calibrated to make the baseline solution match real-world data in a benchmark year.

The predictions of economic theory about trade policy often depend on such empirical parameters. Computable general equilibrium models enable policymakers to assess such quantitative impacts. For example, in the case of FTAs, 'trade creation' (generated by a more efficient division of labor within the trade area) and 'trade diversion' (generated by inefficiencies that result from discrimination against outsiders) have opposing effects, and the net effect may be positive or negative. Computable general equilibrium models can quantify the magnitudes of these effects and estimate net welfare results.

The CGE model used in this chapter is based on a new type of global trade model developed by Zhai (2008). A feature of the model is that it incorporates recent innovations in heterogeneous firms trade theory into the CGE framework. The firms of most sectors in the model are heterogeneous in productivity, enabling the model to reflect intra-industry changes that occur when, for example, trade liberalization enables the most productive firms to export more and expand, and the least productive to contract in the face of stiffer import competition. Given the fixed cost of entry into exporting activity, the model is also able to capture both the intensive margins (more trade of already traded products) and extensive margins (trade in products not traded previously).

This model is appropriate for assessing the implications of deep integration efforts. Its demand structure enables it to track the effects of additional varieties of goods on consumer welfare; its scale-sensitive production function allows it to track productivity gains associated with the growth of firms; and its treatment of productivity variations makes it possible to track the shift in production from relatively unproductive firms to relatively productive ones.

7.4 ESTIMATES OF EFFECTS OF SOUTH ASIAN– SOUTHEAST ASIAN ECONOMIC INTEGRATION

In the simulations below, the study uses several scenarios to capture the effects of South Asian–Southeast Asian economic integration on economic welfare, trade, factor returns and structural change for the regional economies, each corresponding to differing levels of integration ambition. The policy innovations include full liberalization of tariff barriers, a 50 percent reduction of NTBs (under the assumption that not all NTBs can be addressed by policy), and improvements in (soft and hard) connectivity manifested in decreases in trade costs – modeled as 'iceberg' trade costs – which are allowed to 'melt' to various degrees depending on the scenario. In terms of reduction to provide a range of efficiency gains due to better connectivity, that is, 5 percent and 15 percent. Given relatively high inter-regional trade costs and ample room to reduce them via trade facilitation and investment in hard infrastructure (ADB and ADBI 2015), this range was deemed to be plausible. Hence, the scenarios included are:

- 1. SAFTA1: Removal of all tariffs across South Asian economies from 2016 to 2025.
- 2. SAFTA2: SAFTA1, plus 50 percent reduction in NTBs.
- 3. SAFTA3: SAFTA2, plus 5 percent reduction in trade costs.
- 4. SAFTA4: SAFTA2, plus 15 percent reduction in trade costs.
- 5. South Asia/Southeast Asia (SA/SEA)1: Removal of all tariffs across South Asian and Southeast Asian economies.
- 6. SA/SEA2: SA/SEA1, plus 50 percent removal of NTBs between South Asia and Southeast Asia.
- 7. SA/SEA3: SA/SEA2, plus 5 percent reduction in trade costs associated with South Asian and Southeast Asian trade.
- 8. SA/SEA4: SA/SEA2, plus 15 percent reduction in trade costs associated with South Asian and Southeast Asian trade.⁷

Liberalization of these barriers to trade is assumed to be undertaken over 2016–25 and is compared relative to the baseline forecasts, with projections ending in 2030. The simulations allow for the following country breakdowns at the two regional levels: (1) South Asia: Bangladesh, India, Nepal, Pakistan and 'other South Asia'; and (2) Southeast Asia:

Cambodia, Indonesia, the Lao PDR, Malaysia, the Philippines, Singapore, Thailand, Viet Nam and 'other ASEAN,' which is mainly composed of Myanmar but also includes Brunei Darussalam and Timor-Leste.⁸ The model also includes 21 sectors (seven in primary products/agriculture, nine manufacturing sectors and five service sectors).

7.4.1 Results 1: Effects on South Asia

The South Asian FTA scenarios suggest impressive gains for all countries except for the two largest ones, India and Pakistan, that nonetheless experience non-trivial increases in income (1 percent and 3.3 percent of GDP, respectively, in scenario SAFTA4) (Table 7.2). Bangladesh, the third largest country, experiences a 5 percent increase in SAFTA4. The smaller South Asian economies of Nepal and other South Asia are the biggest winners in the context of a South Asian FTA, with large gains of over 40 percent in SAFTA4. South Asia experiences a rise in its real income by 2.1 percent of GDP by 2030 under that scenario, led by a 25 percent increase in exports.

Note that simply reducing trade costs from 5 percent to 15 percent increases income gains by 60 percent or more in all cases and is the key reason why the smaller countries experience such large gains. This suggests that focusing on reducing trade costs is key to welfare improvement in the context of South Asian economic integration. Given that the gains are driven mainly by increases in exports, the internationalization of the region, as proxied by exports as a percentage of GDP, rises impressively, particularly for the smaller economies. For example, the internationalization of land-locked Nepal rises by 37 percentage points. The ASEAN is little affected by trade diversion due to a South Asian FTA; losses come to \$1 billion under SAFTA1 and \$4.6 billion under SAFTA4, or about 0.1 percent of GDP.

In terms of South Asian–Southeast Asian economic integration, the overall gains are about 30 percent more for South Asia than Southeast Asia, with real income gains relative to GDP in the former region coming to 8.9 percent under SA/SEA4 in 2030. The larger countries do much better in the context of a South Asian–Southeast Asian FTA, particularly in the case of India, whose gains rise by almost nine-fold to 8.7 percent of GDP relative to the baseline in SAFTA4, a large effect for a big country. Gains also more than double for Pakistan (to 7 percent), and significant but smaller increases result for Bangladesh (9 percent) and Sri Lanka (to 14.1 percent from 10.5 percent). Once again, growth in exports drives income growth. Nepal and other South Asia actually have lower gains in the South Asian–Southeast Asian FTA case, due to preference erosion,

| Table 7.2 Real income gains in 2030 (equivalent variation as percentage of GDP), export gains in 2030 (percentage change from baseline), change in exports/GDP in South Asia, 2030 (percentage points) | uivalent vo in exports | iriation as s/GDP in 3 | percentag South Asia | e of GDP 1, 2030 (p |), export g ercentage] | gains in 20 points) | 30 (perce. | ntage |
|--|---------------------------|---------------------------|---|------------------------|----------------------------|------------------------|------------|---------|
| Country | SAFTA1 | SAFTA2 | SAFTA1 SAFTA2 SAFTA3 SAFTA4 SA/SEA1 SA/SEA2 SA/SEA3 SA/SEA4 | SAFTA4 | SA/SEA1 | SA/SEA2 | SA/SEA3 | SA/SEA4 |
| Real income gains in 2030 (EV as % of GDP) | | | | | | | | |
| Bangladesh | 0.3 | 0.8 | 1.8 | 5.0 | 0.4 | 1.2 | 2.5 | 6.9 |
| India | 0.2 | 0.3 | 0.5 | 1.0 | 2.3 | 3.3 | 4.6 | 8.7 |
| Nepal | 11.9 | 17.0 | 24.0 | 44.7 | 5.4 | 9.0 | 14.4 | 30.0 |
| Pakistan | 0.5 | 0.9 | 1.5 | 3.3 | 0.8 | 1.8 | 3.0 | 7.0 |
| Sri Lanka | 1.1 | 2.1 | 4.1 | 10.5 | 1.3 | 2.9 | 5.6 | 14.1 |
| Other South Asia | 11.4 | 15.5 | 22.2 | 42.4 | 5.2 | 8.3 | 14.1 | 31.7 |
| Total South Asia | 0.4 | 0.6 | 1.0 | 2.1 | 2.2 | 3.2 | 4.6 | 8.9 |
| Export gains in 2030 (% change from baseline) | (| | | | | | | |
| Bangladesh | | 25.8 | 36.1 | 67.0 | 20.0 | 35.0 | 48.4 | 86.7 |
| India | 2.6 | 4.9 | 6.9 | 12.7 | 19.6 | 29.4 | 36.7 | 59.5 |
| Nepal | 78.8 | 136.0 | 186.0 | 335.3 | 44.3 | 88.7 | 124.2 | 231.8 |
| Pakistan | 4.1 | 9.7 | 13.7 | 26.1 | 11.3 | 22.8 | 30.6 | 52.2 |
| Sri Lanka | 10.0 | 21.6 | 32.7 | 65.7 | 13.1 | 27.7 | 40.3 | 78.2 |
| Other South Asia | 52.7 | 88.2 | 120.6 | 212.5 | 29.9 | 58.7 | 83.7 | 158.8 |
| Total South Asia | 5.2 | 9.7 | 13.6 | 25.2 | 19.0 | 30.0 | 38.6 | 64.3 |

| Country | SAFTAL | SAF1A2 | SAF1A3 | SAFTA4 | SA/SEA1 | SA/SEA2 | SAFIAI SAFIA2 SAFIA3 SAFIA4 SA/SEAI SA/SEA2 SA/SEA3 SA/SEA4 | SA/SEA4 |
|---|--------|--------|--------|--------|---------|---------|---|---------|
| Change in exports/GDP in 2030 (percentage points) | oints) | | | | | | | |
| Bangladesh | 3.9 | 6.7 | 9.0 | 15.4 | 5.3 | 9.2 | 12.2 | 19.8 |
| India | 0.4 | 0.8 | 1.0 | 1.9 | 3.8 | 5.3 | 6.2 | 9.0 |
| Nepal | 10.4 | 18.0 | 23.4 | 36.8 | 7.5 | 14.6 | 19.3 | 31.6 |
| Pakistan | 0.6 | 1.6 | 2.2 | 4.1 | 2.4 | 4.5 | 5.9 | 9.1 |
| Sri Lanka | 2.3 | 5.0 | 7.1 | 12.8 | 3.5 | 6.9 | 9.4 | 15.7 |
| Other South Asia | 8.5 | 14.7 | 19.3 | 30.3 | 6.2 | 12.3 | 16.5 | 27.6 |
| | | | | | | | | |

Table 7.2 (continued)

Notes:

trade costs; SAFTA4 = SAFTA2 + 15 percent reduction in trade costs; SA/SEA1 = removal of all tariffs across SA and SEA over 2016–25; SA/SEA2 = SA/SEA1 + 50 percent cut in NTBs; SA/SEA3 = SA/SEA2 + 5 percent reduction in trade costs relevant to South Asian–Southeast Asian SAFTA1 = removal of all SA tariffs over 2016–25; SAFTA2 = SAFTA1 + 50 percent cut in NTBs; SAFTA3 = SAFTA2 + 5 percent reduction in EV = equivalent variation; GDP = gross domestic product; NTB = non-tariff barrier; SA = South Asia; SAFTA = South Asian Free Trade Area; trade; SA/SEA4 = SA/SEA2 + 15 percent reduction in trade costs relevant to South Asian-Southeast Asian trade.

SEA = Southeast Asia.

Source: Authors' estimates.

but they still grow the most in the group by 30 percent and 31.7 percent of GDP, respectively.

Table 7.3 shows the changes in factor prices associated with these policy innovations at the country level, as a means of gauging the distributional effects. Nominal and real wages rise in all scenarios for all countries, sometimes significantly, for all South Asian economies, assisted in most cases by a drop in prices (measured either as the GDP deflator or the consumer price index), with the exception of India, whose real wage nevertheless always increases. Real-wage increases in the South Asian–Southeast Asian FTA scenarios are larger than the South Asian FTA scenarios for all countries except Nepal and other South Asia, where, once again, the increases are still by far the largest in the region. Nevertheless, the gains to labor relative to other factors (capital, land) are mixed. For example, in India, labor always gains relative to land owners but not always relative to capital owners, and in Bangladesh, labor often gains relative to capital owners but not to land owners. In Nepal, labor does worse than capital and land in the South Asian FTA scenarios but always does better than land owners in the South Asian-Southeast Asian FTA scenarios. Thus, from a policy point of view, even in cases where labor does well, greater connectivity should still be accompanied by well-designed distributional policies to ensure that the gains are widespread.

With respect to structural change, the South Asian region often experiences large changes as countries specialize in their comparative advantage goods (see Wignaraja et al. 2014 for details). Sometimes these changes are exaggerated, as a small change from an even smaller base will yield a large result. For example, in Nepal, the chemical sector in both SAFTA4 and SA/SEA4 increases more than ten-fold, but it is a small sector in Nepal (5 percent of the manufacturing sector and only 0.67 percent of labor compensation in manufacturing). The food and other grains sectors in India experience a strong negative shock, whereas metals and chemicals experience significant gains. Indeed, structural change in India and Pakistan present essentially mirror-image results; the Indian manufacturing and services sectors expand and agriculture contracts, whereas the opposite happens in Pakistan. An important point, however, is that, since this is a long-run model, the employment closure in the model assumes full employment, meaning that, for a comparative advantage sector to expand, resources have to be moved from another sector. Movement across sectors is what ultimately leads to the large economic gains reaped by South Asian economies.

| Country | SFTA1 | SAFTA2 | SAFTA3 | SAFTA4 | SA/SEA1 | SA/SEA2 | SA/SEA3 | SA/SEA4 |
|-------------------|-------|--------|--------|--------|---------|---------|---------|---------|
| Baneladesh | | | | | | | | |
| Wage | 0.5 | 1.3 | 2.3 | 6.0 | 0.6 | 1.6 | 2.9 | 7.5 |
| Land rental price | 1.1 | 2.0 | 3.6 | 8.7 | 1.0 | 3.1 | 5.5 | 13.4 |
| Capital rent rate | 0.6 | 1.5 | 2.4 | 5.7 | 0.6 | 2.0 | 3.1 | 28.1 |
| India | | | | | | | | |
| Wage | 0.0 | 0.3 | 0.5 | 1.3 | -3.0 | -1.9 | -0.7 | 4.1 |
| Land rental price | -0.6 | -0.2 | 0.0 | 0.8 | -14.7 | -12.8 | -11.4 | -5.8 |
| Capital rent rate | 0.1 | 0.2 | 0.2 | 0.4 | -0.3 | 0.1 | 0.6 | 1.8 |
| Nepal | | | | | | | | |
| Wage | 15.0 | 19.6 | 24.4 | 37.0 | 2.6 | 5.3 | 8.3 | 16.3 |
| Land rental price | 32.0 | 39.9 | 47.4 | 66.2 | -1.7 | 0.1 | 2.5 | 9.5 |
| Capital rent rate | 15.6 | 24.3 | 32.1 | 51.9 | 14.1 | 23.0 | 29.9 | 47.9 |
| Pakistan | | | | | | | | |
| Wage | 1.4 | 2.7 | 3.9 | 7.6 | 1.0 | 2.9 | 4.7 | 10.2 |
| Land rental price | 3.7 | 8.7 | 11.6 | 19.8 | 2.9 | 9.2 | 13.2 | 25.5 |
| Capital rent rate | 0.6 | 0.7 | 1.1 | 2.1 | -0.7 | -0.7 | -0.6 | 0.1 |

| | 4.4 11.2 0.2 1.8 4.4 | -3.5 -2.4 0.3 -8.0 -10.5 -10.3 -9.1 | 3.3 7.4 -0.9 0.9 1.9 | | 23.7 36.8 5.0 8.1 11.7 | 42.2 50.5 73.6 5.5 6.0 8.1 14.7 | 16.9 28.0 5.4 12.1 16.5 |
|-----------|----------------------|-------------------------------------|----------------------|------------------|------------------------|---------------------------------|-------------------------|
| | 2.2 | -3.5 | 2.0 | | 18.6 | 42.2 | 12.2 |
| | 1.1 | -1.9 | 0.4 | | 14.1 | 34.5 | 6.1 |
| Sri Lanka | Wage | Land rental price | Capital rent rate | Other South Asia | Wage | Land rental price | Capital rent rate |

Notes:

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SEA2 = SA/SEA1 + 50 percent cut in NTBs; SA/SEA3 = SA/SEA2 + 5 percent reduction in trade costs relevant to South Asian-Southeast Asian SAFTA1 = removal of all SA tariffs over 2016–25; SAFTA2 = SAFTA1 + 50 percent cut in NTBs; SAFTA3 = SAFTA2 + 5 percent reduction in trade costs; SAFTA4 = SAFTA2 + 15 percent reduction in trade costs; SA/SEA1 = removal of all tariffs across SA and SEA over 2016–25; SA/ trade; SA/SEA4 = SA/SEA2 + 15 percent reduction in trade costs relevant to South Asian–Southeast Asian trade. NTB = non-tariff barrier; SA = South Asia; SAFTA = South Asian Free Trade Area; SEA = Southeast Asia.

Source: Authors' estimates.

7.4.2 Results 2: Effects on Southeast Asia

Real income in the ASEAN rises by \$193 billion (6.4 percent of GDP in 2030) under the SA/SEA4 scenario. Table 7.4 shows the effects on income (relative to GDP), exports, and exports relative to GDP for Southeast Asian economies. As noted above, trade diversion under the South Asian scenarios is minor, with Viet Nam experiencing the largest negative effect in terms of welfare, but it comes to only 0.3 percent of GDP. At the country level, the biggest gains from South Asian–Southeast Asian economic integration vary considerably, from (scenario SA/SEA4) –0.1 percent for the Lao PDR and 0.6 percent for Cambodia, to 14.4 percent for Singapore and 9.7 percent for Malaysia. Again, exports drive income gains, with exports rising by 18.1 percent for all of ASEAN led by Indonesia (38.5 percent), Singapore (19.7 percent), and Malaysia (17.4 percent), though Viet Nam registers impressive export gains as well (13.0 percent).

Given that the Lao PDR experiences a minor contraction, it is worthwhile to consider why this might be the case. There is little trade between the Lao PDR and South Asia; hence, at base year levels, the Lao PDR gains very little from increased market access to South Asia with an FTA. However, the Lao PDR does export a great deal to its ASEAN partners, and the South Asian–Southeast Asian FTA erodes the preferences that the Lao PDR has in ASEAN markets via the ASEAN Free Trade Area (AFTA). The same mechanism affects results for Cambodia and the Philippines, whose gains end up being modest.⁹

In addition, given that Myanmar is at the center of South Asian-Southeast Asian connectivity, it is relevant to consider the effects on this country, even as part of the 'other ASEAN' group together with Brunei Darussalam and Timor-Leste. Table 7.4 shows that Myanmar/ other ASEAN would be marginally affected by trade diversion in the case of the South Asian FTA scenarios (peaking at 0.1 percent of GDP), but it would experience real income gains of 2.3 percent in SA/SEA4, led by increases in exports of 7.3 percent relative to the baseline and an increase in exports relative to GDP of 4.9 percent. These gains are moderate and are, of course, affected by the fact that Myanmar has only recently begun its outward-oriented economic reform program and hence was a relatively closed economy in the base year (2010). Moreover, at present Myanmar trades very little with South Asia; indeed, approximately 70 percent of its trade is with the ASEAN and the PRC. As Myanmar's reform program proceeds and connectivity with South Asia improves, it will likely be one of the greatest beneficiaries of South Asian-Southeast Asian economic integration, even if this does not show up in the numbers. Finally, it is worth noting that Myanmar/other Southeast Asia would be one of the

| Country | SAFTA1 | SAFTA2 | SAFTA3 | SAFTA4 | SA/SEA1 | SA/SEA2 | SA/SEA3 | SA/SEA4 |
|--|-----------|--------|--------|--------|---------|---------|---------|---------|
| Real income gains in 2030 (EV as % of GDP) | of GDP) | | | | | | | |
| Indonesia | 0.0 | 0.0 | 0.0 | -0.1 | 2.3 | 2.4 | 3.1 | 5.0 |
| Malaysia | 0.0 | 0.0 | -0.1 | -0.1 | 2.8 | 3.6 | 5.2 | 9.7 |
| Philippines | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.6 | 0.9 | 1.9 |
| Singapore | -0.1 | 0.0 | -0.1 | -0.2 | 3.1 | 4.8 | 7.3 | 14.4 |
| Thailand | -0.1 | -0.1 | -0.1 | -0.2 | 1.7 | 2.3 | 3.2 | 6.1 |
| Viet Nam | -0.1 | -0.1 | -0.1 | -0.3 | 0.6 | 2.0 | 3.2 | 7.0 |
| Cambodia | 0.0 | -0.1 | -0.1 | -0.2 | -0.3 | -0.1 | 0.1 | 0.6 |
| Lao PDR | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | -0.1 | -0.1 | -0.1 |
| Other ASEAN | 0.0 | 0.0 | -0.1 | -0.1 | 0.1 | 0.5 | 1.5 | 2.3 |
| Total Southeast Asia | 0.0 | 0.0 | -0.1 | 0.5 | 1.9 | 2.5 | 3.5 | 6.4 |
| Export gains in 2030(% change from baseline) | baseline) | | | | | | | |
| Indonesia | -0.1 | -0.1 | -0.2 | -0.3 | 17.5 | 23.3 | 27.3 | 38.5 |
| Malaysia | 0.0 | -0.1 | -0.1 | -0.2 | 4.1 | 7.2 | 9.8 | 17.4 |
| Philippines | 0.0 | 0.0 | 0.0 | -0.1 | 0.6 | 2.4 | 3.3 | 6.2 |
| Singapore | -0.1 | -0.2 | -0.2 | -0.5 | 4.6 | 7.3 | 10.6 | 19.7 |
| Thailand | -0.1 | -0.1 | -0.2 | -0.3 | 2.7 | 4.7 | 6.4 | 11.6 |
| Viet Nam | -0.1 | -0.2 | -0.2 | -0.4 | 1.1 | 4.8 | 6.9 | 13.0 |
| Cambodia | -0.1 | -0.2 | -0.3 | -0.5 | -0.5 | 0.4 | 0.8 | 2.3 |
| Lao PDR | 0.0 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.2 | -0.3 |
| Other ASEAN | -0.1 | -0.1 | -0.1 | -0.3 | 0.0 | 1.9 | 3.1 | 7.3 |
| Total Southeast Asia | -0.1 | -0.1 | -0.2 | -0.3 | 5.3 | 8.3 | 10.9 | 18.1 |
| | | | | | | | | |

| Country | SAFTA1 | SAFTA1 SAFTA2 SAFTA3 SAFTA4 SA/SEA1 SA/SEA2 SA/SEA3 SA/SEA4 | SAFTA3 | SAFTA4 | SA/SEA1 | SA/SEA2 | SA/SEA3 | SA/SEA4 |
|--|------------------|---|--------|--------|---------|---------|---------|---------|
| Change in exports/GDP in 2030(percentage points) | rcentage points) | | | | | | | |
| Indonesia | 0.0 | 0.0 | 0.0 | 0.0 | 2.4 | 3.5 | 4.1 | 5.9 |
| Malaysia | 0.0 | 0.0 | 0.0 | -0.1 | 0.8 | 2.4 | 3.2 | 5.7 |
| Philippines | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.7 | 1.0 | 1.9 |
| Singapore | -0.1 | -0.2 | -0.2 | -0.5 | 2.2 | 3.2 | 4.7 | 8.3 |
| Thailand | 0.0 | 0.0 | -0.1 | -0.1 | 0.7 | 2.0 | 2.7 | 5.0 |
| Viet Nam | 0.0 | 0.0 | -0.1 | -0.1 | 0.3 | 2.5 | 3.3 | 5.9 |
| Cambodia | 0.0 | -0.1 | -0.1 | -0.1 | -0.2 | 0.3 | 0.5 | 1.1 |
| Lao PDR | 0.0 | 0.0 | 0.0 | 0.0 | -0.2 | -0.2 | -0.2 | -0.2 |
| Other ASEAN | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | 0.2 | 0.5 | 7.3 |

Table 7.4 (continued)

SEA2 = SA/SEA1 + 50 percent cut in NTBs; SA/SEA3 = SA/SEA2 + 5 percent reduction in trade costs relevant to South Asian–Southeast Asian trade costs; SAFTA4 = SAFTA2 + 15 percent reduction in trade costs; SA/SEA1 = removal of all tariffs across SA and SEA over 2016-25; SA/ ASEAN = Association of Southeast Asian Nations; EV = equivalent variation; GDP = gross domestic product; Lao PDR = Lao People's Democratic Republic; NTB = non-tariff barrier; SA = South Asia; SAFTA = South Asian Free Trade Area; SEA = Southeast Asia. trade; SA/SEA4 = SA/SEA2 + 15 percent reduction in trade costs relevant to South Asian–Southeast Asian trade.

Source: Authors' estimates.

biggest winners if deeper intra-ASEAN integration is included as well (as discussed above) – its real income grows by over 31 percent of GDP in this scenario.

With respect to factor returns, similar to the South Asian case, Table 7.5 shows that labor gains in the ASEAN in virtually all South Asian/ Southeast Asian FTA scenarios in terms of nominal and real wages, with the exception of Cambodia under SA/SEA FTA1 (in which there is a minor deterioration of the nominal and real wage). But again, the gains of labor relative to other factors are somewhat mixed. In the cases of the Philippines, Singapore and (almost always) Viet Nam, labor gains relative to the other two factors in all SA/SEA FTA scenarios; for Indonesia, Malaysia, Thailand, the Lao PDR and Myanmar/other ASEAN, wages rise faster than the returns to capital but not land; and in Cambodia, labor usually gains relative to land but not capital. Thus, as in the South Asian case, while integration will be pro-labor, there could be distributional issues that policymakers should tackle with integration.

Finally, there will be significant structural adjustment in the ASEAN economies with South Asian–Southeast Asian integration (see Wignaraja et al. 2014 for details), but again one must be careful in drawing conclusions regarding the significance of the magnitude of the effects. For example, Singapore experiences a contraction of 34 percent in its 'other grains' sector. However, this sector is extremely small; the percentage change may be large, but the significance for labor adjustment in Singapore is trivial. Still some general observations are in order. First, more agricultural sectors will contract than expand in most ASEAN economies, with the notable exceptions of Indonesia and Thailand. Manufacturing sectors tend to expand in most countries, again with the exception of Indonesia (whose manufacturing sectors contract) and mixed results in the Lao PDR and Myanmar/other ASEAN. The effects on service sectors are even more mixed, with Singapore and Malaysia mostly winning but with varied results in other economies.

7.4.3 Discussion

The results reported in Tables 7.2–7.5 suggest that the potential gains from South Asian–Southeast Asian economic integration are great, and in some cases remarkable. The aggregate income increases relative to GDP of 8.9 percent in South Asia and 6.4 percent in Southeast Asia are also large compared to many other CGE models used to capture the effects of economic integration in general. It is, therefore, natural to question some of the underlying assumptions to make sure they are reasonable.

The first question relates to the policy innovation scenarios. Is it

| Changes in factor prices in 2030 (%)Indonesia 0.0 -0.1 -0.1 Wage 0.0 -0.1 -0.2 Land rental price 0.0 0.0 0.0 Capital rent rate 0.0 0.0 0.0 Malaysia 0.0 0.0 0.0 0.0 Malaysia 0.0 0.0 0.0 0.0 Wage 0.0 0.0 0.0 0.0 Wage 0.0 0.0 0.0 0.0 Philippines 0.0 0.0 0.0 0.0 Paid rental price 0.0 0.0 0.0 0.0 Paid rental price 0.0 0.0 0.0 0.0 Philippines 0.0 0.0 0.0 0.0 Poind rental price 0.0 0.0 0.0 0.0 Vage 0.0 0.0 0.0 0.0 0.0 Vage 0.0 0.0 0.0 0.0 0.0 Singapore 0.0 0.0 0.0 0.0 0.0 Vage 0.0 0.0 0.0 0.0 0.0 Land rental price 0.0 0.0 0.0 0.0 Mage 0.0 0.0 0.0 0.0 0.0 Mage 0.0 0.0 0.0 0.0 0.0 Land rental price 0.0 0.0 0.0 0.0 Mage 0.0 0.0 0.0 0.0 Mage 0.0 0.0 0.0 0.0 Mage | SAFTA2 SAFTA3 S | SAFTA4 SA/SEA1 | EA1 SA/SEA2 | SA/SEA3 | SA/SEA4 |
|---|-----------------|----------------|-------------|---------|---------|
| sta ental price $0.0 -0.1$ il rent rate $0.0 -0.1 -0.2$ sia $0.0 0.0 -0.1$ rental price $0.0 -0.1$ il rent rate $0.0 -0.0 -0.1$ ines $0.0 0.0 0.0 -0.1$ inter trate $0.0 0.0 0.0 -0.1$ in rent rate $0.0 0.0 0.0 0.0 0.0$ ental price $0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.$ | | | | | |
| 0.0 -0.1 -0.1 0.0 0.0 0.0 sia 0.0 0.0 sia 0.0 0.0 sia 0.0 0.0 sia 0.0 0.0 $ental price 0.0 0.0 nies 0.0 0.0 nires 0.0 0.0 ore 0.0 0.0$ | | | | | |
| ental price -0.1 -0.2 <i>i</i> rent rate 0.0 0.0 <i>sia</i> 0.0 0.0 <i>sia</i> 0.0 0.0 ental price 0.0 0.0 <i>i</i> rent rate 0.0 0.0 <i>nines</i> 0.0 0.0 <i>i</i> rent rate 0.0 0.0 <i>ore</i> 0.0 0.0 | | | | 8.3 | 10.1 |
| I rent rate 0.0 0.0 sia 0.0 0.0 ental price 0.0 0.0 i rent rate 0.0 0.0 <i>ines</i> 0.0 0.0 | | -0.2 24.0 |) 26.6 | 27.9 | 30.5 |
| sia 0.0 0.0 ental price 0.0 0.0 l rent rate 0.0 0.0 <i>vines</i> 0.0 0.0 <i>vines</i> 0.0 0.0 <i>vine</i> 0.0 0.0 | | | | 2.3 | 3.0 |
| 0.0 0.0 0.0 1 rent rate 0.0 | | | | | |
| Tental price 0.0 -0.1 I rent rate 0.0 0.0 <i>pines</i> 0.0 0.0 | | | | 5.1 | 9.0 |
| urrate 0.0 0.0 <i>pines</i> 0.0 0.0 <i>cental</i> price 0.0 0.0 $urrate$ 0.0 0.0 <i>ore</i> 0.0 0.0 <i>ore</i> 0.0 0.0 <i>intext</i> 0.0 0.0 | | -0.1 19.9 | 22.8 | 25.1 | 29.9 |
| <i>pines</i> 0.0 0.0 rental price 0.0 0.0 ul rent rate 0.0 0.0 <i>ore</i> 0.0 0.0 | | | | 1.2 | 2.1 |
| cental price 0.0 0.0 ul rent rate 0.0 0.0 <i>ore</i> 0.0 0.0 <i>nd</i> 0.0 0.0 <i>nd</i> 0.0 0.0 <i>nd</i> 0.0 0.0 | | | | | |
| cental price 0.0 0.0 dl rent rate 0.0 0.0 ore 0.0 0.0 nd 0.0 0.0 ore 0.0 0.0 ore 0.0 0.0 ore 0.0 0.0 | | | | 0.5 | 0.9 |
| I rent rate 0.0 0.0 <i>ore</i> 0.0 0.0 <i>ore</i> 0.0 0.0 rental price 0.0 0.0 <i>nd</i> 0.0 0.0 <i>nd</i> 0.0 0.0 <i>nd</i> 0.0 0.0 rental price 0.0 0.0 | | 0.1 0.8 | -0.5 | -0.9 | -1.8 |
| ore 0.0 0.0 cental price 0.0 0.0 I rent rate 0.0 0.0 nd 0.0 0.0 cental price 0.0 0.0 | | | | 0.0 | -0.2 |
| 0.0 0.0 rental price 0.0 -0.1 d rent rate 0.0 0.0 nd 0.0 0.0 $rotal$ 0.0 0.0 | | | | | |
| tental price $0.0 -0.1$ l rent rate $0.0 0.0$ nd $0.0 0.0tental price 0.0 0.0$ | | | | 5.9 | 11.8 |
| ll rent rate $0.0 0.0$ nd $0.0 0.0rental price 0.0$ | | -0.1 3.9 | 3.1 | 2.7 | 2.0 |
| <i>nd</i> 0.0 0.0 ental price 0.0 0.0 | | | | 2.3 | 3.9 |
| 0.0 0.0 0.0 0.0 0.0 0.0 | | | | | |
| 0.0 0.0 | | | | 2.4 | 4.3 |
| | | 0.1 5.6 | 5.8 | 5.9 | 6.3 |
| 0.0 | | | | 0.9 | 2.2 |

Table 7.5 Changes in factor prices in Southeast Asia, 2030 (percentage)

| Viet Nam | | | | | | | | |
|-------------------|------|------|------|------|------|------|------|------|
| Wage | 0.0 | -0.1 | -0.1 | -0.2 | 0.7 | 2.0 | 2.0 | 6.0 |
| Land rental price | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 | 0.7 | 0.7 | 1.0 |
| Capital rent rate | 0.0 | 0.0 | 0.0 | -0.1 | 0.4 | 1.2 | 1.2 | 3.1 |
| Cambodia | | | | | | | | |
| Wage | -0.1 | -0.1 | -0.2 | -0.3 | -0.1 | 0.2 | 0.4 | 1.1 |
| Land rental price | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | -0.2 | -0.4 | -1.1 |
| Capital rent rate | -0.1 | -0.1 | -0.1 | -0.2 | -0.1 | 0.3 | 0.5 | 1.2 |
| Lao PDR | | | | | | | | |
| Wage | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.2 | 0.2 |
| Land rental price | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | -0.2 | 0.8 | 1.1 |
| Capital rent rate | 0.0 | 0.0 | 0.0 | -0.1 | 0.2 | 0.0 | -0.1 | -0.6 |
| GDP deflator | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.3 | 0.2 | -0.1 |
| CPI | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.5 | 0.5 | 0.6 |
| Other ASEAN | | | | | | | | |
| Wage | 0.0 | 0.0 | -0.1 | -0.1 | 0.5 | 1.2 | 1.6 | 3.3 |
| Land rental price | 0.0 | -0.1 | -0.1 | -0.2 | 1.7 | 3.0 | 3.6 | 5.8 |
| Capital rent rate | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| M | | | | | | | | |

Notes:

SEA2 = SA/SEA1 + 50 percent cut in NTBs; SA/SEA3 = SA/SEA2 + 5 percent reduction in trade costs relevant to South Asian–Southeast Asian SAFTA1 = removal of all SA tariffs over 2016-25; SAFTA2 = SAFTA1 + 50 percent cut in NTBs; SAFTA3 = SAFTA2 + 5 percent reduction in trade costs; SAFTA4 = SAFTA2 + 15 percent reduction in trade costs; SA/SEA1 = removal of all tariffs across SA and SEA over 2016-25; SA/ ASEAN = Association of Southeast Asian Nations; CPI = consumer price index; GDP = gross domestic product; Lao PDR = Lao People's Democratic Republic; NTB = non-tariff barrier; SA = South Asia; SAFTA = South Asian Free Trade Area; SEA = Southeast Asia. trade; SA/SEA4 = SA/SEA2 + 15 percent reduction in trade costs relevant to South Asian–Southeast Asian trade.

Source: Authors' estimates.

reasonable, for example, to assume that South Asia and Southeast Asia could remove all tariff barriers and 50 percent of their NTBs? It would arguably seem so in the case of ASEAN; the AFTA is already in place, and while it is difficult to gauge to what degree NTBs have fallen on intra-ASEAN trade, they are slated to be removed altogether by the end of 2015 (with more time for the transitional ASEAN economies) according to the AEC Blueprint. It is not unreasonable to believe that half will have been removed by then. Extending these initiatives to South Asia would take some doing, but the ASEAN and India are already negotiating the Regional Economic Comprehensive Partnership and, in the past, member countries have supported multilateralizing intra-ASEAN trade liberalization.

A bigger question is whether such trade liberalization is reasonable in the case of South Asia. The South Asian FTA falls short of intra-regional free trade, and NTBs abound in South Asia (Weerakoon 2010). The political support for liberalization is rising in most countries in South Asia but is not on the level of that of Southeast Asia, which arguably has the most liberal trade policies in the developing world. Hopefully, identification of potential gains – from this and other studies – will buttress political support.

The largest gains from integration regard the reduction in trade costs, which the study assumes derive from a combination of trade facilitation improvements and investments in hard infrastructure. The 5 percent reduction in trade costs would seem to be reasonable; the Asia-Pacific Economic Cooperation (APEC) forum has been able to do that on a voluntary basis, and this in the context of many member economies that already have cutting-edge hard and soft infrastructure and 'first best' trade practices. The 15 percent reduction is more ambitious, but, given the existing high costs of trade in South Asia, this scenario would also be credible. The ADB and ADBI (2015) suggest that the gains via trade facilitation and hard infrastructure could be considerably more than that.

The empirical literature supports the assumption that economic integration could lead to considerable gains by reducing trade costs. For example, Brooks et al. (2005) run simulations to compare the aggregate impact on real income, exports and terms of trade in the context of deep Asian integration. They assume that non-policy related trade costs are around 120 percent and are cut by half over a 20-year period for East Asia, Southeast Asia and South Asia; they find such an approach increases gains over a standard tariff-based scenario by many times, coming to 8.1–53.8 percent, 35.5–116.6 percent and 10.4–22.4 percent of GDP, respectively. De Dios (2006) estimates that a 10 percent saving in transport costs alone increases trade by approximately 6 percent. Wilson and Shepherd (2008) show that the gains from improvements in trade facilitation in the ASEAN yield far greater gains than comparable tariff reforms. For example, improving port facilities alone in the ASEAN expands trade by 7.5 percent. Estimates of the effects of improving infrastructure development noted in the AEC Blueprint on the ASEAN-4 could increase per capita GDP in these countries by 2–12 percent (Plummer and Chia 2009).

Thus, the underlying assumptions with respect to trade costs on the order of 5–15 percent are not necessarily large with respect to the existing literature, and in many ways the results would be consistent with what the (sparse) literature derives. In any event, it is clear that these reductions in trade costs matter a great deal and, hence, need to be a primary focus of policymakers.

A second set of questions regards the model itself. Any tractable empirical trade model has its shortcomings, but CGE models have established themselves as a standard technique. The CGE model employed in this study uses cutting-edge trade theory assumptions, such as heterogeneous firm productivity, which lead to larger results compared with the standard assumption of homogeneous firms. The literature (for example, Zhai 2008) suggests that the latter assumption is less consistent with observed firm behavior and, in fact, explains to some degree why ex post analyses show that earlier CGE models seem to have significantly underestimated the effects of regional integration. Moreover, it is important to note that the model does not include FDI, which has been shown to increase significantly the potential effects of regional integration (Petri et. al. 2012) and is an important attraction for Asian countries entering into regional cooperation agreements. Hence, while the results of all trade models are subject to the underlying assumptions used to build them, any potential upward biases, for example, in terms of its use of new trade theory and its use of standard CGE macro closures, are compensated at least in part by downward biases.

7.5 CONCLUSIONS

In sum, the gains from inter-regional economic integration are large for all countries. In general, the deeper the integration scenarios the greater the gains. Reducing trade costs in the region generates the most important gains, but so does removing NTBs and tariffs (in the context of South Asia in particular). On the whole, South Asia does much better in the context of a cross-regional FTA than with an intra-regional FTA; still, the results support a two-track approach to economic cooperation on the part of South Asian countries, that is, strengthening intra-regional integration with South Asian partners concomitant with links to Southeast Asia. Moreover, by deepening links with South Asia, Southeast Asia is able to benefit from greater market access and cost reductions in a protected South Asian region, leading to greater gains (a 6.4 percent rise in real income relative to GDP) than even in the case of the AEC, where Petri et al. (2012), for example, estimate a regional gain of about 5 percent. Exports tend to be an important driver of gains in all scenarios, but particularly in the context of a South Asian–Southeast Asian FTA for the larger South Asian economies. Moreover, a South Asian–Southeast Asian FTA would increase significantly the internationalization of especially the South Asian economies, adding 9 percentage points to the exports/GDP ratio for India and Pakistan and 16–32 percentage points in the case of the other South Asian economies. Indeed, the internationalization of the Nepalese economy rises by almost one-third, and of the other South Asian economies, by more than a quarter.

In short, the estimates generated by the CGE model used in this study make a strong case for deeper intra- and cross-regional economic cooperation as well as initiatives that lower the cost of doing business and trade, especially in South Asia, via investments in greater connectivity through improved hard and soft infrastructure. The ADB and ADBI (2015) suggest how this might be done in terms of improving trade facilitation-related variables, investments in transport infrastructure and other areas such as energy, and improved financial institutions that facilitate investment and provide trade finance.

As a final note, dramatic increases in efficiency always derive from structural change. Moreover, it can change the distribution of income in ways that could exacerbate existing problems, such as the trend toward rising income inequality in many Asian economies since the global financial crisis. This does not suggest that the initiatives should not be embraced; it only underscores the importance of active government policies to facilitate economic integration and ensure that the big 'winners' of integration will compensate the most vulnerable that lose from it.

NOTES

- This chapter is an edited version of ADBI Working Paper No. 494 (Wignaraja et al. 2014). For a more complete discussion, readers may consult the working paper at http://www.adbi.org/files/2014.08.08.wp494.economic.implications.asian.integration. pdf (accessed 15 February 2015).
- 2. Akhtar and Ghani (2010, Table 4) note that the estimated coefficient on the ASEAN binary variable is 0.889; to infer the actual trade 'bias', you must take the exponent of 0.889, which is 2.43.

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- 3. The estimated coefficient was 1.965 (exp[1.965] = 7.13).
- 4. Members include the ASEAN member countries, the People's Republic of China, Japan and the Republic of Korea.
- 5. ASEAN+ $\hat{3}$ = ASEAN member countries, plus the People's Republic of China, Japan and the Republic of Korea.
- 6. A description of the model used in this study can be found in Petri et. al. (2012) or at www.asiapacifictrade.org (accessed 28 July 2015).
- 7. Note that the same reduction in trade costs for intra-ASEAN trade is not included. While the AEC will likely lead to substantial reductions in trade costs (Plummer and Chia 2009; Petri et al. 2012), the goal here is to focus on the potential effects of South Asian and Southeast Asian connectivity, so it is excluded. However, the study also ran simulations that included reductions in intra-ASEAN trade costs, and results increased intra-ASEAN gains in the aggregated by almost four-fold.
- 8. The Global Trade Analysis Project database did not allow for specific country effects of Myanmar, which is unfortunate given the 'bridge' role that Myanmar will increasingly play in South Asian–Southeast Asian economic integration. However, as Myanmar accounts for 98 percent of the population and 60 percent of the GDP of 'other ASEAN,' one can assume that much of the effect on other ASEAN relates to Myanmar.
- 9. However, it is important to note that these economies will gain substantially from deeper intra-ASEAN integration within the context of the AEC. The simulations in Table 7.4 do not include decreases in intra-ASEAN trade costs, as the chapter is focused on the potential associated with greater South Asian and Southeast Asian connectivity. But using the same CGE model, the study also considered the effects of decreases in intra-ASEAN trade costs as part of the process of greater South Asian–Southeast Asian connectivity (available from the authors on request), and the Lao PDR, Cambodia, and the Philippines do well; scenario SA/SEA4 leads to real income growth relative to GDP of 32.5 percent, 24.1 percent and 16.9 percent, that is, among the largest gains in South Asia and Southeast Asia. Hence, since implementation of the AEC is proceeding apace, gains from deeper intra-ASEAN integration will more than compensate for the preference erosion effects of integration with South Asia.

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PART III

National Strategies for Connectivity

8. Myanmar: the land bridge¹ Hector Florento and Maria Isabela Corpuz

8.1 INTRODUCTION

Effective physical connectivity between South Asia and Southeast Asia requires a regional perspective in developing transport infrastructure projects. The diverse geography and range of transport modes underscore the need for multimodal planning in implementing roads, railways, seaports, inland waterways and airports that satisfy the needs of users and transport service providers. An approach to strengthening physical connectivity must address missing links and bottlenecks. These physical barriers are located mainly in Myanmar, the only land bridge between these regions. However, connectivity between Myanmar and northeast India is weak as most of the borders are mountainous.

Major pan-Asian infrastructure programs, particularly those of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), the Association of Southeast Asian Nations (ASEAN) and the Greater Mekong Subregion (GMS) have assessed the barriers with a view to promoting economic integration by improving the competitiveness of production networks and trade flows, narrowing development gaps, and supporting sustainable and more inclusive economic development across Asia.

This chapter examines road and railway links in Myanmar connecting northeast India on the one side with the rest of Southeast Asia on the other. It also discusses the importance of new deepwater ports to create alternative shipping routes essential to Myanmar's international links. The extent to which gaps in the transport networks can be addressed will depend on the costs and benefits to Myanmar. South Asia–Southeast Asia connectivity can only be accomplished if Myanmar improves the hard and soft infrastructure aspects of connectivity.

8.2 MYANMAR'S TRADE WITH ITS NEIGHBORS IN SOUTH ASIA AND SOUTHEAST ASIA

Myanmar is strategically located and rich in natural resources, including arable land, forests, minerals, natural gas, and freshwater and marine resources. The country is the largest in mainland Southeast Asia with a land area of 676 577 square kilometers. Its population is estimated at 60.6 million, with more than 70 percent living in rural areas. Growing demand for manufactured consumer goods in Asia has created new opportunities for Myanmar.

Although Myanmar was one of Asia's leading economies in the 1960s. since the late 1980s growth has been inhibited by low investment, limited integration with global markets, dominance of state-owned enterprises in key productive sectors of the economy and recurring periods of macroeconomic instability. Gross domestic product (GDP) per capita was estimated to be \$380 in 2009 and Myanmar is ranked among the poorest countries (161 out of 180) by the International Monetary Fund (ADB 2012a). Between 2000 and 2010, Myanmar's gross domestic investment averaged 14.2 percent annually, the lowest among the ASEAN countries (ADB 2012b). Myanmar is primarily an agricultural economy as 38 percent of its GDP is derived from agriculture, livestock and fisheries, and forestry (CIA 2011). About 70 percent of the population works in agriculture and forestry (UNFPA 2010) and rice is the main crop and staple food. However, exports of resources are becoming increasingly significant. The development of Myanmar's oil and gas reserves since the early 1990s has resulted in rapidly increasing petroleum exports, reducing agriculture's share of total exports. In 2011, labor-intensive agricultural products (edible vegetables) accounted for only 10 percent of total exports, while mineral fuels and oils accounted for 39 percent, the largest share of total exports (UNESCAP 2012).

Myanmar's trade with other countries in the region began in the 1990s when it adopted open-door policies and welcomed foreign direct investment (FDI), particularly in its oil and gas sectors. Private sector businesses were allowed to engage in external trade and to retain export earnings, and the government started to formalize border trade with neighboring countries. Foreign investment was permitted through the enactment of the Foreign Investment Law (approved on 2 November 2012).

Myanmar's foreign trade increased rapidly during the 1990s up to 2005, although imports grew more rapidly than exports in the 1990s. Imported goods such as consumer goods, machinery and raw materials poured into the emerging market. On the other hand, exports consisted mainly of primary commodities, among them cash crops such as beans, pulses and

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sesame, and marine products such as fish and prawns. One major cause for the slow growth of exports lies in the government's monopoly and restrictions on major export items. However, by the late 1990s, garment exports surged, followed by an expansion in natural gas exports.

By the 2000s, Myanmar's external trade sector improved dramatically. Myanmar recorded a trade surplus in 2001, as well as improved trade balances in the succeeding years, owing to the rapid growth of garment and natural gas exports. Garment exports enjoyed a boom from 1998 to 2001 in response to demand from the United States and Europe but lost momentum as a result of international trade sanctions. However, the decline in garment exports was compensated for by increased natural gas exports from 2001 onward, particularly from the Yadana and Yetagun gas fields that export natural gas to Thailand.

Myanmar's exports rose from \$500 million in 1990 to \$2 billion in 2000, and to more than \$8 billion in 2012. The value of imports in 2012 was more than \$17 billion, up from \$3 billion in 2000. The deficit between exports and imports from 2010 onward resembled deficits of similar magnitude during most of the 1990s (Table 8.1).

Myanmar is a member of subregional programs including the GMS, the ASEAN, and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC). In the 1990s, economic sanctions excluded Myanmar from development projects implemented by these programs. However, Myanmar gradually turned to its neighbors as trade

| Year | Exports | Imports |
|------|---------------|---------------|
| 2000 | 1 980 336 562 | 3039872245 |
| 2001 | 2759600511 | 2666105005 |
| 2002 | 2755918911 | 2970346358 |
| 2003 | 2766433366 | 3 228 500 547 |
| 2004 | 3157273726 | 3459478041 |
| 2005 | 3715402209 | 3 563 702 851 |
| 2006 | 4 543 312 934 | 3912388746 |
| 2007 | 4838500411 | 5595411916 |
| 2008 | 6276859296 | 6976419362 |
| 2009 | 5912512432 | 7075067627 |
| 2010 | 6453655475 | 9945218861 |
| 2011 | 8315652744 | 13692031590 |
| 2012 | 8 268 164 291 | 17000996313 |

Table 8.1 Myanmar's exports and imports, 2000–2012 (\$)

Source: International Monetary Fund, Direction of Trade Statistics, http://elibrary-data. imf.org/DataExplorer.aspx (accessed 15 January 2014). partners, and the People's Republic of China (PRC) became its predominant trade partner. In the same period, India began shifting its foreign policy toward engagement with Myanmar, also becoming a major trading partner.

Thailand, India, and the PRC accounted for more than three-quarters of Myanmar's exports between 2006 and 2010. In the same period, the PRC, Thailand and Singapore together accounted for nearly three-quarters of Myanmar's imports while more than one-third of imports were sourced from the PRC.

Myanmar's export basket is heavy in fuels (natural gas), food, and other primary commodities, including precious stones and gems, which together constituted nearly 90 percent of total exports between 2006 and 2010. Myanmar has one of the world's largest natural gas reserves of 7.8 trillion cubic feet (BP 2013) and natural gas is Myanmar's most important source of export earnings. Thailand and India are the two largest markets for Myanmar's exports, with Thailand accounting for almost half of exports from 2006 to 2010. More than 91 percent of the total is exported natural gas; exports of commodities to Thailand remain low. Exports to India are predominantly food products (62.8 percent) and non-food agricultural products (36.1 percent) (Table 8.2).

| Country/region | Total exports (\$ million) | Share of total (%) | Food (%) | Fuels (%) | Agriculture (non-food) (%) | Manufactured goods (%) |
|----------------|----------------------------------|--------------------------|-------------|--------------|----------------------------------|------------------------------|
| Thailand | 13615 | 48.4 | 3.3 | 91.3 | 4.5 | 0.9 |
| India | 4722 | 16.8 | 62.8 | 0.0 | 36.1 | 1.1 |
| PRC | 2891 | 10.3 | 25.0 | 3.6 | 67.5 | 4.0 |
| Japan | 1583 | 5.6 | 32.7 | 0.0 | 7.0 | 60.3 |
| Malaysia | 812 | 2.9 | 48.1 | 0.1 | 43.1 | 8.8 |
| Rep. of Korea | 532 | 1.9 | 10.9 | 26.8 | 5.1 | 57.2 |
| Germany | 515 | 1.8 | 2.5 | 0.0 | 6.9 | 90.6 |
| Singapore | 421 | 1.5 | 37.8 | 0.7 | 46.3 | 15.2 |
| United Kingdom | a 304 | 1.1 | 30.2 | 0.7 | 2.2 | 66.9 |
| ROW | 2763 | 9.8 | 41.4 | 0.1 | 26.2 | 32.4 |
| World | 28157 | 100.0 | 23.1 | 45.1 | 20.3 | 11.5 |

Table 8.2 Myanmar's exports by country, total, 2006–10

Notes:

ROW is all countries with a share of total exports smaller than 1 percent. PRC = People's Republic of China; ROW = rest of world.

Source: Ferrarini (2013).

In contrast, more than 70 percent of Myanmar's imports are manufactured goods. Imports from the PRC represented almost half (45.7 percent) of Myanmar's total imports from 2006 to 2010, with over 90 percent of imports comprising manufactured goods. Thailand is the second largest importer to Myanmar, accounting for 22.4 percent. Over half (58.2 percent) of imported goods are manufactured goods, with the rest comprising mostly food (23.4 percent) and fuels (16.9 percent). India accounted for only 3.4 percent of Myanmar's total imports, 82.7 percent of which are manufactured goods (Table 8.3).

8.2.1 Myanmar–India Bilateral Trade

In 2012, over 15 percent of Myanmar's total exports were directed to India. India is the third largest trade partner of Myanmar, following Thailand and the PRC. India–Myanmar bilateral trade has grown steadily, reaching a level of \$1813.9 million in 2012, of which Myanmar's exports to India were valued at \$1227 million, while imports from India were \$586.7 million. In the early 1990s, bilateral trade stood at \$55 million, then increased to \$200 million in 2000, then to \$1.8 billion in 2012 (Table 8.4). Myanmar's exports to India are dominated by agricultural

| Country/ region | Total imports (\$ million) | Share of total (%) | Food (%) | Fuels (%) | Agriculture (non-food) (%) | Manufactured goods (%) |
|--------------------|----------------------------------|--------------------------|-------------|--------------|----------------------------------|------------------------------|
| PRC | 10622 | 45.7 | 3.1 | 5.1 | 1.3 | 90.5 |
| Thailand | 6659 | 22.4 | 23.4 | 16.9 | 1.5 | 58.2 |
| Singapore | 4677 | 15.7 | 11.6 | 40.3 | 2.4 | 45.7 |
| Rep. of Korea | 1542 | 5.2 | 0.2 | 1.6 | 5.0 | 93.1 |
| Malaysia | 1268 | 4.3 | 39.4 | 15.3 | 3.3 | 42.0 |
| Indonesia | 1110 | 3.7 | 58.6 | 0.3 | 0.3 | 40.8 |
| India | 1005 | 3.4 | 13.2 | 2.2 | 1.9 | 82.7 |
| Japan | 931 | 3.1 | 0.4 | 0.3 | 1.4 | 97.8 |
| ROW | 1977 | 6.6 | 16.6 | 5.2 | 2.7 | 75.5 |
| World | 29792 | 100.0 | 13.6 | 13.1 | 1.9 | 71.5 |

Table 8.3 Myanmar's imports by country, total, 2006–10

Notes:

ROW is all countries with a share of total imports smaller than 1 percent. PRC = People's Republic of China; ROW = rest of world.

Source: Ferrarini (2013).

| Year | Exports to India | Imports from India | Trade balance |
|------|------------------|--------------------|---------------|
| 2000 | 162886364 | 52855000 | 110031364 |
| 2001 | 314030000 | 61130982 | 252899018 |
| 2002 | 314 217 346 | 78680965 | 235 536 381 |
| 2003 | 355243801 | 94 600 803 | 260 642 998 |
| 2004 | 363 683 885 | 115175752 | 248 508 133 |
| 2005 | 450 865 380 | 122454412 | 328410968 |
| 2006 | 653 086 782 | 145988882 | 507 097 900 |
| 2007 | 729811698 | 191 421 526 | 538 390 172 |
| 2008 | 829646391 | 259 563 626 | 570082765 |
| 2009 | 1086603564 | 230755362 | 855848201 |
| 2010 | 1019088653 | 300 584 376 | 718 504 276 |
| 2011 | 1 143 364 886 | 513106884 | 630258002 |
| 2012 | 1 227 175 746 | 586706066 | 640 469 680 |

 Table 8.4
 Myanmar–India bilateral trade, 2000–2012 (\$)

Source: International Monetary Fund, Direction of Trade Statistics, http://elibrary-data.imf.org/DataExplorer.aspx (accessed 16 January 2014).

and forestry products while pharmaceutical products are the country's top imports from India.

India shares a land boundary of 1643 kilometers (km) with Myanmar. Although land borders between Myanmar and India are open, border trade is negligible compared with both countries' global trade. India and Myanmar have four land customs stations (LCS) dealing with border trade, of which the Moreh–Tamu LCS is the most active. The Border Trade Agreement signed in 1994 gave border trade a legal framework. The Moreh–Tamu LCS was opened in April 1995, while a second border trade point at Champai–Rih was opened in 2004. Border trade is also allowed at Nampong–Pan Saung, while a trade point is being proposed at Avakhung–Pansat/Somrai. India and Myanmar signed a memorandum of understanding in 2012 to open border *haats* (markets).

Myanmar's main imports from India are pharmaceutical products, nuclear reactors and boilers, electrical machinery equipment, iron and steel; these accounted for a share of nearly 81 percent and had a total value of US\$440.21 million. The main exports to India are betel nuts, dried ginger, green mung beans, black matpe beans, turmeric root, resin and medicinal herbs. The border trade turnover between India and Myanmar has ranged from \$10 million to \$22 million, without taking informal trade into account (Embassy of India in Myanmar n.d.).

There is still a low volume of border trade at the Moreh-Tamu LCS. The

border point suffers from a lack of modern trade infrastructure (hard and soft infrastructure), an absence of adequate security and, until recently, an anomalous exchange rate between India and Myanmar. Transport connections on both sides remain underdeveloped. Other problems include large informal trade (therefore, unaccounted), goods smuggling, including drugs and narcotics, and human trafficking. Ransoms paid to insurgent groups, political strikes and ethnic conflicts at the border areas are common and are major deterrents to trade between the two countries.

However, there are developments aimed at improving border trade with India and Myanmar agreeing to upgrade the status of border trade to normal trade and expanding the number of tradable items from 18 to 40 since 2008. In December 2012, rice, wheat, medicines and 18 other items were added to the list of goods for trade at India–Myanmar border areas.

8.2.2 Myanmar–Thailand Bilateral Trade

Thailand is one of Myanmar's biggest trading partners. In 2012, total trade value reached \$6.78 billion, with exports totaling \$3.36 billion and imports totaling \$3.42 billion (Table 8.5). Thailand is the largest importer of goods from Myanmar and the second largest source of imported goods in Myanmar. Thailand has a trade deficit with Myanmar owing primarily

| Year | Exports | Imports | Surplus/deficit |
|------|---------------------|---------------|-----------------|
| 2000 | 232957615 | 554652691 | (321 695 077) |
| 2001 | 735406335 | 390 543 970 | 344 862 365 |
| 2002 | 831 193 107 | 355879530 | 475313577 |
| 2003 | 826958210 | 483 335 595 | 343 622 616 |
| 2004 | 1 230 337 613 | 665 370 326 | 564967287 |
| 2005 | 1 622 982 701 | 777 297 172 | 845685529 |
| 2006 | 2135715639 | 837901693 | 1297813946 |
| 2007 | 2104878563 | 1053955413 | 1050923150 |
| 2008 | 3 0 5 9 5 9 4 9 9 4 | 1449122151 | 1610472843 |
| 2009 | 2 549 024 855 | 1 693 589 022 | 855435833 |
| 2010 | 2 590 266 326 | 2 280 160 859 | 310105467 |
| 2011 | 3 1 7 2 6 0 3 3 3 2 | 3095574671 | 77 028 661 |
| 2012 | 3 362 598 865 | 3419234922 | (56636057) |

 Table 8.5
 Myanmar–Thailand bilateral trade, 2000–2012 (\$)

Note: () = deficit.

Source: International Monetary Fund, Direction of Trade Statistics, http://elibrary-data. imf.org/DataExplorer.aspx (accessed 16 January 2014). to natural gas imports of around \$3.5 billion, which makes up more than 95 percent of Thailand's total imports from Myanmar. Without natural gas, Thailand would have a large trade surplus with Myanmar.

Other exports to Thailand are natural resources and agricultural products, such as fishery products, teak, mineral and iron ore, rice, groundnut, shrimp, rubber and fish meal.

Myanmar's imports from Thailand comprise manufactured goods and machinery and equipment. In 2012–13, Myanmar imported ships, boats and floating structures worth \$143 million, automobiles and auto parts (\$62 million), and machine and machinery products (\$29.6 million).

8.3 MYANMAR AS A TRANSPORTATION HUB

Myanmar has the potential to become a prime transportation hub in Asia and to serve as a gateway between South Asia, Southeast Asia and East Asia. It shares land borders with the PRC to the north and northeast, the Lao People's Democratic Republic (Lao PDR) and Thailand to the east and southeast, and Bangladesh and India to the west and northwest. Strategic investments in transport infrastructure are urgently needed because existing transport links between Myanmar and its neighbors are limited and substandard (De and Ray 2013).

Various bilateral and multilateral programs are developing transport links to make the most of Myanmar's 2800 km coastline with access to sea routes through the Bay of Bengal and major inland waterways. Physical connectivity with Myanmar's coastline and to the Indian Ocean has become a priority for Myanmar's neighbors. Their primary objective is to establish alternative shipping routes to reduce their dependency on the Strait of Malacca. As a result, Myanmar's infrastructure program is also focused on constructing deepwater ports and on strengthening north– south connectivity via roads, railways, and inland waterways.

8.3.1 Road Networks

Asian Highway

The Asian Land Transport Infrastructure Development project, established by the UNESCAP in 1992, is foremost among the existing pan-Asian infrastructure initiatives. Its pillars are the Asian Highway, the Trans-Asian Railway (TAR) and the facilitation of land transport projects through intermodal transport terminals (dry and inland ports). The participating countries agreed that Asian Highway roads must meet one or all of the following criteria listed below to become eligible for inclusion in the Asian Highway network. As a result, only major national roads were included, and construction of new highways is limited to missing links in the Asian Highway network. The criteria include capital-to-capital links, connections to main industrial and agricultural centers, connections to major sea and river ports, connections to major container terminals and depots, and connections to major tourist attractions.

The UNESCAP has highlighted the following road links as priority investments in Myanmar (UNESCAP 2006).

Upgrading the Myawaddy–Kawkareik section of Asian Highway 1. The project is located near the Thai–Myanmar border on Asian Highway 1. The existing 40 kilometer (km) road is a single lane in mountainous terrain. The road will be upgraded through realignment to a double lane that meets Asian Highway design standards. The project will provide twoway traffic flow in Myanmar and between Thailand, Myanmar and India.

Upgrading the Kalay–Kalewa–Monywa section of Asian Highway 1. The existing 184 km intermediate lane road that was constructed in mountainous terrain between Monywa and Kalewa as part of the India– Myanmar–Thailand trilateral highway project will be upgraded to a standard double-lane road. The project will provide two-way traffic flow in Myanmar and between Thailand, Myanmar and India.

Upgrading the Kyaington–Taunggyi section of Asian Highway 2. The project is in Wa state, starting from the junction of Asian Highway 2 and Asian Highway 3 (Kyaington to Taunggyi) in Myanmar. This 450 km section of road is proposed for further upgrading to a standard double-lane road that meets Asian Highway standards. The project will provide connections with the remote region of Wa state as well as between Myanmar and northern Thailand, the PRC and the Lao PDR.

India-Myanmar-Thailand Trilateral Highway

The India–Myanmar–Thailand Trilateral Highway project, conceptualized in 2002, will provide a 1360 km road linking northeast India and Southeast Asia. The road will connect Moreh on the Indian side in Manipur with Mae Sot town in Thailand, passing through Bagan in central Myanmar. Major stretches of road already exist but sections have to be improved and interconnected. The alignment of the highway is such that it shares the same road links as Asian Highway 1 and Asian Highway 2. The project will allow freight and container trucks to move across the borders from India to Myanmar and Thailand via Chiang Rai and border towns.

The development of the Trilateral Highway has been slow owing to constraints on human resources, technology, advisory service and funding. However, commitment to the project was renewed after the Indian government offered a \$500 million loan to Myanmar, partly to renovate segments

| Route | Distance (km) | Drive time (minutes) | Average speed (km/hour) |
|--|------------------|----------------------------|-------------------------------|
| Myawaddy–Thaton | | | |
| Myawaddy–Thingan Nyinaung | 18 | 15 | 72 |
| Thingan Nyinaung–Kawkareik | 44 | 120 | 22 |
| Kawkareik–Paan | 95 | 120 | 47.5 |
| Paan–Thaton | 38 | 50 | 45.6 |
| Thaton-Meiktila: Thaton-Htantabin-Meiktila | No | t yet constr | ucted |
| Meiktila-Bagan: Meiktila-Kyaukpadaung-Bagan | u 142 | 135 | 63 |
| Bagan–Banbwe: Bagan–Pakoku–Yinmabin– Banbwe | No | t yet constr | ucted |
| Banbwe-Labo: Banbwe-Yagyi-Labo | 80 | 150 | 32 |
| Labo–Myittha Bridge | | | |
| Labo–Kyaw–Marma | 37 | 150 | 14.8 |
| Marma–Myittha Bridge (Kalewa) | 67 | 125 | 32.2 |
| Myittha Bridge-Kyikone Junction | 29 | 25 | 69.6 |
| Kalay-Tamu: Kalay-Kyikone-Tamu | 131 | 150 | 52.4 |

Table 8.6Field survey results on the condition of the Trilateral Highway
in Myanmar

Note: km = kilometer.

Source: Htun et al. (2011).

of the highway that fall under Myanmar's responsibility. Currently, the project is scheduled for completion in 2016 (Burma Digest 2012).

Htun et al. 2011 conducted a field survey, based on driving time in the dry season, to identify or confirm the potential bottlenecks along the highway in Myanmar between Myawaddy and Tamu (Table 8.6).

Myanmar-Northeast India link

Inadequate physical connectivity between Myanmar and northeast India constrains border trade. The northeast is connected by land with the rest of India through West Bengal. Most cargo originates from Kolkata and terminates at Guwahati and vice versa. From Guwahati, the cargo gets distributed to various northeastern states. Floods, landslides, road blockages and local unrest can affect the transport links.

Most cross-border trade in India's northeast region is conducted through the Moreh LCS. Yet, trade at this LCS represented less than 1 percent of India's total trade with Myanmar in the last decade. This is in contrast with border trading activities on the PRC–Myanmar and Thailand–Myanmar borders. According to Myanmar's Department of Border Trade, border trade with the PRC surpassed \$7.8 billion in the four years to 2011, while border trade with India reached only about \$66 million. Border trade with Thailand surpassed \$1.5 billion during the same period and border trade with Bangladesh was more than \$117 million (Eleven Weekly Media 2013).

According to Kimura et al. (2011), the following routes are critical to enhancing connectivity between Myanmar and northeast India.

Moreh–Tamu route: The main gate for border trade between India and Myanmar is between Moreh in India and Tamu in Myanmar. The route has overlaps with Asian Highway 1 and Asian Highway 2. The section in India is in poor condition compared to the section in Myanmar, which was implemented with the assistance of the Indian government. On the Indian side, the 109 km section from Moreh to Imphal, the capital city of Manipur state, goes through Palel. On the Myanmar side, a 150 km road from Tamu to Kalemyo and a 10 km road from Kyigone to Kalemyo were completed by India in 2001, and named the Friendship Highway. This is the only operational cross-border road link along the 1643 km India– Myanmar border. The road from Tamu to Kalemyo is in good condition as a result of a maintenance work done by the Myanmar government in 2008. India has committed to extend the upgrading of this highway further to Mongywa.

Zolkawtar–Rhee route: The route from Zolkawtar in Mizoram state of India and Rhee in Chin state of Myanmar can potentially improve border trade. This route would be the shortest land route connecting Myanmar and Kolkata through northeast India and Bangladesh if the section from Aizawl to Agartala was improved.

Nampong–Pangsu route (Stilwell Road): Stilwell Road (1736 km) was built during World War II but fell into disuse after the war. Starting from Ledo in India's Assam state, it weaves through upper Myanmar to reach Myitkyina before turning eastward to end in the PRC's Yunnan province. The road crosses the border at Nampong–Pangsu, where border checkpoints have been established by bilateral agreement. Currently, the border is not open for official border trade.

Greater Mekong Subregion economic corridors

The GMS initiated its economic corridor program in 1998. The program identified five corridors, with all six participating countries agreeing to prioritize the East–West Economic Corridor connecting Myanmar, Thailand, the Lao PDR, and Viet Nam along a 1600 km route. The program has since developed a transport sector strategy, covering 2006–15,

that identifies nine economic corridors along with priority transport infrastructure investments aimed at strengthening transport systems necessary to increase GMS cooperation and to improve economic links with other counties and regions.

Greater Mekong Subregion corridors in Myanmar have overlaps with the Asian Highway and the ASEAN Highway Network. Accordingly, various GMS road links can contribute to the improvement of land connectivity between South Asia and Southeast Asia. The GMS highway routes in Myanmar are (1) R3: Tachilek–Kyaington–Mongla (257 km), (2) R4: Lashio–Muse (175 km) and (3) R7: Kyaington–Loilem–Thibaw– Lashio (660 km). Table 8.7 presents the relevant GMS corridors in road links in Myanmar.

The GMS has identifed the following projects to rectify important infrastructure gaps:

- 1. A gap along the western corridor is tied in with the extension of the East–West Corridor from Kawkareik to Payagyi on the western corridor. The initial project would be from Kawkareik to Eindu (East–West Corridor) and Eindu to Thaton (Western Corridor), a distance of 134 km.
- 2. Upgrading the northern corridor, from Monywa to the Indian border at Tamu.
- 3. Upgrading the Kawkareik to Thaton road (approximately 134 km) along the Asian Highway 1 route on the East–West Corridor. The project would also include upgrading a major bridge structure, the Thanlwin Bridge (Hpa-an) about 685 meters in length (ADB 2012c).
- 4. A newly proposed GMS corridor is the Myanmar-the Lao PDR-Viet Nam Trilateral East-West Corridor. In Myanmar, it would extend 1,340 km from Kyaukphyu to Kyainglat and overlap with Asian Highway 2. It would then extend 372 km in the Lao PDR from the border bridge to Tai Chan, and another 561 km in Viet Nam from the border to Hai Phong. The Lao PDR-Myanmar Friendship Bridge will connect Xieng Kok in the Lao PDR to Kyaing Lap in Myanmar over the Mekong River. In February 2013, the Lao PDR and Myanmar launched the project, which is estimated to cost \$18 million and is expected to be completed in 2015 (Bangkok Post 2013).

8.3.2 Railway Networks

Trans-Asian Railway

The TAR is the UNESCAP's counterpart to the Asian Highway in the railway sector to promote environmentally friendly and sustainable

| Corridor | Terminus | Overlap with Asian Highway | Myanmar |
|--------------------------------|---|----------------------------------|--|
| Northern Corridor (NC) | Tamu to Fangcheng | AH1, AH2, AH14 | Tamu–Mandalay–Muse Primarily two-lane paved roadway sections in need of needing maintenance, bridge widening and repair |
| East–West Corridor (EWC) | Mawlamyine to Dong Ha (and continuation along the Eastern Corridor to Da Nang) | | (EWC) Myanmar: Mawlamyine– Myawaddy (at Thai border) Thai financial grant aid funded the initial 46 km from Myawaddy to Kawkareik. The road section from Kawkareik to Thaton should be the next priority for improvement along the AH1 corridor |
| Western Corridor (WC) | Tamu to Mawlamyine | AH1 | Tamu–Nay Pyi Daw–Mawlamyine; WC is the only corridor that is entirely in Myanmar The most apparent gap along the WC is tied in with the extension of the EWC from Kawkareik to Payagyi on the WC. The initial project would likely be from Kawkareik to Eindu (EWC) and Eindu to Thaton (WC), a distance of 134 km. Assessments of sections of the WC beyond Meiktila should be deferred until Myanmar transport officials have decided the primary route to be upgraded between Mandalay and the Indian border |
| Southern Corridor (SC) | Dawei to Quy Nhon/Vong Tau | | Dawei–Bong Ti (at Thai border) A road from Dawei port to Kanchanaburi (Thailand) along the SC will be upgraded as part of the Dawei deepwater port and Special Economic Zone project |

Table 8.7 GMS corridors in Myanmar

Note: AH = Asian Highway.

Source: ADB (2012c).

transport solutions. The UNESCAP initiated the design of the TAR network in the 1960s with the objective of providing a continuous 14000 km rail link between Singapore and Istanbul. The links in the network were identified by 28 member countries based on potential to serve immediate transport needs, and to support international trade within Asia and the Pacific region as well as between Asia and Europe. Currently, the TAR network comprises 117000 km of rail routes, which includes 10500 km that need to be constructed to provide an unbroken network. Gaps or missing links occur in sections where no physical link exists between the railway networks of neighboring countries or there is an absence of continuous railway links within the countries themselves. The missing links in Myanmar are:

- Myanmar and India. Following discussions between New Delhi and Yangon in October 2006, the Indian government, under the Mekong– Ganga Cooperation initiative, proposed to build a railway line from Jiribam to Imphal and Moreh.² This would be the first step in building a trade route through the Delhi–Ha Noi link. The link would require construction of a rail link between Tamu (Moreh), Kalay, and Segyi in Myanmar, and rehabilitation of the existing line from Segyi to Chaungu Myohaung (Singh 2007).
- 2. *Myanmar and Bangladesh*. All existing railheads in Myanmar are a long distance from the border with Bangladesh. Bangladesh has, however, planned to connect its rail infrastructure to Myanmar's, through a link from Chittagong to Dohazari and Cox's Bazaar and to the border with Myanmar.
- 3. *Thailand and Myanmar*. As part of the Singapore–Kunming Railway Link project, a feasibility study was completed in 2007 on the 263 km section between Namtok in Thailand and Thanbyuzayat in Myanmar. The missing section in the Thai side is 153 km between Namtok and the border at the Three Pagodas Pass, and 110 km from there to Thanbyuzayat on the Myanmar side.

Delhi-Ha Noi railway

The Delhi–Ha Noi railway is a major project promoting ASEAN–India economic integration. The project will link (1) India's Manipur with India's main railway corridor, (2) Imphal with Kalay in Myanmar (about 212 km), (3) Thanbyuzayat with the Three Pagoda Pass in Thailand (110 km) and (4) re-establish and renovate railway networks in Myanmar.

India is planning two possible routes for the rail link (Htun et al. 2011) with both routes connecting New Delhi and Ha Noi through Myanmar. Route I will connect to Ha Noi via Myanmar, Thailand, and Cambodia. In Route II, the link is diverted to Bangkok via Ye and a newly constructed

portion of Ye and Dawei in Myanmar, then to Ha Noi through Thailand and the Lao PDR.

Greater Mekong Subregion railway

The 2011 GMS Railway Strategy Study assessed alternative routes for linking the unconnected railways in the GMS to strengthen connectivity of the nodes and enhance efficiency of the region's railway network (ADB 2011). The highest priority was given to the Bangkok–Phnom Penh–Ho Chi Minh City–Ha Noi–Kunming–Nanning route as it offers the largest potential traffic volume based on projections of freight and passenger demand, connects all the GMS countries (except Myanmar), is the lowest cost, has the highest projected economic internal rate of return, and is attractive to private sector investors and operators. This route is also the most relevant to connectivity between South Asia and Southeast Asia although it would require the establishment of links between Thailand and Myanmar of almost 263 km between Namtok in Thailand and Thanbyuzayat in Myanmar.

8.3.3 Ports

Myanmar's existing ports, including Yangon, are river ports and not deep enough for larger conventional and container vessels. To cope with growing maritime trade and the emergence of larger vessels for seaborne traffic, the Myanmar Port Authority has earmarked sites for the construction of deepwater ports, including the Kyaukphyu area in Rakhine state, Kalegauk in Mon state and Dawei and Bokpyin in the Taninthayi region.

Dawei Port

The Dawei deepwater port project is part of a planned, fully integrated industrial zone that will include an industrial estate and petrochemical complex supported by a cross-border road link from Dawei to Thailand. The total investment required for the project has been estimated at \$10.5 billion. This includes the deepwater port, industrial estate, power project, double track railways and expressway projects connecting with Thailand. The port will function as an integrated logistics hub with intermodal freight transport capabilities. A rail link from Dawei–Yangon–Mandalay–Muse (with further connection to the PRC railway system to Kunming) is under evaluation. The port will have an important role in promoting regional economic integration. The eastern coastline of Dawei lies at the end of the GMS southern economic corridor and offers strategic benefits to an industrial zone seeking connections to South Asia and Southeast Asia.³

The Dawei project is envisioned to (1) reduce logistics and labor costs for GMS members by providing an alternative sea route to India, the PRC, the Middle East, Europe and Africa, (2) reduce dependence on the congested Strait of Malacca, (3) provide opportunities for the private sector to review supply chains and optimize production activities in ASEAN and India, (4) provide an industrial location so that private firms and factories in Thailand and other neighboring countries may consider relocating to it, and (5) support Myanmar's strategic importance as a regional logistics and trading hub.

After several years in the planning stage, the initial construction phase of the Dawei Special Economic Zone is expected to commence in 2015 under an investment framework agreement between Myanmar and Thailand. A long-term master plan will also be prepared. Japan is expected to provide technical and financial support to railway links connecting Dawei to Thailand and Cambodia (Bangkok Post 2014, 2015).

Kaladan project

India initiated the Kaladan multimodal transit transport project in Myanmar to help overcome the limited physical connectivity between India and Myanmar by providing an alternative access route to the northeastern region of India (Government of India, Ministry of Development of North Eastern Region 2014). It will facilitate increased trade between the two countries and contribute to the economic growth of India's northeastern states.

The project will consist of the following components:

- an integrated port and inland waterways transport (IWT) terminal at Sittwe;
- a navigable channel along the Kaladan River from Sittwe to Paletwa (158 km);
- an IWT highway transshipment terminal at Paletwa;
- six IWT barges (300 ton capacity) for transportation of cargo between Sittwe and Paletwa; and
- a highway link from Paletwa to the India–Myanmar border (110 km).

The project will provide a commercially viable route for transporting goods to northeast India. It will establish physical connectivity starting with improved maritime access between Indian ports on the eastern seaboard and Sittwe port in Myanmar. It will also provide riverine transport, as the Kaladan River is navigable from its confluence point with the Bay of Bengal near Sittwe to Paletwa. Beyond this point, transportation to the India–Myanmar border will be by road to northeast India (the river is not navigable upstream because of shallow waters and rapids). These infrastructure components will give India access to markets in mainland Southeast Asia, including Myanmar's densely populated regions of the Irrawaddy Basin and Yangon.

India and Myanmar signed the Framework Agreement and Accompanied Protocol in 2008. The Indian government will bear the full cost of the project. The construction of Sittwe Port and the Kaladan waterways is estimated to cost \$68 million and the road to the border, \$50 million, making a total of \$118 million. Construction activities at Sittwe for the port and IWT terminal are nearing completion. Waterway improvement of Kaladan River and the rest of the project are expected to be finalized or put into operation in 2015 (San 2014).

Yangon Port

Yangon Port handles about 90 percent of Myanmar's exports and imports. It is accessible to vessels of 167 meter length overall (LOA), 9 meter draft. and 15000 deadweight tonnage (DWT). The Thilawa port area is accessible to vessels of 200 meter LOA, 9 meter draft, and 20000 DWT. To improve accessibility to Yangon's port areas for bigger vessels and expand capacity to handle growing seaborne cargo traffic, the Myanmar Port Authority has been taking initiatives to improve the Yangon River access channel and to establish the industrial zone at Thilawa port as a special economic zone. Its facilities include Myanmar International Terminals Thilawa (MITT) and Myanmar Integrated Port (MIPL); new berths with palm oil storage tanks are under construction. Myanmar International Terminals Thilawa and MIPL are situated midway between the entry of the Yangon River and the inner ports. Given that there is more draft at MITT and MIPL, larger vessels can dock at their ports and can be loaded with more cargo than at the inner ports. Also at MITT, the arrival and departure of containers are more efficient due to the location of a rail terminal inside the facility. The target market for the special economic zone will be local investors from Myanmar as well as investors from Japan, the Republic of Korea, the PRC, Singapore, Thailand and Malaysia, among others (Min and Kudo 2012).

8.3.4 Inland Waterways Transport Routes

Myanmar has about 5000 km of navigable waterways, of which about 2400 km make up the primary inland waterway network. This includes the Ayeyarwaddy and Chidwin rivers and the Ayeyarwaddy Delta's extensive channel system. Myanmar Inland Water Transport is the dominant provider of both passenger and freight services on the network. A state-owned

enterprise, it handled 28 million passengers and 5 million tons of freight (comparative 2000 figures are 23 million passengers and 4 million tons of freight) in 2011. Currently, it handles some 50 percent more freight than Myanmar Railways. Despite the advantages of using the inland waterway network – cost-effectiveness, fuel efficiency, increased mobility, welfare and development of remote communities – inadequate investment and government-fixed tariffs that are below the cost of service provision have been major constraints to the modernization and expansion of the subsector (ADB 2012a).

8.4 COSTS AND BENEFITS OF REGIONAL INTEGRATION FOR MYANMAR

Regional integration is a multidimensional process requiring long-term commitment from governments to a range of reforms. The impact of regional integration on Myanmar can be viewed as the combined effects of key developments in the following areas.

8.4.1 Trade Liberalization

Under the former military rule, the economic sanctions imposed by trading partners affected Myanmar's trade flows. In 2000, exports of apparel and clothing accessories accounted for 42 percent of the country's total exports. After 2000, bans on imports of Myanmar's products and on the provision of financial services to firms were put in place. By 2011, apparel and clothing accessories' exports plummeted to less than 1 percent, and the top exports were mineral fuels and oils, accounting for 39 percent of total exports, compared with 6.3 percent, in 2000. During the period of trade sanctions, Thailand and the PRC became the main trading partners as Myanmar focused on the export of mineral fuels. Myanmar's other trading partners during this period were Singapore, India, Malaysia, Japan and the Republic of Korea.

The suspension of economic sanctions by the European Union, the United States, and Canada began in 2012. With the establishment of an ASEAN Economic Community (AEC) by 2015, free flow of goods and investment, through instruments such as the ASEAN Trade in Goods Agreement and the ASEAN Comprehensive Investment Agreement, should draw investors looking to manufacture in Myanmar for export to ASEAN.

Thailand will be a major beneficiary as it has a high degree of economic complementarity with Myanmar. Thailand faces aging demographics and

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maturing domestic demand growth across many industries. On the other hand, Myanmar has a young population that represents a potential source of sustained growth across many sectors. The gap in minimum wages between Thailand and Myanmar also suggests a range of low-cost manufacturing opportunities for Thai companies, especially as connectivity with Myanmar improves. As Thai companies relocate manufacturing plants to Myanmar, Myanmar can expect to benefit from technology transfer and increased capital in the form of machinery and technical knowledge.

Myanmar is also expected to increase bilateral trade with the PRC after its participation in the ASEAN-the PRC Free Trade Area for goods takes effect in 2015.

8.4.2 Trade Facilitation and Trade Infrastructure

Myanmar needs to adopt better border-crossing practices, mainly customs procedures, to export more efficiently. In 2012, the World Bank's logistics performance index (LPI) for Myanmar was 2.37, lower than the average for East Asia–Pacific economies⁴ of 2.84.⁵ The low logistics performance, in all six variables in the LPI, translates into high trade costs and indicates the constraints faced by Myanmar in realizing its trade potential. This must be addressed through reforms in customs procedures and regulatory framework as well as through development of trade facilitation infrastructure, particularly in transportation services and information and communication technology (ICT). Inefficiency in maritime connectivity and ICT accounts for up to 25 percent of bilateral comprehensive costs.

Myanmar's integration into the global trading system requires improvements in infrastructure to increase maritime, ICT, and airfreight connectivity. Moreover, access to trade finance is also low. Short-term export credit in Myanmar covers only 2.33 percent of goods for export vis-à-vis the average of 28.1 percent for other developing countries (Table 8.8).

8.4.3 Private Sector

The sustainability of Myanmar's future economic growth will depend on the development of the domestic private sector in services and manufacturing. Myanmar has the potential to diversify into activities beyond the agriculture, mining and natural gas sectors. Other activities include telecommunications, garments, manufacturing, tourism, construction and banking. Myanmar offers advantages for low-cost manufacturing firms – proximity to large markets in neighboring countries, a young labor force, low wages and a high literacy rate – especially in view of rising labor costs and aging demographics elsewhere in Asia.

| | Myanmar | | East Asia–Pacific | Low income |
|---|---------|---------|----------------------|---------------|
| | 2005-08 | 2006–09 | 2006–09 | 2006–09 |
| Transportation | | | | |
| UNCTAD Liner Shipping | 3.19 | 3.63 | 19.73 | 8.21 |
| Connectivity Index | | | | |
| Air freight (million tons/km) | 2.79 | 2.87 | 1028.20 | 42.44 |
| ICT | | | | |
| Mobile and fixed-line telephone subscribers (per 100 people) | 1.67 | 2.01 | 47.27 | 25.48 |
| Population covered by mobile cellular network (%) | 10.00 | 10.00 | 62.13 | 56.58 |
| Personal computers (per 100 people) | 0.88 | 0.93 | 7.25 | 2.43 |
| Internet users (per 100 people) | 0.07 | 0.08 | 10.60 | 3.68 |
| Internet subscribers (per 100 people) | 0.01 | 0.01 | 3.70 | 0.44 |
| <i>Trade finance</i> Export credit insured exposures, short term (% of goods exports) | 2.09 | 2.33 | 89.37 | 28.10 |

| Table 8.8 | Trade facilitation | infrastructure |
|-----------|--------------------|----------------|
|-----------|--------------------|----------------|

Note: ICT = information communication technology; km = kilometer; UNCTAD = United Nations Conference on Trade and Development.

Source: UNESCAP (2012); World Bank World Trade Indicator database, http://info. worldbank.org/etools/wti/3a.asp (accessed 27 October 2013).

8.4.4 Distributional Impact

Myanmar is one of the less developed economies in Southeast Asia. The population has limited access to electricity (with a 26 percent rate of electrification), telecommunications and the Internet. Almost half the country's roads are not passable during the monsoon season. Given the poor state of infrastructure and other constraints to economic growth, government programs promoting regional integration should seek credibility with the public by ensuring that targeted benefits are not confined to specific regions or provinces. The potential economic and social impacts of a proposed project should be examined, particularly when large public sector investments in the form of land, natural resources, or human resources are involved. Key stakeholders should expect a fair share of a project's direct and indirect benefits.

8.4.5 Regional Public Goods

Myanmar is vulnerable to extreme weather events, environmental shocks affecting its forests, and environmental disturbance caused by mining, among other risks, which impact on human health, agriculture and food security. Coordination with neighbors on disaster response could help Myanmar mitigate these risks. However, regional integration can also bring negative externalities, such as the spread of communicable diseases and pollution, which Myanmar also needs to monitor.

8.4.6 Domestic Transport Integration

Myanmar requires broad policy and institutional reforms in the transport sector to halt the deterioration of critical infrastructure and ensure that investments will bring about effective physical connectivity at the national level. Prolonged isolation from the international community, economic sanctions and poor management had constrained the transport sector. Further, infrastructure development has been implemented without establishing a sound economic rationale based on an assessment of the benefits and costs to the country, particularly at the local level.

The government focused investment on major highways even though high-level roads are underutilized, and funding for the operation and maintenance of existing lower-level road networks is inadequate. Road transport is essential for supporting agriculture and tourism and for providing rural communities access to markets and essential services. Regional towns and local communities have poor access to economic activities and social services because of the underdeveloped road network. Road density in Myanmar is roughly 2 km per 1000 people compared with 11 km for ASEAN member states overall. Also, Myanmar has only 18 vehicles per 1000 people, while Indonesia has 250 and Thailand has 370 (ADB 2012a).

Transport sector reform must address (1) overlapping and fragmented institutional structure for the sector, (2) the absence of a transport sector strategy, (3) inadequate selection of infrastructure investments based on an assessment of the costs and benefits to the country, (4) weak institutional capacity at the subsector level, (5) the need to expand the role of the private sector and (6) the absence of a sufficiently extensive lower-level road network linking local communities to the core road network.

With Myanmar's transition toward a less centralized form of government, autonomy at the local levels can help the government become more effective and responsive in carrying out its reforms and in ensuring that the expected benefits will materialize.

8.5 COSTS AND BENEFITS IN CROSS-BORDER INFRASTRUCTURE PROJECTS

A cross-border infrastructure project is either an infrastructure project with activities involving two or more countries, or a national infrastructure project that has significant cross-border impact (Fujimura and Adhikari 2010). Governments must examine the implications of the costs and benefits, including how they are allocated, to get political buy-in and build credibility with the public, especially local communities in the host country. Project stakeholders may be in a position to enhance or threaten project implementation.

A transport network in Myanmar providing viable multimodal routes to India should help promote trade, attract FDI, and support tourism in Myanmar in the long run. Currently, there is little demand for land transit freight traffic through the India–Myanmar border. India's northeastern region is geographically isolated from the rest of the country and poorly integrated with the national economy. The prospects for economic complementarity between India's northeastern region and Myanmar are unclear. The region has little capacity to produce goods for export to Myanmar and the rest of Southeast Asia. Major commodities are transported between India and Myanmar by sea. Most of India's exports to Myanmar's exports to India are concentrated in vegetables and timber, which go mainly to Chennai.

Another factor is that Myanmar may prioritize exporting low-technology manufactured goods to distant but lucrative industrialized markets as the country integrates with the global economy and is given normalized, unsanctioned access to markets in the United States and Europe. From 2006 to 2010, Myanmar's exports of apparel, footwear, and other manufactured goods to Japan, the Republic of Korea, Germany and the United Kingdom accounted for only 10 percent of cumulative exports.

These factors explain the difficulty in convincing decision makers in Myanmar to move forward in committing limited resources to establish overland transport links with India's northeastern region despite offers of bilateral assistance from India. Notably, the justification could become more compelling if the land route in Myanmar connecting to India is extended to Yunnan province. This would provide connectivity between markets in India, Myanmar and the PRC. It could also provide opportunities for Myanmar to earn transit fees.

On the other hand, a high degree of economic complementarity exists between Myanmar and Thailand. Further considerations include the challenging labor and business environment in Thailand, shorter land-based

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travel compared to sea travel between the two countries, the existence of trade and production facilities at the border, the relatively low cost of hard infrastructure, and the prospects for employment generation as companies move to Myanmar. Also when the ASEAN economic partnership is realized in 2015, logistics costs will be reduced further. This should provide a boost to Myanmar's export opportunities.

Japan has a potentially big role in helping establish Myanmar as part of the supply chain of Japanese firms. Japanese automobile parts makers, electronics parts makers, and consumer goods manufacturers operating in Thailand have begun to relocate labor-intensive production processes to border regions with the Lao PDR (provinces of Savannakhet and Koh Kong) and Cambodia (Poipet town). Similar developments may be expected in Myanmar as plans to establish industrial sites close to its borders with Thailand proceed. Moreover, unlike Cambodia and the Lao PDR, which have small populations, Myanmar has a growing working-age labor force that is unlikely to experience shortages or rising wage costs in the foreseeable future (Oizumi 2013).

The government has contributed minimal resources toward improving road and rail connectivity between South Asia and Southeast Asia. Despite assistance from India, several major road projects have either stalled or remain at the conceptual stage owing to lack of commitment from Myanmar on its share of the responsibilities. The India–Myanmar– Thailand Trilateral Highway is expected to link Moreh, India, to Mae Sot, Thailand, through Mandalay, Myanmar. In Myanmar, about 1500 km is still unpaved or has impassable links despite the project being in the pipeline since it was conceived at a trilateral ministerial meeting on transport links in Yangon in April 2002 (Government of India, Ministry of External Affairs 2012). Only the Tamu–Kalewa–Kalemyo link (160 km) has been upgraded with India funding the costs of construction and maintenance. Myanmar has only agreed in concept to supporting the trilateral highway and has yet to upgrade the roads beyond this link.

Pursuing regional connectivity involves risks and uncertainties for Myanmar. It can aggravate social problems such as illegal migration, human trafficking and spread of disease. Since 1992, Myanmar nationals have been migrating illegally to Thailand on Myanmar's eastern border to join the Thai labor market where wages are higher. As a consequence, the pool of skilled and unskilled workers in Myanmar has been reduced considerably. Other constraints to connectivity are illegal migration causing unrest, illegal border trade and lack of border security. Myanmar must manage these issues as part of a reform agenda to promote connectivity with South Asia and Southeast Asia.

Myanmar's investment in bridges and other key infrastructure has

created opportunities and reduced financing risks for future connectivity projects. Road and rail projects are mainly funded through government expenditure and some build, operate and transfer (BOT) arrangements with domestic investors. The Myanmar portion of the GMS North–South Corridor, which has shortened travel time (to half a day) between Thailand, Myanmar, and the PRC, was built on a BOT basis with contractors from the PRC and Thailand. Prior to 1986, Myanmar received development funding for major highway projects (for example, from the ADB for the Rangoon–Prome road, and from the Australian Agency for International Development for the Bassein–Monywa highway) but it has received almost no development funding since 1988.

The cost of the simplest road connection between South Asia and Southeast Asia, the Trilateral Highway, is estimated as \$841 million, with most of the costs being in India and Myanmar.⁶ The cost of the three-country Trans-Asian rail link is approximately \$1.48 billion, with the cost for India estimated at \$649 million, for Myanmar \$344 million and for Thailand \$491 million. South Asian to Southeast Asian road and rail physical connectivity can therefore be achieved for \$2.2 billion. The amount would be shared by three countries and spread over several years, thereby making investment manageable – for example, with investments of \$200 million per year by each of the three countries for four consecutive years.

Regional transport projects must be supported by regional cooperation to ensure that the economic benefits outweigh the economic costs and that positive spillover effects accruing to all participating countries (that is, regional public goods) will be created. For Myanmar, analyzing the costs and benefits and presenting an economic rationale for public sector funding of key projects will be crucial in prioritizing major projects according to national development objectives, clarifying the scope and direction of reforms at the national and subnational levels, getting political buy-in, helping ensure value for money and facilitating bilateral assistance plans. As the country transitions from a centralized government, this process will also help in gaining support from subnational authorities and in reaching out to local communities, ethnic minorities and other project stakeholders that lack basic services. On a regional scope, a costs and benefits analysis can identify the potential welfare gains from connecting South Asia and Southeast Asia, and how Myanmar could get a proportionate share based on its contribution to the physical connectivity.

8.6 PRIVATE SECTOR INVESTMENT IN MYANMAR'S INFRASTRUCTURE

In March 2011, Myanmar's military government transitioned to a civilian government and initiated political, economic and social reforms. Because of the new reforms, several international sanctions have been lifted and international financial institutions (the ADB, the World Bank and the International Finance Corporation) have initiated a process of restructuring, repayment or forgiveness of outstanding debts. The removal of barriers to international investment has made it possible for Myanmar to pursue a strategy of delivering infrastructure through public–private partnerships (PPPs) following international normal practice.

Public-private partnerships have proven useful to Myanmar. However, recurring issues include transparency in the bidding process and limited involvement of international companies. Also, government agencies have little capacity in monitoring and enforcement to ensure satisfactory performance of infrastructure facilities.

Various forms of PPPs have already been undertaken in multiple sectors of the economy – such as energy, telecommunications, housing, civil aviation, roads and public transport – despite the absence of policy frameworks, implementing rules and regulations, or institutional management functions specific to PPPs. Foreign private firms or state-owned enterprises have become more active in financing projects in these sectors because of clear prospects for cost recovery and more manageable risks arising from Myanmar's unique advantages, mainly the country's strategic location in Asia, its rich endowment of natural resources, a large working-age population, recommitment from international financial institutions and/or initial traction on reforms.

Public-private partnerships require a thorough needs analysis to satisfy the government, users and stakeholders. The economic rationale for private sector participation must be established. The delivery of assets and provision of basic services through PPPs should ensure greater value for money than the government can provide on its own. Procurement must be based on a transparent public tendering process to attract international bidders capable of bringing in responsive, innovative solutions. The private sector must also see that PPP opportunities are supported by a credible procurement process, comprehensive feasibility assessments, reasonable risk sharing in project contracts and a viable business environment based on supportive legal, institutional, and regulatory frameworks.

For the transport sector especially, the government must adopt a more consensus-based approach and involve local communities. Public dissatisfaction with project construction, lack of labor opportunities, fees for the use of the services and major disruptions to their way of life can cause difficulties and prolonged delays for PPPs.

8.7 CONCLUSIONS

South Asia and Southeast Asia connectivity means going through Myanmar, the only land bridge between the two regions. The major land routes have been identified but there are critical gaps existing, mainly in Myanmar. This is particularly true for the rail sector. For the road sector, gaps are usually poor quality roads that cannot accommodate all-weather reliable travel. Strengthening physical connectivity requires a multimodal perspective, including the development of non-land transport modes such as air and maritime transport. The implications of gas and oil shipments, which can be transported by pipe, ship, rail and, in some cases by road, also need to be considered.

A regional program aimed at improving hard infrastructure and physical connectivity needs to be supported by corresponding reforms on soft infrastructure to improve policies and institutional arrangements within and among the countries concerned. Moreover, soft infrastructure in the form of trade liberalization and trade facilitation must be in line with other broad economic reforms to facilitate private sector investment, trade finance programs, infrastructure procurement and PPP frameworks, and infrastructure financing mechanisms.

For Myanmar, analyzing the costs and benefits and presenting an economic rationale for public sector funding of key projects will be crucial in prioritizing major projects according to national development objectives, getting political buy-in, helping ensure value for money, and facilitating bilateral assistance plans. On a regional scope, an analysis of costs and benefits will help identify the potential welfare gains from connecting South Asia and Southeast Asia, and how Myanmar could get a proportionate share based on its contribution to establishing physical connectivity. The importance of regional cooperation to support regional transport projects should not be overlooked to ensure that the economic benefits outweigh the costs and that regional public goods will be created.

South Asian–Southeast Asian connectivity cannot be achieved without the participation of Myanmar. The following issues need to be addressed.

- 1. How to ensure that regional cooperation can be achieved without affecting Myanmar's plans for establishing national integration.
- 2. How to establish an agreement on governance of the resulting physical infrastructure, including sustaining the quality of road links and

an agreement covering the efficient flow of goods and services across borders.

- 3. How to minimize economic and non-economic negative externalities coming from increased connectivity.
- 4. How much financing will be available at attractive rates from traditional sources (development funds) or private sector participation.
- 5. How to minimize investment costs through cooperative actions such as sharing knowledge and technology, using the best labor resources and bulk purchases of raw materials.

The missing 'last kilometers' of road and rail between South Asia and Southeast Asia are short. Myanmar's investment in bridges and other key national infrastructure has created opportunities and reduced financing risks for future projects. Thus, financing should not be the principal constraint in establishing physical connectivity between Myanmar and its neighboring countries, especially if value for money principles – economy, efficiency and effectiveness – are followed. A comprehensive program to upgrade, widen and rehabilitate the road network should not be required to address basic national and regional demands for physical connectivity.

NOTES

- This chapter is an edited version of ADBI Working Paper No. 506 (Florento and Corpuz 2014). For a more detailed discussion of financing issues, readers may consult the working paper at http://www.adbi.org/working-paper/2014/12/12/6517.myanmar.key. link.south.southeast.asia/ (accessed 3 February 2015).
- 2. The Mekong–Ganga Cooperation initiative, launched in November 2000 in Vientiane, is an initiative by India and five GMS countries: Cambodia, the Lao PDR, Myanmar, Thailand and Viet Nam.
- For details, see Dawei Development Company Limited website, http://www.daweidevelopment.com/ (accessed 7 October 2013).
- 4. According to the World Bank's definition, East Asia–Pacific economies include: (1) low-income economies (Cambodia, the Democratic People's Republic of Korea, the Lao People's Democratic Republic, Myanmar and Viet Nam); (2) lower-middle income economies (the PRC, Indonesia, Kiribati, the Marshall Islands, the Federated States of Micronesia, Mongolia, Papua New Guinea, the Philippines, Samoa, Solomon Islands, Thailand, Timor-Leste, Tonga and Vanuatu); and (3) upper-middle income economies (Samoa, Fiji, Malaysia and Palau).
- 5. The LPI reflects the perception of a country's logistics environment based on a survey of logistics performance evaluated from six key criteria. These criteria are: (1) efficiency of the customs clearance process, (2) quality of transport and transport-related infrastructure, (3) ease of arranging competitively priced shipments and competence, (4) quality of logistics services, (5) tracking ability, and (6) timeliness of shipments.
- 6. Based on UNESCAP (2006) study that presents estimated costs per kilometer for constructing and rehabilitating roads in Asian economies (\$1.14 million in India, \$250 000 in Myanmar).

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India: building connectivity under the Act East Policy¹

Prabir De

9.1 INTRODUCTION

Connectivity is the key building block of convergence and cohesion in any regional integration initiative. Development of connectivity, especially of transportation linkages, energy pipelines, and information and communication technology (ICT) across any region, contributes to regional integration by reducing transaction costs and facilitating intraregional trade and investment. Cooperation on connectivity may lead to a reduction in trade costs and result in welfare gains well in excess of the gains from mere tariff liberalization.

The potential benefits from closer connectivity between South Asia and Southeast Asia are no doubt large. A study by the Economic Research Institute for ASEAN and East Asia (ERIA) found cumulative gains of over 5 percent of gross domestic product (GDP) for Cambodia, Myanmar, Thailand and Viet Nam, and over 2.5 percent of GDP for India.² In an earlier study, the Asian Development Bank (ADB) estimated large gains of around \$260 billion, or 2 percent of GDP, from an East and South Asian free trade area, under conservative assumptions.³ While regional infrastructure development may generate higher growth in the region, the process of regional economic integration may produce costs alongside the benefits, which will need serious review and mitigation measures.

India's current relations with Southeast and East Asia began in the early 1990s, when the country undertook the 'Look East Policy' as an effort to strengthen economic and strategic relations with Southeast and East Asian countries. Combined, India and Southeast Asia are home to 1.8 billion people and have an economic size of \$3.8 trillion, sharing substantial world resources, economic and otherwise.⁴ With a free trade agreement (FTA) in goods in 2010, the Association of Southeast Asian Nations (ASEAN) and India have created a versatile economic space, which has been the first major step toward creating an ASEAN–India regional trade and investment area. Building a common market may be achieved

provided trade liberalization is adequately complemented by effective trade facilitation and connectivity.

India's regional connectivity with Southeast Asia has been following two major paths: soft connectivity such as the Trilateral Transit Transport Agreement, and hard connectivity such as the Trilateral Highway and the Mekong–India Economic Corridor (MIEC). While the first may lead to paperless trade, the second may help facilitate seamless trade.⁵ India's connectivity with Southeast Asia has been evolving primarily in two ways: through national connectivity, such as the Golden Quadrilateral projects, the Delhi–Mumbai Industrial Corridor (DMIC) and the Dedicated Freight Corridor, and through regional connectivity, such as the Trilateral Highway and the MIEC. India's regional connectivity with Southeast Asia has been evolving on two pillars: northeast India for multimodal and intermodal operations and southern India for multimodal operations. India's connectivity with Southeast Asia, although at present at an initial stage of development, may appear as a great facilitator of pan-Asian integration in coming years (Bhattacharyay et al. 2012).

In view of the above, this chapter presents India's broad proposals on connectivity projects with Southeast Asia, and policy recommendations to strengthen connectivity in Asia in general, and more specifically between India and ASEAN. Section 9.2 presents India's trade relations with Southeast Asia, with emphasis on trade in parts and components. Section 9.3 deals with India's ongoing physical connectivity projects with Southeast Asia, whereas section 9.4 presents India's future connectivity projects with the region. Section 9.5 presents policy implications and recommendations. Section 9.6 concludes.

9.2 INDIA'S ACT EAST POLICY AND TRADE AND INVESTMENT WITH SOUTHEAST ASIA

The objective of India's recently unveiled 'Act East Policy' (AEP) is to expand India's economic engagement with Southeast and East Asian countries. India's proactive role in building a common market with an ambitious but realistic connectivity program is the key focus of the AEP. Since its inception in the mid-1990s, the Look East Policy (LEP) has been pursued in a multifaceted manner in wide-ranging areas such as connectivity, trade, and investment. Some of the important developments of the policy relate to improving economic relations with ASEAN countries, the People's Republic of China (PRC), Japan and the Republic of Korea. The LEP has also been pursued through constructive engagement with ASEAN, the East Asia Summit (EAS), the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and the Mekong–Ganga Cooperation (MGC). Today, India has moved into Look East Policy Phase 2, which is also termed as Act East Policy.⁶ The difference between the LEP and the AEP in terms of approach is that ASEAN is at the core of the AEP.

The northeast region of India is central to India's growing economic and strategic partnership with East and Southeast Asia. The region acts as a bridgehead between South and Southeast Asia. India has signed several bilateral and regional trade agreements in the form of FTAs, comprehensive economic cooperation agreements, and comprehensive economic partnership agreements, of which the FTA with ASEAN has been the most important in strengthening economic relations with Southeast Asia.⁷ All the ASEAN countries have implemented the above agreement. Although negotiations for trade in services and investment agreements have been completed, they have yet to be implemented. At the same time, India is a partner of the Regional Comprehensive Economic Partnership (RCEP), which is a comprehensive free trade agreement being negotiated between the ten ASEAN members and ASEAN's FTA partners, namely, Australia, the PRC, India, Japan, the Republic of Korea and New Zealand.⁸ The India-ASEAN relationship has entered its third decade. India became a sectoral partner of ASEAN in 1992, a dialogue partner in 1996 and a summit-level partner at Phnom Penh in 2002. The ASEAN-India strategic partnership – the elevated relationship that began at the 2012 Commemorative Summit – gives a greater hope in delivering stronger bilateral relations.

The ASEAN has become one of India's largest trading partners in recent years, and trade with ASEAN increased from \$7.13 billion in 2000 to \$76.26 billion in 2012 (Table 9.1). India's trade with the ASEAN currently comprises around 10 percent of India's global trade, compared with 8 percent in 2000. India's trade with Indonesia, Malaysia, Singapore, Japan and the Republic of Korea has grown rapidly. Today, the ASEAN accounts for around 11 percent of India's global exports (increased from 6 percent in 2000), and 9 percent of India's global imports (9 percent in 2000). However, growth in trade varies widely across countries within ASEAN. India's trade with Singapore reached \$22.49 billion in 2012, while trade with Cambodia and the Lao PDR has only just exceeded \$100 million (Table 9.1). India's trade with the ASEAN+3 countries, driven mainly by India's trade with the PRC, increased from less than \$14.57 billion in 2000 to \$182.23 billion in 2012, growing at a compound annual growth rate of around 21 percent since the beginning of the last decade – perhaps the fastest trade growth ever witnessed by India with any economic bloc in the world.

| Partner | 2000 | 2009 | 2012 | Compound annual growth rate |
|--------------------------------|-------|-------------|--------|-----------------------------|
| - | | (\$ billion |) | (%) |
| Brunei Darussalam | 0.00 | 0.51 | 1.00 | 22.86 |
| Cambodia | 0.01 | 0.05 | 0.12 | 24.59 |
| Indonesia | 1.31 | 10.74 | 20.26 | 25.82 |
| Lao PDR | 0.01 | 0.02 | 0.17 | 15.24 |
| Malaysia | 1.96 | 8.39 | 14.17 | 17.13 |
| Myanmar | 0.23 | 1.41 | 1.88 | 22.21 |
| Philippines | 0.25 | 1.02 | 1.61 | 16.01 |
| Singapore | 2.31 | 12.77 | 22.49 | 27.11 |
| Thailand | 0.85 | 4.28 | 8.97 | 17.29 |
| Viet Nam | 0.22 | 2.15 | 5.60 | 27.03 |
| ASEAN | 7.13 | 41.32 | 76.26 | 23.16 |
| PRC | 2.21 | 38.99 | 68.88 | 28.15 |
| Japan | 3.78 | 9.57 | 19.20 | 11.74 |
| Republic of Korea | 1.45 | 11.59 | 17.89 | 20.16 |
| ASEAN+3 | 14.57 | 101.47 | 182.23 | 21.48 |
| World | 92.96 | 422.85 | 787.68 | 17.57 |
| ASEAN share ^a (%) | 7.67 | 9.77 | 9.68 | |
| ASEAN+3 share ^a (%) | 15.67 | 24.00 | 23.14 | |

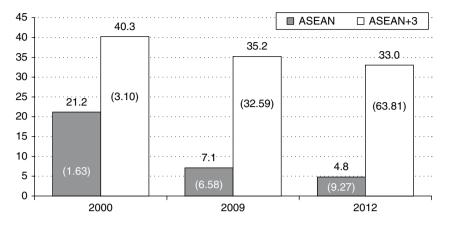
 Table 9.1
 India's total trade with ASEAN and ASEAN+3, selected years, 2000–2012

ASEAN = Association of Southeast Asian Nations; ASEAN+3 = ASEAN members plus the People's Republic of China, Japan and the Republic of Korea; Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China.

^a Share in country's total trade.

Source: Calculated based on International Monetary Fund (IMF), Direction of Trade Statistics, http://elibrary-data.imf.org (accessed 5 February 2014).

India has been witnessing a declining trend in trade deficit share with both ASEAN and ASEAN+3. India's trade deficit with ASEAN as a percentage share of the country's overall trade deficit has declined from 21.18 percent in 2000 to 4.80 percent in 2012 (Figure 9.1). The same trend also continued in the case of the ASEAN+3.The encouraging development is that India's exports to the ASEAN have been growing faster than its imports from the ASEAN. In 2012, India's imports from the ASEAN were \$43 billion and exports to the region were \$34 billion (Tables 9.2 and 9.3). From 2000 to 2012, India's exports to ASEAN increased by 23 percent, whereas India's imports from the ASEAN increased by 21 percent, showing a tendency toward



Values are percentage shares in India's total trade deficit. Figures in parentheses are the absolute volume of the trade deficit in \$ billion.

ASEAN = Association of Southeast Asian Nations; ASEAN+3 = ASEAN members plus the People's Republic of China, Japan and the Republic of Korea.

Source: Calculated based on International Monetary Fund, Direction of Trade Statistics, http://elibrary-data.imf.org (accessed 5 February 2014).

Figure 9.1 India's trade deficit with ASEAN and ASEAN+3, selected years, 2000–2012

narrowing the deficit. However, India has witnessed an opposite trend in the ASEAN+3.

India's trade with Cambodia, the Lao PDR, Myanmar and Viet Nam has not yet increased momentum. This suggests further scope for trade expansion with these countries in coming years. The structure of exports may change if the countries witness a favorable trading environment, such as improved and enabling trade costs. The current trends of ASEAN– India trade suggest that India could become an increasingly important market for the ASEAN's exports and vice versa.

To a great extent, intermediate and capital goods are emerging as the prime commodity groups of bilateral trade between India and the ASEAN. Commodities such as electrical machinery, transmission apparatus, and motor vehicles have emerged as important Indian exports to the ASEAN (see details at De 2014, tables 4 and 5). India's imports from the ASEAN are primarily driven by electronics, electrical machinery, palm oil, mineral fuels, gems and jewelry (see details at De 2014, tables 4 and 5). India's imports from the ASEAN are relatively more diversified than its exports to the ASEAN or ASEAN+3 countries. Over time, ASEAN+3

| Partner | 2000 | 2009 | 2012 | Compound annual growth rate |
|--------------------------------|-------|--------------|--------|-----------------------------|
| - | | (\$ billion) | | (%) |
| Brunei Darussalam | 0.00 | 0.02 | 0.03 | 22.86 |
| Cambodia | 0.01 | 0.04 | 0.11 | 24.59 |
| Indonesia | 0.39 | 2.87 | 6.07 | 25.82 |
| Lao PDR | 0.01 | 0.02 | 0.03 | 15.24 |
| Malaysia | 0.57 | 3.46 | 3.79 | 17.13 |
| Myanmar | 0.05 | 0.21 | 0.53 | 22.21 |
| Philippines | 0.19 | 0.70 | 1.12 | 16.01 |
| Singapore | 0.83 | 6.72 | 14.69 | 27.11 |
| Thailand | 0.51 | 1.59 | 3.46 | 17.29 |
| Viet Nam | 0.21 | 1.72 | 3.67 | 27.03 |
| ASEAN | 2.75 | 17.37 | 33.50 | 23.16 |
| PRC | 0.76 | 10.16 | 14.87 | 28.15 |
| Japan | 1.77 | 3.19 | 6.70 | 11.74 |
| Republic of Korea | 0.46 | 3.73 | 4.14 | 20.16 |
| ASEAN+3 | 5.73 | 34.44 | 59.21 | 21.48 |
| World | 42.63 | 165.19 | 297.23 | 17.57 |
| ASEAN share ^a (%) | 6.45 | 10.51 | 11.27 | |
| ASEAN+3 share ^a (%) | 13.45 | 20.85 | 19.92 | |

 Table 9.2
 India's exports to ASEAN and ASEAN+3, selected years, 2000–2012

ASEAN = Association of Southeast Asian Nations; ASEAN+3 = ASEAN members plus the People's Republic of China, Japan and the Republic of Korea; Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China.

^a Share in country's total exports to world.

Source: Calculated based on IMF, Direction of Trade Statistics, http://elibrary-data.imf. org (accessed 7 February 2014).

countries have appeared as a major supplier of capital goods to India, and we have witnessed a rising trend in trade in parts and components for capital goods.⁹

9.2.1 Trade in Parts and Components

Tables 9.4 and 9.5 present country-wide trade in parts and components for capital goods and transport equipment for exports and imports, respectively, for 2002 and 2012. Different parts and components are homogeneous across potential suppliers from potentially different source countries, and some parts and components may be exported by more than

| Partner | 2000 | 2009 | 2012 | Compound annual growth rate |
|--------------------------------|-------|-------------|--------|-----------------------------|
| | | (\$ billion |) | (%) |
| Brunei Darussalam | 0.00 | 0.49 | 0.97 | 105.09 |
| Cambodia | 0.00 | 0.00 | 0.01 | 20.99 |
| Indonesia | 0.92 | 7.86 | 14.19 | 25.58 |
| Lao PDR | | 0.00 | 0.14 | |
| Malaysia | 1.39 | 4.92 | 10.38 | 18.25 |
| Myanmar | 0.18 | 1.20 | 1.34 | 18.27 |
| Philippines | 0.06 | 0.32 | 0.49 | 18.98 |
| Singapore | 1.48 | 6.05 | 7.80 | 14.84 |
| Thailand | 0.34 | 2.68 | 5.51 | 26.27 |
| Viet Nam | 0.01 | 0.43 | 1.93 | 52.51 |
| ASEAN | 4.38 | 23.95 | 42.76 | 20.91 |
| PRC | 1.45 | 28.84 | 54.00 | 35.19 |
| Japan | 2.02 | 6.39 | 12.50 | 16.43 |
| Republic of Korea | 0.99 | 7.86 | 13.75 | 24.53 |
| ASEAN+3 | 8.83 | 67.03 | 123.02 | 24.54 |
| World | 50.34 | 257.67 | 490.45 | 20.89 |
| ASEAN share ^a (%) | 8.70 | 9.29 | 8.72 | |
| ASEAN+3 share ^a (%) | 17.55 | 26.01 | 25.08 | |

 Table 9.3
 India's imports from ASEAN and ASEAN+3, selected years, 2000–2012

ASEAN = Association of Southeast Asian Nations; ASEAN+3 = ASEAN members plus the People's Republic of China, Japan and the Republic of Korea; Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China.

^a Share in country's total imports from world.

Source: Calculated based on IMF, Direction of Trade Statistics, http://elibrary-data.imf. org (accessed 7 February 2014).

one country. India's exports and imports of parts and components have greatly increased in the last decade. India's imports of parts and components account for over half of total bilateral imports, from countries like Japan, the Philippines and Viet Nam, and they have also been growing faster than total bilateral imports. India's imports of parts and components from Southeast Asian countries have gone up substantially. Volumewise, exports of parts and components also show this. The trend indicates emerging production networks, sharing and fragmentation.

India's imports of parts and components from the PRC experienced a large increase from 2000, whereas the opposite was observed in the case of India's trade with Singapore. This trend has been witnessed barring India's

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| Partner | Share in bilateral exports (%) | | Compound annual growth rate 2002–11 (%) | | |
|-------------------|-----------------------------------|-------|---|---------------|--|
| _ | 2011 | 2002 | Parts and components | Total exports | |
| Brunei | 94.97 | 51.27 | 91.53 | 78.85 | |
| Darussalam | | | | | |
| Cambodia | 37.33 | 47.18 | 17.21 | 20.30 | |
| Indonesia | 17.42 | 24.21 | 21.99 | 26.54 | |
| Lao PDR | 65.28 | 58.90 | 25.37 | 23.95 | |
| Malaysia | 22.01 | 31.58 | 15.17 | 19.88 | |
| Myanmar | 35.32 | 53.00 | 17.00 | 22.40 | |
| Philippines | 38.14 | 33.04 | 10.65 | 8.90 | |
| Singapore | 25.12 | 28.17 | 29.29 | 30.95 | |
| Thailand | 26.33 | 10.86 | 27.74 | 15.77 | |
| Viet Nam | 21.65 | 31.09 | 25.87 | 31.03 | |
| ASEAN | 38.36 | 36.93 | 28.18 | 27.86 | |
| PRC | 6.85 | 8.16 | 27.90 | 30.42 | |
| Japan | 15.55 | 16.94 | 12.44 | 13.52 | |
| Republic of Korea | 7.90 | 20.93 | 11.92 | 24.72 | |
| ASEAN+3 | 17.16 | 20.74 | 20.11 | 24.13 | |

Table 9.4 Trends in India's exports of parts and components to ASEAN and ASEAN+3, 2011–12

Note: ASEAN = Association of Southeast Asian Nations; ASEAN+3 = ASEAN members plus the People's Republic of China, Japan and Republic of Korea; Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China.

Source: Calculated based on United Nations Commodity Trade Statistics Database (UN Comtrade) data, available at http://comtrade.un.org (accessed 21 August 2015).

exports to Malaysia and India's imports from Thailand. This is indicative of the rise in airfreight between India and the ASEAN as opposed to ocean freight, but it also calls for appropriate transportation planning and connectivity to deal with the trade in high-value products.

Rising trade in parts and components also calls for stronger transport connectivity between India and some ASEAN countries.

9.2.2 India's Trade Potential with the ASEAN and the ASEAN+3

In 2012, trade between the ASEAN and India reached \$76 billion, with India contributing \$33 billion, and the ASEAN \$43 billion. Continuing economic uncertainties in the global economy have affected bilateral trade as well: in 2012, trade between ASEAN and India declined by more than

| Partner | Share in bilateral imports (%) | | Compound annual growth rate 2002–11 (%) | | |
|-------------------|-----------------------------------|-------|---|---------------|--|
| - | 2011 | 2002 | Parts and components | Total imports | |
| Brunei | 0.03 | 5.47 | 30.90 | 135.66 | |
| Darussalam | | | | | |
| Cambodia | 16.90 | 12.30 | 36.90 | 32.16 | |
| Indonesia | 9.19 | 11.84 | 26.99 | 30.60 | |
| Malaysia | 30.53 | 33.62 | 22.50 | 23.83 | |
| Myanmar | 1.09 | 0.05 | 63.32 | 15.21 | |
| Philippines | 64.57 | 59.56 | 15.56 | 14.53 | |
| Singapore | 36.48 | 65.58 | 14.57 | 22.29 | |
| Thailand | 41.33 | 46.69 | 32.11 | 33.91 | |
| Viet Nam | 52.41 | 19.36 | 74.49 | 56.22 | |
| ASEAN | 28.06 | 28.27 | 35.26 | 40.49 | |
| PRC | 49.59 | 37.88 | 44.65 | 40.38 | |
| Japan | 54.63 | 43.53 | 23.29 | 20.21 | |
| Republic of Korea | 41.19 | 55.66 | 24.68 | 28.92 | |
| ASEAN+3 | 43.37 | 41.34 | 31.97 | 32.50 | |

 Table 9.5
 Trends in India's imports of parts and components, ASEAN and ASEAN+3, 2011–12

Note: ASEAN = Association of Southeast Asian Nations; ASEAN+3 = ASEAN members plus the People's Republic of China, Japan and Republic of Korea; Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China.

Source: Calculated based on UN Comtrade data, available at http://comtrade.un.org (accessed 21 August 2015).

4 percent. The ASEAN and India aim to achieve a target of \$100 billion for ASEAN–India trade by 2015, and also expect tariff-free lines to increase beyond the existing level in subsequent years (Government of India 2012a). The immediate question is what would be the likely trade flow scenario between the ASEAN and India. Drawing on the International Monetary Fund's (IMF's) *World Economic Outlook 2013* data (IMF 2013), we have estimated future trade potential between ASEAN and India with the use of an augmented gravity model.¹⁰ Table 9.6 presents the current and future scenario of trade between India, and the ASEAN and the ASEAN+3, while Figure 9.2 illustrates India's trade with the ASEAN and the ASEAN+3 more prominently.

In 2012, India achieved trade with ASEAN of \$76 billion, against a potential value of \$135 billion. For the ASEAN+3, India achieved \$182 billion of trade, of an estimated potential of \$313 billion. Quite clearly, a large amount

| Partner | 2000 | 2009 | 2012 | 2012 | 2015 | 2018 |
|-------------------|--------|---------|---------|-----------|-----------|-----------|
| | Actual | Actual | Actual | Potential | Potential | Potential |
| Brunei Darussalam | 0.003 | 0.511 | 1.002 | 2.143 | 2.897 | 4.022 |
| Cambodia | 0.009 | 0.045 | 0.121 | 1.028 | 1.983 | 3.875 |
| Indonesia | 1.308 | 10.736 | 20.261 | 33.443 | 43.439 | 50.328 |
| Lao PDR | 0.005 | 0.021 | 0.168 | 0.845 | 1.439 | 3.023 |
| Malaysia | 1.957 | 8.387 | 14.171 | 27.663 | 34.435 | 38.825 |
| Myanmar | 0.227 | 1.405 | 1.875 | 6.308 | 8.983 | 11.559 |
| Philippines | 0.249 | 1.017 | 1.610 | 8.852 | 11.032 | 13.011 |
| Singapore | 2.308 | 12.769 | 22.487 | 26.909 | 31.122 | 35.276 |
| Thailand | 0.845 | 4.276 | 8.966 | 18.338 | 21.002 | 25.635 |
| Viet Nam | 0.220 | 2.149 | 5.599 | 9.918 | 12.983 | 16.230 |
| ASEAN | 7.131 | 41.316 | 76.261 | 135.447 | 169.315 | 201.784 |
| PRC | 2.207 | 38.995 | 68.878 | 103.328 | 125.902 | 148.232 |
| Japan | 3.783 | 9.572 | 19.202 | 35.654 | 40.542 | 45.111 |
| Republic of Korea | 1.446 | 11.589 | 17.894 | 38.181 | 43.992 | 49.652 |
| ASEAN+3 | 14.567 | 101.471 | 182.234 | 312.610 | 379.751 | 444.779 |

 Table 9.6
 India's trade potential with ASEAN and ASEAN+3 economies

 (\$ billion)

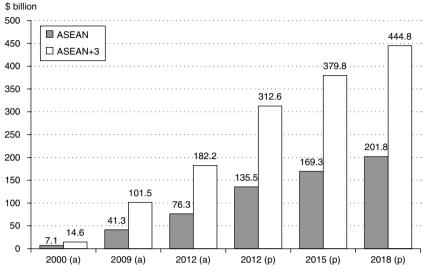
ASEAN = Association of Southeast Asian Nations; ASEAN+3 = ASEAN members plus the People's Republic of China, Japan and Republic of Korea; Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China.

Estimated potential (forecast) is based on an augmented gravity model. For further details of gravity estimates, see Appendix Table 9A.1.

Source: Author's calculations.

of India's trade with the ASEAN and the ASEAN+3 has remained unrealized. The largest gap between actual and potential trade is for India's trade with the PRC (\$34 billion in 2012). Trade between the ASEAN and India may potentially reach \$169 billion in 2015 and \$202 billion in 2018, and in the case of the ASEAN+3 may surpass \$445 billion in 2018.

To unlock the huge trade potential between India and the ASEAN, India and the ASEAN need to remove the impediments to trade and investment such as the high non-tariff barriers of lack of connectivity, and physical, digital, social and regulatory barriers. India and the ASEAN have to continue to strengthen regional connectivity and integration, particularly through cross-border infrastructure. A true deepening of the partnership between the ASEAN and India will only happen when we strengthen regional connectivity.



Estimated potentials are based on an augmented gravity model. For technical details of the gravity estimates, see Appendix, Table 9A.1.

(a) indicates actual trade; (p) indicates potential (forecast) trade.

ASEAN = Association of Southeast Asian Nations; ASEAN+3 = ASEAN members plus the People's Republic of China, Japan and Republic of Korea.

Source: Author's calculations.

Figure 9.2 India's trade potential with ASEAN and ASEAN+3 (\$ billion)

At the same time, development of connectivity must lead to the generation of new economic activities. Building connectivity may help India to strengthen its manufacturing sector. India needs to expand its manufacturing sector to boost exports and ensure sustainability. The decline in the manufacturing sector growth rate has cast its shadow on the country's exports, causing them to slow in recent years, particularly after 2011. India aims to raise the manufacturing sector's share of GDP from 16 percent to 25 percent in the next decade and create 100 million skilled jobs by 2022.¹¹ The need is to upgrade India's physical infrastructure, which would then attract investment, both domestic and FDI, to the manufacturing sector.

9.2.3 India's FDI Policy and FDI Inflows

The major benefits of FDI in India have been identified as filling the gap between investment funds required and domestic sources of funds.

Technology transfer also leads to knowledge diffusion and has spillover effects on domestic firms. The Government of India has been promoting FDI to supplement domestic capital, technology and skills. Foreign direct investment, as distinguished from portfolio investment, has the connotation of establishing a 'lasting interest' in an enterprise that is resident in an economy other than that of the investor. The government has put in place a policy framework on FDI, updated every year, to capture and keep pace with the regulatory changes, effected in the interregnum. Foreign direct investment policy in India has become increasingly liberal over the past 50 years. In the first phase, between 1969 and 1991, the Monopolies and Restrictive Trade Practice and Foreign Exchange and Regulation Act restricted the operation of foreign firms in terms of size, type of products and equity participation, among others. In the second phase, between 1991 and 2000, FDI policy was substantially liberalized by allowing 51 percent foreign participation through automatic routes in 35 high-priority industries. During this period, India constituted the Foreign Investment Promotion Board to consider FDI under the government route. In the third phase, 2001 until the present, the FDI policy has been substantially liberalized with a negative list approach with all other activities permitted through the automatic route and substantial relaxation in terms of equity caps. In a recent move, India in its Railway Budget 2014–15 has allowed FDI in rail infrastructure with a public-private partnership (PPP) model in high-speed rail corridors. During 2013-14, total FDI inflows (including equity inflows, reinvested earnings and other capital) were \$36.4 billion. Noted in the Economic Survey 2013-2014 (Government of India 2014a), FDI equity inflows were \$24.30 billion, showing an increase of 8 percent compared with the previous year. In recent years, services, construction, telecommunications, computer software and hardware, drugs and pharmaceuticals, automobile industries, power, metallurgical industries, and hotels and tourism are sectors that have attracted the most FDI inflows.

India received cumulative FDI of \$218.38 billion during 2000 to 2014 (Table 9.7), of which a little over one-fifth came from Southeast Asian and East Asian economies (Table 9.8). The services sector is the major recipient of FDI in India (attracting around 18 percent of total FDI), followed by the construction and telecommunication sectors. Major sectors of importance for FDI are electrical machinery, drugs and pharmaceuticals, automobiles, automobile spare parts, hotel and tourism, software and business services. From 2000 to 2014, India attracted \$48.35 billion from Southeast and East Asian economies, of which \$26.42 billion came from Singapore and \$16.59 billion from Japan. Foreign direct investment inflows from other Southeast and East Asian economies were negligible. Foreign direct investment in India may increase from higher trade with the ASEAN.

| Sector | FDI (\$ million) | Share in total (%) |
|---|---------------------|-----------------------|
| Services sector (finance, banking, insurance, business, outsourcing, research and development, courier, technology testing and analysis, other) | 39480.85 | 18.08 |
| Construction development: townships, housing, built-up infrastructure, and construction- | 23 306.25 | 10.67 |
| development projects | | |
| Telecommunications | 14165.44 | 6.49 |
| Computer software and hardware | 12841.78 | 5.88 |
| Drugs and pharmaceuticals | 11638.80 | 5.33 |
| Automobile industry | 9969.10 | 4.56 |
| Chemicals (other than fertilizers) | 9678.63 | 4.43 |
| Power | 8943.20 | 4.10 |
| Metallurgical industries | 8086.11 | 3.70 |
| Hotel and tourism | 7117.63 | 3.26 |
| Country total | 218 382.30 | 100.00 |

 Table 9.7
 Sector-wise cumulative FDI foreign direct investment inflows by sector in India, 2000–2014

FDI = foreign direct investment.

The period examined is April 2000-May 2014.

Source: Government of India, Department of Industrial Policy and Promotion, http://dipp.nic.in/English/default.aspx (accessed 16 October 2014).

9.3 INDIA'S CONNECTIVITY PROJECTS WITH EASTERN NEIGHBORS AND ASEAN

Cross-border infrastructure services between India and the ASEAN have been limited to only ocean and air shipping services. In order to add greater momentum to the growing trade and investment links between the ASEAN and India, heads of state and government leaders of the ASEAN and India at the ASEAN–India Commemorative Summit 2012 called for completion of the India–Myanmar–Thailand Trilateral Highway (IMTTH) and its extension to the Lao PDR and Cambodia. They also called for the completion of the new highway project connecting India– Myanmar–Lao PDR–Viet Nam–Cambodia, as well as developing the MIEC connecting Southeast Asia to South Asia with the best use of all available resources, including financial and technical assistance, and

| Economy | FDI inflow (\$ million) | Share in total ^a (%) |
|------------------------------------|----------------------------|------------------------------------|
| Singapore | 26417.34 | 11.85 |
| Japan | 16587.26 | 7.44 |
| Republic of Korea | 1453.30 | 0.65 |
| Hong Kong, China | 1231.82 | 0.55 |
| Malaysia | 719.25 | 0.32 |
| Indonesia | 621.31 | 0.28 |
| Australia | 600.67 | 0.27 |
| PRC | 410.14 | 0.18 |
| Thailand | 173.48 | 0.08 |
| Taipei,China | 88.17 | 0.04 |
| Philippines | 32.67 | 0.01 |
| Myanmar | 8.96 | 0.00 |
| Viet Nam | 0.24 | 0.00 |
| Total Southeast Asia and East Asia | 48 344.61 | 21.69 |
| Total FDI inflow | 222890.05 | 100.00 |

Table 9.8FDI inflows from ASEAN and East Asia Summit Group,
2000–2014

ASEAN = Association of Southeast Asian Nations; EAS = East Asia Summit; FDI = foreign direct investment; PRC = People's Republic of China.

The period is April 2000-May 2014.

^a Share in total FDI inflow in India.

Source: Government of India, Department of Industrial Policy and Promotion, http:// dipp.nic.in/English/default.aspx (accessed 16 October 2014)

investment and public-private partnerships to achieve physical, institutional, and people-to-people connectivity.

India has been implementing several connectivity projects in Myanmar to strengthen ASEAN–India connectivity. Projects to build physical connectivity between India and the ASEAN have been drawn up by several flagship studies (Kimura and Umezaki 2011; RIS 2012). The ASEAN– India physical connectivity in its present form comprises two major projects, which are ongoing and have India's direct involvement: (1) the IMTTH and (2) the Kaladan Multimodal Transit Transport Project. Extension of the IMTTH to Lao PDR, Cambodia and Vietnam is also proposed. The MIEC, which connects South Asia with Southeast Asia, is another important project in the region. The next section discusses these projects.

9.3.1 India–Myanmar–Thailand Trilateral Highway

The IMTTH is a cross-border transportation network being financed by the governments of India, Myanmar and Thailand. This highway links Moreh (in India) with Mae Sot (in Thailand) through Bagan and Mandalay (in Myanmar), and is often termed the land bridge between South Asia and Southeast Asia. The alignment of this trilateral highway falls within the Asian Highways 1 and 2. The agreed route of the IMTTH (1360 km) is Moreh (India), Tamu, Kalewa, Yargi, Monywa, Mandalay, Meiktila, Nay Pyi Taw, Taungoo, Oktwin, Payagyi, Theinzayat, Thaton, Hypaan, Kawkareik, Myawaddy and Mae Sot (Thailand).

The IMTTH is divided into three phases; the first phase includes 78 kilometers (km) of new roads, upgrading about 400 km of roads, constructing all-weather approach lanes, and rehabilitating and reconstructing weak or distressed bridges. The entire project is being funded through government resources. Phase I of the IMTTH was taken up in early 2005. India assumes the responsibility of 78 km of missing links and 58 km of upgrading as part of Phase I. The Indian government's Border Roads Organisation had upgraded the Tamu–Kalewa–Kalemyo part of the IMTTH (160 km) in Myanmar from India's northeastern border at a cost of Rs1.20 billion (around \$27.28 million). The Government of India is responsible for the maintenance of the Tamu–Kalewa–Kalemyo part of the IMTTH in Myanmar.

As agreed during the Joint Task Force Meeting on IMTTH, held on 10–11 September 2012 in New Delhi, India is constructing the Kalewa to Yargi portion (132 km) of the IMTTH, Myanmar will construct the Yargi–Monywa portion, and Thailand is developing the Hpa-An–Mae Sot (Thailand) portion.¹²

The Government of Thailand assisted the Government of Myanmar in the upgrading and repair of the initial 17.4 km of road section, beginning at the Mae Sot–Myawaddy border crossing on the Thai–Myanmar border. The upgrading was completed in 2008 with aid from Thailand of around \$4 million (ADB 2013). Subsequently, the two governments again agreed to cooperate in further improvements along this corridor and in January 2012 a second Thai grant of around \$37 million was extended to Myanmar for the following three components: (1) rehabilitation and repair of the 420 meter bridge at the Mae Sot–Myawaddy border crossing; (2) additional upgrading of the initial 17.4 km of existing Myawaddy road, and (3) building a 28.6 km road along a new route to reach the town of Kawkareik. The Government of Thailand completed the works in December 2013.

The Tamu and Kalewa Friendship Road (which has since become part of the Trilateral Highway) has been constructed with India's assistance. About 132 km has been completed and handed over to Myanmar. Work on another 28 km is in progress. India has also undertaken the task of repairing and upgrading 71 bridges on the Tamu–Kalewa Friendship Road, and upgrading the 120 km Kalewa–Yargyi road segment to highway standards, while Myanmar has agreed to undertake upgrading of the Yargyi–Monywa stretch to highway standards by 2016. This project would help establish trilateral connectivity from Moreh in India to Mae Sot in Thailand via Myanmar. India has also announced the extension of the Trilateral Highway to Cambodia, the Lao PDR, and Viet Nam.

Lack of essential institutional support and government commitments are some of the reasons for the slow progress of the Trilateral Highway. Deeper regional cooperation among the three countries would speed up the development of the highway. At the ASEAN–India Commemorative Summit 2012, it was decided to extend the Trilateral Highway to the Lao PDR, Viet Nam and Cambodia in order to add greater momentum to the growing trade and investment links between ASEAN and India (Government of India 2012a). The IMTTH is likely to be ready by 2018.

9.3.2 Kaladan Multimodal Transit Transport Project

The Kaladan Multimodal Transit Transport Project in Myanmar envisages connectivity between Indian ports and the Sittwe port in Myanmar, and road and inland waterway links from Sittwe to India's northeastern region. The project would provide an alternate route for transportation of goods to northeastern India through Myanmar. India and Myanmar signed the agreement and protocols in 2008. India's Ministry of External Affairs and Myanmar's Foreign Affairs Ministry are the nodal agencies; the Inland Waterways Authority of India is the project development consultant of this project; and the entire project is funded by the Government of India. The approximate cost of the project is expected to be Rs5.45 billion. Essar India and Max Myanmar Construction are the developers of the project. The project's two major components are (1) development of the port and inland waterways transport (IWT) development between Sittwe and Kaletwa in Myanmar along the Kaladan River and (2) building a highway (129 km) from Kaletwa to the India-Myanmar border in Mizoram. The components of this project include (1) construction of an integrated port and an IWT terminal at Sittwe, including dredging, (2) development of a navigational channel along the Kaladan River from Sittwe to Paletwa (158 km), (3) construction of an IWT-highway transshipment terminal at Paletwa, and (4) construction of six IWT barges, each with a 300ton capacity, for transportation of cargo between Sittwe and Paletwa.

India and Myanmar signed a framework agreement and two protocols on 2 April 2008 (the Protocol on Transit Transport and the Protocol on Maintenance).

Construction work on the project started in December 2010.¹³ The timeframe for the project is five years from the date of actual commencement of the project. On the Indian side, construction of 100 km of new road from Lawngtlai on the NH 54 to the India–Myanmar border has been taken up under SARDP-NE Phase A. The border to the NH 54 (Lawngtlai) road on the Indian side in Mizoram is in progress under the Ministry of Road Transport and Highways, Government of India. Construction of an integrated port cum IWT jetty at Sittwe has been substantially completed. Construction work of an IWT terminal at Paletwa was also started in April 2013.

9.3.3 Mekong–India Economic Corridor

The MIEC involves integrating the four Mekong countries, Myanmar, Thailand, Cambodia and Viet Nam, with India. It connects Ho Chi Minh City (Viet Nam) with Dawei (Myanmar) via Bangkok (Thailand), Phnom Penh (Cambodia) and Chennai (India). The MIEC corridor is conceptualized to be the region around the main highway connecting Vung Tau in Viet Nam to Dawei in Myanmar passing through Ho Chi Minh City, Phnom Penh and Bangkok. The highway passes through the three border crossing points of Moc Bai-Bavet (Cambodia-Viet Nam), Poipet-Aranyaprathet (Cambodia-Thailand) and Sai Yok-Bong Tee (Thailand-Myanmar). There is an existing road from Vung Tau to Bong Tee on the Thailand-Myanmar border, after which there is only an unpaved path to Dawei. In addition to several major cities, it covers key towns, such as Bien Hoa (in Viet Nam), Battambang, Sisophon (in Cambodia), and Chachoengsao, Prachinburi and Kanchanaburi (in Thailand). Major investment will be required for the development of a port at Dawei. This corridor, when completed, is expected to augment trade with India by reducing the travel distances between India and MIEC countries and removing supply-side bottlenecks. The corridor would provide opportunities for Myanmar, Thailand, Cambodia and Viet Nam to build a strong economic and industrial base and world-class infrastructure. The emphasis of the corridor is on expanding the manufacturing base and trade with the rest of the world, particularly with India. The corridor will enable the economies of ASEAN and India to integrate further and collectively emerge as a globally competitive economic bloc.

9.4 FUTURE CONNECTIVITY PROJECTS BETWEEN INDIA AND SOUTHEAST ASIA

Three new developments in the Mekong region have opened up further opportunities to bring India (and South Asia) closer to Southeast Asia without depending too much on existing routes. Three new bridges on the Mekong are being planned, which will enable road transportation directly to the Lao PDR and Viet Nam from Myanmar:

- 1. Mekong bridge between Houysai (Lao PDR) and Xiengkhong (Thailand). This is being constructed with funding assistance from the PRC and Thailand.
- 2. Mekong bridge between Paksan (Lao PDR) and Bueng Kan (Thailand). The Lao PDR and Thailand governments have agreed to construct a bridge between Paksan (Bolikhamxay Province) and Bueng Kan province.
- 3. Mekong bridge between Xiengkok (Lao PDR) and KaingLap (Myanmar). The Lao PDR and Myanmar governments have agreed to construct a bridge between Xiengkok and KaingLap.

9.4.1 India–Myanmar–Lao PDR–Viet Nam Corridor and the Sittwe Industrial Zone

Viet Nam and Myanmar authorities have identified a new route through Yangon, Meikhtila, Tarlay, Kenglap (Myanmar), Xieng Kok, Loungnamtha, Oudomxay, Deptaechang (Lao PDR), Tay Trang and Ha Noi (Viet Nam).¹⁴ Following this alignment, a new corridor can be set up between India and Viet Nam through Myanmar and the Lao PDR. The route links Moreh and Kolkata with Ha Noi and Da Nang in Viet Nam. A part of this proposed highway, which follows the same route as the IMTTH up to Meiktila in Myanmar, Meiktila to Tarlay, and then to Kainglap (Myanmar-Lao PDR border), is a new route of this corridor. However, a section of the route Meiktila-Taunggyi-Kyaing Tong-Traley is part of the Asian Highway 2 (AH2) and the Greater Mekong Subregion (GMS) corridor. The Tarley-Kainglap section (about 60 km) has to be rebuilt.¹⁵ At this place, a new bridge on the Mekong River is planned. The other side of Kainglap is Xiengkok (Lao PDR), which is already connected by road with major Lao PDR cities and Viet Nam. Sittwe and Meikhtila are connected by an all-weather road. However, part of the Sittwe and Meikhtila section (particularly Sittwe to Ann) has to be upgraded to highway standard. The Kolkata-Sittwe section is part of the Kaladan project, where India is developing the Sittwe port and IWT network. Additional capacity

and new container berths would be needed at Sittwe port if this corridor becomes a reality. Building a special economic zone or an industrial park at Sittwe would not only benefit Sittwe port and the corridor but also create economic opportunities in Myanmar's Rakhine state. This industrial zone may accommodate industrial projects that can cater to the local and larger Indian market. This industrial zone can host Indian companies who would like to invest in Myanmar. Therefore, future connectivity through Myanmar would then mean intermodal links from the Indian coast in the Bay of Bengal to Viet Nam's coast and beyond (De and Ray 2013).

9.4.2 Bangladesh–PRC–India–Myanmar Economic Corridor

The Bangladesh–PRC–India–Myanmar Economic Corridor (BCIM–EC) has been identified as one of the flagship projects of the BCIM regional cooperation.¹⁶ The Kolkata to Kunming Highway plan (K2K Highway) was unveiled at the tenth BCIM forum meeting held at Kolkata in February 2012. The four BCIM countries jointly completed a route survey of 2490 km in February 2012. The route of the K2K Highway is identified as through Kolkata, Dhaka Imphal, Mandalay, Lashio, Muse and Kunming (2490 km). It also links Ledo (in Assam) through the old Stilwell Road. A large part of this route overlaps with the Trilateral Highway and follows Asian Highways 1 (up to Mandalay) and 14 (from Mandalay to Kunming).

9.4.3 MIEC–SKRL Interlink

The ASEAN countries aim to develop the rail links in the potential Trans-Asian Railway (TAR) route. The Singapore–Kunming Rail Link (SKRL) is one of the ASEAN's ambitious projects, covering 3900 km in Southeast Asia. It will link Kunming in Yunnan Province in the PRC, with Singapore, and will pass through Myanmar, Thailand, Cambodia, Viet Nam and Malaysia. However, this project has quite a few missing links, of which Kunming to Lashio (Myanmar), Nam Tok (Thailand)–Three Pagodas Pass (Thailand–Myanmar border) to Thanbyuzayat (Myanmar, and Ho Chi Minh City (Viet Nam) to Phnom Penh (Cambodia) are the major ones. The PRC is planning to build a high-speed railway in the ASEAN. To start with, Kunming will be connected with Vientiane in the Lao PDR. The section within the Lao PDR from the PRC border to Vientiane is about 421 km. The line will eventually be extended from Vientiane through Thailand and Malaysia to Singapore and reach a total of 3900 km.

There is also another proposal to link the SKRL with a spur or alternative line to Dawei Port. A link with the port would facilitate bulk movement of goods and passengers by railway between India and Southeast Asia and East Asia. Chennai, at the other end of MIEC, is well connected with the Indian railway system.

9.5 POLICY RECOMMENDATIONS

While prospects in India–Southeast Asia trade have grown rapidly, challenges have become more complex, making it an underperformer in realizing trade potential. Non-tariff policy barriers have gained importance as tariff-based barriers to trade have gradually declined. Among others, lack of connectivity plays a critical role for such a below-average performance in regional trade. India and Southeast Asian countries are committed to reaching greater trade volumes through the ASEAN–India FTA (and also the proposed RCEP), and realizing the trade and economic potential by expanding trade facilitation initiatives. Both India and ASEAN need a shared strategic vision, political will and strong commitment among countries, which are the keys for the success of connectivity projects in the region.

9.5.1 Financing Infrastructure

Demand for improved connectivity between India and Southeast Asia has been rising rapidly. The big challenge is to secure financing for Asia's large infrastructure needs. The ADB and the ADBI, in the *Infrastructure for a Seamless Asia* study, estimated that Asia needs to invest approximately \$8 trillion in overall national infrastructure between 2010 and 2020. In addition, Asia needs to spend approximately \$290 billion on specific regional infrastructure projects in transport and energy that are in the pipeline (ADB and ADBI 2009). This study also shows that ASEAN countries will require infrastructure investments amounting to \$596 billion between 2006 and 2015, with an average investment of \$60 billion per year. Public funds may not be adequate to meet these large investments, so PPPs should be encouraged. There is an important role for cross-border funding, including by multilateral banks and possible new institutions.

9.5.2 Strengthening Institutional Arrangements

India has been a major partner of the ASEAN since 1992 and has attached importance to its relationship. In 2012, the ASEAN and India celebrated the twentieth anniversary of their dialogue partnership with, among others, a symbolic Special Commemorative Summit. The ASEAN–India partnership has subsequently been elevated to the strategic partnership level. Considering the work of the ASEAN–India Eminent Persons' Group, and its report (Government of India 2012a) with recommendations for forging a closer partnership for peace, progress and shared prosperity, the heads of state and government of the ASEAN and India at the ASEAN–India Commemorative Summit 2012, agreed to enhancing ASEAN connectivity through supporting the implementation of the Master Plan on ASEAN Connectivity and the ASEAN ICT Master Plan 2015.¹⁷ The ASEAN Connectivity Coordinating Committee was requested to work closely with India's Inter-Ministerial Group on ASEAN Transport Connectivity to enhance air, sea and land connectivity within the ASEAN and between the ASEAN and India, through ASEAN–India connectivity projects. The present institutional links are improving, but they have to be strengthened further to support the connectivity projects between India and Southeast Asia.

9.5.3 Completing Major Cross-border Corridors

The four major tasks ahead for completing the Trilateral Highway are (1) the construction and improvement of two sections of the Trilateral Highway – Kalewa to Monywa via Yargyi and the replacement of all vintage bridges on the highway, (2) the Kaladan Multimodal Transit Transport Project, (3) the MEIC and (4) the BCIMEC.

9.5.4 Extending the Trilateral Highway

A new corridor can be set up between India and Viet Nam through Myanmar and the Lao PDR. A part of this proposed highway follows the same route as the Trilateral Highway up to Meiktila in Myanmar. Meiktila to Tarlay and then to Kainglap (Myanmar-the Lao PDR border) is a new portion of this corridor. However, a section of Meiktila to Taunggvi to Kyaing Tong to Tarley is part of the AH2 and the GMS corridor. The Tarley to Kainglap section (about 60 km) also has to be rebuilt, with a new bridge on the Mekong River planned. The other side of Kainglap is Xiengkok (the Lao PDR), a large part of which is already connected by road with major Lao PDR cities and Viet Nam. However, the segment between Xiengkok and Muong Sing needs improvement since it is not an all-weather road. While several proposals are under way, there is a need for a consolidated route alignment to bring further clarity on the projects. These corridors, when completed, are expected to augment trade with India by reducing travel distance between India and Mekong countries and removing supply-side bottlenecks. The corridor would provide opportunities to Myanmar, Thailand, Cambodia and Viet Nam to build a strong economic and industrial base and a world-class infrastructure. The emphasis of the corridor should be on expanding the manufacturing base and trade with the rest of the world, particularly with India. The corridor will enable the economies of the ASEAN and India to integrate further and collectively emerge as a globally competitive economic bloc.

9.5.5 Accepting Transit and Paperless Trade

The ASEAN and India should negotiate and finalize a regional transit transport agreement, first between India, Myanmar and Thailand, and then a back-to-back agreement with the rest of the ASEAN countries and then some dialogue partners. The ASEAN-India Transit Transport Agreement has to be ready before the completion of the Trilateral Highway. Among others, this proposed agreement will allow vehicles to move seamlessly for regional and international trade transportation purposes. This is the soft infrastructure that is needed to operate the hard infrastructure. the Trilateral Highway. Through this agreement, modalities of transportation, operating procedures for vehicles to travel on the highway and the rulebook for public utilities are identified. India may take the lead role in convening a workshop on the agreement with the help of the ASEAN Connectivity Coordinating Committee (ACCC) and international and regional organizations such as ADB, the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and the World Customs Organization (WCO). In parallel, the ASEAN-India Customs Transit system to facilitate movement of goods and means of transport should be established. Building a common template for running and maintaining the corridor and signing of mutual recognition agreements (MRA) on logistics and other transportation services between the member countries would be essential for removing the barriers to trade and also sharing the benefits and risks. The ASEAN and India should try to achieve common standards in customs and trade documentation, among others. This would facilitate the soft aspects of connectivity, such as paperless trade and a Single Window system.¹⁸

9.5.6 Setting Up a Single Window System

The trade facilitation conditions between the ASEAN and India need to be assessed. Simple, harmonized and standardized trade and customs, processes, procedures and related information flows are expected to reduce transaction costs between the ASEAN and India, which will enhance trade competitiveness and facilitate regional integration. India (and other ASEAN dialogue partners) needs to align customs procedures and trade services with that of the ASEAN through interoperability of customs Single Windows.

9.5.7 Implementing the ASEAN–India Regional Trade Facilitation Program

The ASEAN and India have been implementing national-level trade facilitation measures to support and ensure effective implementation of regional and multilateral initiatives. We suggest that the ASEAN and India (and also other dialogue partners including the East Asia Summit – EAS – group) should develop and implement a comprehensive trade facilitation work program, which aims at simplifying, harmonizing and standardizing trade and customs, processes, procedures and related information flows:

- Establish a regional trade facilitation cooperation mechanism with dialogue partners.
- Establish ASEAN+India and/or an EAS trade facilitation repository.
- Develop capacity building programs to ensure smooth implementation of the work program.

In light of the acceleration of the AEC, the realization of the ASEAN Customs Vision 2020 has been brought forward to 2015. The ASEAN and India will aim to: (1) integrate customs structures; (2) modernize tariff classification, customs valuation and origin determination, and establish ASEAN e-Customs; (3) smoothen customs clearance; (4) strengthen human resources development; (5) promote partnership with relevant international organizations; (6) narrow the development gaps in customs; (7) adopt risk management techniques and audit-based control for trade facilitation; (8) develop and implement sectoral MRAs on conformity assessment for specific sectors identified in the ASEAN Framework Agreement on mutual recognition arrangements; and (9) enhance technical infrastructure and competency in laboratory testing, calibration, inspection, certification and accreditation based on regionally and/or internationally accepted procedures and guides. Most of these activities have been already undertaken nationally.

9.5.8 Developing Port Infrastructure and Shipping Networks

There is a clear diversion of trade direction observed in recent years. Trade with eastern neighbors has increased considerably. The rise of the PRC and countries in Southeast Asia is understood to be the reason for this.

Cargo produced in India and destined for different locations in Southeast Asia typically moves through a transshipment hub located in Singapore, Tanjung Pelepas or Port Klang. Therefore, the dependency on the Strait of Malacca is high. This sea channel is important for the world's shipping movement as it connects the growing regions of South Asia and Africa to the economies in the east.

Being on the main east-west trade lane. Indian ports (especially on the west coast) are directly connected with countries in Southeast Asia through the transshipment hubs mentioned above. However, direct liner connectivity hardly exists between India and its eastern neighbors. Owing to inadequate cargo availability and maintaining the time bound movement of cargo, major container shipping lines prefer not to call directly rather, they prefer to serve the Bay of Bengal market through their feeder alliances connected to the transshipment hubs. Being private entities, profitability is high on their agenda. Allowing coastal shipping in the Bay of Bengal (short sea shipping) could help the ASEAN's least-developed countries to increase their market access in South Asia and vice versa.¹⁹ To begin, the coastal trade agreement signed by Bangladesh and Myanmar in 2012 could be converted into a regional agreement with participation of India and Thailand. Institutional links between ports and the shipping community, regional (and bilateral) short sea-shipping, and training and capacity building would pave the way for stronger maritime links in the region. Countries may think about signing MRAs in shipping and logistics services. Regional cooperation initiatives can play an important role to strengthen the maritime network (AIC 2014).

9.5.9 Setting Up an ASEAN–India Economic Zone

With the establishment of an integrated check post (ICP) at Moreh, trade transaction costs are likely to come down at the border. This would also result in border trade being fully formalized and contribute to rapid growth. The ADB is funding the connectivity projects in the northeastern region of India, including a new alignment for part of the Imphal-Moreh (NH39) highway. Moreover, railway connectivity from Jiribam to Imphal is progressing, which is likely to be completed by 2017 up to Tupul and by 2020 to Imphal. The Manipur government has decided to set up a township at Moreh. In view of Myanmar's recent generalized scheme of preferences (GSP) benefits from the European Union, it is feasible to build an economic zone in and around the Moreh (India) and Tamu (Myanmar) border area, the ASEAN–India Economic Zone (AIEZ). The Moreh–Tamu area is the junction of most of the land connectivity corridors. With wage arbitrage, connectivity advantage, access to markets and availability

of land, the AIEZ may convert one of Asia's laggard regions into a versatile growth center.

9.5.10 Building a Stronger Coordination Mechanism

Regional connectivity has made progress within different regional frameworks in recent years and ASEAN's dialogue partners are increasingly involved in support of the Master Plan of ASEAN Connectivity (MPAC). The MPAC projects require \$600 billion worth of financing.²⁰ The ASEAN Infrastructure Fund is a potential source of financing and at the current stage, five infrastructure projects valued at \$150 million have been approved. Additional resources are therefore required to support the connectivity projects, and ASEAN acknowledges the important role of dialogue partners in achieving greater connectivity. The ASEAN Secretariat and the ASEAN ACCC hope to achieve concrete outcomes from engagement with a number of dialogue partners, including India. The ACCC requested ASEAN dialogue partners to share their experiences with connectivity projects and also to present their plans and proposals on involvements and contributions in support of the MPAC. A stronger coordination between ASEAN and its dialogue partners would be helpful in building cross-border connectivity.

9.5.11 Setting Up a Project Development Fund

The development of cross-border connectivity projects and the corresponding back-end infrastructure requires specialized facilities to support project preparation and project development, and to address specific market challenges through innovative financial mechanisms. Innovative solutions to facilitate and accelerate cross-border connectivity are of the utmost importance. Establishing a project development facility (PDF) for facilitation of connectivity projects would unlock investment in connectivity projects and also deepen regional integration. Among others, this new PDF vehicle will aim to mobilize financing to accelerate the speed of cross-border connectivity project delivery. It should focus on high-impact regional projects in the energy, transport, ICT, small and medium-sized enterprises, special economic zone, education, health and water sectors. Some of its major activities would be providing advisory services, identifying projects through technical studies and mobilizing funding. To start, the PDF vehicle may engage only in project development. The primary objective of this segment would be to increase the number of bankable connectivity projects. Depending on the progress, project finance may also be added as one of the mandates of the PDF. This segment would focus

on delivering the financial instruments required to attract additional infrastructure financing. In other words, the PDF's primary objective would be to shorten the time between project concept and financial closure. The initial capital of the PDF could be around \$100 million.

9.6 CONCLUDING REMARKS

This study suggests that India and Southeast Asia are becoming more economically integrated, with ample scope for deepening this integration process. Given India's diversity and geographical contrasts, an integrated transport network with Southeast Asia in particular is required to support the integration process. Asian-wide connectivity projects such as the Asian Highway and Trans-Asian Railway will be complemented by cross-border transport projects linking India with Southeast Asia such as the Trilateral Highway. Inter-modality in transportation is essential in many of the transportation chains between India and Southeast Asia. At the same time, it is important to exploit synergies across various types of cross-border infrastructure. The soft side of connectivity, such as transit and Single Window systems, goes hand in hand with the development of hard connectivity. Good coordination among countries, national line ministries, regional sector institutions and other stakeholders is essential. Besides, harmonizing political, legal and regulatory regimes between India and ASEAN is needed.

Southeast Asian countries and India have to identify the missing links and investment needs from a region-wide perspective. To a great extent, missing railways and roads in Myanmar are hindering the overland connectivity between South Asia and Southeast Asia. Therefore, road and railway systems inside Myanmar need to be rebuilt. Roads leading from Myanmar to India and Thailand require widening and better maintenance to allow efficient movement of larger vehicles. Development of economic corridors for the countries in the region will facilitate investment as well as spur economic growth in India's southern and northeastern regions, as well as Cambodia, the Lao PDR, Myanmar and Viet Nam.

Enhancing connectivity between South Asia and Southeast Asia is a multifaceted task that will require the implementation of strong policy initiatives. The development of Southeast Asian and South Asian connectivity would raise significant opportunities for industrial development in India and increase trade potential with Southeast Asian countries. Chennai has already established itself as a gateway to southern India. The ASEAN connectivity would link the Chennai region to the rest of the world through its maritime infrastructure. Thus, Chennai has a great potential for becoming the greater gateway for India and functioning as a core node as a center of business activities with industrial clusters, and as an engine for promoting regional economic growth.

The 'Make-in-India' campaign has been moving fast, and therefore connectivity over the Bay of Bengal is important. Since air cargo is growing faster than sea cargo, the ASEAN and India need more airports. Multimodal links between eastern, northeastern and southern parts of India should be the priority for connectivity development.

The success of any regional connectivity projects will depend on the strength of the back-end integration. At present, the back-end integration of most physical connectivity projects in India is poor. Back-end integration with national connectivity projects is therefore essential to reap the benefits of growing economic links between India and Southeast Asia. To sum up, trade liberalization is important, but sometimes it is not adequate to enhance a region's trade. Improved connectivity and trade facilitation can complement that effort, and is the way forward for regional trade and economic partnership between South Asia and Southeast Asia.

NOTES

- This chapter is an edited version of ADBI Working Paper No. 507 (De 2014). For a more detailed discussion, readers may consult the working paper at http://www.adbi. org/files/2014.12.19.wp507.india.connectivity.southeast.asia.pdf (accessed 11 January 2015).
- Kumagai and Isono (2011) used the Institute of Developing Economies (IDE)/ERIA Geographical Simulation Model to estimate the impacts on the cumulative increase of GDP of countries in the two regions from 2010 to 2030, relative to the base case for a number of connectivity projects, including the Mekong–India Economic Corridor (MIEC), the Kyaukphyu deepwater port in Myanmar and the India–Myanmar– Thailand Trilateral Highway (IMTTH).
- 3. Using a slightly different regional unit of analysis (ASEAN+3 and South Asia) estimates large gains (about \$260 billion, or 2 percent of GDP) from an East and South Asian free trade area, under conservative assumptions. Refer, for example, to table 1.6 in François et al. (2009, p. 28).
- 4. Based on the World Bank's World Development Indicators (2013).
- 5. See, for example, Government of India (2012a).
- See the speech of Indian Prime Minister Narendra Modi at the Twelfth ASEAN–India Summit, held at Nay Pyi Thaw on 12 November 2014, available at http://www.mea. gov.in/Speeches-statements.htm?dtl/24236/Remarks_by_the_Prime_Minister_at_12th_ IndiaASEAN_Summit_Nay_Pyi_Taw_Myanmar (accessed 19 November 2014).
- 7. India's FTA with ASEAN was signed on 13 August 2009 and came into effect in January 2010.
- 8. Some of the key subjects that have been discussed in the working groups are tariff modalities in goods, listing of services and investment, elements of the RCEP chapters and possible texts, intellectual property, competition, economic and technical cooperation, legal and institutional issues, customs procedures and trade facilitation and rules of origin. The 6th RCEP meeting was held 1–5 December 2014 in India.

- 9. This is based on BEC data, which are recalculated from SITC as available in UN Comtrade. Trade goods by production stage include the following items: primary goods items under BEC codes 111, 21, 31; processed goods BEC codes 121, 22, 32; parts and components BEC codes 42, 53; capital goods BEC codes 41, 521; and consumption goods BEC codes 112, 122, 51, 522, 61, 62, 63.
- 10. Refer to the Appendix Table 9A.1 for further technical details of the estimated gravity model.
- 11. The government announced a National Manufacturing Policy in 2011. See Government of India (2014b).
- 12. Based on the author's personal communications with a Trilateral Highway Joint Task Force member.
- 13. Based on author's communications with IWAI. See also, BIMSTEC Secretariat (2014).
- 14. One of the flagship projects of the Ayeyawady–Chao Phraya–Mekong Economic Cooperation Strategy.
- 15. Based on the author's personal communications with Myanmar Ministry of Construction officials.
- 16. BCIM is a Track II initiative to enhance regional cooperation among the member countries. For further details, see Rana and Uberoi (2012).
- 17. See the ASEAN-India Eminent Persons' Group Report, co-chaired by Shyam Saran, (ASEAN Secretariat 2012). The summit was held to commemorate the twentieth anniversary of the ASEAN-India Dialogue Relations under the theme 'ASEAN-India Partnership for Peace and Shared Prosperity'. See the 'Vision Statement' dated 20 December 2012 (Government of India 2012b).
- 18. The ASEAN Single Window is an environment where ten national Single Windows of individual member countries operate and integrate, being supported by the United States through USAID. A national Single Window enables a single submission of data and information, a single and synchronous processing of data and information and a single decision to be made for customs clearance of cargo, which expedites customs clearance, reduces transaction time and costs, and thus enhances trade efficiency and competitiveness. India is at an advanced stage of implementing a Single Window system.
- India's Shipping Corporation of India started a new direct shipping service between India and Myanmar in October 2014. The port rotation includes Colombo–Chennai– Krishnapatman–Yangon–Colombo. See http://commerce.nic.in/WhatsNew/Direct_ Shipping_Service_Myanmar.pdf (accessed 26 October 2014).
- See, for example, the speech of Adnan Jaafar, Deputy Permanent Secretary, Ministry of Foreign Affairs and Trade of Brunei Darussalam at the workshop on 'Enhancing Connectivity through Multi-layered Regional Framework,' held in Bangkok on 19 July 2013.

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APPENDIX

| | OLS | |
|-----------------|-----------|--|
| ln_gdp_reporter | 0.823*** | |
| | (0.187) | |
| ln_gdp_partner | 0.533*** | |
| | (0.121) | |
| ln_distance | -1.131*** | |
| | (0.118) | |
| Constant | 2.761 | |
| | (3.092) | |
| Year effect | Yes | |
| Country effect | Yes | |
| Observations | 3790 | |
| R sq. | 0.744 | |

Table 9A.1 Table gravity regression results, 2000–2012 (dependent variable: In total trade)

Note: Robust standard errors are reported in brackets. ***, ** and * denote significance at the 1 percent, 5 percent and 10 percent levels, respectively.

Source: Author's calculations.

10. Thailand: key subregional hub¹ Suthiphand Chirathivat and Kornkarun Cheewatrakoolpong

10.1 OVERVIEW

With an uncertain global economic environment, regional cooperation and integration continue to set an unprecedented trend worldwide and also in Southeast Asia. To a certain extent, the Association of Southeast Asian Nations (ASEAN) is embarking on its own regional integration by establishing the ASEAN Community in 2015. At the core of this concept of achieving the ASEAN Community is one of the three pillars, the ASEAN Economic Community, aimed at creating a single market and production base within the region. In the same manner, the ASEAN has also been able to advance the master plan of ASEAN connectivity to further enhance its regional integration process through the economic, political-security and sociocultural links among countries in the region.

Thailand has been an active member of the ASEAN from the beginning. With the transformation of the ASEAN taking place since 2011, particularly for the mainland countries of Southeast Asia,² including the latest changes in Myanmar, Thailand also has a natural strong advantage to be part of the regional community building process. Very different from the Cold War period, Thailand's geographical location now faces the opposite direction from its past strategic role in linking its neighboring countries in the Greater Mekong Subregion (GMS) and beyond. These unique opportunities are clear and tangible with physical connectivity projects that will facilitate trade and investment through new transport and other infrastructure developments, thus fostering Thailand's links with the region.

This chapter discusses Thailand's effective economic integration and cooperation between Southeast Asia and South Asia. As the country is undergoing tremendous change in its economic structure, particularly, the extension of manufacturing activities and the emergence of a new middle class in regions beyond Bangkok, it is interesting to see how improving connectivity, both hard and soft infrastructure, in Thailand, within the ASEAN and between Southeast Asia and South Asia, could support Thailand's future growth. If successfully developed, these concrete projects will be a strong addition to ASEAN community building for better connections to South Asia.

10.1.1 External Orientation

Thailand is considered an open economy with greater trade and investment exposure than other Asian counterparts except Hong Kong, China; Malaysia; and Singapore. For some time, and in particular since the Asian financial crisis of 1997–98, exports have been an important engine of growth as well as producing foreign exchange earnings that have helped to replenish Thailand's reserve surplus. However, export performance has been weaker, particularly since the global financial crisis that contributed to unusual up-and-down trends, unlike the annual average of 12 percent a decade earlier. As a result, the trade surplus has narrowed since 2011. This is not to say that Thailand has lost its trade advantage. On the contrary, like many Asian countries that suffered from their own export-oriented economy, Thailand is struggling to find ways of adjusting its external sector to the new 'normal' reality of the global economy, given that the impact of the 2007–09 global financial crisis has lasted longer than expected.

Thailand's trade structure has already changed significantly, with its trade orientation and integration moving toward the emerging economies in the ASEAN, the People's Republic of China (PRC) and, to a certain extent, India, in addition to traditional trade partners like Japan, the European Union (EU) and the United States (US). As a result of its increasing links to regional supply chains, Thailand supplies intermediate inputs and raw materials to the regional economies that also help to produce the final goods for the global economy, while the country has also benefitted from these connected economies to produce its own final goods, as well as for the regional and global economy.

10.1.2 Trade Trends with Mainland Southeast Asian Neighbors and South Asia

Thailand's trade with its immediate neighbors has grown impressively, from a total of less than \$10 billion in 2003 to around \$30 billion in 2012, an increase of 3.2 times compared to an increase of 2.3 times of Thailand's total trade. As a result, the share of border trade to Thailand's total trade has also increased from 4.4 percent in 2003 to more than 6 percent annually since 2008.³

In 2012, Thailand's share of border trade to total trade for the four countries was as follows: Cambodia, 65.9 percent, the Lao People's

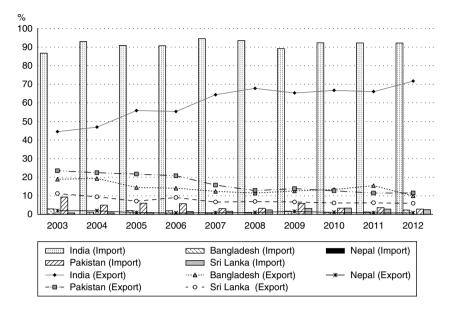
Democratic Republic (Lao PDR), 88.3 percent, Malaysia, 65 percent and Myanmar, 85.4 percent (Ministry of Finance 2014).

Thailand's trade balance with its four neighbors has always been favorable for Thailand, with border exports contributing around 8 percent to Thailand's total trade volume and border imports around 4 percent of the same total. The surplus position has been large for Cambodia, the Lao PDR and Malaysia. Myanmar is the only exception because of Thailand's imports of natural gas of \$3.5 billion or more than 95 percent of total imports. Without this trade in natural gas, Thailand would have a large surplus with Myanmar (Ministry of Finance 2014).

Although not sharing an immediate border with Thailand, border exports to the PRC and Viet Nam have increased rapidly. As of 2012, the value of exports to the PRC stood at more than B10.1 billion (or more than 3 percent of total trade), while exports to Viet Nam were valued at B25.2 billion (or 10.8 percent of total trade). On the other hand, border imports from the PRC and Viet Nam to Thailand are still small (0.7 percent of total trade and 1.6 percent of total trade, respectively) despite a recent increase. This suggests that the improvement of economic corridors, trade facilitation, and logistic arrangements, in particular, those sections linking Thailand–Lao PDR–the PRC and Thailand–Lao PDR–Viet Nam, have contributed to such an increase (Ministry of Finance 2014).

Thailand's exports and imports trade pattern with the Lao PDR and Cambodia is similar to the pattern with Myanmar. These countries have joined the rest of the ASEAN and have come out from their economic isolation, looking for a more developed market economy to steer their future economic development. It is for this reason that Thailand has an immediate advantage as a more developed economy and could serve as a bridge for further development and integration of these economies in the regional and global context. Malaysia is different from the rest of Thailand's neighboring countries; the country is an emerging high-income developing economy with a well-developed and deepened trading relationship with Thailand over the years.

Thailand's share of trade with mainland Southeast Asia has always been larger compared with the rest of the ASEAN, which takes around 10.6 percent. This reflects the appetite of Thai traders, particularly the small and medium-sized enterprises (SMEs), with regard to new markets opening closer to home as a result of the ASEAN Free Trade Area (AFTA) and new open border access to all kinds of goods and services trading among themselves. The same could not be said for South Asia, which has seen a small increase of its share in Thailand's total trade to stand around 2.4 percent in 2012. Compared with a similar share by the

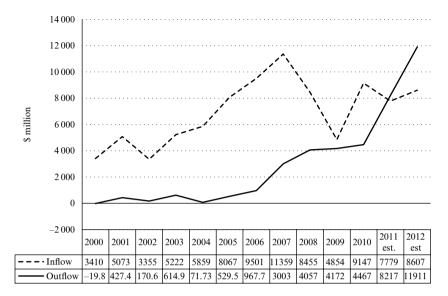


Source: Authors' calculation from Global Trade Information Services, Department of International Trade Promotion, Ministry of Commerce, Thailand, Export, import and trade statistics, available at https://www.gtis.com/gta/ (accessed 5 October 2014).

Figure 10.1 Percentage share of total imports and exports with South Asia (%)

PRC at 13.4 percent in 2012, it is still smaller than total ASEAN trade, at 20.2 percent in the same year.

Despite the small share of trade with South Asia compared with its mainland Southeast Asian neighbors, the region is increasingly linked to Thailand's trade. Most of Thailand's trade with South Asia is with India, standing at around 75 percent of total trade in 2012. Bangladesh, Nepal, Pakistan and Sri Lanka still trade very little with Thailand (Figure 10.1). Thailand has ample opportunity to work with India since the country implemented a free trade agreement in 2004 that helps Thailand to trade more with India and to have a trade surplus. Thailand's overall share of imports from South Asia stood at only 1.5 percent in 2012 as compared with a similar export share of around 3.3 percent in the same year. This means Thailand has gained substantially since these countries, particularly India, opened their doors to the outside world.



Source: UNCTAD (2013).

Figure 10.2 Thailand's foreign direct investment inflows and outflows (\$ million)

10.1.3 Trends of Inward and Outward Foreign Direct Investment

The recent trend of Thailand's foreign direct investment (FDI) is similar to that of exports. Owing to the global financial crisis, FDI has fluctuated, declining by 15 percent in 2011 before a recovery of 10.6 percent in 2012, or around \$8.6 billion (Figure 10.2). This suggests that it has become more difficult for Thailand to rely on external funding and investment as other emerging countries and regions are also looking to attract FDI given the limited funds available worldwide.

This issue is linked to Thailand's recent changes and how seriously Thailand takes the process of production transformation through technology transfer, knowledge management and a more capital-intensive production process, unlike in the past. Compared to the rising ASEAN members such as Indonesia, Myanmar and Viet Nam, there is a question of how Thailand can continue to be attractive and still rely on traditional investors like Japan, the EU and the US. In addition, an important issue is how the country can attract new investors such as the PRC, India, Malaysia and Singapore.

Thailand needs to continue to improve global supply chain links,

enhance technology, improve trade liberalization and reduce communication and transport costs. Thailand had early embarked on links with the global and regional production networks which also help the country to be exposed to a multitude of foreign production chains in connection with domestic firms, producing parts and components, or being suppliers of these industries, thus widening and deepening Thailand's role in the regional and global economy.

More Thai firms are pursuing their business abroad, creating a surge in the country's outward FDI, in addition to the inward one. This outward FDI trend started to emerge in 2003, rising from around \$500 million in 2005 to almost \$12 billion in 2012, making Thailand for the first time, since 2011, a net exporter of capital, meaning outward FDI outpaced inward FDI. The appreciated baht, extension of production facilities, in addition to more attractive low-cost and resource-rich availabilities in neighboring countries, are pressuring Thailand to allow local firms to get open access to neighboring markets and low-cost production bases to reduce operating costs as well as to working to achieve better integration within the regional and global production networks.

10.1.4 Policies and Initiatives in Regional Economic Integration and Cooperation

Thailand needs to pursue consistent outward-oriented policies and initiatives in response to regional dynamic changes and the global economic environment. After the Asian financial crisis of 1997–98, Thai policymakers had an even higher priority to enhance trade and foreign direct investment. This included both increasing foreign reserves and, more importantly, improving productivity and competitiveness of exports in various goods, while balancing imports in tandem with the needs of industry, in particular foreign and multinational firms that have a strong presence in regional and global supply chains. Despite the slowdown of trade and investment as a result of the 2007–09 global financial crisis, policymakers have weathered the storm with trade orientation adjustment to emerging economies and capital exports' reshaping in the form of outward foreign direct investment, supported by government policies both for trade and investment.

Thailand is currently involved in regional, subregional and bilateral trade agreements as well as economic and technical cooperation initiatives. With an increasingly uncertain global trading environment, it is in Thailand's interests to find a path that could contribute positively to its external sector. This is why the ASEAN arena, closest to Thailand, has become a centerpiece for deeper and wider regional integration. Thailand, a founding member of ASEAN, is a prominent player in regional economic affairs, from the launching of the ASEAN Free Trade Area (AFTA) in 1993 to the preparation for the ASEAN Economic Community (AEC) by 2015.

Former Thai Prime Minister Chatchai Choonhawan proposed 'turning the battlefield to the marketplace' to its neighbors in the late 1980s, with the decision to build the first Mekong bridge, linking Thailand and the Lao PDR, in the early 1990s. Later, Thailand joined the ASEAN efforts in its Ha Noi Action Plan to assist the development of Cambodia, the Lao PDR, Myanmar and Viet Nam after the crisis or by the end of the 1990s. By the beginning of the twenty-first century, Thailand proposed to its mainland Southeast Asian neighbors the Ayeyawady–Chao Phraya–Mekong Economic Cooperation Strategy (ACMECS), another cooperation with Cambodia, the Lao PDR, Myanmar and Viet Nam and Thailand, without the involvement of countries or organizations outside the group. A further major subregional economic cooperation initiative is the Greater Mekong Subregion (GMS) where Thailand also plays an active role, with the help of the Asian Development Bank (ADB) for its links to the six countries involved within the framework.

Domestic and regional changes have also shaped Thailand to become closer to South Asia, particularly India, the core country of the region, where Thailand has gradually built a new path toward a strong economic partnership. India's 'Look East Policy' and Thailand's 'Look West Policy' have been instrumental to achieve mutual understanding. Thailand's support of India to become an ASEAN dialogue partner has contributed to India fostering links with the region, with the ASEAN– India Free Trade Agreement (ASEAN–India FTA) concluded in 2009, in addition to an earlier Thai–India FTA in 2004. Indeed, with such a Thai–India FTA, Thailand has been able to reverse its trade deficit with India to a trade surplus since 2005, with a view to linking India through Thailand to Southeast Asian production networks, and working with multinational firms from Japan and the Republic of Korea, among others.

Beyond the scope of the Thai–India and the ASEAN–India FTA, Thailand has also contributed to India fostering links with the region, through ASEAN–India cooperation that also extends to other cooperative efforts at the subregional level, such as the Bay of Bengal Initiative for Multi-Sectoral and Technical Cooperation (BIMSTEC) and the Mekong– Ganga Cooperation (MGC). Linking these new frameworks to the India Look East policy, it is evident to see a new landscape of connectivity within India and linking it to neighbors in South Asia, with the ambition of linking more to Southeast Asia. At least two initiatives, one by India, and another by Thailand, relate to a new emerging landscape of cooperation and integration, not only for the two countries, but also for Myanmar as the bridge connecting South Asia and Southeast Asia.

The first initiative is related to a metamorphosis taking place in Myanmar that has encouraged countries, including India, to take a more proactive role in engaging with it. The Indian government has been pursuing the Look East Policy with regard to Myanmar's economic development and is seeing its connection by land to mainland Southeast Asia as a new reality. Thailand is also seeing this important change, sought also by Myanmar and India, to work on possible new connectivity such as a new highway linking the three countries to unlock the potentials of northeast India, Myanmar, Thailand and the rest of Southeast Asia. In the meantime, Thailand has announced its new strategic border crossings with Myanmar in 2013 – Mae Sai in Chiang Rai, Mae Sot in Tak, Phu Nam Ron in Kanchanaburi and Koh Song in Ranong.

The second is Thailand's initiative, first by the private sector and then convincing the government to join in on the seaport and industrial development of Dawei. The Myanmar government has accepted the proposal, pending the feasibility study for its long-term viability. Meanwhile, Thailand has sought a joint investment with the Myanmar government in order to become a strong and important partner. The rationale of the project is to open up Thailand's maritime connectivity to South Asia, as well as relocating its heavy industrial facilities from its own eastern seaboard, now quite congested, to this part of Myanmar; while Myanmar's participation will allow the country to develop and own heavy industries, as well as being an alternative to the deepwater port beyond the Thiwala seaport near Yangon. However, the impending development of Dawei raises concerns relating to issues such as environmental degradation, heavy investment involvement and the need for more partners, in particular Japan for funding and India for its links to South Asia.

10.2 THAILAND'S STRATEGY TOWARD CONNECTIVITY

This section describes Thailand's strategies for domestic connectivity, ASEAN connectivity and possible connectivity to South Asia. It first discusses structural changes in Thailand that drive the improvement and development of connectivity. It then summarizes Thailand's current policies regarding connectivity in all mentioned aspects.

10.2.1 Driving Forces for Increased Connectivity

The key driving forces that bring about the need for connectivity development and improvement come from internal changes in the economic structure of Thailand and changes in regional policies. This section explains these driving forces.

Changes in economic structure of Thailand

The important changes in Thailand's economic structure that drive the need for connectivity come from two factors. First, Thailand is becoming a home country of FDI instead of being only a recipient of such flows. Second, because of logistics costs, Thailand experiences major obstacles in facilitating trade.

Similar to other countries in the region, Thailand is an important production and assembly base for industries such as automobiles and harddisk drives. As a result, the country attracts investment from multinational enterprises in countries including Japan, the European Union and the United States. Foreign direct investment from developed countries leads to technology transfer and knowledge spillovers. It also promotes employment, productivity, and international trade. Studies such as Jansen (1995) and Chen and De Lombaerde (2009) suggest that FDI was the crucial factor behind the miraculous economic growth in Thailand and East Asian economies during the 1990s.

However, Thailand has experienced an increasing shortage of operational workers. This problem comes from a mismatch between demand and supply in the labor market. While the demand for workers who graduate from vocational school has been increasing because of a rise in manufacturing bases in Thailand, a larger portion of the new generation chooses to pursue a bachelor's or higher degree instead. Furthermore, one of the current government's policies is to increase the minimum salary of workers with a bachelor's degree to B15000 per month (approximately \$500). This policy further drives students away from pursuing vocational study. According to the World Bank (2012), Thailand faces the most severe problem of a shortage of operational workers and skilled labor compared with other ASEAN countries.

Also, Thailand is an aging society. Compared with other ASEAN countries, Thailand has a more severe aging problem than all the others except for Singapore. The aging problem causes a decline in the labor force and intensifies the lack of operational workers.

Another reason to explain the shortage in labor supply of operational workers is agricultural subsidy policies. A key platform of the previous Prime Minister Yingluck Shinawatra was huge agricultural subsidies, especially, the rice pledging policy. These policies brought about a movement of labor from the industrial sector to the agricultural sector. However, this response may only last in the short term. The long-term effect of the high minimum wage policy and the agricultural subsidies could lead to industrial restructuring toward a more skills-intensive secondary sector and a services sector with a higher unemployment rate.

Also, Thailand faces a sharp increase in wage rates, having enacted a national minimum and uniform wage that mandates a daily rate of nearly \$10 (around \$9.86 per day) in 2013. The minimum wage was around \$7.17 in Bangkok and \$5.40 in provincial areas in 2011 and became \$9.86 and \$7.44 respectively in 2012 (Thai Ministry of Labor, n.d.). An increase in the national minimum wage affects labor-intensive industries, such as textiles, garments, electronics and leatherwear.

The shortage in the number of operational workers and the higher wage rate have led to a sharp increase in Thailand's outward FDI in labor-intensive and resource-intensive sectors. The major recipients of Thailand's direct investment are ASEAN member countries.

The transition to becoming an investor country, with ASEAN members as the major host countries, increases the need to promote connectivity with regional countries. This issue is discussed in section 10.2.2.

Among the ASEAN members, Singapore is the most important recipient of investments from Thailand. However, the figure might be biased as many companies have their regional headquarters in Singapore. Aside from Singapore, Malaysia, Indonesia, Viet Nam and Myanmar are the most important investment recipients, which emphasizes the importance of connectivity since they are Thailand's neighboring countries or can be connected by land corridors.

Another domestic structure that drives the need for connectivity improvement is the high cost of logistics. Despite the fact that Thailand relies on trade, it still has a poor logistics system. According to the World Trade Indicators Index, Thailand's logistics performance index is at the level of 3.5 of 5, ranked 35 out of 183 countries.

According to the National Economic and Social Development Board (NESDB 2010), logistics cost per gross domestic product (GDP) in Thailand was 15.2 percent in 2010, composed of administrative costs of 1.3 percent, inventory and warehouse costs of 6.7 percent, and transport costs of 7.2 percent. Logistics costs in Thailand are high compared with developed countries such as the United States (8.3 percent of GDP).

The major problems concerning Thailand's logistics system come from the concentration of physical distribution, the reliance on land transportation, the lack of advanced information technology (IT) systems in logistics, the lack of connection between transport modes and a lack of logistics personnel (Suthiwartnarueput 2007).

As high logistics costs hinder Thailand's competitiveness, the NESDB is reforming the logistics and trade facilitation system via Thailand's logistics development plan. Thailand's 2013–17 logistics development plan aims to enhance trade facilitation and logistics systems through policies to improve connectivity to neighboring countries and gateways, and to develop transport services and logistics networks. The detailed plan is discussed in section 10.3.

Changes in regional policies

Apart from a change in the domestic economic structure, changes in regional policies are an important driving force to promote connectivity. The crucial regional policies are trade liberalization and economic reforms in the GMS countries, trade agreements and economic cooperation programs in the region, and the economic and political transition of Myanmar.

The end of the Cold War in Southeast Asia brought about economic reform in Cambodia, the Lao PDR and Viet Nam. These three countries have introduced economic reforms to be more open and export-oriented: the Socio-Economic Development Plan for Cambodia, the DoiMoi for Viet Nam and the Five Year Plan for the Lao PDR. Also, they promote freer trade as they have joined the World Trade Organization (WTO) – Cambodia in 2004, Viet Nam in 2006 and the Lao PDR in 2013. As a result, there has been a large increase in formal and border trade between Thailand and Cambodia, the Lao PDR and Viet Nam.

Cambodia, the Lao PDR and Viet Nam also aim to attract FDI from other countries and they have implemented investment promotion schemes, resulting in a sharp rise in FDI, including FDI from Thailand. Increasing trade with and investment in Cambodia, the Lao PDR and Viet Nam bring about the need for Thailand to enhance connectivity with them. Second, as the economies in the ASEAN and in South Asia have become more open, there are several bilateral economic integration and multilateral economic integration programs related to the ASEAN, the GMS and the South Asian countries: the ASEAN Economic Community, the Indonesia–Malaysia–Thailand Growth Triangle, the Ayeyawady–Chao Phraya–Mekong Economic Cooperation Strategy (ACMECS), the ASEAN–India Free Trade Agreement, the Thailand–India Free Trade Agreement, BIMSTEC and the MGC.

These agreements have overlapping memberships with different coordinating and governance structures. As a result, the connectivity-related initiatives in those agreements might cause conflicts in the long term. Also, many of the agreements have made slow progress or have not been implemented owing to conflicts and for other reasons, such as a lack of funding. Nevertheless, trade and economic agreements in the region promote trade among member countries and lead to a need for greater connectivity.

Finally, Myanmar's economic and political reforms that began in 2011 open more opportunities to economic cooperation and connectivity enhancement between the ASEAN and South Asia. The reforms include the release of the pro-democracy leader Aung San Suu Kyi from house arrest, reforms of taxation, FDI laws, anti-corruption laws and the exchange rate system. Myanmar's reforms attract FDI from all over the world, including from neighboring countries. As a result, Thailand has several connectivity projects to link with Myanmar that will be discussed in section 10.3. Such connectivity opens opportunity for ASEAN countries and Thailand to connect with South Asia.

Global financial crisis 2008-09 and the need for trade diversification

The 2008–09 global financial crisis led to a sharp contraction in global trade and caused a worldwide recession. Even though Thailand has weak financial links with the US, the country was affected heavily by the crisis. Cheewatrakoolpong and Manprasert (2012) point out that trade links were the most important crisis transmission channel of the subprime crisis to Thailand when indirect trade links were taken into account. The global financial crisis emphasizes the importance of export-destination diversification for Thailand, especially in emerging markets. Better connectivity is one of the important instruments to promote destination diversification. For example, Thailand's trade with northeast India is small owing to geographical obstacles even though the distance through Myanmar is only 1400 kilometers from Thailand, shorter than the route from New Delhi to Thailand. The ASEAN–India connectivity initiatives could open up trade between Thailand and northeast India and help stimulate Thailand's trade diversification.

10.2.2 Thailand's Policy Changes toward Connectivity

The driving forces from Thailand's structural reforms and the change in regional policies have provided a change in Thailand's strategies, including outward FDI promotion, becoming a logistics hub, the creation of regional production networks and co-production bases, and creating links with Myanmar.

Outward FDI promotion

Owing to the driving forces mentioned in section 10.2.1, some industries in Thailand are relocating to neighboring countries. As a result, Thailand

has reformed several policies to facilitate these needs. The relaxation of the Bank of Thailand's rules for investing abroad is one of the major policy revisions to facilitate outward FDI of Thailand. Also, the new Board of Investment's (BOI) five-year plan includes both inbound and outbound investment, instead of only inbound investment. The 2013 Acts and Decrees enforced by BOI have been revised to include the scope of outward FDI to the mission of the BOI. As a result, the Thailand Outward Investment Support Centre was established and is governed by the BOI.

According to the BOI's master plan, the important recipients of Thailand's direct investment are:

- First priority: Indonesia, Myanmar, Viet Nam and Cambodia.
- Second priority: PRC, India and other ASEAN countries.
- Third priority: Middle East, South Asia and Africa.

The promotion of outward FDI brings about the need for connectivity enhancement of Thailand with neighboring countries and will be further discussed in Section 10.3.

Logistics hub

The Eleventh National Economic and Social Development Plan and National Industrial Plan include the development of Thailand as a logistics hub and a knowledge-based economy. Owing to geographical advantages, located at the center of the ASEAN community and as an important link to the PRC and South Asia, the government sets the goal for Thailand to be the regional logistics hub after the realization of the AEC in 2015. To accomplish this goal, it is important for Thailand to improve its connectivity, both in physical infrastructure and trade facilitation. The initiatives of Thailand to achieve such a goal will be further discussed in sections 10.3 and 10.4.

Regional production networks and co-production bases

Again owing to the driving forces mentioned in section 10.2.1, several multinational enterprises have relocated their production of labor-intensive parts and components to Cambodia, the Lao PDR, Myanmar and Viet Nam (CLMV) while maintaining highly skilled labor or the production of complicated parts and components in Thailand. As a result, connectivity between Thailand and neighboring countries is crucial to facilitate the operation of such production networks.

Also, the movement of labor-intensive industries (such as textile and garments) of Thai firms to CLMV countries brings about the need for

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enhanced connectivity as the firms need better road and/or rail freight networks with neighboring countries to ship materials from Thailand and to ship back finished products to seaports in Thailand.

Trade statistics confirm the creation of regional production networks and co-production bases as they show an increase in trade of parts and components or materials among production bases in Thailand and other ASEAN countries, including CLMV countries.

Linking with Myanmar

Thailand's current policies prioritize links with Myanmar as can be seen from the 2 trillion baht infrastructure projects and the 2013-15 ACMECS action plan to create a single production base and connectivity. At the ACMECS summit in 2013, Prime Minister Yingluck announced that the government had allocated a budget of B15 billion to the development of Myanmar's Dawei deepwater port, construction of a land bridge to link Laem Chabang and Myanmar's Dawei Special Economic Zone, and the establishment of infrastructure development to link neighboring countries. The projects include permanent border crossings between Thailand and Myanmar, including the Kio Pha Wok checkpoint in Chiang Mai province, the Ban Huai Ton Nun checkpoint in Mae Hong Son province and the Ban Phu Nam Ron checkpoint in Kanchanaburi province. Thailand and Myanmar have signed a memorandum of understanding (MOU) on the Comprehensive Development in the Dawei Special Economic Zone and its Related Project Areas.⁴ a MOU on Development Cooperation in Myanmar and a Joint Statement for the Establishment of an Energy Forum in 2012.⁵ More projects are discussed in detail in section 10.3.

10.2.3 Summary of Thailand's Strategies toward Connectivity

With the major driving forces from both domestic structural changes in Thailand's economy and changes in regional policies mentioned in section 10.2.1, Thailand has several strategies including outward FDI promotion, becoming a logistics hub, formation of a regional production network and co-production bases, and creating links with Myanmar. These strategies lead to the need for Thailand to enhance its connectivity. As a result, Thailand has implemented initiatives to promote physical infrastructure and trade facilitation that link Thailand with neighboring countries. The details of such initiatives will be discussed in sections 10.3 and 10.4.

10.3 PHYSICAL TRANSPORT INFRASTRUCTURE INITIATIVES

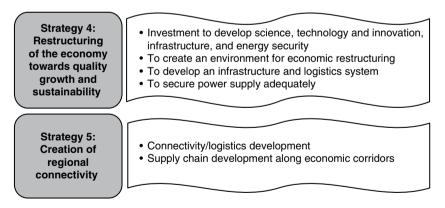
This section discusses Thailand's physical transport infrastructure initiatives and projects, both domestic projects and those linking Myanmar and India.

10.3.1 Thailand's Domestic Physical Transport Infrastructure Initiatives

The development and improvement of Thailand's physical transport infrastructure is one of the crucial factors to increase the country's competitiveness. According to Thailand's Eleventh National Economic and Social Development Plan, two main strategies are dedicated to physical transport infrastructure initiatives (Figure 10.3).

Also, the country's new growth model proposed by the NESDB suggests that infrastructure is one of the instruments for growth of income and competitiveness. The NESDB launched an infrastructure development plan (2012–20) in 2012 to enhance the current transport networks on land, air and water, to enhance energy security, to further develop telecommunications infrastructure and to upgrade public utilities infrastructure for industry and people.

The previous government also created the 2014–2015 plan to promote Thailand's readiness for the AEC in 2015. The plan includes the development of border checkpoints and border provinces and the promotion



Source: NESDB (2012).

Figure 10.3 Strategies under Thailand's Eleventh National Economic and Social Development Plan

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of road links, information and communication technology, and energy connectivity with other ASEAN member countries. Under the plan, in March 2013, the previous government launched the 2 trillion baht infrastructure project. The plan is at present the biggest infrastructure reform in Thailand. Three main goals under this plan are:

- 1. Modal shift of road transportation to a cheaper mode or to multimodal to decrease logistics costs (B354 560.73 million).
- 2. Development of infrastructure and facilitation to improve connectivity between core and periphery and between Thailand and neighboring countries (B1042376.74 million).
- 3. Improvement of transportation systems in big cities (B593801.52 million).

The plan includes the following sub-projects:

- 1. Ten public railway lines in Bangkok and surrounding areas.
- 2. High-speed trains linking Bangkok and provincial cities such as Chiang Mai, Nong Khai and Padang Besar.
- 3. Airport link to connect Chonburi, Pattaya and Chachoengsao.
- 4. Double rail track system in Bangkok and provincial areas for good transit and transportation.
- 5. Road links for AEC connectivity (North–South Economic Corridor (NSEC), East–West Economic Corridor (EWEC), and Southern Economic Corridor (SEC) and core-periphery connectivity).
- 6. Improvement of air transportation such as more airports in provincial areas.
- 7. Development of seaports and freshwater ports such as Songkhla, Chumphon and Pakbara.
- 8. Construction of distribution centers.

Most of the spending under the project will support Thailand's strategy toward connectivity.

10.3.2 Thailand's Physical Transport Infrastructure Initiatives Linking Thailand to Myanmar and India

Realizing the importance of transport links with Myanmar, Thailand has dedicated several physical infrastructure projects to promote links with Myanmar. The projects include the Dawei Development Project, Dawei road links and highways and bridges along the EWEC.

Dawei Development Project

The notable project linking Thailand to Myanmar is the Dawei Development Project. The project aims to promote regional connectivity and establish the Dawei Special Economic Zone (DSEZ) that will be a new production base with co-manufacturing links with Thailand, Cambodia, and Viet Nam along the southern economic corridor. Thailand and Myanmar signed a MOU on the support of the Dawei project in 2008. In November 2011, the Myanmar Port Authority and Italian–Thai Development PLC (ITD) signed a framework agreement on the Dawei project. In 2012, the governments of Myanmar and Thailand renewed a MOU on the comprehensive development of the DSEZ and its related projects. Hence, the Myanmar–Thailand Joint Working Mechanism comprising the Joint High-level Committee (JHC), the Joint Coordinating Committee (JCC), and the Joint Sub Committees (JSC) was established in 2012.⁶

The eight priority projects agreed for development under the joint working mechanism are a toll road, deepwater port, industrial estate, power plant, water supply and waste water system, telecommunications, community development and relocation, and railway.

To support the DSEZ project, the Thai government plans to build a road from Dawei to Bangkok, approximately 370 kilometers in Myanmar and 160 kilometers in Thailand. The road in Myanmar is from the Dawei port to Ban Phu Nam Ron in Kanchanaburi province. The project used to include the expansion of Thailand's four-lane road to an eight-lane road but the project was nullified since the current road should have enough capacity for the current trade volumes along the SEC. The road project will be completed by 2015.

Financial assistance from Neighboring Countries Economic Development Cooperation Agency (NEDA) for road construction projects in Myanmar

To promote connectivity, the NEDA, Thailand's international development aid agency, provides financial assistance to Cambodia, the Lao PDR and Myanmar for road construction projects. In 2013, the NEDA provided financial assistance for the road construction project along the Mae Sod– Myawaddy–Mt Tanao Sri route. In the 2014–16 fiscal plan, NEDA aims to give further financial support for road improvements along the Three Pagodas Pass–Payathonsu–Thanbyuzayat route. Also, the NEDA has a feasibility study for the development of road links between Kawkareik and Mawlamyine.

Highways and bridges along the East-West Economic Corridor

The Thai government, through the NEDA, helps to finance road projects along the western part of the EWEC in Myanmar. The projects include the maintenance (18 kilometers) and construction (28.6 kilometers) of a road between Myawaddy and Kokariek. The route will connect Mae Sot, Thailand to Yangon, Myanmar. It will also allow Thailand to connect to northeastern India via this route. Thailand also completed the maintenance of the first Thailand–Myanmar Friendship Bridge over the Mae Sai River (NESDB 2010). The second Moei River Crossing Bridge at Mae Sod (Tak province) is also under feasibility study.

India-Myanmar-Thailand highway

The idea of the India-Myanmar-Thailand highway or trilateral highway was proposed at the trilateral ministerial meeting on transport links in Yangon in April 2002 with support from the ADB and the World Bank. However, the project has been delayed for years. During an official visit to Thailand in May 2013 by Manmohan Singh, the Prime Minister of India, the two countries reaffirmed the importance of the trilateral highway project. They welcomed the setting up of the Thailand-India Joint Working Group on Connectivity and Infrastructure in 2013 to help expedite cooperation on connectivity initiatives in both countries as well as in third countries, and agreed to complete the project by 2016 (Indian Embassy, Bangkok 2013). India has also granted \$500 million to Myanmar as a part of the project completion. Out of 3200 kilometers, 1600 kilometers need to be built or improved. The road project will connect Mae Sot, Thailand to Yangon and Mandalay in Myanmar and Moreh in India. The trilateral highway project will be the expansion of the Asian Highway Network (AHN), that is, AH1 that covers Tamu-Mandalay-Meiktila-Bago-Pavagyi-Thaton-Myawaddy in Myanmar. The AH1 is part of the total 1656 kilometers and 1208 kilometers have been upgraded to Class III as of May 2013. The remaining 781 kilometers are planned to be upgraded to at least Class III by 2015.7

10.4 TRANSPORT AND TRADE FACILITATION INITIATIVES

This section discusses the current state of transport and trade facilitation initiatives and implementation in Thailand.

Since logistics is one of the key elements to enhance Thailand's competitiveness, Thailand established a logistics development plan and the National Logistics Committee in 2007. Trade facilitation is one of the strategic agenda items in the logistics development master plan 2007–11. The major strategies of the agenda to enhance trade facilitation are to:

- develop e-logistics and Single Window entry into a central system in order to provide import/export and logistics services, to link information on government-to-government, government-to-business and business-to-business bases;
- improve the taxation system and customs clearance procedures related to import and export transportation and shipping businesses with the aim of facilitating the import/export process;
- promote the setting up of distribution and logistics centers in priority markets to increase Thai business competitiveness in foreign markets;
- promote e-commerce business with the aim of reducing documentation and information of delivery costs by expediting the enactment of the Royal Decree; and
- increase the efficiency and service quality with regard to the inspection of pesticides, toxic substances, and contaminants in farm imports and exports with the aim of standardizing the inspection procedures so that they are acceptable to trading partners, to speed up the process of moving goods from manufacturers to customers and to reduce exporters' reverse-logistics costs (NESDB 2009).

One of the crucial initiatives from the strategies listed above is the establishment of Thailand's National Single Window (NSW) in 2008. The NSW enables the secure exchange of trade and transport e-documents among relating government agencies (35 departments from 12 ministries) and businesses. Its ultimate goal is to link with the ASEAN Single Window by 2015. The NSW helps eliminate redundant transaction costs related to export and import activities.

With the importance of cross-border trade for Thailand, the country has continuously improved trade and transport facilitation at the border checkpoints. The notable improvement is a change of custom procedures from manual operation to electronic data interchange (EDI) customs services and, ultimately, to electronic customs systems.

To support the GMS program, Thailand and Myanmar plan to develop Mae Sod (Thailand) and Myawaddy (Myanmar) along the EWEC and Mae Sai (Thailand) and Thachileik (Myanmar) into a special economic zone. Apart from physical infrastructure projects mentioned in section 10.3, the special economic zone will contain industrial estates, warehouses and customs one-stop services to facilitate export and import activities between Myanmar and Thailand. According to the meeting for the development of the Mae Sod special economic zone in February 2013, the Thai Minister of Interior appointed Tak province's governor to improve the facility and capacity of the Mae Sod border crossing and customs checkpoint, and to create a one-stop service by 2015.

Also, Thailand has decided to establish three permanent border crossings between Thailand and Myanmar. The border crossings include the Kio Pha Wok checkpoint in Chiang Mai province, the Ban Huai Ton Nun checkpoint in Mae Hong Son province and the Ban Phu Nam Ron checkpoint in Kanchanaburi province.

Thailand also has initiatives and projects to improve customs infrastructure. The projects are under the 2.2 trillion baht infrastructure project mentioned in section 10.3. The projects include renovation and/or reconstruction of customs, inspection and quarantine (CIQ) unit buildings, warehouses, goods control buildings, dormitories for customs officers, installation of a closed-circuit television (CCTV) system (Mae Sai border crossing), installation of license plate recognition system (Mae Sai border crossing) and installation of a container inspection system (Mae Sod border crossing). The objectives of these projects are to facilitate crossborder trade and reduce transaction costs and time. The projects will be completed by 2015.

Apart from trade related issues, security is another major concern for CIQ units at Thailand's border crossings. Especially, the Mae Sod border checkpoint at Tak province is one of the important border crossings that Myanmar migrants use to travel to Thailand. The major concerns regarding security at the Mae Sod border checkpoint include drug trade, people trafficking and contagion (Cheewatrakoolpong 2009).

10.5 STATE OF THE FINANCIAL SECTOR RELEVANT FOR INFRASTRUCTURE FINANCING

Thailand is able to finance small infrastructure construction and maintenance projects (Economics Research 2013). For larger projects, Thailand could turn to other partners such as the ADB, the Japanese Bank for International Cooperation (JBIC) and the Japan International Cooperation Agency (JICA). These institutions help to select, prepare and support bankable projects in less developed countries. For promising and approved projects, they may provide grants or give concessional financing. For some infrastructure development projects, agencies might include funds from the private sector and form a public–private partnership (PPP). The private sector may be included to increase the funding or get access to technical knowledge (Bhattacharyay et al. 2012).

Large-scale cross-border projects on Thailand's border have largely been

conducted through the GMS program assisted by the ADB. Since its launch in 1992, the GMS program has facilitated the regional flow of goods and people. The program has linked the countries mainly through sustainable infrastructure investments that are divided into three economic corridors. the North-South, the East-West and the Southern Economic Corridors. In a recent project called the Greater Mekong Subregion Highway expansion, Thailand was able to get a loan from the ADB of \$77.1 million (ADB n.d.). This project will be undertaken by the Department of Highways under the Ministry of Transport and will widen two sections, 105 km and 73 km in length, of two highways in Thailand. The highways are on the GMS East-West Economic Corridor and the GMS Southern Economic Corridor. The GMS program has been successful because it includes many different stakeholders. The main body consists of government agencies and the private sector that can contribute through the GMS Business Forum. Civil society organizations, major foreign aid and funding agencies provide advice and fund projects as well. The member countries have not vet been very successful in including the private sector. From 2009 to 2011, there had been a total of 58 projects and more than two-thirds had been fully paid for by the public sector. Only 3 percent of all projects included the private sector as a source of additional finance. However, almost 30 percent of the financial resources came from a mixture of different stakeholders. The low private sector participation rate may reflect that in some countries the private sector is not yet sufficiently developed to ensure competition for contracts (Bhattacharyay et al. 2012).

Complementarily, the Thai government helps to finance smaller border projects or projects in neighboring countries through the NEDA. The NEDA has granted financial assistance for nine projects in Cambodia, the Lao PDR and Myanmar worth B5512.42 million (NEDA n.d.). The projects are mainly in infrastructure, for example, a 17 km road construction project from Tanaosri Mountain in Thailand to Myawaddy just over the border in Myanmar. A grant of B122.62 million has been agreed. The Mae Sot-Myawaddy road construction is part of a highway that will connect Thailand, Myanmar and India. In the north of Thailand, the NEDA has supported another highway improvement project linking Chiang Rai to Kunming in the PRC via the Lao PDR. The road covers 84 kilometers and is financed under a loan of B1385 million. The road improvements are part of the North-South Economic Corridor under the GMS program and will help to improve connections between Thailand and southern PRC. The project was completed in February 2008. These two projects will foster and enhance opportunities in trade, investment and tourism in the region.

10.5.1 Environment for Public–Private Partnerships and Regulatory Restrictions for Cross-border Infrastructure Projects

Traditionally, Thailand pays for its infrastructure projects through conventional methods, that is, public finance. However, starting in the 1990s, the government invited the private sector to form PPPs in sectors including ports, power and electricity, telecommunications, water and sanitation, and transportation. Public-private partnerships have various benefits and could have a positive effect on the whole economy, if effectively applied. Both partners have learned from previous projects, risks can be managed and evaluated more precisely (Ray 2015), hence private firms may take on more sophisticated projects. Public-private partnership infrastructure projects could be provisioned faster due to smaller overall funding constraints and the overall construction time would decrease as well because of the incentives for a private firm to deliver on time. Overall, the risk for the government decreases and the quality of service may increase. Also, private firms tend to have better management and technical skills, therefore a PPP project may have lower overhead costs. In the near future, Thailand is about to invest heavily in its domestic and cross-border infrastructure. However, major concerns about future public debt constrain the government; currently the debt level is still low, standing at 43 percent of GDP (Thai Government Public Relations Department 2013). In order to complete all the projects and decrease financial pressure, the government may introduce more PPPs.

Out of several smaller and larger infrastructure projects, the expansion of the Laem Chabang port, two toll roads/expresswavs in Bangkok and the main mass transit lines stand out. The model used for these PPPs are build, operate and transfer (BOT) schemes. This means that the private sector first builds the facility, then operates it for a predetermined time and at the end of the concession transfers the operations to the government (Valentine 2009). This is the preferred model so far. The Act on Private Participation in State Undertaking B.E. 2535 (1992 in the Gregorian calendar) is the main reason for the dominance of this model as the law does not clearly state the rights of private companies owning state property. Buildown-operate (BOO) models were deemed outside the law. The new act that came into force on 4 April 2013, the Private Joint Investment in State Undertaking Act B.E. 2556 (2013), clarifies many of the constraints of the old law (Souche et al. 2013). Hence, different types of models of PPPs from the above mentioned may now be possible, like the design-buildfinance-operate scheme widely used in the EU. This model may be applied to transportation projects in road, rail and energy transportation, such as pipelines. In this model, basically all steps are outsourced to the private sector, the company or consortium designing, building, financing and operating the public facility would earn user fees or shadow tolls, which are user fees paid by the government depending on usage. Other shortcomings of the old law that have been addressed are the reduction of timeconsuming procedures, from a minimum of two years to less than one. Different authorities were in charge of different projects and their institutional support was restricted. The newly created agency solely in charge of PPPs, the Committee of Private Investment in State Undertaking, can give more professional support. Also, a more reasonable risk allocation has been implemented, more clearly stating the rules and transferring some of the risks to the private sector. The risk reallocation should address projects that are economically but not financially viable, hence preventing a project remaining unfinished (such as the Hopewell project, which accumulated large debt on the Bangkok Mass Transit System Skytrain project). Regrettably, cross-border PPPs have not been clarified in the law. Presumably, the degree of involvement of the private sector in a crossborder PPP will have to be negotiated each time. How much the consortium can participate will therefore vary, which could hinder participation of smaller private firms, especially from less developed economies.

It is not yet possible to evaluate the new law as it was only introduced in April 2013. The framework changes it introduced to Thailand's PPP environment have to be observed first. The new law has clearly addressed constraints of the former law and will probably foster more PPP projects.

10.5.2 Options for Improving Financial Environment

The predominant way to finance physical infrastructure, especially crossborder infrastructure, is still through the public sector (Bhattacharyay et al. 2012). Hence, if governments could borrow more easily and with lower costs and risks, it would immediately improve the financial environment. Development of a strong local currency bond market is a key method. It would reduce the mismatch of currencies and maturities. Since 2000, Asian economies have strengthened institutions to foster growth in their local currency bond market. Bond markets denominated in their respective local currencies in the ASEAN economies plus the PRC, Japan and Republic of Korea (ASEAN+3) grew rapidly. From 1997 to 2008, the markets grew on average by 30 percent annually, on a dollar base (Asian Bonds Online 2008). Also, introducing the Asian Bond Markets Initiative (ABMI) in 2003 implemented some policies to develop a viable bond market, however, the Asia Bond Monitor (2008, pp. 1-2) added a five-point list to further deepen and stabilize local currency markets. These points (also applicable to the Thai bond market) are:

- bolster investor confidence by strengthening legal protection and thus certainty, improve standards of corporate governance and transparency, and adhere to international accounting standards;
- reduce constraints to market entry and investment, and encourage investor diversity to promote greater demand for local currency bonds;
- develop derivative and swap markets to broaden the investor base, increase market liquidity and allow a wider dispersal of risk;
- improve relevant data compilation and comparison; and
- strengthen broader arrangements for regulatory oversight and regional cooperation in information sharing and in coordinated actions to maintain financial stability.

10.6 CONCLUSIONS AND POLICY RECOMMENDATIONS

10.6.1 Conclusions

In light of changes in Thailand's economic structure, improving connectivity, both soft and hard infrastructure, inside Thailand, within the ASEAN and between South Asia and mainland Southeast Asia, could become the key for its future development. Recent trade trends with its mainland Southeast Asian neighbors support a trend of new connectivity, particularly for border trade with its four main neighboring countries of Cambodia, the Lao PDR, Malavsia and Myanmar. Border trade with these four countries expanded more than the average of trade with other ASEAN countries and Thailand's total trade. Recent developments are helping Myanmar to integrate with the rest of the ASEAN. It remains to be seen how much improving connectivity inside Myanmar could serve Thailand's future trade and development with Myanmar and possibly serve as land connectivity to South Asia, through northeast India. Countries such as the PRC and Viet Nam, although not having an immediate border with Thailand, have also been able to substantially increase border trade with Thailand, particularly with Thai exports to these two countries.

Thailand's outward FDI has surpassed inward FDI for the first time since 2011. This net outflow of FDI is not small in comparison to size of the economy. This new trend raises the question of whether Thailand's outward FDI growth is a temporary cyclical phenomenon or sustainable growth reflecting long-run changes in the structure of the Thai economy. Much of Thailand's outward FDI goes to neighboring countries, reflecting large and small firms looking for new business opportunities.

Connecting Asia

The structural changes of Thailand's economy together with changes in regional policies drive the need for connectivity development. Considering changes in Thailand's economic structure, the shortage of operational workers, a sharp rise in minimum wages, a transition to an aging society, a shift to an outbound investor country and formation of regional production networks with neighboring countries are important factors that drive Thailand to improve connectivity with regional countries. Also, changes in regional policies, such as liberalization and economic reforms in the GMS countries, trade agreements and economic cooperation programs in the region and the transition of Myanmar, are important driving forces for Thailand to enhance connectivity in order to become a logistics hub, to create regional production networks and to develop links with Myanmar.

The development and improvement of Thailand's physical infrastructure are one of the crucial factors to increase competitiveness according to the newest National Economic and Social Development Plan. As a result, the B2 trillion project was launched. The project includes improvement in rail and road links inside the country and among neighboring countries. However, owing to an unconstitutional law and political instability, the project was delayed.

Thailand has several physical transport infrastructure projects linking with Myanmar and India. Most notable is the Dawei Special Economic Zone. However, the project is delayed owing to financing issues. The Thai government also provides low-interest loans and development assistance from NEDA for road construction projects in Myanmar and bridge construction linking Thailand and Myanmar. The India–Myanmar–Thailand highway has been initiated to improve connectivity among three countries.

As for transport and trade facilitation, Thailand has established a logistics development plan in order to improve the country's trade facilitation. The crucial initiatives are to develop the National Single Window and e-logistics. Also, Thailand promotes cross-border transport and trade facilitation, and cross-border and trans-border trade have become increasingly important to Thailand. Such initiatives include the development of special economic zones at borders connecting to Myanmar, the creation of warehouses and customs one-stop services, and the establishment of more permanent border crossings.

With regard to infrastructure financing, Thailand has often turned to other partners for larger projects, leaving smaller infrastructure and maintenance to the domestic producers. Thailand has recently become more active on cross-border projects in the GMS framework to facilitate the regional flows of goods, services and people. For the economic corridors, Thailand's GMS program includes different stakeholders, but the public sector is still the main source of finance. This includes the important part of Thailand's trilateral highway and other smaller projects connecting to neighboring countries. However, the Dawei development project will involve the public sectors of Myanmar and Thailand and the private sector, once the overall design is clear. With Thailand's recent change under the military regime, the project is still on hold.

10.6.2 Policy Recommendations

Strategies toward connectivity

There are many agreements containing connectivity initiatives such as the ASEAN, GMS, ACMECS, MIEC, ASEAN–India FTA and Thailand–India FTA. These agreements, however, have overlapping memberships with different coordinating and governance structures. As a result, the initiatives in several agreements might cause conflicts in the medium and long terms. In the case of physical infrastructure, such as road links, it might be easier to start with the smaller framework agreements such as bilateral agreements or subregional agreements as the member countries usually share a border. The bigger framework agreements such as the ASEAN–India cooperation framework might support the smaller frameworks to fill in the gap to connect several isolated blocs of member countries. The ASEAN–India cooperation framework should also play a role in institutional connectivity to harmonize the legal and regulatory frameworks so that the physical connectivity initiatives in several agreements can complement one another.

Physical infrastructure

The major obstacle of Thailand's physical infrastructure projects 1. comes from the fact that almost all of the projects are included in the B2 trillion project. The project was politically driven by the Phue Thai Party under the Yingluck leadership. As a result, the projects became victims of political chaos in Thailand and the implementation process is now subject to delay. At the time of writing, the B2 trillion loan bill has been put on trial in the Constitutional Court to establish whether it is against the Constitution. In order to guarantee the implementation of the project, any future government needs to make sure the projects and their funding mechanism are transparent and credible, with a proper governance structure. One possible way to reduce the burden of public infrastructure financing is to increase the involvement of the private sector through the creation of PPPs and to award concession contracts to procure projects to the private sector. Also, instead of granting one B2 trillion project at a time, the government may set up medium-term master plan (such as a five-year plan) and prioritize the projects in each budget year instead. In this way, it will allow these projects to move on annually, while keeping to the master plan in the following year of project implementation.

- 2. It is important to have relevant stakeholder consultation, especially with private sectors and local communities, in the process of initiative formation as stakeholder consultation is one of the key success factors for any project initiative implementation.
- 3. Thailand needs to ensure good governance in connectivity initiatives, especially for the financing mechanism.
- 4. Thailand's physical infrastructure initiatives are sometimes established without proper feasibility studies or cost-benefit analysis. As a result, the success and worthiness of the initiatives are questionable. The Dawei development project is one initiative that the private sector is uncertain about its success. As the area for the project development has just started and still not agglomerated, most firms are reluctant to invest there since they doubt whether the project will be constructed for manufacturing activities.

Trade and transport facilitation

- 1. Harmonization of legal and regulatory framework is one of the key success factors of the current connectivity initiatives.
- 2. Since one of the key problems mentioned by shipping companies in Thailand is slow customs procedures in neighboring countries, it is important for Thailand to help the neighboring countries to install EDI systems or paperless customs systems. Offering training or capacity building to customs officers in neighboring countries is also highly recommended to ensure that the countries will have enough customs officers with systems and computer skills.
- 3. It is important to speed up the ratification of the annexes and protocols under cross-border transit agreements so that the single-stop inspection process can be fully implemented. The Thai government should concentrate more on this issue since cross-border transit agreements will help promote trade facilitation at border checkpoints.
- 4. Many of Thailand's border checkpoints do not separate commercial areas from customs, immigration and quarantine areas. As a result, the checkpoints are crowded. Proper management of areas will reduce congestion and facilitate the movement of goods across the border.

Financial sector for infrastructure financing

Thailand has developed its own way of financing national infrastructure. For larger projects, it has turned to other partners, which are often multilateral development banks such as the ADB or bilateral development banks such as the JBIC and the JICA. In working with these institutions, it has helped the whole set of transferable support to make these projects become a reality. This includes funds from the private sector and formation of PPPs.

These projects can be categorized into three types:

- 1. For small domestic projects, the Thai government will take care of its own. Otherwise, the government will form PPPs.
- 2. For small cross-border projects, the NEDA takes care of them. However, these projects could also be jointly provided by overseas development assistance.
- 3. For large-scale projects, particularly in the context of the GMS and the ASEAN, the Thai government often relies on help from major multilateral agencies like the ADB, JBIC and JICA. Otherwise, it could also be in the form of PPPs.

NOTES

- This chapter is an edited version of ADBI Working Paper No. 520 (Chirathivat and Cheewatrakoolpong 2015). For a fuller description of the situation of Thailand, readers may consult the working paper at http://www.adbi.org/files/2015.04.03.wp520.thailand. economic.integration.pdf (accessed 15 May 2015). The authors would like to thank Christoph Odermatt and Kaniknun Na Suwan for assisting in the preparation of this chapter.
- 2. Cambodia, the Lao People's Democratic Republic, Malaysia, Myanmar, Thailand and Viet Nam.
- Division of Economic Information, Department of International Economic Affairs, Ministry of Foreign Affairs, Kingdom of Thailand, Thailand's Economic Fact Sheet (Annual reports for 2002–14) and authors' calculation from Bank of Thailand, External Debt, http://www.bot.or.th/English/Statistics/EconomicAndFinancial/ExternalSector/ Pages/StatExternalDebt.aspx (accessed 25 October 2014).
- 4. The MOU was signed on 19 May 2008.
- 5. The MOU was signed on 23 July 2012.
- 6. The Dawei project is discussed at greater length in Chapter 2.
- 7. The India-Myanmar-Thailand highway project is described in greater detail in Chapter 2.

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Bangladesh: perspectives on deepening cross-border links¹

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11.1 INTRODUCTION

Bangladesh's geographic location between two major regions of Asia – South Asia and Southeast Asia – provides a unique opportunity for the country to benefit from greater cross-border movement of goods and services, investment flows and enhanced human contact. Bangladesh has lost its heritage as a bridge between South Asia and Southeast Asia and is one of the most disconnected countries in the region, deprived of its status as a key node on the silk route (Sobhan 2000). Discussion is shifting toward measures to re-establish Bangladesh's connectivity by developing the Asian Highway (AH) and the Trans-Asian Railway (TAR) network. Improved connectivity will enable Bangladesh to translate the potential opportunities to benefit its economy and people through strengthened subregional, regional and global integration.

This study analyzes connectivity initiatives between Bangladesh and South Asia and Southeast Asia, and proposes suggestions for strengthening those initiatives with a view to reaping the benefits. Section 11.2 presents an overview of the macroeconomic scenario based on key performance indicators. Section 11.3 discusses Bangladesh's strategy toward South Asian and Southeast Asian regional connectivity and reviews the policies and implementation of projects. Section 11.4 deals with the state of customs, trade facilitation and trade finance with a view to identifying the gaps in cross-border soft infrastructure. Section 11.5 discusses energy trading and explores its potential for cross-border trading. Section 11.6 presents the state of financial opportunities for infrastructure and how this could be improved. Section 11.7 assesses the factors that impede or encourage deeper regional connectivity and integration and summarizes the policy recommendations.

11.2 MACROECONOMIC SITUATION OF BANGLADESH AND CURRENT STATE OF DOMESTIC PHYSICAL CONNECTIVITY

11.2.1 Dynamics of Gross Domestic Product Growth and Public and Private Investments

Since the 1990s, in spite of the challenges faced, Bangladesh's macroeconomic performance has been impressive. Trade and economic reforms have given Bangladesh tangible results in growth acceleration, growing domestic investment and higher international trade. Owing to sustained growth, the economy has changed from a predominantly aid-receiving economy to a trading economy. Robust and accelerated economic growth has contributed toward a rise in total and per capita gross domestic product (GDP). The country's share in global GDP has also increased.² Gross domestic product composition shows a growing share of manufacturing and services in contrast to a receding share of agriculture, indicating a transformation in the economy (see details at Rahman et al. 2014).

A consistent rise in domestic investment, particularly private investment, has played an important role in accelerating the pace of GDP growth since the 1990s (by about 1 percent each decade) (CPD 2014). Private investment, as a percentage of GDP, has doubled from 10.3 percent to 20 percent since 1991.

The contribution of foreign direct investment (FDI) to domestic investment is small - at about \$1.2 billion (around 1 percent of GDP) in fiscal year (FY) 2013 (Bangladesh's FY ends 30 June) (World Bank 2013). In 2012, total FDI stock reached \$6.3 billion, which is 2.1 percent of the total FDI stock of South Asia and only 0.48 percent of that of Southeast Asia (Bangladesh Bank 2013). Most investments are targeted toward the domestic market-oriented gas, petroleum, banking and telecommunication sectors, and the export-oriented textiles, clothing and leather sectors. Realized FDI is higher in sectors where domestic supply chains are well established, sourcing of raw materials is easier and where markets are assured (Moazzem 2012). Weak infrastructure related to trade facilitation undermines the interest of both domestic and foreign investors. The low level of FDI inflow is attributed to a number of factors including limited policy support for investors at the pre-establishment phase and the lack of a conducive environment, the scarcity of suitable land, limited availability of gas and electricity, and the lack of well-developed sector-specific supply chains.3

11.2.2 Bangladesh's Bilateral Trade with South Asia and South East Asia

Bangladesh's trade openness has increased over the years with a reduction in tariff peaks, tariff bands and para-tariffs. The average applied and most favored nation (MFN) tariff rates have come down since the early 1990s. from over 80 percent to around 10 percent, in both manufactured and primary products (World Bank 2013).⁴ Besides, duty-free import facilities provided to the export-oriented sectors for raw materials, intermediate products and capital machineries have contributed to incentivizing exportoriented sectors.⁵ Exports' share in GDP increased from 5.5 percent in 1991 to 20.9 percent in 2013; imports' share increased from 11.3 percent to 26.4 percent over the same period. However, Bangladesh is facing challenges in realizing its potential opportunities in the global market owing to gaps in skills, the weak state of product and process upgrading, and shortcomings in raising competitiveness. Other external sector variables, particularly inward remittances, inward FDI and official development assistance have contributed towards maintaining favorable state of balance of payments, particularly the current account component.

11.2.3 Trade with South Asia and Southeast Asia

Bangladesh's trade with South Asia and Southeast Asia has been rising since the early 2000s, and about 40 percent of total trade currently takes place with these regions. The operation of the South Asian Free Trade Area (SAFTA) since 2006 and duty-free market access for most products in the Indian markets since 2011 have created opportunities for greater trade with South Asia, particularly with India (Rahman et al. 2010).⁶ However, the share remains low. Various tariff and non-tariff barriers lead to bottlenecks that impede greater intra-regional trade. Pruning the sensitive lists of SAFTA member countries will help greater trade flows within the region (Moazzem and Basak 2013). Southeast Asia is increasingly becoming a major source of imports for Bangladesh (Table 11.1). Both these regions are important not only for Bangladesh but also for other South Asian countries as a source of imports, particularly for raw materials, intermediate products and capital machineries (Chandra and Kumar 2008). Rahman et al. (2014) elaborate the nature and extent of importance of regional countries as export destinations and import sources for Bangladesh.

Bilateral trade potential between Bangladesh and South and Southeast Asian countries is high not only with existing major trading partners within the regions but also with other non-traditional trading partners (Rahman et al. 2014). For example, Bangladesh and Myanmar have insignificant bilateral

| Trade indicator | 2005 | 2013 |
|---|-------------|------|
| Selected region's share in Bangladesh's total | exports (%) | |
| Southeast Asia | 2.2 | 1.2 |
| South Asia | 2.0 | 1.9 |
| Rest of the world | 95.8 | 96.9 |
| Selected region's share in Bangladesh's total | mports (%) | |
| Southeast Asia | 15.4 | 18.4 |
| South Asia | 15.7 | 20.4 |
| Rest of the world | 68.9 | 61.1 |
| Selected region's share in Bangladesh's total | trade (%) | |
| Southeast Asia | 9.8 | 15.3 |
| South Asia | 9.9 | 17.3 |
| Rest of the world | 80.3 | 67.4 |

Table 11.1Bangladesh's trade with South Asia and Southeast Asia,2005 and 2013

Source: UN Comtrade Database (2013).

trade (\$91.8 million in 2010). However their potential trade was about 2.9 times higher (\$270 million) compared to the existing level (UN Comtrade 2013). The development of cross-border connectivity between these two neighboring countries will open up opportunities to further enhance trade.

11.2.4 Free Trade Agreements with Other Countries

Bangladesh, as a least developed country (LDC),⁷ enjoys preferential market access in developed countries under unilateral schemes such as the European Union (EU)–Everything but Arms, United States (US) generalized scheme of preferences (GSP),⁸ Canadian GSP, Japanese GSP and the People's Republic of China's (PRC) GSP; and in regional trading agreements such as SAFTA, the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and the Asia–Pacific Trade Agreement (APTA). These schemes provide duty-free market access for most of the products with favorable rules of origin. High MFN tariff rates on some Bangladesh exports to Southeast Asian markets have constrained enhancing its exports in these markets (Rahman et al. 2010; Moazzem et al. 2014). The bilateral trade potential of Bangladesh's top 50 export products reveals the possibility of developing economic partnerships with countries including India, Singapore and Malaysia (Moazzem et al. 2014).

Some new developments relating to trade alliances will have implications for Bangladesh. The Trans-Pacific Partnership (TPP).⁹ the Trans-Atlantic Trade and Investment Partnership, the Regional Comprehensive Economic Partnership (RCEP), and cross-regional free trade agreements (FTAs) such as the India-Association of Southeast Asian Nations (ASEAN) FTA and India-EU FTA, are at various stages of negotiation. Since Bangladesh is not party to any of these initiatives but has strong trade and investment links with countries that are part of such initiatives (for example, the US, Canada, the PRC, India and Japan), these are likely to have a significant impact for Bangladesh and other similar developing economies (Palit 2014). First, they could undermine the competitiveness of developing countries for similar products through significant preference erosion. Secondly, these mega regional trade agreements are likely to set high standards in labor compliance, trade-related intellectual property rights assurance, intellectual property rights, investment regimes, financial services, copyright and patent requirements, sanitary and phytosanitary measures, and technical barriers to trade compliance. Developing countries may find that their market access is constrained because of a lack of flexibility in compliance with high standards in those markets. Thirdly, these powerful blocs will create pressure for plurilateral agreements that could undermine developing country interests in the backdrop of the single undertaking nature of the World Trade Organization (WTO) negotiations and decisions. Keeping in mind their offensive and defensive interests, Bangladesh will need to decide whether to remain engaged with these emerging blocs.

11.3 COUNTRY STRATEGY TOWARD PROMOTING REGIONAL CONNECTIVITY

According to Bangladesh's Sixth Five Year Plan (2011–15) and Ten Year Perspective Plan (2011–20), effective regional connectivity and better trade facilitation are being given higher prominence at the policy level (Planning Commission 2011; Srinivasan 2012). Bangladesh is a member of regional and subregional trade arrangements and initiatives that include cooperation in trade, investment, trade facilitation and connectivity. New initiatives including the South Asia Trade in Services focus on liberalizing services. The BIMSTEC FTA is another preferential market access initiative where Bangladesh is a member, and which gives a window to ASEAN in the east.¹⁰

11.3.1 Major Policies Promoting Regional Transport Connectivity

The Sixth Five Year Plan sets out a strategy for market integration through developing transport network at the domestic and regional levels. The plan includes the development of inter-modal transport networks linking the two seaports with neighboring countries by increasing the capacity to handle the expected cargo flows. This includes development of the Chittagong and Mongla seaports and their links with Dhaka and neighboring countries; the establishment of rail links between the east and southwest; investment in rolling stock, modern traffic, and safety equipment; converting narrow to broad gauge tracks to harmonize with neighboring countries and allowing cross-border movement of vehicles.

The Padma Bridge will connect the east part with the rest of Bangladesh and will play an important role in the context of regional connectivity with India, Nepal and Bhutan. The plan emphasizes Bangladesh's participation in global and regional transport connectivity initiatives to develop land routes between South Asia and East Asia through Bangladesh. According to the Ten Year Perspective Plan, Bangladesh will develop infrastructure such as roads, railways, and ports that will allow it to be connected to the Asian Highway Project being implemented by UNESCAP.

11.3.2 Regional and Bilateral Strategies Promoting Transport Connectivity

SAARC multimodal connectivity

The South Asian Association for Regional Cooperation (SAARC) Secretariat conducted the Regional Multimodal Transport Study to enhance transport connectivity among member countries through strengthened transportation, transit and communication links across the region. In the case of regional road corridors, the study put forward suggestions to develop transport and transit agreements between India, Bangladesh and Pakistan for the movement of freight, improvement of roads to reduce transit costs and development of modern border crossings between India and Bangladesh to facilitate transit. In the case of rail corridors, the study proposed standardizing technologies including track, rolling stock, signaling, and coordination (SAARC Secretariat 2006). Regional inland waterways are to be developed through the signing of protocols. More ports of call are to be introduced in Bangladesh to ease inter-country traffic with India. Maritime gateways are to be developed through expanding the capacity of Chittagong port, planning and augmenting rail, road and pipeline connectivity in all ports, and dredging to maintain water depth in Chittagong. With regard to regional aviation gateways, suggestions were put forward for the promotion of the low-cost carrier concept.

During the eighteenth SAARC Summit held in Kathmandu in November 2014 significant progress was made with regard to finalizing the SAARC Motor Vehicles Agreement and SAARC Regional Railways Agreement. Member countries agreed to finalize those agreements by February 2015.

BIMSTEC Transport Infrastructure and Logistic Study

With a view to building and strengthening connectivity, the BIMSTEC Transport Infrastructure and Logistics Study came up with a strategy to promote Bangladesh's transport links to BIMSTEC member countries (ADB 2008). The study's suggestions included strategies for the development of integrated regional rail networks between Bangladesh and India which would facilitate access of both the countries to Myanmar and Thailand, and the study carried out cost assessments for building dual gauge rail connection in Bangladesh and an inland clearance depot in Tongi for the Dhaka metropolitan area. Other suggested areas included initiatives for restoring the railway line between Chilahati and Haldibari, developing the rail link between Dhaka and Chittagong, improving railway freight services and a container service network linking Kolkata, Siliguri/ New Jalpaiguri, Tongi and Chittagong.

11.3.3 Bilateral Strategy for Connectivity

Bangladesh–India connectivity

The scope for strengthening connectivity between Bangladesh and India was established through the signing of joint communiqués by the respective government heads in 2010 and 2011. The first communiqué, signed in 2010, put emphasis on extending cooperation in roads, rails, ports and waterways connectivity agreed by both countries. According to the communiqué, Bangladesh will allow the use of Mongla and Chittagong seaports for movement of goods to and from India through road and rail. The Rohanpur-Singabad broad gauge railway link would be available for transit to Nepal. Bangladesh showed interest in converting the Radhikapur-Birol railway line to broad gauge and requested that a railway transit link be established with Bhutan as well. India gave Bangladesh a line of credit worth \$1 billion for a range of projects, including the development of railway infrastructure, supply of broad gauge locomotives and passenger coaches, and strengthening of the Bangladesh Standards and Testing Institution. Furthermore, it talked of amending the inland water transit and trade protocol through exchange of letters and removing tariff

and non-tariff barriers. Subsequent developments also include signing of the coastal vessels agreement to facilitate bilateral trade through coastal waterways. As per the agreement, Bangladesh is buying from India 500 megawatts (MW) of electricity, which will be gradually raised to over 1000 MW.

Bangladesh–Bhutan connectivity

In April 2013, a joint statement signed by the Foreign Secretaries of Bangladesh and Bhutan reiterated the stand of the two countries to put in place better connectivity to foster trade, commerce and investment. It was agreed that connectivity between the two countries would be discussed in a subregional context involving Bangladesh, Bhutan and India. Both countries agreed to form a joint working group to finalize a transit agreement and its protocols. In addition to the existing Burimari–Chengrabandha and Tamabil–Dawki land customs stations (LCSs), it was also agreed to establish additional LCSs (Dalu–Nakugaon and Gobrakura and Koraituli in Haluaghat, opposite Ghoshuapara in India).

Bangladesh–Nepal connectivity

Bangladesh and Nepal signed a transit protocol in 1976 to facilitate movement of goods. However, this was not implemented as India had concerns regarding the movement of goods through Indian territory. The Bangladesh–India joint communiqué now allows trucks from Bhutan and Nepal to enter about 200 meters to the zero point at Banglabandh, at the Banglabandh–Phulbari LCS. Bangladesh and Nepal signed an agreement to set up a timeframe to conclude operational modalities for the movement of vehicles between them. Emphasis was given on promoting connectivity through the Rohanpur–Singhabad railway and the Kakarvitta–Phulbari road and maximum utilization of these routes. Bangladesh is taking initiatives to open a new land route to Nepal and will offer Mongla port for export of goods by Nepal to third countries.

Bangladesh-Myanmar connectivity

A joint statement, issued at the meeting of the heads of governments of the two countries in Myanmar in 2012, highlighted bilateral cooperation on trade, investment, and connectivity. They have signed two accords on bilateral cooperation: (1) an agreement to establish a joint commission for bilateral cooperation between the two governments; and (2) a memorandum of understanding on setting up a cooperation commission office between the federations of chambers of commerce and industry. To develop connectivity between Bangladesh and Myanmar, the two countries signed an agreement to construct a road from Gundum, Bangladesh to Bawalibazar, Myanmar. Also, the construction of a link road from Bangladesh to Myanmar is in progress.

11.3.4 Government Actions to Implement Policies related to Connectivity

Status of implementation of projects

Bangladesh's *Road Master Plan* (Roads and Highways Department 2009) identified 23 projects including roads, bridges and ports, most linking with regional connectivity projects (Rahman et al. 2014). Major corridors are the Dhaka–Chittagong Four Lane, Dhaka–Mymensingh Four Lane, Dhaka–Tangail Four Lane, Jessore–Benapole Four Lane, Second Meghna Bridge, Second Meghna Gumati Bridge, Padma Bridge, and a deepwater port.

In connection with the plan and the agreement signed between Bangladesh and South Asian and Southeast Asian countries, some projects are being implemented and others are still under negotiation. Bangladesh and UNESCAP signed an agreement in November 2009 on connecting the Asian Highway through three road links: (1) Benapole–Jessore– Bhanga–Dhaka–Kachpur–Sylhet–Tamabil (AH1); (2) Banglabanda– Hatikamrul–Tangail–Dhaka–Kachpur–Sylhet–Tamabil (AH2); and (3) Mongla–Khulna–Jessore–Paksi–Hatikamrul–Dhaka–Kachpur–Comilla– Chittagong–Coxsbazar–Teknaf (AH41). Both AH1 and AH2 are international routes and AH41 is a subregional route. The total road length is 2052 kilometers (km). As part of this network, new roads will need to be built including the Benapole–Jessore–Bhatiapara (98 km) and Bogra– Natore (62.8 km) roads.

Other projects being considered include the construction of missing links in the Asian Highway and bridges over some of the prominent rivers, upgrading national highways to four lanes, implementing internationally designated signaling systems and safety measures along the Asian Highway routes, and developing a database on road safety for the Asian Highway. The government is also mobilizing foreign assistance for building other projects related to the Asian Highway, including the construction of Padma Bridge along AH1 and the construction of the Second Meghna and Meghna–Gumti Bridge along AH41.

As part of the India–Bangladesh connectivity agreement, five roadrelated projects are being implemented (Rahman et al. 2014). These projects include the purchase of 300 double-decker and 50 articulated buses for the Bangladesh Road Transport Corporation, development of the road that connects the land port (Sarail–Brahmanbaria–Akhaura–Senarbadi road), construction of an overpass at the Jurain rail crossing and a flyover at the Malibagh rail crossing, and construction of the Ramgarh–Sabroom

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land port (Tripura southern border). Most of the projects are yet to be implemented.

The road projects linking Bangladesh with Southeast Asia have not yet started. Bangladesh and Myanmar have signed an agreement on the construction of a 25 km road link between Gundum in Bangladesh and Baowalibazar in Myanmar. This link will facilitate the road network to Kunming in the PRC. However, a 135 km road project for the Baowalibazar–Kyauktaw segment needs to be implemented in two phases to make the connection (25 km long Ramu–Boawalibazar road and 110 km long Baowalibazar–Kyauktaw road). The Bangladesh government has allocated \$650000 to undertake a study for this project that was supposed to be implemented in 2011. However, no money was spent during the project timeline.

Bangladesh and Nepal have agreed to finalize a deal on operational modalities for goods-carrying vehicles as part of providing a transit facility to Chittagong and Mongla ports by the end of 2013. Both countries have agreed to begin a Dhaka–Kathmandu–Dhaka bus service. Quick implementation is needed of the Kakarbhitta–Panitanki–Phulbari–Banglabandh corridor to allow Nepalese trucks to travel to the Banglabandh port to put the transit facility into operation.

Status of implementation of rail sector projects

The National Land Transport Policy articulates the plan for the development of the rail sector; the policy promotes the development of international rail networks and services. The government has undertaken a long-term plan for investment worth \$15 billion by 2030; a large share of the required financial resources is to be underwritten by development partners.

At present, 44 projects are planned for implementation, with support coming mainly from India, the Japan International Cooperation Agency and the ADB. The plan will be implemented in three phases, including constructing new tracks, improving the signaling system, procuring locomotives and coaches, and expanding domestic and international rail networks. The third phase includes linking Cox's Bazar with the proposed deepwater port at Sonadia. The ADB is financing some of these projects.

Although a number of projects were included in the annual development program related to the development of the rail sector, implementation of those up to December 2012 has not been satisfactory (Table 11.2). Indeed, many of the projects may not get the needed funds unless the implementation period is extended.

Under the India-Bangladesh agreement, some rail network projects are being implemented, however, progress has not been satisfactory

| Pro | ject name | Project cost (Tk million) | Implementation period | Source of finance | Implementation as of December 2012 (%) |
|------|-------------------|------------------------------|--------------------------|-------------------|---|
| Bai | ngladesh Railway | 22880.1 | 1 Jul 2006–30 | ADB | |
| Sec | tor Improvement | (\$294.3 million) | Jun 2014 | | |
| Pro | oject | | | | |
| a) | Double lane | 626.6 | 1 Jul 2006–30 | ADB | 33.2 |
| | from Tongi– | (\$8.06 million) | Dec 2014 | | |
| | Bhoirob Bazar | | | | |
| | with signaling | | | | |
| b) | Reform of | 2512.5 | 1 Jul 2006–30 | ADB | 19.2 |
| | Bangladesh | (\$32.32 million) | Jun 2014 | | |
| | Railway | | | | |
| Ra | ilway sector | 4657.9 | 1 Jul 2012–30 | ADB | 7.0 |
| im | provement under | (\$59.91 million) | Jun 2015 | | |
| sec | ond periodic | | | | |
| fina | ancing request of | | | | |
| AD | B (included in | | | | |
| anr | ual development | | | | |
| pro | gram for FY2015) | | | | |

 Table 11.2
 Ongoing approved projects under revised annual development program, fiscal year 2012–13

Note: ADB = Asian Development Bank; Tk = taka.

Source: Bangladesh Ministry of Planning (2013).

(Table 11.3) (Rahman et al. 2014). The timelines have expired for some projects, and funds will not be available if these are not revised. On the other hand, the Indian Railway Construction Company and Northeast Frontier Railway have jointly started alignment works of the Agartala–Akhaura rail link.

As part of the rail link with Nepal, Bangladesh will provide an additional rail corridor to Nepal through the Rohanpur–Singhabad broad gauge line to boost bilateral trade and transit. However, an agreement between Nepal and India is necessary to avail of this facility, which India has indicated that it is ready to offer.

Status of implementation of land and sea ports projects

Although an internal container river port is to be developed at Ashuganj by 2013, at March 2014 only 0.16 percent of the funds had been allocated (Rahman et al. 2014). There is a need to set a revised timeline for

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| Project | Project cost (Tk million) | Implementation period | Cumulative expenditure (up to Dec. 2012, Tk million) | Status of implementation (% of total project cost) |
|---|------------------------------------|-----------------------------|--|---|
| Procurement of 125 broad gauge passenger coaches | 3532.5 (\$45.43 million) | 1 Aug. 2010–30 Jun 2013 | 0.2 | 0.01 |
| Procurement of 10 broad gauge diesel locomotive engines | 2086.1 (\$26.83 million) | 1 Aug. 2010–30 Jun 2013 | 852.2 | 40.85 |
| Procurement of 50 flat wagons for container traffic and 5 MG brake vans | 313.8 (\$4.03 million) | 1 Aug. 2010–31 Dec. 2013 | 1.6 | 0.51 |
| Construction of 2 railway bridges: second Bhairab bridge and second Titas bridge | 9592 (\$123.37 million) | 1 Nov. 2010–30 Jun. 2014 | 89.3 | 0.93 |
| Procurement of 180 BG oil tank wagons and 6 BG brake vans | 1954 (\$25.13 million) | 1 Aug. 2010–31 Dec. 2013 | 752 | 38.49 |
| Procurement of 150 MG passenger car | 5563.1 (\$71.55 million) | 1 Dec. 2010–30 Jun. 2012 | 0.3 | 0.01 |
| Construction of rail line from Khulna to Mongla including feasibility study | 17 243.7 (\$221.78 million) | 1 Dec 2010–31 Dec. 2013 | 423 | 2.45 |
| Procurement of 170 MG BFCT and 11 MG brake vans for Bangladesh Railway | 966.1 (\$12.43 million) | 1 Dec. 2010–31 Dec. 2013 | 0.3 | 0.03 |

 Table 11.3
 Status of implementation of rail sector projects

| Project | Project cost (Tk million) | Implementation period | Cumulative expenditure (up to Dec. 2012, Tk million) | Status of implementation (% of total project cost) |
|---|------------------------------------|-----------------------------|--|---|
| Procurement of 264 MG coach and 2 BG inspection cars for Bangladesh Railway | 9832.5 (\$126.46 million) | 1 Dec. 2010–31 Dec. 2012 | 0.3 | 0.00 |
| Procurement of 30 BG electric locomotives | 6078 (\$78.17 million) | | 1243.8 | 20.46 |
| Procurement of BG diesel electric multiple unit for Bangladesh Railway | 3313.2 (\$42.61 million) | 1 Dec. 2010–30 Jun. 2015 | 0.1 | 0.00 |
| Procurement of 100 MG tank wagons and 5 MG brake vans including air brake (for transporting aviation fuel) | 770.8 (\$9.91 million) | 1 Dec 2010–30 Jun. 2013 | 0.5 | 0.06 |

Table 11.3 (continued)

Note: BFCT = bogie flat container wagon; BG = broad gauge; MG = meter gauge; Tk = taka.

Source: Bangladesh Ministry of Planning (2013).

implementation and allocation of funds for this project. The feasibility study for establishing a deepwater port at Sonadia has been carried out. The PRC, Japan, India, the United Arab Emirates, the Republic of Korea, Denmark, Germany and the Netherlands have expressed interest in investing in the port (Islam 2014). However, the government has not yet decided on any option to implement this mega project. This issue was discussed during the visit of Bangladesh's Prime Minister, Sheikh Hasina, to Japan and the PRC during May and June 2014.

11.4 STATE OF CROSS-BORDER PHYSICAL TRANSPORT INFRASTRUCTURE

11.4.1 Bangladesh's Position on Transit with Regional Countries

Cross-border transit is a component of the broader issue of connectivity. The discourse regarding transit has gained momentum, particularly in the context of Bangladesh–India relations. The major issue relates to movement of goods from west to northeast India through Bangladesh (Dhar et al. 2011). On the other hand, Bangladesh would like access to Nepal and Bhutan through India. Indeed, Nepal and Bhutan also have interest in accessing Bangladeshi ports for trade with third countries by taking advantage of road and rail transit through India. India allows Nepal and Bhutan to transit through its territories for trade purposes. This allows them to trade with Bangladesh through rail and road connections, and also to export and import goods through Bangladesh to third countries.

Following the signing of the 2010 joint communiqué, Bangladesh–India connectivity talks have made progress but have stalled, most notably owing to lack of an agreement on water sharing of some of the common rivers. An issue that needs addressing relates to service charges and user fees of transit facilities (including customs service charges, foreign vehicle entry fees, and charges for land acquisition, load damage, road agency administration, security, congestion, emission and noise). Bangladesh has identified some feasible transit routes, primarily based on distance, travel time and financial cost advantage. It is found that water and rail transport have a cost advantage for bulk goods movement, whereas road transport is better for high-value goods. In this context, routes that could be put into operation in the shortest possible time have also been identified.

There is agreement that, if well crafted and based on benefit sharing, transit could be advantageous for both countries. They need to reach a consensus on service charges and user fees that will cover the costs to be incurred over the years for using the infrastructure. However, developing the routes will involve significant investment, particularly because Bangladesh's current transport system is not ready for the additional traffic that will be generated from any transit agreement with India. Bangladesh should prepare a comprehensive action plan to develop transit-related infrastructure with resources needed for improving the existing infrastructure and for undertaking regular maintenance.

11.4.2 Condition of Cross-border Roads

Roads are the predominant mode of transport in Bangladesh, accounting for 80 percent of total traffic.¹¹ Bangladesh's road quality does not correspond to the Asian Highway standards. The roads are classified as 'primary', 'class I', 'class II', 'class III' and 'below class III'. Standard primary roads in Bangladesh are limited in length, unlike in India and to some extent in Myanmar (Table 11.4). However, the condition of Bangladesh's roads has improved. In 2004, 75 percent of total roads were classified class III and below; by 2012, this had fallen to 6.5 percent. During the same period, the percentage of class II roads increased from 24 percent to 89 percent. India recorded better progress during the same period the percentage of class I roads increased from 4 percent to 34.5 percent (UNESCAP 2012). Bangladesh's road network is not suitable for handling modern diversified vehicles (World Bank 2013). This gap is felt in transporting containers on Dhaka-Chittagong roads, thus constraining trading activities (ADB 2008). Severe congestion is a prominent feature of highways from Dhaka to other districts. In cross-border road connectivity, a harmonizing standards signaling system and protocols need to be ensured through the signing of a motor vehicle agreement with India.¹²

Of 83 km of road below class III standard, 36 percent is under AH1 and 63 percent under AH2, both class III or below (ADB and ADBI 2015). In view of the low standard of some roads in Bangladesh, several projects have been identified for development on a priority basis, including Daukandi–Chittagong (upgrading to four lanes) (AH41, 246 km), Chittagong–Cox's Bazar–Ramu–Gundam (AH41, 186 km), Beldanga–Panchagarh (AH2, 77 km), Dasuria–Paksi–Kustia (AH4, 138 km) and Jhenidah–Jessore (AH41, 45 km). Work on these is ongoing, but with significant delays.

The condition of cross-border roads, particularly with India and Myanmar, is below the needed standard and undermines the interests of bilateral and regional trade and investment. Out of the seven identified corridors, most face two kinds of constraints – generic and specific. Two generic impediments for cross-border movement of goods between India and Bangladesh are (1) lack of agreement on cross-border movement of goods causing time loss and high costs, and (2) Bangladesh roads are unsuitable to take loads over 8.2 axle weight. Other impediments are limited working hours and no work during weekends leading to delays, limited numbers of clearances given to vehicles, absence of permanent immigration and customs officers at crossing points, and lack of adequate communication facilities.

| Country | | Primary | y | | Class I | | - | Class II | _ | C | Class III | _ | Belov | 3elow Class III | s III | | Total | |
|------------|------|---------|----------|------|---------|-------|------|-----------|-------|-------|-----------|-------|-------|-----------------|-------|-------|-------|-------|
| | | (km) | | | (km) | | | (km) | | | (km) | | | (km) | | | (km) | |
| | 2004 | 2008 | 2010 | 2004 | 2008 | 2010 | 2004 | 2004 2008 | 2010 | 2004 | 2008 | 2010 | 2004 | 2008 | 2010 | 2004 | 2008 | 2010 |
| Myanmar | 0 | 0 | 0 | 147 | 173 | 147 | 14 | 35 | 0 | 983 | 1585 | 1798 | 1729 | 1216 | 1064 | 3003 | | 3009 |
| Bangladesh | 0 | 0 | 0 | 20 | 92 | 68 | 441 | 1648 | 1574 | 476 | 0 | 32 | 868 | 25 | 83 | 1805 | 1765 | 1757 |
| India | 0 | 90 | 90 | 484 | 4069 | 4069 | 0 | 1675 | 1675 | 10869 | 5699 | 5699 | 105 | 117 | 117 | 11458 | 11650 | 11810 |
| Share (%) | | | | | | | | | | | | | | | | | | |
| Myanmar | 0 | 0 | 0 | 4.9 | 5.7 | 4.89 | 4.8 | 1.2 | 0 | 32.7 | 52.7 | 59.75 | 57.6 | 40.4 | 35.36 | 100 | 100 | 100 |
| Bangladesh | 0 | 0 | 0 | 1.1 | 5.2 | 3.86 | 24.4 | 93.4 | 89.33 | 26.4 | 0 | 1.82 | 48.1 | 1.4 | 4.71 | 100 | 100 | 100 |
| India | 0 | 0.8 | 0.76 | 4.2 | 34.5 | 34.45 | 0 | 14.2 | 14.18 | 94.9 | 48.3 | 48.26 | 0.9 | 1.0 | 0.99 | 100 | 100 | 100 |

| 0 |
|------------|
| 2004–1 |
| years, |
| selected |
| of roads, |
| of |
| Condition |
| Table 11.4 |

Note: km = kilometer. *Source:* UNESCAP (2012).

11.4.3 Railway Transport

Bangladesh has a railway network of 2835 km with 710 million tons (per km) of goods transported each year (World Bank 2013). The railway sector has potential for regional connectivity if gauge size, track structure and signal constraints are addressed. The broad gauge rail corridors between Bangladesh and India are not active (Rahmatullah 2006, 2009). The Bangladesh railway sector faces other challenges including non-utilization of available capacity in India owing to trade on one side, and restrictions on the movement of commodity-specific rolling stock including open freight wagons, oil tanks and containers.

11.4.4 Inland Waterways

The Bangladesh–India water protocol, in place since the 1970s, has been extended up to 2015 through the Inland Water Transit and Trade Treaty. Inland waterway connectivity between India and Bangladesh faces challenges. The lack of an adequate number of ports of call in Bangladesh impedes the movement of goods between the two countries. Other constraints in Bangladesh are old vessels, poor navigation aids, outdated jetties, the lack of dredging and siltation. Lack of equipment and skilled personnel also undermines the interest in trading through waterways.

11.4.5 Maritime Transport

The principal maritime port of Bangladesh is Chittagong, handling about 95 percent of the country's seaborne exports. The port's facilities cannot meet the challenges of lower turnaround times and cost-effectiveness. The width, curvature, and draft of the Karnaphuli River limit the size of vessels that can enter the port. Constraints also prevail in terms of institutional efficiency and operations (ADB and ADBI 2015). Furthermore, there are bottlenecks in the road and rail traffic from the port to Dhaka. Mongla is Bangladesh's second port. The port lacks required container handling equipment. Connectivity of this port with other parts of Bangladesh and neighboring countries is weak owing to lack of economic activities and low levels of industrial development of the adjoining region and the hinterland.

11.4.6 Air Transport

Air connectivity between Bangladesh and South Asia and Southeast Asia is underdeveloped. Poor infrastructure (such as runways, navigational facilities, ground services and modern amenities), lack of skilled manpower and poor management have weakened the prospects of the airports emerging as major hubs linking South Asia and Southeast Asia. During emergencies, exporters have to send products on air cargo flights. However, inefficiencies lead to escalating costs. Significant investment is needed to develop Bangladesh as a regional air hub.

11.5 STATE OF TRANSPORT ADMINISTRATION AND TRADE FACILITATION

11.5.1 Management of Transport Sector related to Regional Connectivity

Cross-border connectivity concerns mainly roads and highways. Land ports are important for cross-border connectivity, particularly for Bangladesh's trade with India and, to some extent, with Myanmar. Some of the 24 land ports are operated and controlled by the Land Port Authority, while others are operated by private agencies under the build, operate and transfer (BOT) system. The government is planning to privatize three more land ports under a 25-year BOT arrangement to boost cross-border trade this year.¹³ Bangladesh plans to set up four new land ports in northern, eastern, and western border areas to speed up cross-border trade with India.¹⁴ The Land Port Authority has undertaken the South Asia Subregional Economic Cooperation (SASEC) Road Connectivity Project, 'Improvement of Benapole and Burimari Land Ports', to help expand cross-border business with Bhutan and Nepal. The authority has upgraded the loading and uploading facilities, customs, laboratories, warehouses and infrastructure facilities to assist cross-border movement of goods.

11.5.2 The State of Customs and Trade Facilitation in Bangladesh

The World Bank's Logistic Performance Index ranks countries in terms of logistical performance in international trade. In 2014, Bangladesh was ranked 108 out of 160 countries, which has weakened since 2010 when it was ranked 79 out of 155 countries. Bangladesh's performance is good in timeliness, while poor in customs, infrastructure, and tracking and tracing. India is ahead of Bangladesh in infrastructure, logistics, international shipments and other performance indicators (World Bank 2014). Bangladesh will need to significantly improve its logistical performance. However, there is a need for improvement on the other side of the border as well if cross-border trade is to be facilitated. This is true particularly for Myanmar where trade logistics are underdeveloped as revealed by the logistics competence indicators. However, regarding trade with India, significant improvements will be needed as was articulated in a recent study by Rahman and Akhter (2014).

Customs and logistics at the border points between Bangladesh, India, Nepal and Bhutan

Most operations involving cross-border trade in South Asia are carried out through manual processes, with about 80 percent of documents handled manually. The process for exporting from Bangladesh is more cumbersome compared to that of imports involving both public and private sector parties. The number of documents required for export and import with Nepal and Bhutan to Bangladesh ranges from 22 to 36, and the number of copies required is also high, ranging from 44 to 115 copies. Improvements are required toward more export–import friendly processes concerning border crossing points in Nepal and Bhutan.

In October 2013, Bangladesh and India signed an agreement on greater trade facilitation, including allowing trucks to unload goods up to the land customs stations of the importing countries, synchronizing office hours and days at customs offices, exchanging export–import related information, discouraging the mis-declaration of traded goods, and allowing freer movement of customs officials between land customs stations. The two countries have also agreed to develop related infrastructure at customs points and strengthen certification-related capacities.

Strengthening human resources and technical capacities toward a wellendowed customs management system remains a major and continuing challenge for Bangladesh. Since 2008, some measures have been adopted to simplify business processes relating to export and import, for example, increasing computer literacy of customs officials, computerizing processes, reducing the number of signatures needed for clearance of consignments and lowering the frequency of inspection of the goods being traded. The automation of customs processes should be extended to all land ports and ports of call in inland waterways. There is a need to set up a national trade facilitation task force to form initiatives to reduce problems related to documentation requirements and onerous export-import processes. open land customs stations, facilitate shipment insurance and promote e-communication for obtaining permission and certification (Hossain and Rahman 2011). Taking into account cross-border trade with SASEC countries, the synchronization of cross-border customs should get priority and a national single window for trade could be introduced. Regulatory barriers that impede trade across borders should be removed. Coordination activities of customs authorities on both sides of land borders should be given priority.

World Trade Organization Agreement on Trade Facilitation

One of the major outcomes of the WTO ministerial conference held in Bali, 3-7 December 2013, is the Agreement on Trade Facilitation. While there is consensus that the gains from improved trade facilitation will be significant, there is also a concern that developing countries such as Bangladesh will need to invest heavily if they are to comply with the provisions of the agreement. Developing countries will have to comply with some of the provisions immediately: other provisions will be subject to the availability of the needed financial and technical support. Thus, putting in place measures to improve trade facilitation will become increasingly mandatory for developing countries. Keeping in view the potential benefits as well as the WTO commitment, developing countries such as Bangladesh will need to give priority to initiatives to strengthen their trade facilitation. Owing to disagreement among member countries on some of the key issues, implementation of the Bali Package is likely to be delayed, although recent rapprochement between India and the US has given rise to new hopes in this context.

11.6 FINANCING CONNECTIVITY PROJECTS

Building the physical infrastructure needed for efficient movement of goods across the South Asian and Southeast Asian regions requires significant financial resources. A national plan (*Road Master Plan* – Roads and Highways Department 2009) for the transport sector provides an estimate for the required resources for building roads and railways related to cross-border connectivity. The resources are to be sourced from domestic resources, foreign finance, or through public–private partnerships (PPP). The Indian \$1 billion line of credit is supporting a number of projects to facilitate India–Bangladesh bilateral trade. However, the ADB has allocated funds for some cross-border road, rail and energy sector projects. This section focuses on projects envisaged under major transport connectivity plans and their financing commitments.

11.6.1 Financial Requirements

The *Road Master Plan* (Roads and Highways Department 2009) identified 46 major projects to be developed by 2030. These include a number of cross-border regional connectivity and related projects, such as the Asian Highway, Padma Bridge, the Dhaka–Chittagong four-lane road, and the Dhaka–Tangail road. The cost of those projects is estimated to be about \$5363 million (Table 11.5 lists the major projects). However, actual

| Projects | Required funds (\$ million) | Suitability for development partner's support or for private funding |
|--------------------------|--------------------------------|--|
| Axle load control | 41.3 | World Bank proposed |
| Jessore–Benpole N8 | 42.5 | Not yet decided |
| Meghna–Gumti Bridge N1 | 83.9 | Private |
| Deepwater Port | 51.6 | Private |
| Meghna–Daudkandi Bridge | 96.8 | Private |
| Dhaka–Chittagong Highway | 24.0 | Private |
| Dhaka–Tangail | 89.0 | Private |
| Landport connections | 49.4 | Not yet decided |
| Asian Highway | 69.2 | Not yet decided |
| Padma Bridge | 3096.8 | Not yet decided |

 Table 11.5
 Major projects in the Road Master Plan related to regional connectivity

Source: Roads and Highways Department (2009).

expenditure will likely increase in view of the delay in implementing the planned projects.

The ADB has approved an allocation of \$198 million for building roads under various connectivity projects.¹⁵ In the railway sector, the ADB has financed projects worth around \$350 million. These projects are at various stages of implementation. Projects are also being implemented under the India–Bangladesh joint communiqué, and are being financed from the \$1 billion credit line provided by India.

11.6.2 Public–Private Partnership Financing

Besides their role in the construction and operation of projects, PPPs are potential alternative sources for financing connectivity projects. Bangladesh has been trying to attract private sector investment in various transport facilitation projects.¹⁶ A national Private Sector Infrastructure Committee was constituted in 2005 to implement the 2004 *Private Sector Infrastructure Guidelines* (Prime Minister's Office, GoB 2004). The *Road Master Plan* (Roads and Highways Department 2009) also notes that the private sector should be interested in some projects including a deepwater port, the Meghna–Gumti Bridge, the Meghna–Daudkandi Bridge, the Dhaka–Chittagong Highway, and the Dhaka–Tangail Highway. The Dhaka–Chittagong Expressway is designated to be implemented through PPP. In October 2008, the feasibility study underwritten by ADB was

finalized, with an estimated project cost of about \$1.47 billion, to be built through PPP on a BOT basis with a concession period of 28 years. Another example of PPP is the Gulistan–Jatrabari flyover that opened in October 2013. The cost will be recovered through toll collection.

11.6.3 Bonds for Infrastructure Development

In Bangladesh, government treasury bonds are the common form of bonds issued. Despite the potential, the bond market is yet to develop because of weaknesses including the lack of a market-determined interest rate, the availability of pension and insurance funds for buying bonds, high yielding government instruments that hinder competition, and poor marketing (Assignment Point n.d.). Since most of the infrastructure-related projects are financially viable in terms of return and yields, the government may take initiatives to issue bonds to raise the required capital, both in Bangladesh and on the international market.

11.7 POLICY IMPLICATIONS

There is a growing realization that countries such as Bangladesh could miss the 'Asian Century' if they are not able to take advantage of regional markets. Greater connectivity and better trade facilitation are the key steps to moving toward this. This awareness is being reflected in development plans such as the Five Year Plan and the Ten Year Perspective Plan, even at the local policy level. However, along with the plans, timely implementation is crucial to accomplishing these objectives. It is this task where countries such as Bangladesh suffer from challenges. Mobilizing the huge financial resources for the mega projects and their management are some of the major challenges. Even implementing the easier tasks such as crossborder customs, cooperation and coordination takes time.

As the analyses have indicated, focus should be on five key areas: (1) mobilizing funds, (2) identifying and sequencing priorities, (3) enhancing cross-border coordination, (4) building human resources to manage cross-border mega projects, and (5) building supply-side capacities to benefit from regional market opportunities to take advantage of strengthened global integration, based on closer regional integration in South Asia and Southeast Asia.

This study has identified 'at the border' and 'behind the border' constraints that undermine Bangladesh's prospects to realize the benefits of closer cooperation with South Asia and Southeast Asia. The study has also reviewed the state of some of the initiatives being taken to address those constraints. The chapter highlights the role that ADB is playing in this context. The chapter has argued that, if Bangladesh is to enter the twenty-first century from a position of strength, business as usual will not work. The chapter points out that the gaps in trade facilitation, connectivity, cross-border movement of goods and vehicles, and freer flow of goods, services, investments and energy should command heightened interest of policymakers and ought to be addressed with a sense of urgency. Political will, financial resources, implementation capacity and cross-border coordination are keys to addressing these challenges.

Since 2005, there have been initiatives to form a Trans-Pacific Partnership and a Trans-Atlantic Investment Area. Many South Asian and Southeast Asian countries will be partners in such initiatives. On the other hand, the envisaged Trade Facilitation Agreement in the WTO is also likely to obligate countries such as Bangladesh to undertake commitments in infrastructure development and trade facilitation. All these will call for forwardlooking strategies to address the challenges of the twenty-first century. The initiatives will need to progress simultaneously – implementing the megaprojects, realizing cross-border investment opportunities to foster trade in goods and services, signing of mutual recognition agreements to deal with sanitary and phytosanitary and technical barriers to trade (SPS-TBT) related issues and implementing motor vehicle agreements.

NOTES

- This chapter is an edited version of ADBI Working Paper No. 500 (Rahman et al. 2014). For a more detailed discussion of the Bangladesh case, readers may consult the working paper at http://www.adbi.org/files/2014.09.24.wp500.connecting.south.asia.southeast. asia.pdf (accessed 24 September 2013).
- 2. Bangladesh has recently revised its GDP in view of the new base year for 2005–06 (instead of the earlier base year of 1995–96) with inclusion of several new sectors and activities. According to the new estimates, GDP stood at \$173.6 billion in 2014 with per capita per annum being \$1115 (BDNews24.com 2013).
- 3. Support at the pre-establishment stage includes information access on market size, market players, risks and profitability.
- 4. The share of number of tariff lines with tariff peaks has reduced from over 90 percent to about 30–40 percent.
- 5. Though in recent years, rises in supplementary duties and other taxes at the import stage, particularly in favor of selected domestic market-oriented industries, have led to an increase in the effective rate of protection.
- 6. India offered this as a package to all SAARC least developed countries (LDCs) in October 2011. According to the UN classification, an LDC is a country that exhibits the lowest indicators in terms of socioeconomic development, and economic vulnerabilities with the lowest Human Development Index ratings of all countries in the world. See http://www.un.org/en/development/desa/policy/cdp/ldc/ldc_criteria.shtml (accessed 26 September 2013). Out of 48 LDCs, four LDCs are located in South Asia: Afghanistan, Bangladesh, Bhutan and Nepal.

- 7. Least developed country (LDC) is a UN classification, not an ADB country classification.
- The US has suspended the GSP facility for Bangladesh products exported to the US market on several grounds including poor compliance standards in the ready-made garment and shrimp sectors.
- 9. It is an initiative to forge closer partnership among 12 economies in the Asia and Pacific region that include, among others, the US, Japan, Australia, Viet Nam and the Republic of Korea.
- 10. Members include two Southeast Asian countries, Myanmar and Thailand.
- 11. The share of inland waterways was 16 percent, and railways 4 percent.
- A draft Motor Vehicle Agreement sent by India is being discussed in Bangladesh. Officials in Bangladesh feel that such an agreement should cover Bhutan and Nepal as well.
- 13. Bhomra in Satkhira, Akhaura in Brahmanbaria and Burimari in Lalmonirhat.
- 14. The land ports are proposed to be set up at Jibannagar in Kushtia, Mujibnagar in Meherpur, Chilahati in Nilphamari and Teghamuk in Chittagong Holl tracts.
- For details, see ADB website, http://www.adb.org/projects/40540-014/main (accessed 23 September 2013).
- The National Land Transport Policy 2004 (Ministry of Communications, GoB 2004) indicates government interest in promoting private sector participation in the transport sector. This is reflected in the Private Sector Infrastructure Guidelines 2004 (Prime Minister's Office, GoB 2004).

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Nepal: a connectivity-driven development strategy¹

Pradumna B. Rana and Binod Karmacharya

12.1 INTRODUCTION

After a decade of civil conflict, Nepal is going through a transitional phase in its economic development. Economic growth and the macroeconomic situation have improved during the post-conflict period (that is, after November 2006), owing mainly to the rise in remittances from the export of labor services and the improved performance of the agricultural sector. This chapter makes the case for a connectivity-driven development strategy for Nepal.² It argues that improved connectivity within Nepal and crossborder connectivity with its neighbors in South Asia, the Association of Southeast Asian Nations (ASEAN) and the People's Republic of China (PRC) that are converting Nepal from a landlocked to a land-linked state, will be important 'engines of growth' for the country's economy. Such a development strategy in Nepal would also lead to a win–win situation for all countries in South Asia and East Asia.

Why does Nepal need a connectivity-driven strategy? National, subregional and regional contexts need to be considered. First, Nepal is a landlocked and mountainous country and therefore faces high trading costs. Improved connectivity within the country would reduce such costs and promote internal trade, investment and economic growth. Second, Nepal is strategically located between two dynamic 'giant' countries, the PRC and India, which rank first and third, respectively, in terms of Asia's gross domestic product (GDP) (the PRC also ranks second in terms of world GDP, behind the United States) (IMF 2014a). Hence, Nepal has the potential to benefit from regional cooperation and integration (RCI) for improving connectivity with its neighbors through transport, energy and telecommunications projects. Connectivity-related RCI with its neighbors could unlock Nepal's full development potential by reducing trading costs and helping the country to overcome the disadvantages of size – a small population, small markets and an inability to take advantage of agglomeration and scale economies. Ahmed et al. (2010) estimated that Nepal could double its GDP if it were to export hydro-based electricity to India, which is an energy-thirsty country. A connectivity-driven strategy in Nepal would also benefit India and the PRC. Third, a connectivity-driven strategy is not new for Nepal. In the past, Nepal was strategically located on the Southwestern Silk Road (SSR). Nepal was an entrepôt for trade mainly between India and the PRC on the SSR. After a gap of about five centuries, the case for reviving the SSR has become strong and Nepal has an important role to play. A connectivity-driven strategy for Nepal, together with the ongoing efforts to revive the SSR, would benefit all countries along the SSR. Economic integration in South Asia and broader pan-Asian integration would also deepen (Rana and Chia 2014).

Section 12.2 reviews the recent performance of the Nepalese economy. Section 12.3 presents indicators of infrastructure development and highlights the poor state of physical connectivity in Nepal, which is among the worst in South Asia. Section 12.4 describes the strategic location of Nepal in Asia, and the historical role Nepal had played as an entrepôt for India-PRC trade and as a node in the SSR. Section 12.5 argues that the case for reviving Nepal's role as a land-linked state has increased significantly in recent years for a number of reasons. This section also proposes four conceptual economic corridors and makes the case for the involvement of the Asian Development Bank (ADB) as an 'honest broker' to carry forward the ideas as in other subregional schemes such as the Greater Mekong Subregion (GMS), the Brunei Darussalam, Indonesia, Malaysia, Philippines-East ASEAN Growth Area (BIMP-EAGA) and Central Asia Regional Economic Cooperation (CAREC). Such a role would lead to a 'garlanding' or linking of subregional cooperation efforts and enhance the ADB's catalytic role in pan-Asian integration. Section 12.6 reviews Nepal's multi-track approach to promoting RCI in connectivity – national, bilateral, subregional, interregional, regional and multilateral. Section 12.7 highlights the recently completed and ongoing connectivity-related RCI projects (cross-border projects as well as national projects with crossborder implications) in Nepal and identifies the priority connectivity projects the country should consider under the proposed connectivity-driven strategy. Section 12.8 summarizes and concludes.

12.2 RECENT ECONOMIC PERFORMANCE

Since its emergence from the decade-long civil conflict (from 1996 to 2006), Nepal has been going through a challenging transitional phase in its development. The signing of a Comprehensive Peace Agreement in November 2006 resulted in a number of achievements, such as participation of the

| | Pre-conflict 1990–95 | Conflict 1996–2006 | Post-conflict 2007–12 |
|-------------------------------------|-------------------------|-----------------------|--------------------------|
| GDP growth rate (%) | 5.52 | 4.12 | 4.52 |
| GDP per capita (\$) | 200.73 | 265.94 | 570.97 |
| Merchandise exports (\$) growth (%) | 14.76 | 9.53 | 3.08 |
| Merchandise imports (\$) growth (%) | 12.62 | 6.62 | 16.11 |
| Trade balance (% of GDP) | (14.70) | (16.63) | (21.84) |
| Current account balance (% of GDP) | (6.21) | (0.38) | 1.44 |
| Remittances (% of GDP) ^a | 1.80 | 8.32 | 20.96 |

Table 12.1 Key macroeconomic indicators for Nepal (annual averages)

Notes:

GDP = gross domestic product; () = negative values.

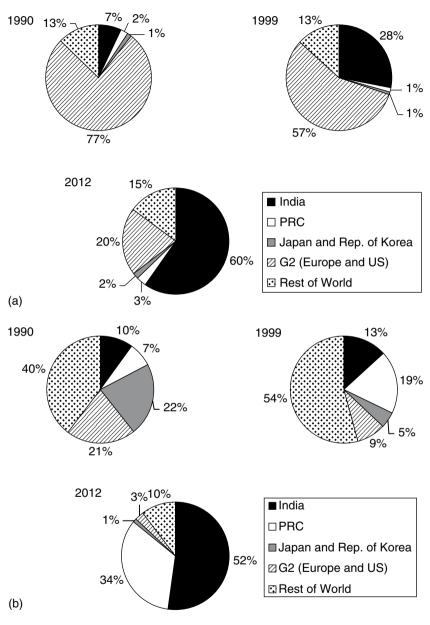
^a Remittances also include pensions.

Sources: Government of Nepal, *Economic Survey* (various issues); Nepal Rastra Bank, *Quarterly Economic Bulletin* (various issues); Central Bureau of Statistics, Population Census (1991, 2001, 2011).

Maoist party in mainstream politics and relative peace, the election of the Constituent Assembly in 2008, and the decommissioning of the Maoist army. Unfortunately, however, the failure of the Constituent Assembly to meet the end-May 2012 deadline to ratify a new constitution has proven to be a serious political setback for the country, taking a heavy toll on the economy. Following the expiry of the Constituent Assembly's term in May 2012, a second Constituent Assembly was elected in November 2013.

Table 12.1 shows that the real sector and the current account balance have been resilient in Nepal. While economic growth slowed to an average 4.12 percent per year during the conflict period (1996–2006), it recovered to 4.52 percent in the post-conflict period (2007–12). Gross domestic product per capita has shown an upward trend since the 1990s. Although export growth has slowed, the current account balance as a share of GDP has been increasing. This has been due mainly to rapid growth of remittances, which stood at around 21 percent of GDP during the post-conflict period. Needless to say, Nepal's economic performance would have been better had the constitution been ratified on time and had political stability been achieved.

Nepal shares a 1800 kilometer (km) porous border and 15 mutually agreed border points with India, so India is a 'natural' trading partner of Nepal. India provides a large market for Nepali goods and services, and is Nepal's largest trading partner. Nepal's merchandise trade (exports plus imports) with India rose from 9 percent of its total trade in 1990, to 18 percent in 1999 and 53 percent in 2012 (Figure 12.1).³ The PRC's



Note: PRC = People's Republic of China; US = United States.

Source: Calculated based on International Monetary Fund (2014b).

Figure 12.1 Nepal: direction of (a) exports, (b) imports and (c) total trade in 1990, 1999 and 2012

Connecting Asia

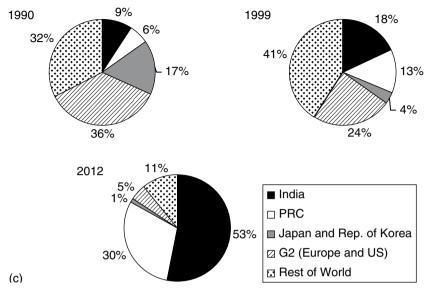


Figure 12.1 (continued)

overall share of Nepal's total trade also increased (from 6 percent in 1990 to 13 percent in 1999 to 30 percent in 2012) mainly due to Nepal's growing imports from the PRC to meet domestic needs as well as re-exports to India. The PRC's share of Nepal's exports is small (only about 3 percent in 2012), while India's share accounted for 60 percent in 2012. From 2002 to 2014, Nepal's external trade sector has seen an important change. Remittances from labor exports have increased rapidly, making Nepal one of the most remittance-dependent countries in the world. From an estimated \$100 million in 1996, remittance flows increased to \$4.9 billion in 2013 (a thirty-fivefold increase). As a share of GDP, these figures amounted to 0.5 percent and 25.5 percent, respectively. Remittances from labor exports are the single largest source of foreign exchange inflows. While India has been a traditional destination for Nepalese migrants, an increasingly large share of remittances comes from other countries, reflecting changing migration patterns, in part due to higher earnings in these new destination countries.

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12.3 INFRASTRUCTURE DEVELOPMENT INDICATORS FOR NEPAL

Given the difficulties associated with the landlocked nature of Nepal (Arvis et al. 2011), the country ranks low in terms of infrastructure development indicators. In the World Bank's 2013 *Doing Business* survey, Nepal dropped significantly in the overall 'ease of doing business' rankings, falling from position 55 (out of 155 countries) in 2006 to 108 in 2013 (out of 185 countries) (Table 12.2). This ranking is about the same as that for Pakistan (107), but better than that of India (132) and Bangladesh (125) (Table 12.2). In terms of 'trading across border' indicators, Nepal ranked 171, the lowest in South Asia.

Inter-country comparisons of the quality of infrastructure are difficult because of measurement problems and the subjective nature of assessments. Those available from the World Economic Forum's *Global Competitiveness Report 2013–2014* suggest that the overall quality of infrastructure in Nepal is among the worst in South Asia (Table 12.3). With a score of 2.9, it ranked higher only than Bangladesh with a score of 2.8. Nepal scored the lowest among South Asian countries in the quality of roads, railroads, air transport, and supply of electricity.

The situation is similar in terms of indicators of information technology (IT) penetration. During 2010–11, only 9 percent of the population in Nepal used the Internet. All other South Asian countries had a higher share of Internet users than Nepal (Table 12.4). In terms of mobile phone subscriptions per 100 individuals, Nepal ranked the lowest in South Asia (43.8).

Nepal's poor performance in infrastructure development can be further assessed by analyzing the World Bank's Logistics Performance Index. The index ranges from 1 to 5 (lowest to the highest) and focuses on customs performance, infrastructure, international shipments, logistics competence, tracking and tracing, and timeliness. In all these areas, Nepal ranks the lowest in South Asia (Table 12.5).

12.4 NEPAL'S STRATEGIC LOCATION AND ITS HISTORICAL ROLE AS A LAND-LINKED STATE

Nepal is a rectangular shaped country, stretching roughly 800 kilometers (km) from east to west and an average breadth of 190 km from north to south, sandwiched between the giant economies of the PRC and India. Although the PRC and India are experiencing a slowdown in their

| | Overall ease of doing business | l ease ing ess | Starting a business | Starting a Dealing with Getting Registering Getting Protecting business construction electricity property credit investors permits | Getting electricity | Registering property | Getting credit | Protecting investors | Paying taxes | Trading I across borders | Enforcing Resolving contracts insolvency | esolving solvency |
|------------|--------------------------------------|----------------------|---------------------|--|------------------------|-------------------------|-------------------|-------------------------|--------------|--------------------------------|---|----------------------|
| I | 2013 | 2006 | | | | | | | | | | |
| Bangladesh | 129 | 65 | 95 | 83 | 185 | 175 | 83 | 25 | 97 | 119 | 182 | 119 |
| India | 132 | 116 | 173 | 182 | 105 | 94 | 23 | 49 | 152 | 127 | 184 | 116 |
| Nepal | 108 | 55 | 105 | 67 | 96 | 21 | 70 | 82 | 114 | 171 | 137 | 121 |
| Pakistan | 107 | 60 | 98 | 105 | 171 | 126 | 70 | 32 | 162 | 85 | 155 | 78 |
| Sri Lanka | 81 | 75 | 33 | 112 | 103 | 143 | 70 | 49 | 169 | 56 | 133 | 51 |

| 2006 and 2013 |
|------------------------|
| g Business indicators, |
| Doing |
| Table 12.2 |

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Note: Specific items are for 2013. *Source:* World Bank (2013).

| | Quality of overall infrastructure | Road | Railroad | Port | Air transport | Electricity supply |
|------------|-----------------------------------|------|----------|------|---------------|--------------------|
| India | 3.9 | 3.6 | 4.8 | 4.2 | 4.8 | 3.2 |
| Pakistan | 3.3 | 4.0 | 2.5 | 4.5 | 3.2 | 2.0 |
| Bangladesh | 2.8 | 2.8 | 2.4 | 3.5 | 3.2 | 2.2 |
| Sri Lanka | 4.8 | 4.7 | 3.6 | 4.2 | 4.8 | 5.0 |
| Nepal | 2.9 | 2.7 | 1.1 | 2.7 | 3.0 | 1.6 |
| Bhutan | 4.9 | 4.3 | NA | 2.2 | 3.5 | 5.9 |

Table 12.3Quality of infrastructure, 2013

Note: NA = not available.

Source: World Economic Forum (2013).

Table 12.4Information and communication technology indicators, 2006and 2011

| | Households with computer (%) | Households with Internet access at home (%) | Individuals using the Internet (%) | Mobile phone subscriptions (per 100 inhabitants) |
|------------|------------------------------------|---|--|--|
| Bangladesh | NA | NA | NA | NA |
| Bhutan | 9.1 | 8.1 | 21.0 | 65.6 |
| India | 6.9 | 6.0 | 10.1 | 72.0 |
| Maldives | 62.9 | 28.9 | 34.0 | 165.7 |
| Nepal | 4.6 | 3.1 | 9.0 | 43.8 |
| Pakistan | 11.0 | 6.7 | 9.0 | 57.1 |
| Sri Lanka | 13.6 | 8.1 | 15.0 | 87.0 |

Source: International Telecommunications Union (2012).

Table 12.5 Logistics Performance Index, 2012

| | LPI Score | Customs | Infrastructure | | Logistics competence | e | Timeliness |
|-----------|--------------|---------|----------------|------|----------------------|------|------------|
| India | 3.08 | 2.77 | 2.87 | 2.98 | 3.14 | 3.09 | 3.58 |
| Nepal | 2.04 | 2.20 | 1.87 | 1.86 | 2.12 | 1.95 | 2.21 |
| Pakistan | 2.83 | 2.85 | 2.69 | 2.86 | 2.77 | 2.61 | 3.14 |
| Sri Lanka | 2.75 | 2.58 | 2.50 | 3.00 | 2.80 | 2.65 | 2.90 |

Note: LPI = Logistics Performance Index.

Source: World Bank (2012).

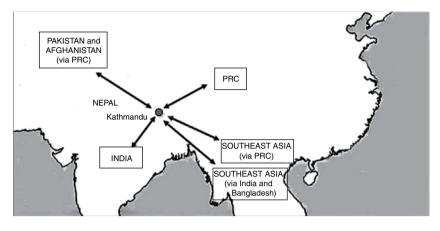
economies, they are among the fastest-growing countries in the world. Between them, the PRC and India have around 2.5 billion people, accounting for approximately a third of the world population.

Nepal is a landlocked and mountainous country and has high trading costs, which reduces competitiveness domestically and externally. Connectivity problems facing Nepal on its northern border with the PRC are related to the Himalavan mountain range. Nine points of connectivity with Tibet Autonomous Region have been identified, of which only a few are economically feasible at present. The point of connectivity that is operational and used for trade with the PRC is in Kodari along the Friendship Road connecting Kathmandu with Lhasa on the Kodari-Barhabise-Kathmandu-Hetauda-Birgunj road. However, open space is limited in this pass and it is not possible to set up a dry port to handle large volumes of traffic (Pandey 2010). Another point of connectivity that has become operational since the completion of the Rasuwagarhi-Syaphrubeshi road is the Rasuwagarhi-Svafrubeshi-Kathmandu-Hetauda-Birgunj corridor. This new corridor has greater potential and efforts are ongoing to build a dry port for trade with the PRC. However, a lot still remains to be done to make it a proper transport corridor with modern highways and border points.

The southern border of Nepal with India is porous, with large amounts of unofficial trade. There are 15 mutually agreed entry/exit points, seven of which are operational; the most important are Birgunj and Bhairawa. Inland clearance/container depots (ICDs) have been built in these two cities and in Biratnagar. The closest seaport for Nepal's foreign trade is Kolkata port, which is 400 km from Nepal's border. This port is congested and roads leading to it from the Nepalese border are in poor condition. Nepal has been attempting to diversify its trade and use sea ports in Bangladesh, but there are sensitivities and transit issues with India.

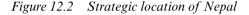
Figure 12.2 highlights the strategic location of Nepal. Nepal has the potential to be a land link between India and other South Asian countries and the PRC. Nepal, together with Bangladesh, the northeastern part of India, and the PRC can also be a land link between Pakistan, Afghanistan, Central Asia, South Asia, and Southeast Asia. Rana and Chia (2014) argued that in the past Nepal had indeed been an entrepôt for India–PRC trade and a node on the historical SSR, which started in Yunnan (the southeastern province of the PRC), passing through Myanmar to India and Nepal, and looping back to the Tibet Autonomous Region and Yunnan.

The entrepôt role of Nepal between India and the PRC, however, declined after the late eighteenth century. Two explanations are given for this. Pandey (2010) argues that the British, who had colonized India at that



Note: PRC = People's Republic of China.

Source: Authors.



time, diverted their trade and started selling opium to the PRC through the ports on the eastern coast of the PRC. This trade was very profitable for the British and their interest in the trade route through Nepal dwindled as a consequence. Another explanation is the discovery of a new trade route between India and Tibet in 1888 through the Chumba Valley and the Nathu La pass closer to Lhasa.

Ever since, Nepal has seen the Himalayas as a barrier and focused on greater trade with India (Pandey 2010). The recent policies of pro-Indian parties in Nepal have further deepened this trend. Thus Nepal has become overly dependent on the congested Kolkata port for its external trade. The PRC, on the other hand, has continued to use Nepal to trade with India. Goods from the PRC enter Nepal through the Khasa point on the Kodari highway and are taken to northern Indian cities, either through Kathmandu or directly to the border towns in Nepal's Terai.

12.5 THE CASE FOR REVIVING NEPAL'S ROLE AS A LAND-LINKED STATE

Although sea transport is expected to remain the dominant form of connectivity, the case for reviving Nepal's role as a land-linked state has strengthened in recent years. This is for a number of reasons, including:

 Maritime Asia, defined as the dynamic north-south coastal region from the Republic of Korea to Indonesia, is becoming increasingly continental-based, with expanding networks of roads, railways and pipelines. The trend toward the evolution of a continental-based Asia is mainly a result of the PRC's 'Western Development' plan or the 'Go West' policy that has been implemented since 2000. The main components of this policy are the construction of infrastructure (mainly transport, but also power plants), attracting foreign direct investment (FDI) to the inner provinces, and the development of human resources (health and education) in the inner provinces. A number of expressways have been constructed from the coastal cities of Shanghai and Beijing to the inner provinces (Rana and Chia 2014, fig. 2). These include the Shanghai–Xi'an, Shanghai–Chongqing–Kunming, Shanghai–Kunming and Beijing–Lhasa expressways.

Figure 3 in Rana and Chia (2014) shows the key existing and proposed railways and pipelines in the PRC. In addition to east-to-west railways, several north-south connectivity projects have either been completed (such as the Sino-Myanmar pipeline) or planned (such as the Pakistan-PRC rail and road link project across the Karokoram mountain ranges and the Yunnan-Lao PDR-Thailand Railway). Railway connectivity with Europe and oil pipelines connecting the PRC with the Central Asian republics have also been established.

Lhasa is emerging as a major transportation hub in the western part of the PRC. Five major highways converge in Lhasa: the Kunming–Lhasa, Shanghai–Chengdu–Lhasa, Beijing–Lhasa, the Yecheng–Lhasa expressways and the Friendship Highway that connects Kathmandu (Nepal) with Lhasa. Also, the Beijing–Tibet Railway reached Xigaste in late 2014 and is to be extended soon to reach the border with Nepal. Mainly because of these massive efforts to build infrastructure, cities in inner provinces, such as Kunming, Chongqing, Chengdu, Xi'an and Xining, have emerged as major metropolitan cities with urban infrastructure projects rivaling some of those in the coastal areas. Nepal could benefit from joining this trend.

2. Increasing connectivity within India and ongoing efforts to promote ASEAN–India connectivity have also strengthened the case for Nepal to improve connectivity with neighboring countries. In India, the Golden Quadrilateral project, which improves connectivity between the four major nodal cities in the country – Delhi, Mumbai, Chennai and Kolkata – has been completed. As a component of its 'Look East' policy, India is promoting connectivity with Southeast Asia. More recently, further to the request of the East Asia Summit, the Economic Research Institute for the ASEAN and East Asia has devised two

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projects for ASEAN–India connectivity: the Mekong–India Economic Corridor (MIEC) and the Trilateral Highway connecting India and Myanmar with Thailand (Rana and Chia 2014, fig. 4). While the first project focuses on connecting production blocks and supply chains in Southeast Asia with those in India – especially the automotive industry in Bangkok – with those in Chennai (India) by sea and land, the second project focuses on the development of the northeast region of India. One major project in the MIEC is the \$8.6 billion Dawei deepwater port and industrial estate in Myanmar. The ADB is the implementing body for the MIEC and it stands ready to bring together the stakeholders and provide technical assistance and co-financing. This role is similar to that which the ADB played in the GMS and CAREC subregional cooperation efforts.

- The encouraging but gradual political and economic reforms in 3. Myanmar, a node between South Asia and East Asia, has also provided a stimulus for improving connectivity between the two regions. Both the PRC and India are actively involved. The PRC strategists have written about the 'Malacca Dilemma,' with the Malacca Strait being a natural choke point, and the need to find an alternative route.⁴ The 1100 km gas pipeline component of the Sino-Myanmar pipelines project from Kyaukphyu, a port in Myanmar, to Kunming became operational in 2014. In 2015, an oil pipeline that is expected to meet about 10 percent of the PRC's oil import demand will open along the same route. Roads and railways are to follow suit. Work on the Kaladan Multimodal Project, seeking to connect Kolkata in India with Sittwe in Myanmar by sea and then the north east region of India by river and road transport, is ongoing. Increased connectivity in the PRC, the ASEAN and connectivity between India and ASEAN have revived the case for Nepal to be a land-linked state in South Asia.
- 4. To realize the potential of dynamic complementarities associated with the newer theories of trade pioneered by Jones and Kierzkowski (1990), connectivity between South Asia and East Asia needs to be strengthened, and Nepal has a role to play. The traditional theory of comparative advantage prescribes that developing countries produce labor-intensive goods which they exchange for relatively capital- and skill-intensive goods produced by more advanced countries. All separate tasks involved in producing a good, however, are carried out entirely in one country. Under the newer theories, production is sliced and diced into separate fragments and production of parts and components are located in production blocks around the world, which are connected by efficient service links. The type of service link required depends on the sector being considered. While for bulky items sea freight is still

| To | Via sea and land route | | | Via land route | | |
|-----------|----------------------------|-----------|---------|-----------------|-----------|---------|
| From | (through Hong Kong, China) | | | (through Nepal) | | |
| | Kunming | Chongqing | Chengdu | Kunming | Chongqing | Chengdu |
| New Delhi | 10 345 | 10669 | 10437 | 2887 | 3151 | 2911 |
| Chennai | 6841 | 6745 | 7004 | 3540 | 3804 | 3564 |

Table 12.6Distance between Indian cities and inner cities of the People's
Republic of China (kilometers)

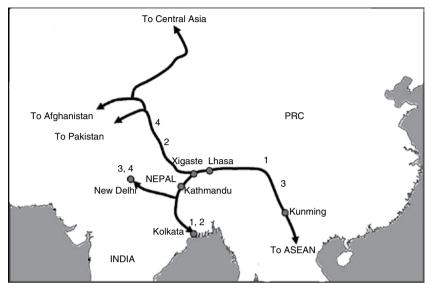
Note: Sea distances are actual; land distances are based on the straight-line method.

Sources: Searates website, www.searates.com, and Free Map Tools website, www.freemap tools.com (accessed 7 November 2014).

the most cost-effective way of moving goods, for less bulky and high value-added parts and components, road transportation could be more cost-effective, especially between neighboring countries.

A final reason for reviving Nepal as a land-linked state is that 5. the distances between cities in India and the inner cities of the PRC would be greatly reduced if the land routes through Nepal were used (Table 12.6). For example, the distance from New Delhi, where the Delhi-Mumbai Industrial Corridor starts, to Kunming via Hong Kong, China is about 10345 km, whereas through Nepal it would be only about a quarter of that distance. Similarly, the distance from Chennai to Kunming through Hong Kong, China is 6841 km compared with 3540 km through Nepal. Besides, using Nepal as a land link would result in additional cost saving as there would be no need to transship goods in the PRC ports from ships to trucks to ferry them to the PRC's inner cities. Finally, the Nathu La Pass, the height of which is around 4300 meters above sea level, is higher than the passes in Nepal (Zhangmu and Kyirong near Syaphrubeshi). Hence, for much of the year the Nathu La pass is covered by ice and the value of trade that passes through it averages only about \$100000 per annum.

As part of the revival of the Southwestern Silk Road, Rana and Chia (2014) have proposed four conceptual multimodal economic corridors: (1) Kolkata–Kathmandu–Lhasa–Kunming–ASEAN, (2) Kolkata–Kathmandu–Lhasa–Pakistan–Afghanistan–Central Asia, (3) New Delhi–Kathmandu–Lhasa-Kunming–ASEAN (linking up with the Delhi–Mumbai Industrial Corridor), and (4) New Delhi–Kathmandu–Lhasa–Pakistan–Afghanistan–Central Asia (Figure 12.3).⁵



Notes:

2 Kolkata-Kathmandu-Lhasa-Pakistan-Afghanistan-Central Asia.

3 New Delhi-Kathmandu-Lhasa-Kunming-ASEAN.

4 New Delhi-Kathmandu-Lhasa-Pakistan-Afghanistan-Central Asia.

ASEAN = Association of Southeast Asian Nations; PRC = People's Republic of China.

Source: Rana and Chia (2014).

Figure 12.3 Proposed conceptual multimodal corridors in South Asia

Lohani (2005) and Pandey (2010) have made the case for a trans-Himalayan railway. While rail transport has a potential advantage over roads because of higher speed, shorter border crossings, and fewer en route delays, the extent to which this potential can be realized is subject to debate (Arvis et al. 2011). Hence, the corridors proposed in this study are multimodal, both railways and roads, pending further analysis of feasibility.

Transport corridors foster links between major urban centers and their less developed hinterlands. They generate the potential for development along the corridor and for exploiting economies of scale, and provide opportunities for industrial agglomeration along the corridor. They also provide an opportunity for complementary specialization to be exploited within a geographic region and to link remote regions to global supply chains. Sometimes, trade corridors or roads by themselves can also have negative impacts. For this potential to be realized, however, transport

¹ Kolkata-Kathmandu-Lhasa-Kunming-ASEAN.

corridors have to be transformed into full-fledged economic corridors, where stakeholders are fully involved in coming up with initiatives to promote economic growth and poverty reduction. This has been the experience of the GMS and CAREC regions (see Chapter 6).

However, Nepal is only one of the countries involved in the proposed economic corridors. Actions are required in the PRC as well as in India. Just as in the GMS, the CAREC, the South Asian Subregional Economic Cooperation (SASEC) group and, more recently, the MIEC, the ADB will have to play an important role as a facilitator, financier, honest broker and technical advisor. The difference in size, institutional capacity and the distribution of the benefits and costs among the three countries involved in the proposed India–Nepal–PRC economic corridor will make ADB a balancing force and honest broker.

12.6 NEPAL'S REGIONAL COOPERATION AND INTEGRATION POLICIES

Nepal has adopted a multi-track approach to fostering RCI in connectivity with its neighbors and the rest of the world, comprising actions at the national, bilateral, subregional, regional, inter-regional and multilateral levels.

12.6.1 National Policies

Since Nepal embarked on its periodic development planning exercise in 1956, it has conducted an interventionist, protectionist, state-led policy that has resulted in a large public sector, the dominance of state corporations and a relatively closed economy. The serious macroeconomic imbalances and widening current account deficit in the mid-1980s led Nepal to start implementing economic policy reforms to facilitate its integration with the rest of the world by opening up its economy to trade in goods and services, technology and investment. The economic reform process was intensified in 1992, when the newly elected democratic government brought about a sea change in economic and trade policies. The new government tried to inject new life into the economy by adopting a range of liberal and private-sector-friendly policies, enacting new rules and regulations and establishing new institutions, privatizing public enterprises and giving greater importance to the private sector in the economy. In the most recent round of reforms, the government has improved tax administration, introduced a medium-term expenditure framework, and started reform of the financial sector.

| | 1991 | 2001 | 2012 |
|---|------|------|------|
| Average tariff rates (%) (simple applied) | 39.8 | 14.4 | 12.2 |
| Maximum tariff rate (%) | 245 | 80 | 80 |

 Table 12.7
 Nepal's average MFN tariff rate for selected years, 1991, 2001

 and 2012

Note: MFN = most favored nation.

Sources: Government of Nepal, Economic Surveys (various years).

Trade and industrial policies

Economic policy reforms since the early 1990s have substantially reduced the level and variations in nominal tariff rates in Nepal. The average applied most favored nation (MFN) tariff rate fell to 12.2 percent in 2012, down from 39.8 percent in 1991 (Table 12.7). The tariff structure has also been streamlined: the highest level of tariff was reduced from 245 percent in 1991 to 80 percent in 2012, mostly applicable to motor vehicles.

Recognizing the role of trade in the growth and transformation of its economy, Nepal has undertaken several major reviews of its trade policy. In 2009 it issued its first new trade policy since its accession to the World Trade Organization (WTO) in 2004, consistent with the principles of the WTO and adhering to the principles of a liberal, open and transparent economic system. This new policy contained a variety of export promotion and trade facilitation measures to enhance Nepal's competitiveness. In 2010, Nepal came up with the Nepal Trade Integration Strategy to enhance the competitiveness of its exports and seek opportunities abroad. This strategy seeks to improve market access and build domestic support institutions for exporters, and enhance the government's capacity to coordinate trade-related institutions and development partners.

Nepal has undertaken initiatives to establish integrated checkpoints at five major customs facilities in the border areas and priority has been given to establish dry ports at all major customs points. The government has also initiated efforts to establish special economic zones in major business hubs and has drafted a Special Economic Zone Bill and submitted it for parliamentary approval.

Customs reform and modernization policies

Nepal has initiated efforts to modernize the customs system to reduce costs and clearance times. Customs authorities have finalized their latest Customs Reform and Modernization Plan (2013–17). This four-year

plan contains measures in relation to (1) simplification of procedures, (2) establishment of client service desks at border offices, (3) improvement of cargo selectivity based on better risk management profiling, (4) more effective use of post clearance audits, (5) memorandums of understanding with the trading community, (6) an improved valuation data base access and (7) zero tolerance of incorrect declarations.

A major development has been the introduction and expansion of the Automated System for Customs Data (ASYCUDA), which is now available at 15 customs posts. The government is planning to launch a webbased clearance system. It is also planning to establish a national Single Window to streamline trade procedures and reduce transaction costs for doing business across the border.

Transport sector policies

The National Transport Policy (2001), the 20-year Strategic Road Network Master Plan, the Priority Investment Plan 2007–2016 and the Local Infrastructure Development Policy (2004) govern the transport sector in Nepal. These policies recognize the need to connect the whole country and develop and extend a road network that will bring all people within reach of an all-season road within four hours' walk in the hills and mountains and two hours' walk in the Terai (the lowland plains bordering India). Air transport is focused on promoting tourism and access to remote mountain districts, where road transport is not economically viable.

In the road subsector, efforts are being made through partnerships with donors to help the Department of Roads improve its road management capacity, planning and monitoring capability, environmental and traffic safety practices, and control of overloading.

Infrastructure financing policies

Nepal has recognized the need to engage the private sector in infrastructure development. The priorities are the construction of new road networks, generation of hydropower, railways and airports. The government established the Nepal Investment Board to focus on the mobilization of investment for large infrastructure projects under public–private partnerships (PPP) and other suitable funding mechanisms. It introduced the Build, Own, Operate and Transfer (BOOT) Act 2006, the Banks and Financial Institutions Act and the Private Financing in Build and Operation of Infrastructure Act 2063 BS (2006).

In May 2013, the government gave permission for the Kathmandu– Kulekhani–Hetauda tunnel (58 km) project to be developed under the BOOT system. Other projects under consideration for private participation include a 'fast-track' north–south corridor linking Kathmandu with Terai, an east-west rail corridor in Terai and two north-south corridors linking the PRC with India.

Numerous studies (for example, ADB et al. 2009; Government of Nepal 2014) have indicated that the prolonged political instability that has weakened the country's governance has constrained private sector investment. The political uncertainties following the dissolution of the country's constituent assembly in May 2012 disrupted the formulation and implementation of policies conducive to private investment. Of importance is the delay in amending the Private Financing in Build and Operation of Infrastructure Act – known as the BOOT Act – that governs PPP investments and currently lacks clarity. For example, the government's ability under the Act in its current form to cancel concession agreements without effective compensation for the concessionaire in FDI and BOOT projects heightens the risk profile in the view of private investors and discourages them from investing in Nepal. Moreover, the limited capacity of the bureaucracy and its weak governance have meant that a comprehensive strategy to deal with the exigencies of private sector development is lacking. Among other obstacles, the private sector must deal with slow bureaucratic procedures, weak enforcement of contracts, a cumbersome tax regime and inconsistent policies. In 2010, the government set up the Nepal Business Forum to address these issues, facilitate a national platform for public-private dialogue, and establish a structured, transparent and results-oriented mechanism through which the public and private sector can collaborate to find solutions.

12.6.2 Bilateral Cooperation and Integration Policies

Nepal is also attempting to enhance cooperation with neighboring countries.

Nepal–India cooperation

Nepal and India have a long history of cooperation on trade and transit. The treaties governing bilateral trade and transit include the Treaty of Trade, the Treaty of Transit and the Railway Service Agreement.

The Treaty of Trade was renewed in October 2009 for seven years. Under this treaty, India and Nepal accord each other unconditional MFN treatment; they also exempt imports of certain primary products from customs duties and quantitative restrictions on a reciprocal basis; and India grants (non-reciprocal) preferential treatment to almost all industrial products manufactured in Nepal to promote the industrial development of Nepal. The renewed treaty has (1) expanded the list of primary products with duty-free access to India, (2) agreed to recognize the sanitary and phytosanitary certificates issued by the authority of the exporting country if that authority is internationally accredited, (3) adopted a joint mechanism for clearance of perishable goods, (4) established an intergovernmental subcommittee at the joint secretary level in addition to an inter-governmental committee and (5) agreed to capacity building for Nepal on technical standards, quarantine and testing facilities, and human resources.

The Treaty of Transit, renewed in March 2006 and again in 2013, confirms transit rights through each other's territory through mutually agreed routes and modalities, restricting Nepalese traders to the use of only the port at Kolkata–Haldia. India allows Nepali trucks to operate on designated routes. Indian trucks can go anywhere in Nepal as long as they return to India within 72 hours. Goods can move by road or rail through the two countries. The ICD in Birgunj and the extension of the railway line from Raxaul to Birgunj have facilitated the direct movement of goods by rail between the two countries.

As part of a 2012 review of the Rail Services Agreement, India agreed to the movement of containerized railway cargo between all ICDs and integrated check posts (ICPs) between Nepal and India through which Nepal is authorized to carry out third-country trade. However, brake bulk and open wagons are still not permitted, restricting the types of products Nepal can trade internationally.

Nepal and India have also signed an Agreement of Cooperation to Control Unauthorized Trade between India and Nepal, a Double Taxation Avoidance Agreement, a Bilateral Investment Promotion and Protection Agreement and an Air Service Agreement. Moreover, the two countries have signed a bilateral agreement to exchange power to address the seasonal disparity of demand and supply of electricity in both countries.

Nepal-Bangladesh cooperation

In 1976, Nepal and Bangladesh signed a bilateral agreement on transit under which traffic in transit was made exempt from customs duty and from all transit duties or other charges (except reasonable charges for transportation). It provides six points of entry and exit for the movement of trafficin-transit through Bangladesh ports and border crossings – Mongla Port, Chittagong Port, Birol, Banglabandha, Chilahati and Benapole. However, the agreement is bilateral rather than tripartite and Nepal still needs Indian consent to reach Bangladesh through India. It may be that this agreement is symbolic, as this is not considered to be a commercially viable transit route. Furthermore, rail connection between Nepal and Bangladesh is also possible on the Rohanpur–Singhabad sector. The necessary studies on the feasibility of this route have been conducted, but the government has yet to make the necessary arrangements and amendments to make the route fully operational.

Nepal–People's Republic of China cooperation

Nepal and the PRC have concluded a number of trade and trade-related treaties. These include the Trade and Payment Agreements 1981, the Agreement with Tibet Autonomous Region (TAR) of the PRC on Trade and Other Related Matters 2002, the Bilateral Road Transportation Agreement 1994, the Agreement of Cooperation for Industrial Product Inspection 2005 and the Air Services Agreement 2003. Moreover, a memorandum of understanding between Nepal and TAR of the PRC to establish a Nepal–Tibet Trade Facilitation Committee was signed on 2 September 2009. The letter of exchange of 14 May 2010 that provides zero tariffs for 4721 exports to the PRC could also serve as an important step in promoting Nepal's exports to the PRC.

The Trade and Payments Agreements 1981 also identified three trading points for frontier trade: Kodari–Nyalam, Rasuwa–Kerung and Yari (Humla)–Purang. Two further trading points, Kimanthang–Riwu and Nechung (Mustang)–Lizi, were added through letters of exchange on 3 December 2003, and it was recognized that the Olangchunggola–Riwu trading point was also in operation. The provisions of the traditional border trade on barter basis and the movement of border inhabitants were also given continuity by the agreement. The Kodari–Nyalam (41 km) trading route was the only trading point with a road connection in the past. With the completion of the Syaphrubesi–Rasuwagadhi (18 km) road, Rasuwa–Kerung (22 km) has also come into operation.

12.6.3 Subregional Cooperation and Integration Policies

Nepal has played an active role in the SASEC program, which is designed to promote subregional cooperation initiatives between Bangladesh, Bhutan, India and Nepal. It aims to foster cooperation among these countries in transport, energy and trade. Nepal perceives that the advantage of SASEC lies in its pragmatic, results-oriented and project-based focus. The ADB assumed the role of facilitator in supporting the SASEC initiative program as an honest broker. The SASEC provided strategic directions and venues for dialogue and decision-making regarding identification and implementation of cross-border projects. Following the meetings of its working groups in Bangkok (20–22 October 2011) and Kolkata (5 March 2012), the SASEC program has made progress, particularly in the areas of transport, trade facilitation, and energy.

12.6.4 Regional Policies

Nepal played an active role in the formation of the economic developmentoriented South Asian Association for Regional Cooperation (SAARC) and hosts its secretariat. The original seven members (Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka) signed the South Asian Preferential Trading Arrangement (SAPTA) in 1993. Afghanistan became a member in 2008. The objective of SAPTA is to promote and sustain mutual trade and economic cooperation among the member states through the exchange of trade concessions. It was agreed that SAPTA would be a first step to higher levels of trade liberalization and economic cooperation among the members.

Nepal is also a party to the South Asian Free Trade Agreement (SAFTA), whose members have committed to a ten-year tariff phase-out beginning in 2006. Members reached an agreement on some outstanding issues to render SAFTA effective from January 2006, which include safe-guard measures – sensitive lists (to be within 20 percent of the total tariff lines of member countries) and rules of origin (at least 40 percent value addition) – as well as a revenue compensation mechanism for the least developed country members for loss of customs duties (to be in place for four years). The SAFTA agreement does not address cross-border investment or movement of labor, and no timeframe has been set for eliminating NTBs. In 2010, the SAARC Agreement on Trade in Services was signed with the aim of fostering economic integration in the region.⁶

The benefits from regional integration under SAFTA for Nepal depend on scale economies gained from access to a larger market, offsetting any trade diversion and loss of customs revenue (Karmacharya 2005). Benefits could be much greater if Nepal's preferential agreement with India is integrated into SAFTA, given that it already has significantly higher interregional trade by virtue of its ties with India. Realizing the benefits under SAFTA, however, will require deepening and widening integration in terms of improving trade facilitation (transit agreements, lowering traderelated costs through more efficient customs procedures, and harmonizing standards) and time-bound implementation of safeguard measures, and regional connectivity.

12.6.5 Inter-regional Policies

Nepal is a member of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) that entered into force in 1997 as a forum to facilitate and promote trade, investment and technical cooperation among participating countries. It consists of five SAFTA member countries (Bangladesh, Bhutan, India, Nepal and Sri Lanka), plus Myanmar and Thailand.⁷ The BIMSTEC has identified 13 broad sectors for cooperation, including trade and investment, technology, tourism, transport and communication, energy, agriculture, fisheries, poverty alleviation and counter-terrorism and transnational crimes.⁸

In 2004, BIMSTEC parties agreed to establish the BIMSTEC Free Trade Area Framework Agreement on goods, services, and investment. Article 3 of the agreement provides that products, except those included in the 'negative list,' will be subject to tariff reduction or elimination on the basis of fast and normal tracks for its developing country parties (India, Sri Lanka, and Thailand) and LDC parties (Bangladesh, Bhutan, Myanmar and Nepal). Rules of origin have not yet been agreed among BIMSTEC countries. These issues are being discussed in BIMSTEC's Trade Negotiating Committee.

12.6.6 Multilateral: World Trade Organization and Nepal

Nepal applied for membership of the General Agreement on Tariffs and Trade in 1989 and acceded to the WTO in April 2004 following a strenuous accession process. It became the first least developed country member to join the WTO through the accession process. Nepal is an active participant, mainly in non-agricultural market access, agriculture, services, trade-related aspects of intellectual property rights, trade facilitation, subcommittee on least developed countries, special and differential treatment, and sanitary and phytosanitary agreement negotiations. Mostly, Nepal raises issues related to LDCs.

In the process of accession, Nepal had made several commitments, many of which have already been implemented. Regarding those that remain to be implemented, although Nepal is fully committed to implementing them, the government intends to do so gradually and prudently to avoid hurting Nepal's already weak and vulnerable economy as much as possible. As part of this process, the Ministry of Commerce and Supplies has launched a project to implement the remaining WTO commitments. The ministry has formed a committee representing concerned agencies and other stakeholders to support and oversee implementation of WTO commitments.

12.7 ONGOING AND PRIORITY CONNECTIVITY-RELATED REGIONAL COOPERATION AND INTEGRATION PROJECTS IN NEPAL

12.7.1 Recently Completed and Ongoing Regional Cooperation and Integration Projects

These are recently completed key RCI connectivity projects:9

- 1. The Nepal Multimodal Transit and Trade Facilitation Project focused on constructing ICDs at three locations along the Indian border: a rail-based ICD at Sirsiya (close to the Birgunj border), where rail traffic from India is transshipped to road trucks in Nepal and road-based ICDs at Biratnagar in the eastern part of Nepal and Bhairahawa to the west of Kathmandu.
- 2. The Syaphrubesi–Rasuwagadhi Road Project and the Galchi–Trisuli– Dhunche–Syaphrubesi road under the Road Connectivity Sector I Project: the Syaphrubesi–Rasuwagadhi road linked Rasuwa in Nepal to Kerung in Tibet Autonomous Region and with the Galchi–Trisuli– Dhunche–Syaphrubesi road, provides the second alternative road connecting the PRC with India. This road has greater potential than the present one through Kodari.
- 3. The Integrated Check Posts Project helped to construct and improve four integrated check posts on the border with India. These check posts are in Raxaul (India)–Birgunj (Nepal), Sunauli (India)–Bhairahawa (Nepal), Jogbani (India)–Biratnagar (Nepal) and Nepalgunj Road (India)–Nepalgunj (Nepal).
- 4. The B.P. Koirala Highway Project seeks to connect Kathmandu with the eastern Terai and link them to neighboring cities in India. This road link will also provide an alternative link between Kathmandu and the Terai.
- 5. The Airport Enhancement Project has been upgrading Tribhuvan International Airport and three domestic airports.
- 6. The Subregional Transport Enhancement Project aims to facilitate efficient and safe transport within Nepal, with India and through India, with Bangladesh, and with Bhutan by (a) improving connectivity of remote areas with national and subregional markets, and (b) enhancing the capacity of major international trade corridors in conjunction with customs system improvement.
- 7. The SASEC Trade Facilitation Project helps the three SASEC countries, including Nepal, adopt an international customs administration protocol, upgrade existing automated customs management systems

and establish web-based electronic trade portals, which will give importers and exporters timely, accurate information.

- 8. The Nepal–India Electricity Transmission and Trade Project seeks to establish cross-border transmission capacity of about 1000 MW to facilitate electricity trade between India and Nepal and to increase the supply of electricity in Nepal by at least 100 MW.
- 9. East–West Optical Fiber Cable Project includes placing 858 km of optical fiber cable along the East–West Highway.
- The SASEC Information Highway Project seeks to develop (a) a SASEC regional network with fiber-optic and data interchangeable capacity, (b) a SASEC village network by expanding broadband ICT access, and (c) a SASEC research and training network to build technical and business skills in ICT.
- 11. The South Asia Tourism Infrastructure Development Project aims to develop the Nepal side of the 'Footsteps of the Lord Buddha Circuit' by focusing interventions on Lumbini.
- 12. The SASEC Road Connectivity Project aims to enhance local and regional connectivity along the Kakarbhitta (Nepal)–Panaitanki (India)–Phulbari (India)–Banglabandha (Bangladesh) regional road corridor identified by the ADB-supported SAARC Regional Multimodal Transport Study (SAARC Secretariat 2007). In particular, the project aims to improve the East–West Highway links around the Indian border in the east and increase the cross-border trade volume and hence regional economic growth.
- 13. The Nepal India Trade and Transport Facilitation Project aims to decrease transport time and logistics costs for bilateral trade between Nepal and India and transit trade along the Kathmandu–Kolkata corridor for the benefit of traders by reducing key infrastructure bottlenecks in Nepal and by supporting the adoption of modern approaches to border management.
- 14. The Tatopani Frontier Inspection Station Project seeks to construct a dry port at Larcha in Tatopani, the main customs point between Nepal and the PRC. The project is expected to facilitate trade between the two neighboring countries by reducing the massive congestion at the Tatopani customs point.

12.7.2 Priority Regional Cooperation and Integration Connectivity Projects for Nepal Listed Below are the Priority RCI Connectivity Projects that should Convert Nepal into a Land-linked State¹⁰

Transport sector

- 1. Completion of the Kathmandu–Kulekhani–Hetauda Tunnel Road that is in the planning stage and implementation has been proposed to start soon. This will be a new mountainous road along an entirely new alignment connecting Kathmandu with Hetauda in the south. The project will be developed under a PPP scheme by a private company.
- Upgrading four important trade routes to six-lane highways to facilitate bilateral trade with India. These are (a) the Pathalaiya–Birgunj (Nepal)– Raxaul (India) Road, (b) the Dharan–Biratnagar (Nepal)–Jogbani (India) Road, (c) the Belhiya (Nepal)–Sunauli (India) to Bhairahawa– Butawal Road, and (d) the Suryabinayak–Dhulikhel Road.
- 3. Upgrading the Kathmandu-Kolphu-Trishuli-Syaphrubesi-Raswagadhi corridor to a high quality (7-meter wide paved) road and connecting it to the fast-track Kathmandu-Birgunj road. An ICD also needs to be built at Raswagadhi.
- 4. Upgrading the international airport in Kathmandu, upgrading airports in various parts of the country and building a new international airport somewhere in the country (possibly in Nijgadh) to reduce pressure at the Kathmandu airport and to act as a diversion airport in adverse weather.
- 5. Establish new rail links between the Nepalese border towns and the Indian rail network at five locations (Nepalgunj, Bhairahawa, Janakpur, Biratnagar and Kakarbhitta) on the India–Nepal border. One of these rail links could eventually connect to Kathmandu.
- 6. Consider the Trans-Himalayan Railway project to link the PRC with India. For bulky items, railroads will be more cost-effective than roads. Railroads will be more energy-efficient and environmentally friendly. A recent feasibility study has established the viability of a railway from Kathmandu to Birgunj. Also, the Beijing–Tibet Railway has already reached Xigaste, a PRC city close to Nepal.

Energy

Prioritize the three projects that were proposed in the ADB's SAARC Regional Energy Trade Study (SAARC Secretariat 2010):

7. The SASEC Power System Expansion (\$180 million) will support the construction and operation of national high-voltage transmission

lines for domestic demand and also enhance cross-border power trading capacity. The interconnection between Nepal and India will form part of the interconnected SASEC power systems.

- The Subregional Transmission Capacity Expansion Project (\$225 million) targets the strengthening and expansion of transmission systems and will enable Nepal to benefit more extensively from its abundant hydropower resources.
- 9. The Project Preparatory Facility (\$21 million) is intended to prepare a series of hydropower projects and related transmission infrastructure for development in Nepal, emphasizing private sector participation and regional integration.

Trade facilitation

10. Prioritize modernizing customs procedures under the SASEC Trade Facilitation Program II (\$60 million).

12.8 CONCLUSIONS

This chapter makes the case for a connectivity-driven development strategy for Nepal by making it a land-linked state between South Asia, the ASEAN and the PRC. It argues that such a strategy is not new for Nepal as in the past the country was strategically located on the Southwestern Silk Road. A number of factors have strengthened the case for reviving the Southwestern Silk Road for the mutual benefits of the countries it straddles. However, many constraints will have to be overcome for Nepal to be able to realize this vision. The main constraints are the unstable political situation and corruption in the country – which are hampering implementation of projects – the chronic lack of financial resources and the lack of goodwill from some of the neighboring countries. The quality of infrastructure is also poor in Nepal. Partnerships with neighboring countries and donor support will be the key factors determining the success of the proposed connectivity-driven strategy.

This chapter proposed four conceptual corridors to connect South Asia with the PRC and the ASEAN. Further research has to be undertaken to fully assess the economic impacts of these proposed corridors, using a geographical simulation model (for example, Kimura and Umezaki 2011) or a global computable general equilibrium model (for example, Bhattacharyay et al. 2012). Such an approach was beyond the scope of this chapter.

NOTES

- This chapter is an edited version of ADBI Working Paper No. 498 (Rana and Karmacharya 2014). For a more detailed discussion, readers may consult the working paper at http://www.adbi.org/files/2014.09.08.wp498.connectivity.dev.strategy.nepal. pdf (accessed 14 November 2014).
- Such a development strategy could be feasible for a landlocked country facing high transport costs. It could also be feasible for inland regions in a large continental country such as the United States (in the nineteenth century) and, currently, the People's Republic of China (Lee 2013).
- 3. This figure underestimates the value of actual trade with India. The open and porous border between the two countries makes it hard to capture the level of informal trade. Survey-based research suggests that Nepalese informal trade is 30–40 percent of formal merchandise trade (Taneja et al. 2004; Karmacharya 2010).
- 4. Roughly 80 percent of the PRC's crude oil imports pass through the Strait. The other strategic projects for the PRC's oil imports are (1) the proposed PRC-Pakistan Economic Corridor passing through some of the highest and most landslide-prone mountains, (2) the proposed Kunming-Lao PDR-Thailand Railway), and (3) pipelines with Central Asian countries and the Russian Federation.
- 5. These corridors are consistent with the corridors identified in the ADB–South Asian Association for Regional Cooperation (SAARC) Regional Multimodal Transport Study.
- 6. The signing took place during the Sixteenth SAARC Summit held in Thimpu, Bhutan.
- 7. The BIMSTEC was initiated with the goal of combining the 'Look West' policy of ASEAN with the 'Look East' policy of South Asia. The BIMSTEC's purpose and principles date to the Bangkok Declaration of 6 June 1997 on the establishment of Bangladesh–India–Sri Lanka–Thailand Economic Cooperation (BISTEC). Nepal had participated as an observer from 1998 and became a member in 2004, together with Bhutan.
- See BIMSTEC online information (http://www.bimstec.org/about_bimstec.html, accessed 14 November 2014).
- 9. See Rana and Karmacharya (2014) for details of these projects.
- 10. See Rana and Karmacharya (2014) for details of these projects. The projects were identified based on the authors' assessments of their development impacts and discussions with researchers. The detail reference of the priority RCI connectivity projects are given in Karmacharya (2013).

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Sri Lanka: regional sea transport hub¹

Dushni Weerakoon and Nipuni Perera

13.1 INTRODUCTION

Sri Lanka's efforts to improve economic ties with Southeast Asia have been focused on bilateral and regional trade agreements and trade facilitation mechanisms. As the country recovers from the end of a 30-year conflict, policy attention is being directed to improving physical infrastructure: improving internal connectivity through highways and external connectivity through the expansion of existing ports and airports as well as the construction of new facilities.

This chapter explores the developments in physical infrastructure improvements in Sri Lanka and the potential benefits in terms of greater connectivity with South Asia and Southeast Asia. The study also reviews the challenges of financing and sustained implementation of the planned infrastructure development efforts.

Section 13.2 provides an overview of Sri Lanka's economic performance since 2009, with special reference to its growing trade and investment links with South Asia and Southeast Asia. Section 13.3 explores Sri Lanka's policy approach toward improving regional connectivity, particularly in the context of bilateral and regional approaches. Section 13.4 explores the state of cross-border related physical transport infrastructure, with reference to Colombo port. Section 13.5 examines the current state of transport and trade administration as a spur to greater regional trade flows. Section 13.6 discusses developments in the financial sector and the sustainability of current infrastructure financing. Section 13.7 concludes with policy recommendations.

13.2 OVERVIEW OF ECONOMIC PERFORMANCE

Since May 2009, Sri Lanka has seen a significant improvement in gross domestic product (GDP) growth following the end of armed conflict.

Higher growth has been accompanied by improvements in many socioeconomic indicators, with the rate of unemployment dropping to 4 percent in 2012, and a poverty headcount of 8.9 percent in 2010 (Weerakoon and Perera 2014).

Even as many Asian developing economies saw a slowdown in growth following the onset of the 2008–09 global financial crisis, Sri Lanka has been a rising star, recording an annual average GDP growth rate in excess of 7 percent since the end of the internal conflict in 2009. Indeed, Sri Lanka's GDP growth performance from 2008 to 2013 has been even better than many historically high-performing competitors in Southeast Asia.

Sri Lanka's most obvious development achievements in its post-conflict phase of growth have been in infrastructure. Since 2006, infrastructure development has been driven by an ambitious public investment program intended to improve connectivity between urban and rural sectors, in keeping with the government's development objectives of rapid and equitable growth. As a result, public investment has been maintained at an average of 6 percent to 6.5 percent of GDP per annum since 2006 from a historical rate of around 4.5 percent. Higher economic growth has come from related non-tradable sectors, particularly the expanding construction sector (Weerakoon and Perera 2014).

A corollary of the shift to non-tradable sector growth has been the declining share of exports in Sri Lanka's GDP, falling to a low of 16 percent in 2012 from 28 percent in 2004. Sri Lanka has also seen a decline in its global exports market share.

Sri Lanka's policy approach to strengthen exports has failed to bring about a structural transformation of its export sector. Over the past two decades, its export basket has seen limited diversification, both in terms of products and markets. The United States and the European Union continue to be the major export destinations, accounting for over 50 percent of total exports; clothing exports continue to dominate with a share of 40 percent of total exports. Sri Lanka's trade flows with South Asia have increased, largely as a result of greater links with India. However, trade intensity with Southeast Asia has remained low (Table 13.1).

Sri Lanka's trade policy regime has not helped to foster greater integration. While the increase in tariff protection has been modest since the mid-2000s, the imposition of para-tariffs – such as surcharges on import duties – above the standard customs rates has resulted in an increasingly complex and protectionist trade policy regime. Pursell and Ahsen (2011) found that Sri Lanka's total unweighted average protection rate roughly doubled from 12.5 percent in 2004 to 23.7 percent in 2011, bringing it well above the average for developing countries.

Sri Lanka's Trade Policy Review of 2010, by the World Trade

| | 2002 | 2007 | 2012 |
|-------------------------|------|------|------|
| Export share to SAARC | 5.5 | 8.5 | 7.8 |
| Export share to ASEAN | 2.6 | 3.0 | 3.9 |
| Import share from SAARC | 15.6 | 24.9 | 21.0 |
| Import share from ASEAN | 19.1 | 17.0 | 18.2 |

 Table 13.1
 Trade with South Asia and Southeast Asia, selected years

 (% of total)

Note: ASEAN = Association of Southeast Asian Nations; SAARC = South Asian Association for Regional Cooperation.

Source: Institute of Policy Studies of Sri Lanka (IPS), Sri Lanka: State of the Economy, various years.

Organization, indicates the unweighted average total protection rate to be as high as 31 percent compared with the standard customs duty rate of 12 percent (WTO 2010). These changes came about for both revenue purposes as well as through a more 'protectionist' stance on trade policy.

Reflecting the above, Sri Lanka's engagements in pursuing preferential trade arrangements (PTAs) have also waned. While it remains a party to regional PTAs such as the South Asian Free Trade Area and the Asia–Pacific Trade Agreement, and bilateral PTAs such as the India–Sri Lanka Free Trade Agreement (ISFTA) and the Pakistan–Sri Lanka Free Trade Agreement, there have been no recent efforts to enter into fresh agreements. Negotiations to convert the ISFTA into a Comprehensive Economic Partnership Agreement (CEPA) have been on hold since 2008 when the Government of Sri Lanka pulled out of signing the framework agreement. Current, fully effective agreements are estimated to cover only 21 percent of Sri Lanka's total trade (UNESCAP 2010).

As with Sri Lanka's recent export performance, net inflows of foreign direct investment (FDI) have also been stagnant, averaging 1 percent to 1.5 percent of GDP per annum, with net FDI in 2012 at \$813 million (Central Bank of Sri Lanka 2013). Despite low FDI, economies in South and Southeast Asia are important and growing sources of foreign investment for the country (Table 13.2). Much of this investment is in the services sector, in energy, leisure and telecommunications.

Even with the end of Sri Lanka's conflict – long considered a major deterrent to foreign investment – the recovery in FDI has been unimpressive. This is despite a relatively liberal incentive framework, offered either through Automatic Approval Route Projects under the Board of Investment (BOI) or under the Strategic Development Projects Act of 2008. Under the

| Rank | Realized foreign direct investment (\$ million) | | | | | | |
|------|---|------|------------------------|-------|--|--|--|
| | Economy | 2005 | Economy | 2011 | | | |
| 1 | Malaysia | 99.6 | Mauritius | 253.3 | | | |
| 2 | Singapore | 30.6 | India | 146.8 | | | |
| 3 | United Kingdom | 26.4 | Hong Kong, China | 138.8 | | | |
| 4 | India | 17.9 | Malaysia | 89.5 | | | |
| 5 | Luxembourg | 17.3 | British Virgin Islands | 53.5 | | | |
| 6 | Hong Kong, China | 15.5 | Singapore | 53.0 | | | |
| 7 | United States | 12.8 | United Arab Emirates | 52.9 | | | |
| 8 | Italy | 10.6 | United Kingdom | 52.0 | | | |
| 9 | Sweden | 10.1 | Netherlands | 51.4 | | | |
| 10 | Belgium | 8.4 | Japan | 27.2 | | | |

Table 13.2 Top ten investors in Sri Lanka, 2005 and 2011

Source: IPS (2012).

former, nine sectors have been identified as key investment thrust areas: tourism and leisure, infrastructure, knowledge services, utilities, apparel, export manufacturing, export services, agriculture and education. Eligible investments qualify for a range of fiscal incentives based on the sector for investment and investment threshold. The current FDI policy also aims to encourage 'strategic import replacement' projects such as those related to the manufacture of fabrics, milk powder, cement and pharmaceutical products. However, while the intention behind the Strategic Development Projects (SDP) initiative is to fast-track large investors, the current FDI policy approval process has become more opaque as a consequence.

There is also a lack of strategic approaches to identifying thrust areas for FDI. Much of the FDI since the end of the internal conflict in 2009 has been in tourism development (including hotels, condominiums and shopping malls) rather than in the more crucial manufacturing and services sector that would bring technology and knowledge transfer to the country's weakening manufacturing export sector and its emerging export services sector.

13.3 COUNTRYWIDE STRATEGY TOWARD REGIONAL CONNECTIVITY

Sri Lanka's development policy framework promotes the country as a strategic hub in five key areas: maritime, aviation, energy, commerce and

knowledge. National physical infrastructure improvements, under way or planned, are designed to meet the needs in some of these areas to improve connectivity and services to the Asian region.

Sri Lanka's strategy toward fostering regional connectivity has focused on strengthening trade with its neighbors in Asia. Since the mid-1990s, efforts have been made to gain market access and domestic export diversification through bilateral and regional preferential trade initiatives. These trade initiatives are a means of not only accessing markets and diversifying the export base, but also of providing a small but crucial competitive advantage to attract larger FDI. However, these agreements have been limited in scope and depth of liberalization, confined so far to trade in goods with extensive lists of items not considered for tariff reductions. One exception was the initial success of the ISFTA, where Sri Lanka saw a significant improvement in its trade imbalance with India, although it worsened again from 2006 (Weerakoon 2011). Sri Lanka saw a significant increase in the volume of FDI and tourist arrivals from India in the aftermath of this improved business confidence between the two countries (Weerakoon and Perera 2014). An agreement to expand the ISFTA to a CEPA between India and Sri Lanka was abandoned in 2008 owing to intense lobbying by sections of Sri Lanka's industrialists opposed to further liberalization with India.

Meanwhile, Sri Lanka has strengthened political and economic relations with the People's Republic of China (PRC). Political relations were cemented during the last stages of Sri Lanka's armed conflict between 2006 and 2009 when the PRC provided material assistance – including armaments and military equipment – as well as political and diplomatic support when the country faced charges of human rights violations by sections of the international community. Indeed, the PRC became Sri Lanka's largest source of bilateral development assistance in 2007, bypassing the historical position held by Japan.

The economic involvement of the PRC in Sri Lanka is most visible in the infrastructure sector. The PRC loans have financed key development projects such as ports (for example, Hambantota port), airports (for example, Mattala International Airport), road development and Sri Lanka's first coal-fired power plant. The PRC financing of Hambantota port in southern Sri Lanka has drawn most concern from India, given the strategic significance of sea routes in the Indian Ocean. In addition, the PRC investments were also involved in increasing the container terminal capacity of Colombo port in its latest phase of expansion.

While most economic cooperation between the PRC and Sri Lanka has been in development finance, there has been a discernible change in the nature of engagements since 2006. Unlike India, the PRC has not been a major source of FDI for Sri Lanka. However, in 2013, the PRC emerged as the single largest source of FDI, accounting for a quarter of new agreements approved by the BOI (Daily FT 2013). These include proposed investments in the leisure and tourism sectors. As a further sign of growing economic relations between the two countries, an agreement was signed in June 2013 to upgrade relations to a 'strategic cooperative partnership' covering four main areas: political cooperation, defense and security, economic relations, and cultural matters. The PRC and Sri Lanka have since agreed to negotiate a free trade agreement with the preparatory process expected to be completed in 2014.

13.4 STATE OF CROSS-BORDER RELATED PHYSICAL TRANSPORT INFRASTRUCTURE

Since 2006, Sri Lanka's economic development efforts have focused on an ambitious physical infrastructure connectivity program, primarily via public investment-led initiatives. This has encompassed major projects, especially in seaport, airport and road network development (Table 13.3).

Historically, the availability and quality of transport infrastructure has remained one of the key problem areas for Sri Lanka. However, with focused investments in physical infrastructure, there has been a steady improvement in global indices tracking availability and quality of transport infrastructure, as exemplified by the Enabling Trade Index (ETI) (World Economic Forum 2012). In terms of availability and quality of transport infrastructure, Sri Lanka fares better than other South Asian and Southeast Asian economies apart from Thailand, Malaysia and Singapore. Sri Lanka leads South Asia in terms of percentage of paved roads, quality of air transport infrastructure, quality of roads and quality of port infrastructure, while it is ranked second in South Asia (following India) in terms of quality of railroad infrastructure (World Economic Forum 2012).

The quality of railroad infrastructure has, over the years, scored lowest in availability and quality of transport infrastructure, and there is unlikely to be any significant change in view of the greater emphasis placed on the development of roads, airports, and seaports in the current infrastructure programs. Underlining these developments, it is not surprising that the quality of roads, port infrastructure, and air transport infrastructure has shown a marked improvement over the years as reflected by their improved ETI scores (Table 13.4).

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| Seaport and airport development | Colombo south port expansion |
|---------------------------------|---|
| | Hambantota port development |
| | Katunayake International Airport expansion |
| | New Mattala International Airport |
| Road network | Southern highway (126 km) |
| | Colombo–Katunayake expressway (25 km) |
| | Outer Circular highway (28 km) |
| | Colombo-Kandy highway (98 km) |

Table 13.3 Major infrastructure projects, as of October 2013

Source: Government of Sri Lanka, Media Centre for National Development, available at http://www.development.lk/ (accessed 15 December 2013).

 Table 13.4
 Enabling Trade Index of Sri Lanka: transport infrastructure, selected years

| | 2008 | 2010 | 2012 |
|---|------|------|------|
| Transport and communications infrastructure ^a | 3.1 | 3.3 | 3.6 |
| Availability and quality of transport infrastructure ^a | 3.9 | 4.2 | 4.4 |
| Airport density, number per million population | 0.4 | 0.1 | 0.0 |
| Transshipment connectivity, index ^b | 52.0 | 78.4 | 81.7 |
| Paved roads, % of total | 81.0 | 81.0 | 81.0 |
| Quality of air transport infrastructure ^a | 4.5 | 4.8 | 4.9 |
| Quality of railroad infrastructure ^a | 2.8 | 3.4 | 3.8 |
| Quality of roads ^a | 3.1 | 3.9 | 4.5 |
| Quality of port infrastructure ^a | 4.1 | 4.8 | 4.9 |

Notes:

^a Based on a score of 1-7 where 1 = extremely underdeveloped and 7 = extensive and efficient by international standards.

^b 0 = 1 low connectivity and 100 = 1 high connectivity.

Source: World Economic Forum, The Global Enabling Trade Report, various years.

13.4.1 Road Network

Sri Lanka's road network comprises highways (classes A and E) and feeder roads (classes B and C). Out of a total national highway network of 12165 kilometers (km) of class A and B roads maintained by the Road Development Authority (RDA) in 2012, 4220 km consisted of class A roads while 7945 km consisted of class B roads.

BOX 13.1 CONNECTIVITY THROUGH EXPRESSWAYS

The southern expressway, 126 km long, is Sri Lanka's first access-controlled expressway, linking the Western Province to the Southern Province. The first phase, funded by the Government of Sri Lanka, the Japan International Cooperation Agency and the Asian Development Bank (ADB), commenced operations in November 2011. The second-phase extension is under way. Upon completion, the southern expressway will connect the Port of Colombo with the Port of Hambantota. The Government of Sri Lanka and the EXIM Bank of the PRC are providing funding for the final section. The southern expressway will play a pivotal role in improving intra-country and cross-border connectivity, as it will link the three principal ports of Sri Lanka. The Colombo–Katunayake expressway, 25.8 km long, will reduce travel time between Colombo and Katunayake International Airport. The expressway was opened to traffic in October 2013, with construction implemented by a loan from the PRC.

Source: Road Development Authority website, 'Highway development plan', http://www.rda. gov.lk/source/highway_development_plan.htm#goalsObjectives (accessed October 2013).

The 'Highway development plan' of the RDA is two-pronged. The first strategy deals with the rehabilitation of existing national highways, while the second aims to add alternative highways to supplement the existing trunk road system as highlighted in Box 13.1. The selection of projects for rehabilitation is based on the level of traffic, road conditions and connectivity.

13.4.2 Seaports

The strategic position of the Port of Colombo along the sea routes of the Indian Ocean has since its inception led to the port serving funneling and other shipping services. The port is a transshipment hub for South Asia. In 2012, transshipment volumes accounted for around 74 percent of container throughput and remained the primary revenue source among both state-owned and private terminals. Thus, much of the success of Sri Lanka's port sector hinges on devising strategies to reinforce the position of Sri Lanka as a transshipment hub.

The development of the ports sector is a critical element of Sri Lanka's growth strategy, particularly in relation to developing a global logistics hub in the country. The ports sector has seen significant investments and improved performance in 2007–12, with total container handling increasing from 3.4 million twenty-foot equivalent container units (TEU) in 2007 to 4.2 million TEU in 2012 (Table 13.5). Furthermore, total cargo handling increased from 46 million TEU in 2007 to 65 million TEU in 2012.

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---------------|----------------|----------------|----------------|---------------|---------------|
| Total container traffic (TEU thousand) | 3381 | 3687 | 3464 | 4137 | 4263 | 4187 |
| Transshipment container traffic (TEU thousand) | 2578 | 2785 | 2712 | 3205 | 3216 | 3167 |
| Total cargo handled (MT thousand) Vessels arrived (number) | 46344 4710 | 50 582 4814 | 48 778 4456 | 61 240 4067 | 65069 4332 | 65070 4134 |

Table 13.5 Port performance, 2007–12

Note: TEU = twenty-foot equivalent container unit; MT = megaton.

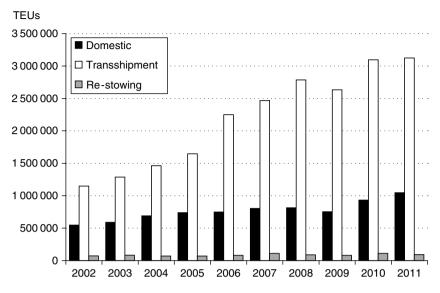
Source: Central Bank of Sri Lanka, Annual Report, various years.

It should be noted that the total number of vessels arriving at ports across Sri Lanka has seen a gradual decline (Table 13.5). However, the declining trend in the number of vessels arriving is a reflection of the increased use of larger-sized vessels, indicating higher per vessel carrying/handling tonnage/TEU.

The Port of Colombo functions as the principal port in Sri Lanka with the largest container, cargo and transshipment handling capacity. The pre-eminence of the port dates back to the fifteenth century, and it has continued to serve as the principal port in the country, accounting for around 93 percent of vessels arriving and around 95 percent of total cargo handled (Central Bank of Sri Lanka 2013). In 2012, the total cargo handling of Colombo port was 62 million TEU, compared to 0.5 million for Galle port, 2.8 million for Trincomalee port, and 0.02 million for Hambantota port.

The main container facility of the port, the Jaya Container Terminal (JCT), constructed during 1983–1997, is owned and operated by the state-owned Sri Lanka Ports Authority (SLPA). With the government's decision to liberalize the shipping industry in 1990, an agreement was signed between South Asia Gateway Terminal (SAGT) – a consortium of private investors comprising local and international investors – and the SLPA to build a full-fledged container terminal. Following this, Sri Lanka's first modern private container terminal was developed on a 30-year build, own and transfer (BOT) basis and became operational in 2003. The SLPA opened another state-owned terminal, the Unity Container Terminal (UCT) in 2004, as a satellite terminal for the JCT.

Hence, container traffic volume has improved, spurred on by the developments in port infrastructure, although it dipped following the onset of the global financial crisis of 2008–09. While the state-owned container



Note: TEU = twenty-foot equivalent container unit.

Source: Central Bank of Sri Lanka (2012), Economic and Social Statistics of Sri Lanka 2012, Colombo: Central Bank of Sri Lanka.

Figure 13.1 Container throughput of the Port of Colombo, 2002–11

terminals continued to dominate container traffic levels at the Port of Colombo during the initial years after the entry of the private terminal, this gap narrowed as traffic levels at the SAGT grew substantively. By 2010, container traffic levels at the JCT and UCT amounted to 52.4 percent of total container traffic of the port, while SAGT accounted for 47.6 percent (Sri Lanka Ports Authority website). Figure 13.1 shows the increase in container traffic.

Sri Lanka's geographical position gives it an advantage over other hub port nations in the region. The country has a competitive edge, with deviations in terms of time and cost from the main shipping route being among the lowest in the region (Table 13.6).

The Port of Colombo fares better in terms of container traffic than all other ports of South Asia excluding the Jawaharlal Nehru (Nhava Sheva) port in India (Table 13.6). Additionally, the Port of Colombo performs better compared with the Indian ports in turnaround time and service time. As far back as 2005, the turnaround time of JCT was noted to be 16 hours (ADB 2007), while the turnaround time of Indian ports was 45

| Port | Deviation time (days) | Vessel deviation time cost (\$) |
|---------------------------------------|--------------------------|---------------------------------------|
| Chennai, India | 1.10 | 24750 |
| Chittagong, Bangladesh | 2.25 | 50625 |
| Cochin, India | 0.13 | 2925 |
| Colombo, Sri Lanka | 0.06 | 1350 |
| Jawaharlal Nehru (Nhava Sheva), India | 0.85 | 19125 |
| Karachi, Pakistan | 1.33 | 29925 |
| Mundra, India | 1.30 | 29950 |
| Tuticorin, India | 0.09 | 2025 |

 Table 13.6
 Estimated mainline vessel deviation cost (per 4000 TEU vessel) calling at selected hub ports in the region, 2007

Note: TEU = twenty-foot equivalent container unit.

Source: Shiplink International (2008).

hours in 2012 (Jayaprakash and Gunasekaran 2012). Furthermore, the average service time of the JCT was 13.8 hours in 2005, compared with an average service time of 28.8 hours for Indian ports in 2012.

However, Sri Lanka is lagging in performance compared with some of the major ports including Singapore, Port Kelang, Tanjung Pelepas and Laem Chabang, and container traffic levels at these ports greatly exceed those of the Port of Colombo (Table 13.7).

Although the performance of the Port of Colombo is satisfactory in the context of South Asia, issues that jeopardize its competitive position continue to loom. For instance, the port is at risk of being dependent on a single cargo base, as 80 percent of the transshipment volume either originates from or is destined for an Indian port (Wickramasinghe 2011). Thus, connectivity for the larger Asian region via Colombo port hinges on transshipment cargo trade with India. At present, Colombo port handles 16 percent of India's total transshipment of 10 million TEU, and it is projected that Indian volumes will be the mainstay of the port for some years. This remains a critical issue given the rapid development of Indian ports, being driven by the motive to provide direct shipping services for Indian cargo. In addition, the performance of the Indian economy has a strong bearing on such transshipment activity. Hence, it remains imperative that Sri Lanka focuses on diversifying its shipping markets to sustain its future prospects.

Additionally, the trend toward using larger vessels imposes adverse competitive pressure from established ports such as Singapore and Dubai, as

| Container traffic | Economy | Rank | TEU |
|--------------------------------|--------------|------|------------|
| Shanghai | PRC | 1 | 29069000 |
| Singapore | Singapore | 2 | 28431100 |
| Hong Kong, China | PRC | 3 | 23 669 242 |
| Port Kelang | Malaysia | 13 | 8871745 |
| Tanjung Pelepas | Malaysia | 17 | 6298734 |
| Laem Chabang | Thailand | 22 | 5068076 |
| Tanjung Priok | Indonesia | 24 | 4714857 |
| Tokyo | Japan | 25 | 4284944 |
| Jawaharlal Nehru (Nhava Sheva) | India | 26 | 4269811 |
| Colombo | Sri Lanka | 28 | 4000000 |
| Ho Chi Minh City | Viet Nam | 30 | 3856000 |
| Manila | Philippines | 37 | 3154702 |
| Keelung | Taipei,China | 61 | 1962896 |
| Chennai | India | 73 | 1 522 068 |
| Bangkok | Thailand | 77 | 1452829 |
| Karachi | Pakistan | 78 | 1 370 000 |
| Chittagong | Bangladesh | 84 | 1 328 976 |
| Penang | Malaysia | 89 | 1 106 098 |
| Bin Qasim | Pakistan | 112 | 779000 |

Table 13.7 Ranking of selected ports in Asia by container traffic (2010)

Note: PRC = People's Republic of China; TEU = twenty-foot equivalent container unit.

Source: American Association of Port Authorities, World Port Rankings 2010, available at http://aapa.files.cms-plus.com/Statistics/WORLD%20PORT%20RANKINGS%202010.pdf (accessed 22 August 2013).

the shift toward larger vessels means that transshipment ports with larger hinterlands that these vessels serve are more favorable (ADB 2007). Hence, improving the efficiency of the Port of Colombo to match levels of more established ports is critical.

Investment in port infrastructure is needed to increase containerhandling capacity and alleviate infrastructure constraints faced by Colombo port. As per the SLPA, the container-handling demand of the country is expected to reach 10 million TEU by 2020.² As such, the existing capacity of Colombo port of 4.8 million TEU is inadequate to cater to this projected demand. In addition, with a depth of 15 meters, Colombo port cannot berth the latest generation of container ships, in contrast to competitor ports such as Dubai and Singapore. Therefore, given the trend toward larger container ships, if Colombo is to develop as a hub port, upgrading the infrastructure to handle these larger vessels is critical. Hence, the Colombo port expansion project (CPEP) was commissioned with a vision of transforming Sri Lanka into a maritime hub serving the region. The CPEP is expected to increase the capacity of the port by 7.2 million TEU. Key features are the proposed capacity expansion by building a new breakwater and additional berths south of the existing harbor.

The main features of the proposed Colombo south harbor development project are to build 6.8 km of main breakwater, 18 meters turning base depth, 570 meters access channel width, and three terminals, each 1200 meters in length with facilities to accommodate three berths. The first phase of the CPEP consists of three stages to develop the basic infrastructure. The second stage is to develop the Colombo south container terminal and the third stage is to develop the east and west terminals. The first phase of the CPEP, commissioned in August 2013, is estimated to cost \$400 million, of which \$300 million was funded by the ADB and \$100 million by the Government of Sri Lanka.

The Colombo south container terminal, the first of the three terminals to be accommodated on the breakwater and providing an additional capacity of 2.4 million TEU, started operations in August 2013. The terminal is operated by the Colombo International Container Terminal, a joint venture between China Merchant Holdings International and the SLPA on a 35-year BOT basis. The terminal is considered to be the most advanced international transshipment hub in South Asia, able to accommodate the largest container ships of 18000 TEU. Moreover, Colombo port is in an optimal position to strengthen its performance as the transshipment hub between Europe and Asia, especially for markets in the Indian subcontinent and East Africa. The total cost of the project is estimated at \$500 million.

The next step of the CPEP will involve the completion of the east and west terminals. When fully operational by 2020, as anticipated, the three terminals are expected to add a combined container handling capacity of 7.2 million TEU to Colombo's existing port operations.

However, Colombo port is likely to face stiff competition, particularly from India with its planned investments in port infrastructure. To mitigate the loss of cargo to Indian ports and other competitors, Sri Lanka will need to lower transshipment cargo charges and upgrade the port to a free port, that is, to enable port users to operate without additional charges other than port handling and rent or lease charges. This was announced in July 2013, as part of a decision to designate four ports, including Colombo, as free ports, to lure foreign investment by extending tax incentives to port users. However, such concessions need to be balanced against the need to repay foreign loans to develop port infrastructure.

In addition to the CPEP, the government invested in a second

international seaport with the construction of Hambantota port, situated in southern Sri Lanka to take advantage of the Asia–Europe shipping route. Hambantota port was also conceived as a measure to ease the long berthing delays experienced by roll-on–roll-off vessels at Colombo port.

In 2010, two breakwaters, a 210 meter wide entrance channel, a 600 meter turning circle, a 17 meter deep basin area, a 600 meter general purpose berth, a 610 meter oil quay, a 105 meter service berth as well as roads and associated buildings were completed and became operational. Construction of the second phase commenced in November 2012 and is scheduled for completion by end 2015. The total cost, \$360 million for the first phase of the project, was largely funded by the EXIM Bank of the PRC, while the cost of the second phase – estimated to be \$800 million – is to be funded by the Government of the PRC and the EXIM Bank. The port also provides bunkering facilities with 14 oil and gas tanks. The third stage will involve the construction of a container oil terminal 300 meters long and 17 meters deep, four container berths, one oil wharf, and two feeder berths. This final phase is expected to be completed by 2023.

Hambantota port will operate predominantly as a transshipment port. In 2011–12, the port received only 24 vessels. In an apparent bid to increase the shipping traffic, in 2012, the government announced that all vessels carrying motor vehicles, except heavy vehicles, would be directed to Hambantota port, citing berthing delays and space constraints at Colombo port. As a result, the port attracted approximately 75 vessels during the first seven months of 2013. However, besides such enforced traffic, the port has yet to attract large numbers of vessels.

13.5 STATE OF TRANSPORT AND TRADE ADMINISTRATION

Efficiency gains through more productive use of facilities can add to overall improvements in cross-border connectivity.

Weak transport and trade facilitation, such as lack of or poorly maintained transport services, and complex import and export procedures, result in increased transaction costs that in turn adversely impact competiveness. As a region, South Asia still lags its competitors in terms of effective trade administration and trade facilitation. Nevertheless, Sri Lanka seems to fare well among its South Asian counterparts as shown by its relatively higher rankings in competitiveness indices such as the ETI. However, the performance of Sri Lanka lags those of Southeast Asian economies such as Singapore and Malaysia in many trade facilitation and enabling indicators (Table 13.8).

| | South Asia | | | Southeast Asi | а |
|------------|-----------------------|------------------------|-------------|-----------------------|------------------------|
| | ETI rank ^a | ETI score ^b | | ETI rank ^a | ETI score ^b |
| Bangladesh | 109 | 3.46 | Cambodia | 102 | 3.52 |
| India | 100 | 3.55 | Indonesia | 58 | 4.19 |
| Nepal | 124 | 3.07 | Malaysia | 24 | 4.90 |
| Pakistan | 116 | 3.39 | Philippines | 72 | 3.96 |
| Sri Lanka | 73 | 3.95 | Singapore | 1 | 6.14 |
| | | | Thailand | 57 | 4.21 |
| | | | Viet Nam | 68 | 4.02 |

 Table 13.8
 Enabling Trade Index 2012 (ranking out of 132)

Notes:

ETI = enabling trade index.

^a Rank among 132 economies.

^b Based on a score of 1–7, where 1 = extremely underdeveloped and 7 = extensive and efficient by international standards.

Source: World Economic Forum (2012).

The *Global Enabling Trade Report* (World Economic Forum 2012) and the World Bank's Logistics Performance Index have identified the quality of trade and transport infrastructure and the efficiency of customs and border administration to be the most severe bottlenecks impeding trade facilitation in Sri Lanka. However, there has been an improvement over time, with Sri Lanka receiving an overall ranking of 81 out of 150 economies in 2012. This compares with an overall rank of 92 in 2007. (For further details, see the Logistics Performance Index website, http://lpi. worldbank.org/, accessed 25 August 2013.)

The availability and quality of transport services need significant improvement in Sri Lanka. Factors such as ease and affordability of shipment, logistics competence, and tracking and tracing capability continue to receive low scores despite headway made in other areas.

The 'trading across borders' indicator of the World Bank's *Doing Business* report measures the time and cost (excluding tariffs) associated with exporting and importing a standardized cargo of goods by ocean transport. While Sri Lanka performs relatively well in all three sub-indicators with respect to other South Asian countries, it still lags major Southeast Asian economies (Table 13.9).

Much support is needed to improve these indicator rankings, especially with respect to expediting clearance procedures. Studies have shown that Sri Lanka lags in clearance procedures, as it takes two to six days to clear

| | Documents for exports and imports (number) | | Time to export and import (days) | | Cost to export and import (\$ per container) | |
|------------|--|------|--|------|--|------|
| | 2007 | 2013 | 2007 | 2013 | 2007 | 2013 |
| Bangladesh | 23 | 14 | 92 | 59 | 2189 | 2455 |
| India | 25 | 20 | 68 | 36 | 2108 | 2320 |
| Pakistan | 20 | 16 | 43 | 39 | 2002 | 1365 |
| Sri Lanka | 21 | 12 | 52 | 39 | 1586 | 1495 |
| Malaysia | 18 | 11 | 42 | 19 | 909 | 855 |
| Thailand | 21 | 10 | 46 | 27 | 1890 | 1335 |
| Viet Nam | 15 | 14 | 71 | 42 | 1588 | 1210 |
| Cambodia | 20 | 19 | 81 | 48 | 1552 | 1655 |
| Lao PDR | 28 | 20 | 144 | 52 | 3110 | 4265 |

Table 13.9 Trading across borders indicators, 2007 and 2013

Note: Lao PDR = Lao People's Democratic Republic.

Sources: World Bank (2007, 2013).

import consignments in Sri Lanka compared with 15 minutes in ports such as Singapore; Hong Kong, China; Dubai; and many European ports (de Silva 2010). It is timely for Sri Lanka to focus on improving clearance procedures.

As in other developing economies, the importance of streamlining trade administration and customs procedures in facilitating trade has been a frequently discussed component of Sri Lanka's trade policy. Sri Lanka's performance in trade administration remains promising as the country has shown improvements in trade administration indicator rankings. For example, the number of days required for imports has declined from 21 in 2008 to 19 in 2012, and the number of documents required to export declined from eight to six. These achievements could be attributed to the automation of customs procedures in the country (World Economic Forum 2012).

In 1992, Sri Lanka introduced the Automated System for Customs Data (ASYCUDA) to enhance the efficiency of services by automating import and export procedures. The system was upgraded to ASYCUDA++ in 1998. Although the implementation of ASYCUDA++ was a milestone in automating customs procedures, it still required a customs officer to manually enter the customs declaration (CUSDEC), bill of lading and delivery order.³ This was a cumbersome and time-consuming procedure, as the CUSDEC alone has 54 entries to be keyed in. In 2008, it was decided

to introduce the ASYCUDA World electronic data interchange system to circumvent these administrative delays. With the implementation of ASYCUDA World in 2013, customs house agents can submit CUSDECs and other documentation electronically to the Customs Department, bypassing the cumbersome keying-in process. Also, the assessment of relevant duties and payments, which was done manually during the ASYCUDA++ era and took two or three hours, is now done electronically in minutes. Thus, ASYCUDA World has expedited customs procedures.

Despite the new automation processes, Sri Lanka has yet to fully implement the 'Single Window' facility that allows parties involved in trade and transport to lodge standardized information and documents at a single entry point to fulfill all import, export, and transit-related regulatory requirements. For successful implementation of the Single Window system all parties involved in cargo clearance should be able to exchange information. The Single Window system is managed by a lead agency, usually Customs, enabling government authorities to access the relevant information.

While the automation of import and export procedures has now been fully completed, interviews with officials identified the following areas in need of improvement to enhance the automation of customs procedures in Sri Lanka:⁴

- 1. Implementation of the single window concept in which relevant government ministries and agencies are connected through one single entry point (ASYCUDA World). The concept has so far been partially implemented, with the Ministry of Finance and Planning already linked to the ASYCUDA World system. Other stakeholders, including the Inland Revenue Department, Department of Motor Traffic and Sri Lanka Export Development Board, are to be connected to ASYCUDA World in the future.
- 2. Connecting all commercial banks of Sri Lanka to the customs online payment platform so that the payment of duties and levies is not limited to the state-owned Bank of Ceylon and People's Bank. Although the recent introduction of the People's Bank to the online customs payment platform was a step in the right direction, much effort is still needed to enable other commercial banks to enter the customs payment platform.
- 3. Creating awareness among traders and Custom House Agents (CHAs) of the electronic system as the majority of customs procedures are still lodged manually, despite the availability of an electronic system.

13.6 STATE OF THE FINANCIAL SECTOR⁵

Sri Lanka has suffered from decades of weak public finances, with limited room for domestic resource mobilization to finance the government's ambitious infrastructure development program. Most worryingly, while expenditure needs have risen, the country has faltered in addressing constraints in revenue mobilization, with the revenue-to-GDP ratio falling to 13 percent in 2012, its lowest to date (the norm for low-to middle-income economies is in the region of 18 percent–20 percent of GDP).

With limited domestic resource mobilization and fiscal constraints, Sri Lanka has seen a significant development in foreign funding, particularly from international financial markets and bilateral partners. Project loans have been sought from bilateral sources, especially from the PRC. Since obtaining its first sovereign credit rating in December 2005, Sri Lanka has issued five sovereign bonds valued at \$4 billion between 2007 and 2012. There has also been an incremental opening up of the government securities market to foreign investors.⁶ In addition, regulations governing foreign borrowing by Sri Lanka's corporate sector, including licensed commercial banks have also been eased.⁷

Sri Lanka's reliance on overseas development assistance in the form of grants has diminished over time, reflecting the country's graduation to a middle-income economy in January 2010. The PRC has emerged as a significant source of bilateral foreign assistance, in particular by providing loans through its export-import bank (see details at Weerakoon and Perera 2014, table 16). Such loans and funds raised through the issuance of sovereign bonds have made up the bulk of Sri Lanka's infrastructure financing in recent years. Hence, not only has net foreign financing of the government's fiscal deficit increased significantly in recent years but, more critically, such foreign resources have been obtained largely on non-concessional and commercial terms. In 2012, for example, the share of non-concessional funding stood at 60 percent of the overall net foreign financing of the budget deficit (Central Bank of Sri Lanka 2013).

The result of the above developments has been a rapid change in the composition of Sri Lanka's external debt profile, with the share of nonconcessional and commercial borrowing rising to 50.5 percent of total external debt in 2012, from 7.2 percent in 2006 (see details in Weerakoon and Perera 2014, fig. 6). The stress that costlier borrowing can exert on the external payments position is clear, especially in an environment where Sri Lanka is seeing a rapid shrinking of its exports-to-GDP ratio. In fact, the ratio of debt service to exports of goods and services jumped to 21.2 percent in 2012 as the repayment of the first sovereign bond of

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| | 2008 | 2009 | 2010 | 2011 | 2012 |
|------------------|------|------|------|------|------|
| Domestic savings | 13.9 | 17.9 | 19.3 | 15.4 | 17.0 |
| Investment | 27.6 | 24.4 | 27.6 | 30.0 | 30.6 |
| Private | 21.1 | 17.9 | 21.4 | 23.7 | 23.7 |
| Government | 6.5 | 6.6 | 6.2 | 6.3 | 6.9 |
| Net FDI | 1.7 | 0.9 | 0.9 | 1.5 | 1.4 |

Table 13.10 Savings and investment, 2008–12 (percentage of GDP)

Note: FDI = foreign direct investment.

Source: Central Bank of Sri Lanka, Annual Report, various years.

\$500 million, issued in 2007, came up for settlement. Unless there is a sustained improvement in foreign exchange earnings capacity, reliance on foreign commercial borrowing to drive the infrastructure program is not a tenable option in the medium to long term.

The option for co-opting private investors for infrastructure development through public-private partnerships (PPPs) has not been seriously pursued to date. Even though government investment levels have risen since 2006, domestic private investment growth has been lackluster (Table 13.10). Foreign direct investment inflow has also been disappointing. Although a larger share of FDI in 2012 went into infrastructure (44.6 percent), with services (31.9 percent) and manufacturing (23 percent) drawing smaller shares, net FDI remains low, at only 1.4 percent of GDP in 2012 (Central Bank of Sri Lanka 2013).

Sri Lanka has had some success in infrastructure development with PPPs. One of the most successful was the private sector consortium that in 1999 was allowed to lease and convert the existing mixed-use Queen Elizabeth Quay into a dedicated container terminal – the South Asia Gateway Terminal – on a build, own, operate and transfer basis. Mostly, however, PPPs in infrastructure development have failed to take off, either due to weakening government commitment and/or lack of sufficient funding and expertise in structuring the transactions.

Sri Lanka faces financial constraints in pursuing PPPs for large-scale infrastructure programs. The country's banking sector is dependent on relatively short-term deposits that restrict the ability to tie up large volumes of resources for long-term investments. The issuance of debentures and tapping international banks are two ways of overcoming these constraints. Sri Lanka's debenture market is still underdeveloped, although more private entities are now following this route. Similarly, the relaxing of exchange controls on foreign borrowing by banks announced in the 2013 budget is seen as a measure to encourage the participation of domestic private entities in larger investment projects.

Despite such moves, and policy pronouncements that PPPs will be harnessed as an option for investment in infrastructure, progress has been slow (Ministry of Finance and Planning 2006). The private sector has been largely shut out from the recent infrastructure development boom, where different government agencies have struck up partnerships directly with foreign governments or firms. The government's own political-economy leanings favor a strong state presence in Sri Lanka's economic development. This is underpinned by the government's policy stance opposing any notion of future privatization of state-owned enterprises (SOEs), and the government has promulgated legislation that has returned previously privatized SOEs back to the state.8 Other privatized entities, such as Sri Lankan Airlines and Sri Lanka Telecom, reverted to majority state ownership when existing agreements with private investors failed to be renewed for various reasons. In addition, the courts have intervened in several public interest litigation cases in the past decade, resulting in the cancellation of the original privatization agreements. Examples include the case of Sri Lanka Insurance Corporation, Lanka Marine Services and land alienation by the Urban Development Authority.

Aside from the above, Sri Lanka's regulatory environment has also undergone changes that have weakened the promotion of PPPs. The Public Enterprise Reform Commission, set up in 1996 to handle the privatization of several important SOEs, was abolished in 2010. Another institution – the Strategic Enterprise Management Agency – came into operation in 2006 and was given the task of ensuring the efficient management of SOEs. These were not privatized, but managed as independent commercial enterprises. However, their role – as well as that of the multisector regulator, the Public Utilities Commission of Sri Lanka – has come under criticism for overt political influence and lack of operational effectiveness (IPS 2008). For instance, recommendations of the Public Utilities Commission on energy pricing were revised in 2013 following intervention by the executive after consumer protests.

Thus, the overall political–economy environment affects the growth of PPPs in infrastructure development. Given the large investment risks involved, any ambiguities regarding the role of the private sector in the economy, government regulatory intervention in areas such as pricing, and the legal framework governing such agreements, can weaken investor confidence.

13.7 POLICY IMPLICATIONS AND RECOMMENDATIONS

Sri Lanka has made significant progress in improving physical infrastructure connectivity, particularly its roads, seaports and airports, making up for decades of underinvestment. Such projects are necessary to strengthen the country's efforts to emerge as a regional services hub, raise the competitiveness and efficiency of its export earnings capacity, and contribute to long-term development objectives.

While Sri Lanka has undertaken an ambitious infrastructure development program, some projects are more likely to immediately and effectively boost regional connectivity, raise export earnings and contribute to overall economic growth. The most important project under way is the expansion of Colombo port. It handles over 95 percent of cargo channeled through ports in Sri Lanka, and will continue to play a key role in providing hub services in the South Asian region. Other important programs include the construction of new expressways and roads to improve logistics for the transport of goods and support of broader policy goals such as the expansion of tourism. The current efforts to expand capacity handling at Sri Lanka's primary international airport are also important in this context. However, there are other large-scale infrastructure projects such as the new Hambantota port and Mattala International Airport, in close proximity, that are unlikely to generate economic returns for some time.

It is anticipated that better infrastructure in roads, seaports and airports will improve running costs and cut down on delays, and that this will filter through to all parts of the economy to increase overall efficiency. For Sri Lanka, such returns are critical in view of its reliance on foreign loans raised on commercial terms as the preferred mode of financing many of its infrastructure projects. In part, the options open to the government are limited, as traditional sources of concessionary funding for large-scale infrastructure projects become less accessible as economies graduate to middle-income status, as Sri Lanka did in January 2010. In view of heavy financing needs and competing demands, project selection has to be based on sound economic feasibility assessment. It is also imperative that foreign currency-denominated debt for infrastructure financing be confined as much as possible to projects that can, either directly or indirectly, generate the foreign exchange needed to service the debt.

Domestic resource mobilization efforts toward supporting infrastructure investment have been poor. Moreover, there has been very little private participation through PPPs. Not only do PPPs ease the financial burden on the state, but they also play an important role in improving productivity and efficiency, that is, private investor entry is more likely to get rid of politically expedient, but financially unsound projects from being implemented. If PPPs are to be the way forward, building effective regulatory agencies will be the prime catalyst for attracting private investment, but here, too, Sri Lanka lags other nations in the region in establishing the required formal institutions. Thus, the country must pay more attention to strengthening its institutional and regulatory environment if it is to encourage more private sector participation in large infrastructure projects.

Another gap is the lack of policy on tackling competitiveness and efficiency in Sri Lanka's export sector. Despite higher growth, Sri Lanka is witnessing a continued decline in its export-to-GDP ratio, as well as in its global export market share. If productive use of current investments in infrastructure is to be made, then the constraints holding back export growth need to be addressed. These include predictability and consistency in the trade policy setting, especially with regard to Sri Lanka's tariff structure. Since the mid-2000s, the introduction of numerous para-tariffs and other ad hoc charges has reversed the tariff liberalization measures achieved in the past.

Finally, Sri Lanka has been slow to integrate its economy through bilateral and regional economic cooperation agreements. At present, these are confined to four agreements, limited in their depth and breadth of coverage. Indeed, Sri Lanka has not undertaken to enter into new agreements since the South Asian Free Trade Area agreement came into force. In particular, expanding the current bilateral free trade agreement with India into a broader agreement to cover services and investment has been on hold since 2008. In the interim, many of the country's competitors in the Asian region have moved swiftly to negotiate market access through a host of such beneficial deals. For Sri Lanka, outward orientation of the economy through closer integration with India, and incremental integration into the broader Asian region, has not received much policy attention. This is due partly to the current ideological framework that has placed emphasis on promoting the growth of import-substituting industries as opposed to promoting import competition to improve productivity, efficiency, and competitiveness of domestic manufacturers. Policy consistency, predictability, and transparency in setting tariff policy are essential. Sri Lanka must also tap into strategic economic integration opportunities, particularly with India, and revive the stalled CEPA process. The country's prospects for benefitting from greater connectivity with South Asia and Southeast Asia remain firmly embedded in pursuing closer economic integration with its neighbors.

NOTES

- This is an edited version of ADBI Working Paper No. 487 (Weerakoon and Perera 2014). For a longer discussion of the Sri Lankan case, readers may consult the ADBI working paper at http://www.adbi.org/working-paper/2014/06/30/6349.sri.lanka.role.connectivity/ (accessed 9 September 2014).
- 2. Institute of Policy Studies interview conducted with the project director/chief engineer, Planning and Development Division, Sri Lanka Ports Association.
- Institute of Policy Studies interview conducted with superintendent, ICT Division, Sri Lanka Customs (31 July 2013).
- 4. Institute of Policy Studies interview conducted with superintendent, ICT Division, Sri Lanka Customs (31 July 2013).
- 5. For more detailed discussion of this section, refer to Weerakoon and Perera (2014).
- 6. The threshold limit of 5 percent of Treasury bonds outstanding, introduced in 2006, was relaxed to 10 percent in 2007. In 2008, Sri Lanka opened its Treasury bill market to foreign investors with a threshold limit of 10 percent. In December 2011, the threshold limit was further increased to 12.5 percent for outstanding Treasury bills and Treasury bonds stock.
- 7. For example, in the 2013 budget presented in November 2012, licensed commercial banks were permitted to borrow up to \$50 million each year for three years without the approval from the Exchange Control Department. Similar allowances were offered to corporate entities, with a borrowing limit of \$10 million each year for three years without exchange control approval.
- 8. Under the Revival of Underperforming Enterprises and Underutilized Assets Act passed in 2011, applicable to 37 identified entities, the government is allowed to appoint a competent authority to control, administer, and manage the enterprise or asset to ensure its revival by restructuring or entering into a management contract.

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