

## Connecting South Asia and Southeast Asia Interim Report

This report analyzes how closer regional connectivity and economic integration between South Asia and Southeast Asia can benefit both subregions, with a focus on the role played by infrastructure and public policies in facilitating this process. It examines major developments in South Asia–Southeast Asia trade and investment, economic cooperation, the role of economic corridors, and regional cooperation initiatives. In particular, it identifies significant opportunities for strengthening these integration efforts as a result of the recent opening up of Myanmar in political, economic, and financial terms. This is particularly the case for land-based transportation—highways and railroads—and energy trading. The report’s focus is on connectivity in a broad sense, covering both hardware and software, including investment in infrastructure, energy trading, trade facilitation, investment financing, and supporting national and regional policies.

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# Connecting South Asia and Southeast Asia

## INTERIM REPORT



# Connecting South Asia and Southeast Asia

Interim Report

A Joint Study of the Asian Development Bank and the Asian Development Bank Institute



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# About This Study

**T**his is the interim report of the on-going joint ADB and ADBI study on Connecting South Asia and Southeast Asia. Research will continue and the full report will be completed in 2014. The following ADB Departments and Offices are involved in the study: South Asia Department, Southeast Asia Department, Office of Regional Economic Integration, and Economics and Research Department.

The study is being prepared under the overall guidance of a steering committee chaired by Masahiro Kawai (Dean and CEO, ADBI) and Rajat Nag (Managing Director General, ADB) and which is composed of several heads of ADB's operations and knowledge departments. These include: Juan Miranda (Director-General, South Asia Department), Kunio Senga (Director General, Southeast Asia Department), Philip Erquiaga (Director General, Private Sector Operations Department), Changyong Rhee (Chief Economist, Economics and Research Department and Officer in Charge of the Office of Regional Economic Integration), and Kazu Sakai (Director General, Strategy and Policy Department).

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# Overview

## Context and Aim of the Study

South and Southeast Asian economies have grown rapidly during an era of a fragile world economic growth beset by risks and uncertainties. This process has been fueled by expanding regional production networks, integration with the global economy, foreign direct investment (FDI), falling trade and investment barriers, a commodity boom, and heightened demand from a rising Asian middle class. The results have been extremely positive; these regions have been among the most dynamic in the world and have produced highly impressive socioeconomic improvements. While challenges remain, these regions are on the right path. However, integration of trade and investment between these two subregions<sup>1</sup>, while making progress, has been relatively limited, hindered by various bottlenecks and gaps in trade infrastructure, trade barriers, and limited regional cooperation.

In the aftermath of the global financial crisis, it has become clear that Asian economies must rely more on domestic and regional demand to secure sustainable and inclusive growth.<sup>2</sup> Increased connectivity between South and Southeast Asia can play an important role in achieving this goal by improving efficiency and productivity via more efficient industries based on comparative advantage, enlarging the effective market size and increasing access to it. And better connectivity—through hardware and associated software—lies at the heart of unlocking the full benefits of closer economic ties between the two subregions.

This study focuses on how improved connectivity and associated software can enhance more effective economic integration between

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<sup>1</sup> In this report we follow the convention that all of Asia forms a region and South Asia and Southeast Asia are two of its subregions. South Asia includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka, while Southeast Asia includes Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic (Lao PDR), Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.

<sup>2</sup> See, e.g., the discussion of rebalancing in ADB (2010a).

the two subregions. Broadly defined, connectivity covers both physical connectivity (infrastructure) and associated institutional connectivity or software.<sup>3</sup> In this study, physical infrastructure includes that related to transport and energy, while software includes the critical areas of trade facilitation, financing of infrastructure, trade and investment reforms, and institutions for coordination.

The time is ripe for a study of South and Southeast Asia connectivity. The recent political reform process in Myanmar—a key bridge between these two regions—now makes possible land connectivity between South and Southeast Asia, which was not feasible a few years ago. The prospect of further liberalization between the Association of Southeast Asian Nations<sup>4</sup> (ASEAN) and major regional economies (including India) was aided by the agreement in November 2012 to begin negotiations in 2013 on a Regional Comprehensive Economic Partnership (RCEP). This is particularly important in the context of India's Look East policy. And many South and Southeast economies are contemplating second generation economic reforms to sustain inclusive growth.

There is heightened policy interest in the process of cross-subregional integration, and particular interest in further developing economic relationships between these two dynamic subregions. The implementation of the ASEAN-India free trade agreement (FTA) has facilitated intra-regional trade and investment liberalization. Nonetheless, such economic integration faces numerous challenges, including problematic cross-border infrastructure links, ubiquitous difficulties related to weak trade facilitation, a shortage of infrastructure financing, numerous non-tariff barriers (NTBs) and barriers to FDI, and weak institutional coordination. In short, while economic integration efforts have made progress, the process has a long way to go before it can reach its full potential. In this study we chart a path to get there.

This interim report is based on preliminary research conducted over several months by a study team comprising staff and consultants of the Asian Development Bank (ADB) and the Asian Development Bank Institute (ADBI). The report sets out key issues in relation to improving connectivity between South and Southeast Asia, traces

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<sup>3</sup> See ADB (2006) for further discussion of these concepts.

<sup>4</sup> ASEAN includes all of the countries in Southeast Asia.

their implications, and delineates possible policies. Chapter 1 reviews evolving economic ties between the two subregions and identifies benefits and costs to greater economic integration. Chapter 2 identifies key issues and constraints to greater economic integration while Chapter 3 explores implications for fostering better connectivity and closer economic integration as well as the next steps for the study.

## Growing Economic Ties

In the postwar era until 1990, South and Southeast Asian economies were relatively isolated from one another and there was little cross-subregional economic integration through trade or investment. Since then, the growth of South and Southeast Asian cross-subregional trade has been remarkable—increasing nearly 22 times from \$4 billion to \$86 billion from 1990 to 2011. Over the same period, Southeast Asia’s share of South Asian trade rose slightly from 11% to 12%, whereas South Asia’s share of Southeast Asian trade doubled from about 2% to 4%. The same general story applies to cross-subregional investment. Southeast Asia only accounted for 14% of total South Asian FDI outflows during 2009–2012, and South Asia only received 6% of Southeast Asian FDI. This suggests that while cross-subregional trade and investment are relatively low compared to flows with the rest of the world for both subregions, they have risen from being fairly insignificant to being important to both subregions, particularly for South Asia. It also indicates that FDI-driven production networks and parts and components trade, which are a key driver of trade expansion in Southeast Asia, have yet to take firm root in South Asia.

## Benefits and Costs of Greater Economic Integration and Cooperation

While economic relations between South and Southeast Asia are at a relatively early stage, they have a large economic potential. There

are numerous potential benefits of closer economic integration and cooperation, including:

- Greater economic integration expands the market for goods and services, thereby increasing the scope for economies of scale and greater competition.
- Specialization in regionally-competitive industries generates a more efficient productive structure in all economies, thereby enhancing regional competitiveness.
- Integration facilitates the extension or movement of production networks from Southeast Asia and South Asia, where development of such networks has lagged, to take better advantage of wage differentials.
- Increased competition within the integrated region could lead producers outside the region to reduce their prices as well, lowering prices of imports to the region and improving its terms of trade.
- A more integrated region could attract more FDI with its attendant benefits of technology and knowledge transfer, higher productivity, and market access. The entry of export-oriented FDI and foreign buyers is an important means to connect firms with regional production networks and supply chains.
- Large and comprehensive FTAs enable deeper and wider integration among member countries than what may be feasible within a multilateral framework. Well-designed agreements, with modern and flexible rules of origin and international standards, can play a role in reducing trade costs for the spread of production networks.
- Cooperation on infrastructure and trade facilitation (e.g., transport, customs clearance, and product standards) and services (e.g., financial services and labor services) would likely lead to a reduction in trade costs and result in welfare gains well in excess of gains from mere tariff liberalization.
- There are potential gains from greater cooperation among existing regional institutions. For example, stronger coordination between the Greater Mekong Subregion<sup>5</sup> (GMS) and South Asia Subregional Economic Cooperation<sup>6</sup> (SASEC) could serve as a platform for developing longer and stronger economic corridors, anchored by

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<sup>5</sup> Cambodia, Lao PDR, Myanmar, Thailand, Viet Nam, plus Guangxi and Yunnan provinces of the People's Republic of China (hereafter PRC).

<sup>6</sup> Bangladesh, Bhutan, India, and Nepal.

cross-border infrastructure projects, and better management of the cross-border spread of infectious diseases, and water and air pollution, as well as stopping drug and human trafficking.

- Finally, greater connectivity can provide the basis for more inclusive growth with greater potential for reducing poverty and closing development gaps. This includes minority groups that have been marginalized in the past, leading to conflict situations. Such developments could have broader benefits of promoting stability and enhancing peace and security in the region, including aspects related to water supply, labor mobility and possibly defense.

The potential gains from closer cross-subregional economic integration are no doubt large. An earlier study using a slightly different regional unit of analysis (ASEAN+3<sup>7</sup> and South Asia) estimates large gains (about \$260 billion, or 2% of gross domestic product [GDP]) from an East and South Asian free trade area, under conservative assumptions (François, Rana, and Wignaraja 2009: 28 [Table 1.6]). Countries obtaining relatively large positive income impacts (over 2%) included Korea, Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam, India and Sri Lanka. To be sure, the process of closer intra-regional economic integration generates potential benefits but may entail some additional costs which need serious review and mitigation measures. For instance, closer intra-regional economic ties and faster growth may entail pollution and environmental degradation. Regional economic integration may also hasten the spread of disease and crime. And the process may exacerbate fears of migration and ethnic tensions.

## Myanmar as a Bridge

By virtue of its strategic location straddling South Asia and Southeast Asia, the recent opening up of Myanmar in political, economic, and financial terms presents a significant new opportunity for enhancing these integration efforts, with the promise of substantial gains for both subregions. This is particularly the case for land-

<sup>7</sup> ASEAN plus PRC, Japan and Republic of Korea.

based transportation—both highways and railroads—and energy infrastructure. Myanmar can benefit substantially from opening up and becoming a bridge between South and Southeast Asia. The country has several sources of comparative advantage including rich natural resource endowments (e.g., petroleum, natural gas, coal, timber, minerals, and precious stones); abundant low-cost labor for export-oriented industries; and historic sites with notable tourism potential. As mentioned above, these potential gains include contributing to achieving inclusive and sustainable growth, integration into regional production networks, and contributing to processes of political reconciliation in the region. The opening up of Myanmar takes on particular importance in the context of India’s Look East policy, the RCEP negotiations to create a large region-wide FTA, and the move toward an ASEAN Economic Community by 2015. Improved domestic connectivity and sustaining policy reforms are necessary conditions to ensure that Myanmar can be an effective bridge between South and Southeast Asia and that the region can benefit.

## Main Constraints to Greater Economic Integration

A number of barriers have limited deeper cross-subregional integration and the potential benefits thereof. Hence, reducing these barriers needs to be a high priority on the agendas of constituent governments and regional institutions. The key issues and impediments examined here include physical transport infrastructure, energy infrastructure and trading, trade facilitation, financing of infrastructure, trade and investment policy reforms, and institutional aspects.<sup>8</sup> We address each of these below.

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<sup>8</sup> Information and communication technology (ICT), although also important, is not included in this study.

# 1. Physical Transport Infrastructure

Improving physical connectivity in South Asia and Southeast Asia is an important step to greater economic integration. Given the diverse geography and range of applicable transport modes in the two subregions, assessment and planning of transport needs require a regional and multimodal perspective that includes land, air, and maritime transport. Key physical barriers or hindrances to cross-subregional trade are located mainly in Myanmar, the only land bridge between these subregions, while other gaps are identified in Bangladesh, Cambodia, India, the Lao People's Democratic Republic (Lao PDR) and Thailand. Major ports in the area suffer from numerous constraints on capacity, efficiency, and connectivity to road and rail networks. A number of key studies provide the bases for these assessments, including ADB (2008), ADB (2011a), ADB (2013b), ERIA (2010), SAARC (2006), UNESCAP (2006) and UNESCAP (2011).

Several bottlenecks have been identified in road network links between South and Southeast Asia. For instance, in the Asian Highway the following bottlenecks exist: (i) in India, 431 kilometers (km) are class III roads or below; (ii) in Bangladesh, 88 km of roads are class III or below; and (iii) in Myanmar, over 1,000 km are class III or below. This means that about 51% of the total length of the Asian Highway in South and Southeast Asia are class III or below roads, indicating much scope for improvement of the cross-subregional road network.

With respect to the intra-regional rail network, the Trans-Asian Railway (TAR) network includes about 10,500 km of missing links which need to be constructed to provide for an unbroken TAR network. There are no existing railway links between the GMS countries, with the exception of a connection between PRC and Viet Nam, or between GMS and South Asia. Moreover, the incompatibility of gauges (track widths) in India, Bangladesh, Thailand and Myanmar means that transshipment will be required even after through rail links are developed. Estimates suggest there are about 2,493 km of critical missing railway links in the TAR connecting South and Southeast Asia. Some of the missing railway links can be found in the following routes:

- Jiribam (India)–Kalay (Myanmar)
- Thanbhyuzayat (Myanmar)–Namtok (Thailand)

- Vientiane (Lao PDR)-Mu Gia (Viet Nam)-Vung An
- Bat Deng (Cambodia)-Loc Ninh (Viet Nam)-Ho Chi Minh City

Regarding seaports, studies have identified problems with facilities, operational efficiency, and connectivity between seaports and railway and road networks. The following problems were observed in major ports:

- Chittagong Port (Bangladesh)—the size of vessels that are able to call is limited by the width and curvature of the Karnaphuli River. Rail and road traffic between Chittagong Port and Dhaka also created severe bottlenecks.
- Yangon Port (Myanmar)—limited accessibility to large vessels, poor road conditions between the Thilawa port area and the bridge leading to Yangon, high container charges, obsolete facilities in Yangon port, frequent blackouts and insufficient generators, and lack of cargo equipment are among the major problems in this port.

Multimodal corridors embrace multiple modes of transport, while economic corridors take an integrated approach to infrastructure along selected routes to maximize logistical efficiency. In the case of GMS economic corridors, several gaps and new corridors are identified. For instance, a notable gap is identified along the Western Corridor, tied in with the extension of the East-West Corridor from Kawkaeik to Pyagyi on the Western Corridor. Establishing this link will thus connect the Western Corridor, which links to India at Tamu, to the East West Corridor. Furthermore, a new GMS corridor that has been proposed is the Myanmar-Lao PDR-Viet Nam Trilateral East-West Corridor, which would run north of and parallel to the East West Corridor. It would connect Kyaukphyu along the Bay of Bengal (which is being proposed for the development of a deep sea port) with the eastern end at Hai Phong in Viet Nam. In Myanmar, it would extend 1,340 km from Kyaukphyu to Kyainglat. 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 South Asia Association for Regional Cooperation (SAARC) Regional Multimodal Transport Study (SRMTS) (SAARC 2006) was initiated to enhance multimodal transport connectivity among member states. Phase I of the study identified 10 Regional Road Corridors, 5

Regional Rail Corridors, 2 Regional Inland Waterways Corridors, 10 Maritime Gateways and 16 Aviation Gateways that could serve as SAARC corridors for inter-country movement.

A number of sites in Myanmar are candidates to be developed as deepwater ports for sea-land corridors connecting India and ASEAN such as the Mekong-India Economic Corridor (MIEC). This maritime corridor will be linked from Indian ports to land transport connectivity involving the broad definition of the GMS Southern Corridor running from Vung Tau and Ho Chi Minh City in Viet Nam, Phnom Penh in Cambodia, Bangkok in Thailand, and further to Dawei port in Myanmar.

## 2. Energy Infrastructure and Trading

There are substantial opportunities for cross-subregional energy trading between South Asia and Southeast Asia. While significant levels of intraregional energy take place within both subregions, cross-subregional energy trading is still to be tapped. The main opportunities for energy trading between South and Southeast Asia lie in the areas of electric (mainly hydroelectric) power and gas pipelines, plus pooling and interconnection of electric power grids. Myanmar has an important potential role to play in energy trading, given its substantial reserves of hydroelectric power capacity and natural gas, plus its critical position as a pipeline location. (To be sure, Myanmar's electrification ratio is an estimated 26%, so for the near- to medium-term, domestic supply may be prioritized over trading across borders.) The key challenge will be to develop both the physical and institutional infrastructures that can enable such trading to take place.

Among the identified barriers to cross-subregional energy trading are:

- technical barriers, in particular grid synchronization and grid codes to electric power and natural gas pipeline technology;
- potential difficulty in negotiations for trading arrangements resulting from varying levels of economic development and different security concerns;
- infrastructure and financial barriers;
- regulatory barriers and distorted energy pricing and subsidy regimes;

- environmental issues involving construction of multipurpose projects; and
- political resistance to energy trade in some economies.

Removing these barriers would have a strong positive effect on cross-subregional trade and would generate substantial welfare gains to both regions. Myanmar, in particular, stands to benefit from closer cooperation in this area, and the rest of the region stands to gain a great deal from Myanmar's deepening of energy infrastructure.

### 3. 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. Important trade facilitation measures to integrate South and Southeast Asia include the following:

- Efficient multimodal transport—currently, sea transport is the initial focus of trade facilitation because the land transport network is poor. The two subregions may be connected through a network of seaports for the bulk of trade and a network of land transport largely aiming to facilitate greater access to seaports.
- Inclusive and participatory approach in trade facilitation—it would be beneficial to increase the number of stakeholders in trade facilitation initiatives, including traders, carriers, and forwarding agents, since they can determine the best way to satisfy demand, being affected by a wide-spectrum of NTBs.
- Cooperation among trade facilitation agencies, specifically encouraging national governments to embrace regional goals as part of national goals.
- Need for customs modernization.

Some trade facilitation measures have been initiated at the multilateral, regional, and subregional levels involving accelerating the modernization of customs administration, e.g., the Revised Kyoto Convention, the World Trade Organization (WTO) 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.

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. ADB is actively involved in providing support for regulatory reforms aimed at improving customs operations.

## 4. Financing Infrastructure

Financing infrastructure projects in the region presents many challenges, even more so for cross-border projects where the countries involved have different financial capacity, levels of development, and prospective benefits from the projects. Two major barriers for infrastructure financing are limited levels of domestic financial capacity and regional financial integration.

- **Domestic financial capacity.** Overall availability of finance for infrastructure is limited by underdeveloped national and regional financial markets. Major reasons for lack of financial sector development include lack of reforms in contractual savings and a general reluctance to allow foreign banks and financial institutions to participate in building local capital markets. Moreover, bond markets in both subregions have narrow investor bases and low liquidity in secondary markets. Longer term institutional savings in pensions, provident funds, and insurance have regulatory constraints which prevent them from investing in infrastructure assets and cash-flow-backed bonds from infrastructure projects. The banking sector dominates commercial credit but often is unsuitable for the long-term lending required by commercial infrastructure projects. Institutions to support public-private partnerships (PPPs) in infrastructure projects are generally underdeveloped.
- **Regional financial integration still limited.** National savings and foreign exchange reserves tend to be parked in United States (US) and European government securities as a result of lack of financial integration in the region. Some countries in the region have large savings, high remittances, and significant foreign exchange reserves;

hence, the challenge is how to facilitate appropriate financial intermediation for infrastructure investments. The options for financing connectivity infrastructure need to be expanded to include public finance, off-budget financing, PPPs, financial intermediary lending, local currency bond markets, and regional infrastructure funds and facilities. The ASEAN Infrastructure Fund (AIF) is already active in this area, and could be expanded to become an Asian infrastructure investment fund.

## 5. Trade and Investment Policy Reforms

Tariffs and NTBs continue to constrain the scope for trade and investment between South Asia and Southeast Asia. While tariff barriers have generally fallen with the exercise of most favored nation (MFN) rates, the application of preferential tariff rates, which are lower than MFN tariff rates, has not been significant. The effectively applied tariff rates (EATRs) on cross-subregional trade by both subregions are relatively close to the MFN applied tariff rates, which means that there is still ample room for reducing tariff barriers between the two subregions as a means of boosting trade, FDI, and economic growth.

An estimated 75%-80% of NTBs that discriminate against foreign commercial interests remain in force. The largest economies in the region also are the most active in imposing NTBs. In South Asia, India was responsible for 86 out of 99 discriminatory non-tariff measures, followed by Pakistan and Sri Lanka. In Southeast Asia, Indonesia accounted for 52 out of 92 measures, followed by Viet Nam and more advanced economies.

Expanding broad-based FTAs between the two subregions 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. Currently, India is the only South Asian country to join the negotiations, but other South Asian countries may join the process in the future.

## 6. Institutions

Building institutions that will improve cross-subregional 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.

Closing coordination gaps in South and Southeast Asian cooperation and integration will require retooling existing institutions and creating new ones to facilitate economic links, identify and prioritize emerging and long-run obstacles to cross-subregional connectivity and cooperation, and help contribute to solutions. A pragmatic way to start may be to focus on specific regional projects and to convene project-specific technical working groups to oversee the planning and implementation of the projects. These projects could, in turn, be included in the agenda of meetings of the relevant GMS and SASEC working groups. As secretariat of both GMS and SASEC, ADB should be able to help with this process.

## Implications and Next Steps for the Study

This interim report of the study of South and Southeast Asian connectivity highlights the economic ties between the two subregions and the key role of physical connectivity and associated software in strengthening cross-subregional economic integration. Three implications from the preliminary research done to date are worth noting. First, much is already happening in relation to strengthening economic ties between the two subregions, but it is not enough, and considerable potential exists for strengthening economic ties. Second, there are substantial economic benefits to greater cross-subregional integration, but possible costs will need to be mitigated. Third, an integrated and broad-based approach to connectivity is needed to move forward. Such an approach would include investment in cross-border transport and energy infrastructure, improvements in trade facilitation, development of infrastructure financing at national and regional levels, implementation of trade and investment reforms,

and building institutions that will improve coordination and address coordination gaps.

The next steps for the study are proposed to include:

- Mapping of trade and energy infrastructure patterns across South and Southeast Asia and identification of infrastructure investment projects.
- Modeling benefits and costs of enhanced cross-subregional economic integration using computable general equilibrium (CGE) and econometric modelling methods.
- Highlighting the state of infrastructure financing and possible options.
- Assessing barriers to cross-subregional trade and investment and the prospects for liberalization at the national and regional levels.
- Evaluating coordination gaps and appropriate institutional solutions.
- Examination of the political economy of an agenda for strengthening institutions to promote better connectivity and closer economic relations between South and Southeast Asia.
- Assessments of selected countries' conditions, needs, and strategies for cross-subregional economic cooperation through connectivity.

The main study report is expected to be completed in 2014.

# Abbreviations and Acronyms

AC	—	Alternate Current
ACIA	—	ASEAN Comprehensive Investment Area
ADB	—	Asian Development Bank
ADB I	—	Asian Development Bank Institute
AEC	—	ASEAN Economic Community
AFTA	—	ASEAN Free-trade Area (AFTA)
AH	—	Asian Highway
AHN	—	ASEAN Highway Network
AIF	—	ASEAN Infrastructure Fund
AIF	—	Asian Infrastructure Fund
ALTID	—	Asian Land Transport Infrastructure Development
ARIC	—	Asia Regional Integration Center
ASEAN	—	Association of Southeast Asian Nations
BIMSTEC	—	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BTILS	—	BIMSTEC Transport Infrastructure and Logistics Study
CEPEA	—	Comprehensive Economic Partnership in East Asia
CGE	—	Computable General Equilibrium
CPIS	—	Coordinated Portfolio Investment Survey
DWT	—	Deadweight Tonnage
EATR	—	Effectively Applied Tariff Rate
EPF	—	Electric Power Forum
ERIA	—	Economic Research Institute for ASEAN and East Asia
EU	—	European Union
EWC	—	East-West Corridor
EWEC	—	East-West Economic Corridor
FDI	—	Foreign Direct Investment
FTA	—	Free Trade Agreement

GDP	—	Gross Domestic Product
GMS	—	Greater Mekong Subregion
GTA	—	Global Trade Alert
HDS	—	Haldia Dock System
HVDC	—	High Voltage Direct Current
ICT	—	Information and communication technology
IGA	—	Inter-Government Agreement
IMTTH	—	India-Myanmar-Thailand Trilateral Highway
IMF	—	International Monetary Fund
KDS	—	Kolkata Dock System
MFN	—	Most Favored Nation
MGC	—	Mekong-Ganga Cooperation
MIEC	—	Mekong-India Economic Corridor
NAFTA	—	North American Free Trade Agreement
NTB	—	Non-Tariff Barrier
NSEC	—	North-South Economic Corridor
OECD	—	Organization for Economic Cooperation and Development
PPP	—	Public-Private Partnership
PRC	—	People's Republic of China
PTOA	—	Power Trade Operating Agreement
RCEP	—	Regional Comprehensive Economic Partnership
RCI	—	Regional Cooperation and Integration
RIF	—	Regional Investment Framework
RPCC	—	Regional Power Coordination Center
SA	—	South Asia
SAARC	—	South Asia Association for Regional Cooperation
SAFE	—	Secure and Facilitate Trade
SA-SEA	—	South Asia-South East Asia
SASEC	—	South Asia Subregional Economic Cooperation
SEA	—	Southeast Asia
SEC	—	Southern Economic Corridor
SEZ	—	Special Economic Zone
SPV	—	Special Purpose Vehicle
SRTS	—	SAARC Regional Multimodal Transport Strategy Study
TAR	—	Trans-Asian Railway
TEU	—	Twenty-Foot Equivalent Container Units

TTR	—	Transit Transport Routes
UK	—	United Kingdom
UNESCAP	—	United Nations Economic and Social Commission for Asia and the Pacific
US	—	United States
VPOA	—	Vientiane Plan of Action
WTO	—	World Trade Organization

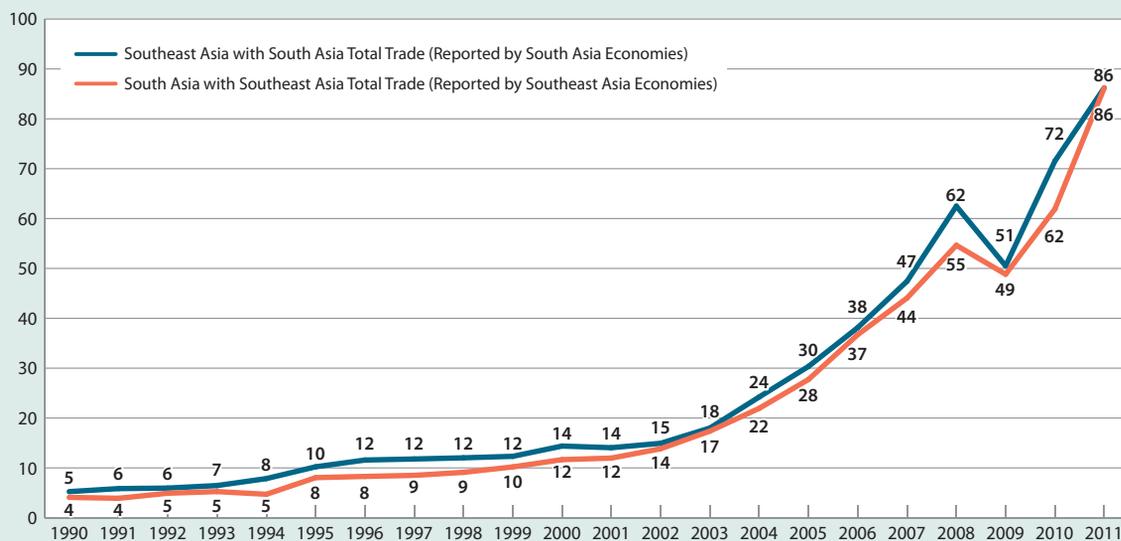


# 1 Cross-Subregional Economic Ties, Benefits, and Costs

## 1.1 Trade Links

The growth of South and Southeast Asian cross-subregional trade over time has been remarkable, from very little (\$4 billion) in 1990 to a considerable amount (\$86 billion) in 2011, an increase of almost 22 times (Figure 1). Both subregions embraced outward-oriented reforms to deepen links with the global economy over this period. From 2000 to 2011, effective applied manufacturing tariffs fell from 14% to 11% in South Asia and 11% to 7% in Southeast Asia, making the latter subregion arguably the most open in the developing world (Figure 2). 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% and that of India increased to 18% (ADB 2013a). Cross-subregional trade growth was even faster: Southeast Asia's share of South Asian trade rose slightly from 11% to 12%, whereas South Asia's share of Southeast Asian trade doubled from about 2% to 4% (Figure 3). This suggests that while cross-subregional trade is relatively low compared to trade with the rest of the world for both subregions, it has risen from being fairly insignificant to being important to both subregions, particularly South Asia. In fact, South and Southeast Asian trade is 2.5 times larger than intra-South Asian trade (Table 1). Intra-Southeast Asian trade is much higher, at about 25% of its total trade, but this share has been relatively steady over the past two decades.

**Figure 1: Total Trade between South and Southeast Asia, 1990–2011 (\$ billion)**



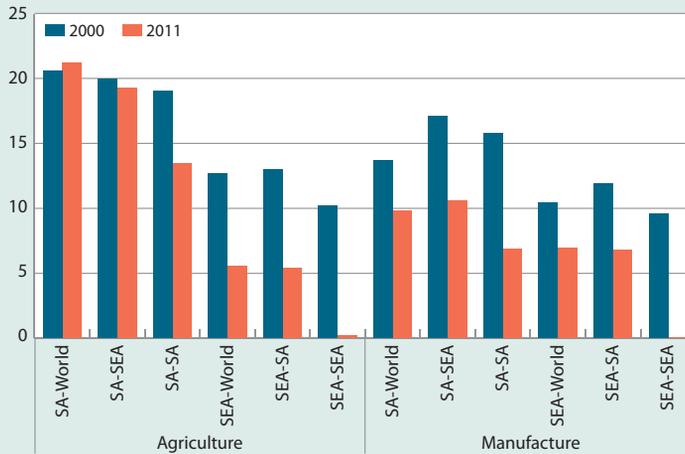
Note: Figures reported by importers.

Source: UN Comtrade (<http://comtrade.un.org/db/> [accessed March 2013]).

One way to gauge whether cross-subregional trade is underperforming would be to utilize an econometric model of trade determination that allows separation of regional and non-regional effects. The most popular model in 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 regions. By isolating influences beyond potential regional effects, such an approach allows us to determine whether trading with a region leads to a positive or negative bias. One such study of South Asian trade estimates a statistically significant, positive Southeast Asian effect: over 2003–2008, the authors estimate that South Asian trade with ASEAN was 2.4 times higher than one would expect, controlling for all other variables (Akhter and Ghani 2010).<sup>1</sup> This would suggest

<sup>1</sup> Akhter and Ghani (2010, Table 4) note that the estimate coefficient on the ASEAN binary variable is 0.889; to infer the actual trade bias, one must take the exponent of 0.889, which is 2.43.

**Figure 2: South and Southeast Asia Effectively Applied Tariffs, 2000 and 2011 (%)**

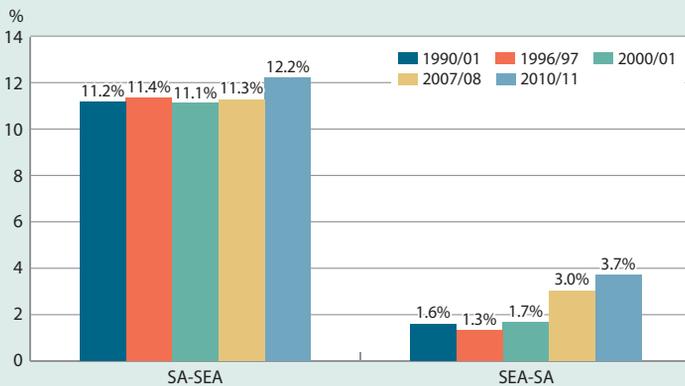


Note: SA = South Asia; SEA = Southeast Asia.

Computed using simple average.

Source: TRAINS Database (<http://www.unctad.info/en/Trade-Analysis-Branch/Data-And-Statistics/TRAINSWITS/> [accessed March 2013]).

**Figure 3: Share of South and Southeast Asia Cross-Subregional Trade to Their Total Trade, 1990–2011**



Note: SA = South Asia; SEA = Southeast Asia.

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

Source: UN Comtrade (<http://comtrade.un.org/db/> [accessed March 2013]).

**Table 1: Value of Merchandise Trade between South and Southeast Asia, 1990–2011 (\$ billion)**

Economies	Imports						Total Trade					
	South Asia			Southeast Asia			South Asia			Southeast Asia		
	1990/01	2000/01	2010/11	1990/01	2000/01	2010/11	1990/01	2000/01	2010/11	1990/01	2000/01	2010/11
<b>South Asia</b>	<b>785</b>	<b>2,786</b>	<b>12,351</b>	<b>2,080</b>	<b>4,128</b>	<b>24,174</b>	<b>942</b>	<b>2,719</b>	<b>16,933</b>	<b>3,512</b>	<b>10,124</b>	<b>54,679</b>
Afghanistan	18	56	301	0	2	0	41	160	2,623	77	16	257
Bangladesh	55	114	582	58	152	234	422	1,060	4,087	538	1,455	5,962
India	420	1,886	8,778	1,614	3,479	22,693	71	304	1,431	1,578	6,231	39,333
Maldives	8	33	41	22	9	41	15	95	161	103	171	474
Nepal	22	309	509	5	9	5	69	168	2,233	78	135	210
Pakistan	194	246	1,391	308	352	746	98	228	2,193	698	1,139	5,777
Sri Lanka	68	142	748	73	124	455	226	703	4,207	440	978	2,666
<b>Southeast Asia</b>	<b>2,589</b>	<b>8,256</b>	<b>43,838</b>	<b>25,615</b>	<b>78,181</b>	<b>232,744</b>	<b>1,453</b>	<b>3,594</b>	<b>30,194</b>	<b>28,716</b>	<b>91,060</b>	<b>275,305</b>
Brunei Dar.	0	0	457	391	693	1,182	1	4	446	678	779	1,974
Indonesia	255	1,659	13,076	709	5,117	38,796	183	560	5,715	628	3,421	54,116
Malaysia	952	2,138	10,713	10,853	27,783	63,522	224	725	3,957	8,845	29,354	70,049
Philippines	26	98	485	634	6,161	13,923	78	242	1,048	1,339	7,100	19,386
Singapore	911	2,958	10,373	9,503	22,641	59,609	634	1,029	12,715	11,644	31,924	61,429
Thailand	296	1,017	5,950	2,951	12,608	40,439	308	719	2,649	5,001	11,933	33,946
Cambodia	0	1	9	25	124	574	0	12	102	11	1,079	5,437
Lao PDR	0	0	45	46	169	1,089	0	5	11	71	495	2,614
Myanmar	79	341	1,261	256	746	3,477	5	55	374	359	1,152	4,469
Viet Nam	70	43	1,470	248	2,137	10,134	22	243	3,176	140	3,823	21,885
<b>Total</b>	<b>3,374</b>	<b>11,042</b>	<b>56,189</b>	<b>27,694</b>	<b>82,309</b>	<b>256,918</b>	<b>2,396</b>	<b>6,313</b>	<b>47,127</b>	<b>32,228</b>	<b>101,185</b>	<b>329,984</b>

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

Source: UN Comtrade Database (<http://comtrade.un.org/db/> [accessed March 2013]).

that the impressive rise in cross-subregional 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 ASEAN had almost three times as large an effect on intra-ASEAN trade flows.<sup>2</sup>

### Supply Chains and Regional Production Networks

As noted above, intra-regional trade is much greater in Southeast Asia than in South Asia. Indeed, the gravity model used by Akhter and Ghani (2010) found a negative bias in intra-South Asian trade, whereas

<sup>2</sup> The estimated coefficient was 1.965 [exp (1.965=7.13)].

many studies have found a strong, positive intra-ASEAN effect. While there are many reasons for this asymmetric regional performance—including the degree of regional economic cooperation—the prominence of regional production networks in Southeast Asian trade is a key factor, whereas these networks are far less important in South Asia.

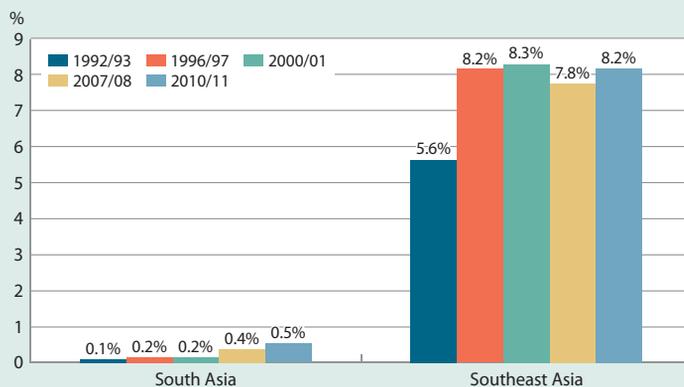
Production networks refer to the breaking up of production processes into fragmented segments that can be carried out in different cross-border locations and eventually coordinated for assembly into final products. Southeast Asia has been particularly successful in attracting regional production networks because of its differences in wage and labor productivity levels across countries; regional trade and investment liberalization through such initiatives as the ASEAN Free Trade Area (AFTA), the ASEAN Comprehensive Investment Area (ACIA), and the ASEAN Economic Community (AEC); and increasingly strong intra-regional and international links that result in lower production and logistics costs.<sup>3</sup> Production networks have played a significant role in influencing trade by relocating labor-intensive segments to low wage economies, resulting in rapidly growing intra-industry trade in parts and components. Production networks make use of each economy's advantages to boost productivity and cut costs, while bolstering investment and technological transfer. They have also permitted low income countries to plug into the global economy in ways that would have been impossible two decades ago.

South Asia is less integrated into production networks than is Southeast Asia. As shown in Figure 4, Southeast Asia holds an 8% share of global production network exports—quite impressive as the global total includes intra-regional networks in the European Union (EU), the North American Free Trade Agreement (NAFTA), as well as the People's Republic of China (PRC)—and almost two-thirds its global manufactured exports are part of these networks (Figure 5), whereas the corresponding figures for South Asia are growing but continue to be small at only 0.05% and 16%, respectively. Given the salutary benefits of these production networks for growth and poverty reduction, this is clearly one area in which South Asia can improve; closer links with Southeast Asia would facilitate this.

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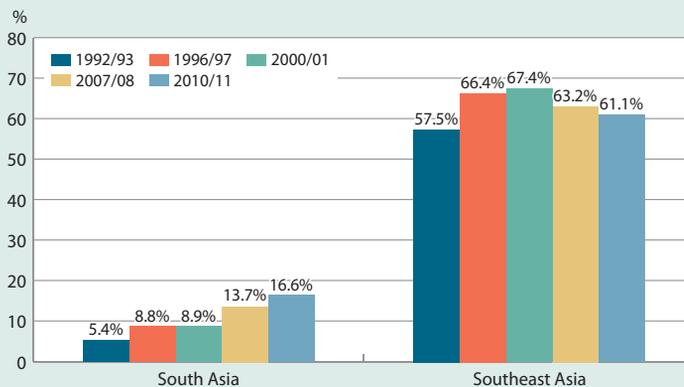
<sup>3</sup> Plummer and Chia (2009) and Athukorala (2010).

**Figure 4: Share of South and Southeast Asia in World Total Production Network Exports, 1992–2011**



Notes: 1. Figures reported by importers.  
 2. South Asia refers to India and Pakistan.  
 3. Southeast Asia refers to Indonesia, Malaysia, Philippines, Singapore, Thailand and Viet Nam.  
 4. Year ranges refer to financial year beginning in April of the earlier year.  
 Source: Author's computations using UN Comtrade data (<http://comtrade.un.org/db/> [accessed March 2013]) based on methodology adapted from Athukorala (2010).

**Figure 5: South and Southeast Asia's Production Network Exports Share in Each Subregion's Total Manufacturing Exports, 1992–2011**



Notes: 1. Figures reported by importers.  
 2. South Asia refers to India and Pakistan.  
 3. Southeast Asia refers to Indonesia, Malaysia, Philippines, Singapore, Thailand and Viet Nam.  
 4. Year ranges refer to financial year beginning in April of the earlier year.  
 Source: Author's computations using UN Comtrade data (<http://comtrade.un.org/db/> [accessed March 2013]) based on methodology adapted from Athukorala (2010).

## 1.2 Investment Links

FDI has been an important part of the successful development experience in Southeast Asia. Inflows of FDI bring in stable new capital flows, foreign exchange, easy access to foreign markets, and technology transfer. They also tend to strengthen institutions within developing countries, including in the financial sector, and create a more stable environment of policy competition for more business-friendly policies.<sup>4</sup> In doing so, they establish an attractive business environment within which multinationals can easily profit from a vertical division of labor and facilitate the emergence of regional production chains.

Traditionally, FDI flows have been North-South, but South-South FDI has become increasingly prominent. Since 2006, greenfield FDI from South Asia—particularly India—to Southeast Asia has been greater than Southeast Asian FDI in South Asia (Figure 6), but in both cases the aggregate flows are relatively small: Southeast Asia only accounted for 14% of total South Asian FDI outflows during 2009–2012, and South Asia only received 6% of Southeast Asian FDI. In both cases, these shares are down from those in 2006–2008 (Figure 7).

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<sup>4</sup> See, for example, Prasad, Kose, Rogoff, and Wei (2006).

**Figure 6: South and Southeast Asia Cross-Subregional Greenfield Foreign Direct Investment, 2003–2012**



Note: SA = South Asia; SEA = Southeast Asia.

\* 2012 figures up to November 2012.

Source: fDi Markets database (<http://www.fdimarkets.com/> [accessed March 2013]).

**Figure 7: Share of South and Southeast Asia Cross-Subregional to Total Greenfield Foreign Direct Investment, 2003–2012**



Note: SA = South Asia; SEA = Southeast Asia.

\* 2012 figures up to November 2012.

Source: fDi Markets database (<http://www.fdimarkets.com/> [accessed March 2013]).

## 1.3 Benefits and Costs of Closer Integration

A fundamental insight of economics is that international trade tends to improve an economy's aggregate income. According to the World Bank, in the 1990s per capita real income grew more than three times faster for developing countries that lowered trade barriers (5.0% per year) than for other developing countries (1.4% per year) (as cited in OECD (2010)). This result follows in large part from the reallocation of factors of production from less to more efficient activities along the lines of a country's comparative advantage.

Moreover, empirical studies underscore the importance of investments in public infrastructure—physical and institutional—that can support the shift into new areas of economic activity consistent with an economy's evolving factor endowments and factor prices, as well as complementary policies such as trade facilitation and trade finance. We discuss these issues at length below.

Regional (cross-border) infrastructure is particularly important to Asia's economic development. It can deliver the following benefits:

- improve regional connectivity by making it faster, cheaper, and easier for people and goods to move across borders within the region;
- reduce the cost of regional (and global) trade, enhance the competitiveness of regional production networks, promote greater investment and facilitate the movement and extension of production networks to the two subregions;
- help reduce poverty by improving poor people's access to economic opportunities, lowering the cost of the goods and services they consume, and providing better access to essential infrastructure services;
- help narrow the development gap among Asian economies by providing poor, landlocked, and remote countries and areas with better access to regional (and global) markets and production networks, thereby stimulating investment, trade, and economic growth in those areas, as well as reducing regional conflict;

- promote more efficient use of regional resources, by developing regional projects that provide access to lower-cost and cleaner energy sources such as gas and hydropower;
- ensure inclusive and environmentally sustainable economic growth by connecting isolated and landlocked areas to economic centers by utilizing greener technologies and providing opportunities for low-income populations; and
- help create a single Asian market, one that can engender large efficiency gains, increase regional demand, and invest Asia's savings more productively in the region (ADB and ADBI 2009).

Financial integration can also provide substantial benefits by reducing funding costs and expanding available resources to fund needed investment such as infrastructure projects. This is particularly important for countries with less developed financial markets and institutions. Stable and efficient regional financial markets can help channel savings from around Asia and the rest of the world into productive investments throughout the region

Much can be done in South and Southeast Asia to reduce impediments to cross-subregional trade and investment and to improve global competitiveness. We identify and analyze measures that could be promulgated by South and Southeast Asia to accomplish this—through soft policies from trade facilitation to regional trading agreements and hard policies such as investment in infrastructure.

However, integration brought about by greater regional connectivity can have costs as well. The implied structural changes from trade adjustments arising from increased competition may be far from simple. For example, they could lead to substantial reallocation of income both across countries and among regions of a single country, and the temporary unemployment of resources. Increased trade can also have negative impacts, including socioeconomic spillovers of regional infrastructure projects—such as environmental damage, displaced people, traffic accidents, and human and drug trafficking—that cut across national borders. Trade-induced structural change facilitates economic renewal and growth, but it needs to be accompanied by economic policies to expedite adjustment as well as protect the most vulnerable. This may include transfer mechanisms to compensate losers or to spread benefits of new cross-border projects more equitably in order to create win-win situations.

Financial integration can also engender costs as a result of the increased exposure of economies with immature financial systems to external financial shocks, especially “sudden stops” (rapid and large-scale capital outflows) that can severely affect the real economy. Thus, financial development and integration must be sequenced properly and coordinated with improved national and regional financial surveillance and regulatory institutions.

### Earlier studies of benefits and costs of cross-subregional integration

Studies of benefits and costs of greater connectivity between South and Southeast Asia so far have mainly focused on connectivity between India and ASEAN under the auspices of the East Asian Summit.<sup>5</sup> As part of the work related to the Comprehensive Asia Development Plan (CADP) (ERIA 2010) prepared by the Economic Research Institute for ASEAN and East Asia (ERIA) for the East Asian Summit, Kumagai and Isono (2011) used the IDE/ERIA Geographical Simulation Model, a detailed regional model, to estimate impacts on the cumulative increase of GDP of countries in the two subregions from 2010 to 2030 relative to the base case for a number of connectivity projects, including the Mekong-India Economic Corridor (MIEC), the Kyaukphyu deep seaport in Myanmar, and the India-Myanmar-Thailand Trilateral Highway (IMTTH). For the MIEC, they found cumulative impacts over 5% for Cambodia, Myanmar, Thailand and Viet Nam, and over 2.5% for India. See Box 1 for more details on Myanmar.

Regarding trade integration, an earlier study using a slightly different regional unit of analysis (ASEAN+3 and South Asia) estimated large gains (about \$260 billion, or 2% of gross domestic product [GDP]) from an East and South Asian free trade area, under conservative assumptions (François, Rana, and Wignaraja 2009: 28 [Table 1.6]). Countries obtaining relatively large positive income impacts (over 2%) included Korea, Indonesia, Malaysia, Philippines, Singapore, Thailand, Viet Nam, India and Sri Lanka.

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<sup>5</sup> Members include the 12 ASEAN countries, Australia, PRC, India, Japan, New Zealand and the Republic of Korea.

## 1.4 Summary: Trends are Positive and Much Potential Remains Unexploited

The patterns of cross-subregional trade and investment described here show that economic interaction between the two subregions is on the rise, but the South and Southeast Asian economic partnership continues to be small relative to their relationships with the rest of the world (and, for Southeast Asia, relative to its own intra-regional economic integration). Much more can be accomplished via regional cooperation. Below, we will describe in more detail the economic potential of closer economic integration, followed by analysis as to how it can (and should) be done.

### **Box 1: Myanmar's Role as a Bridge**

**M**yanmar can play a crucial and strategic role in connecting South and Southeast Asia, as it provides the only land bridge between the two subregions. It shares a total of 5,858 kilometers (km) of international borders with five nations—Bangladesh, the People's Republic of China (PRC), India, the Lao People's Democratic Republic (Lao PDR), and Thailand. Moreover, its coastline stretches 2,800 km from the Bay of Bengal to the Andaman Sea, near major Indian Ocean shipping lanes. Therefore, the recent opening up of Myanmar provides substantial new opportunities to strengthen connectivity between the two subregions.

Myanmar has a total land area of 676,577 square km, the largest in Southeast Asia after Indonesia. As of 2011, it has a population of 60,384,000 with annual population growth of 1%. Myanmar is endowed with rich natural resources, including petroleum, timber, tin, antimony, zinc, copper, tungsten, lead, coal, marble, limestone, precious stones, natural gas, and hydropower. In 2011, natural gas, wood products, pulses, beans, fish, rice, clothing, jade, and gems were its largest export commodities. Its top export destinations in 2011 were the PRC, India and Thailand, while its top import sources were the PRC, Singapore and Thailand (Association of Southeast Asian Nations [ASEAN] 2012).

*(Continued)*

Despite its natural resource endowments, Myanmar remains one of the poorest countries in Asia, reflecting its legacy of inward-oriented economic policies since 1962 until recently. It has the lowest GDP per capita among ASEAN members, at \$875 in 2011, based on current prices. Total trade is \$14,925,100, with exports amounting to \$8,119,200. The trade to GDP ratio was 28.2% in 2011, the lowest in ASEAN, and the ratio of exports to GDP was 15.4% (ASEAN 2012).

Foreign direct investment (FDI) inflows to Myanmar are among the lowest in ASEAN, at \$450 million in 2011. Moreover, Myanmar still ranks low in terms of various infrastructure and connectivity indicators (see Table A1). Internet subscriptions are still very low at 10 per 1,000 population and cellular phone density is also low at 26 per 1,000 population. Nonetheless, Myanmar shows competitiveness in its transportation infrastructure. Its roads and paved network are much longer than those of Cambodia and the Lao PDR and even the middle-income Philippines and Thailand. Rail passenger traffic is also considerable, although air traffic is still very limited. However, cross-border road connectivity is poor, and there is no cross-border connectivity at all for railways. The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) has identified about 1,063 km of missing links in Myanmar for the Asian Highways 1 and 2 (UNESCAP 2010).

Like many developing economies, Myanmar is experiencing extensive structural transformation. In 2012, the service sector share in the GDP was 41.8%—higher than that of the agriculture sector share (38.8%), which has been falling steadily over the past decade, and that of the industry sector share (19.3%). Under President U Thein Sein, his administration has undertaken sweeping political and economic reforms such as lifting media censorship, releasing political prisoners, and adopting market-oriented reforms focusing on the real and financial sectors and improving the business climate for foreign investment (International Monetary Fund [IMF] 2013). The government also embarked on ceasefire agreements and peace talks with rebel ethnic groups. Myanmar's international relations also improved under the new President's leadership, as shown by Myanmar's openness to dialogue with the United States (US) and its appointment as ASEAN chair in 2014.

**Table A1: Myanmar Comparison Indicators**

Select Investment, Infrastructure, and Connectivity indicators in Myanmar and other ASEAN Members, 2011											
Country	Total FDI Inflows (US\$m)	% Change in FDI Inflows	Tourist Arrivals (000)	Change in Tourist Arrivals (%)	Internet Subscriber per 1000 Persons	Cellular phone density per 1000 Persons	Road Length (km)	Paved Network (km)	Vehicles per 1000 Population	Railways Passengers (000)	International Air Passenger Traffic (000)
Myanmar	450	-6.53	816	3.1	10	26	150,800	33,014	39	66,900	1,456
Other Asean Countries											
Brunei Darussalam	1,208	93.2	242	13	560	1,092	3,127	2,883	38	N/A	2,047
Cambodia	892	14	2,882	14.9	31	699	44,900	3,881	17		3,481
Indonesia	19,242	39.7	7,650	9.2	180	977	476,300	313,500	296	154,859	7,205
Lao PDR	301	-9.6	2,724	8.4	90	872	41,030	5,703	171	N/A	372
Malaysia	12,001	31.1	24,714	0.6	610	1,270	157,167	127,517	672	39,000	30,462
Singapore	63,997	31.3	13,171	13.2	750	1,495	3,412	3,412	185	2,410	46,544
Thailand	7,778	-14.6	19,098	19.8	237	1,132	114,437	108,158	432	44,000	39,979
Philippines	1,262	-2.8	3,917	11.3	290	920	31,359	24,834	74	395,500	12,969
Viet Nam	7,430	-7.1	6,014	19.1	351	1,434	301,000	198,000	17	11,900	11,821

Source: ASEAN (2012).

(Continued)

In 2012, the government drafted its Framework for Economic and Social Reforms. The document set out a highly ambitious program; it identifies the policy agenda and priorities of the Government of Myanmar from 2012 to 2015, while aiming for the longer term goal of “...identifying parameters and processes to develop Myanmar into a modern, developed and democratic nation by 2030” (Government of Myanmar 2012:1). The reform measures include macroeconomic policies to promote inclusive growth, stability, and poverty reduction; sectoral reforms to develop industry; other policies to promote social, cultural, and environmental aspects of development, as well as social harmony and regional development; governance reforms; and strategies to improve the international reputation of Myanmar through its engagement with ASEAN, the GMS, and the rest of the world. The document identifies specific plans for reforms in government finance and taxation, monetary and financial sector policies, trade and investment liberalization programs, education, governance and transparency, improvements in telecommunications, development of infrastructure, and improved government efficiency.

The government is embarking on programs to raise agricultural productivity and encourage development of manufacturing, energy, and mining. It is also pursuing priority infrastructure projects that will support upgrading of the agriculture and industry sectors and enhance the country’s connectivity to the region. Major reforms being implemented include land reform programs to grant titles to farmers, improving access to financing, and development of rural infrastructure. The government also revised the law governing FDI to reduce restrictions on foreign investment, and further plans to improve the Special Economic Zone Law, 2011, to reduce restrictive policies on domestic firms (IMF 2013). The government is also developing a comprehensive tourism strategy that will improve tourism infrastructure and support sustainable tourism in the country.

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# 2 Issues and Impediments to Greater Cross-Subregional Integration

This section describes the various issues and impediments relating to greater integration between South and Southeast Asia in key areas of connectivity, including physical transport infrastructure, energy infrastructure and trading, trade facilitation, financing of infrastructure, trade and investment policy reforms, and institutional aspects. It also suggests ways forward to reduce these impediments.

## 2.1 Physical Transport Infrastructure

Effective and efficient physical connectivity between South and Southeast Asia requires a regional perspective in developing transport infrastructure projects. The diverse geography and range of applicable transport modes underscore the need for multimodal planning in constructing roads, railways, seaports, inland waterways, and airports<sup>6</sup> that satisfy the needs of users, including transport service providers. Any approach to strengthening physical connectivity must address constraints in the form of missing links and bottlenecks in

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<sup>6</sup> Air transportation is not included in this study.

the transportation networks. These physical barriers or hindrances to cross-subregional trade are located mainly in Myanmar, the only land bridge between these subregions; India; and to a lesser extent in Bangladesh, Cambodia, the Lao PDR and Viet Nam. These barriers are discussed in this section.

### 2.1.1 Background

Basic characteristics of the transport modes determine the relative importance of each mode to international or domestic transport service providers in South and Southeast Asia, who must balance the impact of various factors affecting cost, speed and reliability in the movement of passenger or freight traffic:

- Road transport is generally considered a fast and relatively reliable mode; its ability to provide door-to-door services can offset its higher costs vis-à-vis maritime or rail modes.
- Rail transport is an underutilized transport mode in South and Southeast Asia because of serious limitations in the rail network, particularly in facilitating regional connectivity. Myanmar has no international railway connections and no rail network is operational in the Lao PDR.
- Maritime transport is the dominant transport mode for the movement of international trade. Better economies of scale in maritime transport can be achieved by conveying goods in large volumes over long distances in comparison to road transport.
- Air transport provides fast and reliable services and is particularly important for the tourism industry. Although it is also expensive, the proliferation of low-cost carriers has considerably widened the passenger market for air transport.
- Inland water transport, an important mode particularly in Southeast Asia, is relatively cheap, but also slower and not always reliable.

Below we focus on road and rail links and seaports, given that they arguably constitute the most important binding constraints to cross-subregional trade at present and progress in these areas can generate high returns in the short and long run. The goal of strengthening the road and railway networks between South and Southeast Asia is shared by the United Nations Economic and Social Commission for

Asia and the Pacific (UNESCAP), ASEAN, Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), GMS, SAARC and SASEC, among other subregional cooperation programs in Asia. The Asian Land Transport Infrastructure Development Project, established by UNESCAP in 1992, is foremost among the existing pan-Asian infrastructure initiatives. Its pillars are the Asian Highway, the TAR, and the facilitation of land transport projects through intermodal transport terminals (dry and inland ports). The Asian Highway and TAR networks both follow frameworks for internationally agreed routes and infrastructural standards. Subsequent pan-Asian infrastructure programs have identified networks that overlap significantly with the Asian Highway and TAR. Hence, we consider some of the challenges facing the Asian Highway and TAR below, as well as other key initiatives such as the ASEAN Highway, the GMS Economic Corridors, and the GMS Railway. We also discuss the role of economic corridors in heightening the economic efficiency of transportation networks.

## 2.1.2 Road Networks

### Asian Highway

The Asian Highway concept was formally proposed in 1959 as a network of 65,000 km in 15 member countries to promote the development of international road transport in the Asian region. Over the years, the Asian Highway network has become a set of existing national highway links connecting major cities to promote regional integration. The concept requires that the Asian Highway routes be upgraded and/or maintained to meet uniform standards. An Intergovernmental Agreement was adopted in 2003 to finalize formalization of the Asian Highway and it came into force in 2005. Currently, the Asian Highway network consists of 143,000 km of standardized roadways crisscrossing 32 Asian countries with linkages to Europe. Asian Highway roads belonging to class III and below comprise about 29% (or 41,500 km) of the network. These sections have two lanes or less, are not universally paved, and are in various states of repair. Consequently, these roads are potential bottlenecks that may eventually be designated priorities for upgrading based on existing or anticipated traffic volumes and loads.

Four primary Asian Highway routes cross east to west connecting South and Southeast Asia: Asian Highway 1 and 2 linking India and Bangladesh with Myanmar and the rest of Southeast Asia, and Asian Highway 15 and 16 linking Thailand, the Lao PDR, and Viet Nam. These east-west routes total 13,000 km, of which 13% (1,652 km) are classified as class III and below roads.

The Asian Highway 1 and 2 are the principal Asian Highway routes connecting South and Southeast Asia. These routes pass through Myanmar, which is the only land bridge between the two subregions. In Myanmar, Asian Highway 1 passes through Myawaddy-Payagyi-(Yangon)-Meiktila-Mandalay-Tamu (1,665 km); and Asian Highway 2 passes through Tachilek-Kyaington-Meiktila-Mandalay-Tamu (807 km). These routes link India and Myanmar (and, through India, Bangladesh) and have the following bottlenecks (UNESCAP 2006):

- In India, out of the total of 431 km that are class III or below on the Asian Highway, 57% (245 km) is on Asian Highway 1 and 43% (186 km) is on Asian Highway 2.
- In Bangladesh, out of the total of 88 km that are class III or below on the Asian Highway, 36% (32 km) is on Asian Highway 1 while 63% (56 km) is on Asian Highway 2.
- In Myanmar, a total of 1,064 km are class III or below on the Asian Highway—50% (536 km) on Asian Highway 1 and 50% (528 km) on Asian Highway 2. The total for Myanmar represents 51% of the total length of the Asian Highway in South and Southeast Asia that is class III or below, indicating much scope for improvement of its road network.

UNESCAP has highlighted the following road links as priority investments in Myanmar (UNESCAP 2006):

- Upgrading of the Myawaddy-Kawkareik road section of Asian Highway 1
- Upgrading of the Kalay-Kalewa-Monywa section of Asian Highway 1
- Upgrading of the Kyaington-Taunggyi section of Asian Highway 2

According to the ERIA report, the following routes are critical to enhancing connectivity between Myanmar and Northeast India (Kimura, Kudo and Umezaki 2007):

- Moreh/Tamu route: This is the main route for border trade between India and Myanmar and has overlaps with AH1 and AH2. The section from Palel to Moreh (60 km) is single-lane and mostly mountainous. The surface is paved but significant sections between Palel and Moreh are in disrepair.
- Zolkawtar/Rhee route: This route can be positioned as the shortest land route connecting Myanmar and Kolkata through Northeast India and Bangladesh if the section from Aizawl to Agartala is improved and transit trade through Bangladesh is realized.
- Nampong/Pangsu route, known as Stilwell Road: Starting from Ledo in India's Assam state, it weaves through upper Myanmar to end in China's Yunnan province. Currently, the border is not yet opened for official border trade.

These projects also tie in with those identified in the BIMSTEC Transport Infrastructure and Logistics Study (BTILS) (ADB 2008), which forms the core of transport planning in the BIMSTEC area and was endorsed by the BIMSTEC ministers in 2009. The BIMSTEC program has identified 14 road corridors, 4 rail corridors, 2 inland waterway corridors, 11 maritime gateways and 15 aviation gateways. Some of the road and railway corridors overlap with the Asian Highway and TAR routes.

### ASEAN Highway Network

ASEAN has identified the ASEAN Highway Network (AHN), which consists of 23 designated routes, totaling about 38,400 km, as one of ASEAN's flagship projects for land transport connectivity. The AHN is aimed at eventually creating a denser network of intra-regional highways through the expansion of UNESCAP's Asian Highway network within ASEAN member states. The AHN uses the same design standards as UNESCAP's Asian Highway network. ASEAN Highway routes overlapping with UNESCAP's Asian Highway routes have the same route numbers as the Asian Highway routes. About half of the AHN length still consists of class III and below roads. ASEAN has identified Transit Transport Routes in the AHN to facilitate transportation of goods in transit and to further integrate Asia's economies (ASEAN 2010a).

### India–Myanmar–Thailand Trilateral Highway (IMTTH)

The India–Myanmar–Thailand Trilateral Highway (IMTTH) Project was conceptualized in 2002 to provide a 1,360 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 Baganin central Myanmar. Major stretches of road already exist but dilapidated sections have to be improved and interconnected. The alignment of the IMTTH falls within the Asian Highway 1 being pursued by UNESCAP (De 2011). The objective of the road is to create a link between Northeast India and Southeast Asia. A deep-sea port at Dawei and the Dawei-Kachanaburi road link are also to be carried out in one package together with the trilateral highway project (see discussion in section 2.1.5 below). The project was initially launched under the program of the Mekong Ganga Cooperation (MGC) and later incorporated into the transport sector of BIMSTEC but it has not yet been executed (Htun, Lwin, Naing and Tun 2011).

## 2.1.3 Railway Networks

Rail network connectivity between the two regions is generally poor. In particular, Myanmar has no cross-border rail links. Moreover, the incompatibility of gauges (track widths) in India, Bangladesh, Thailand and Myanmar means that transshipment will be required even after through rail links are developed. This increases costs, lowers service levels and makes rail less competitive (ADB 2008).

### Trans-Asian Railway

The TAR is UNESCAP's counterpart to the Asian Highway in the rail transport subsector to promote more environmentally friendly and sustainable transport solutions. UNESCAP initiated designing the TAR network in the 1960s with the objective of providing a continuous 14,000km rail link between Singapore and Istanbul. The TAR program promotes railways as an energy-efficient mode of transport to enhance the operational efficiency, economic relevance, and commercial utilization of Asia's rail transport infrastructure. The TAR is envisioned to alleviate the geographical isolation of the landlocked TAR members by offering them an advanced land transportation system linked to sea routes using the ports of other member countries.

**Table 2: Missing Links of the Trans-Asian Railway Connecting South and Southeast Asia**

From	To	To	Missing Railway Link	Length (km)
India	Myanmar		Jiribam (India) – Kalay (Myanmar)	346
Myanmar	Thailand		Thanphyuzayat (Myanmar) – Namtok (Thailand)	263
Thailand	Cambodia		Aranyaprathet (Thailand) – Sisophon (Cambodia)	54
Thailand	Lao PDR		Savannakhet (Thailand) – Bua Yai (Lao PDR)	287
Thailand	Lao PDR	Viet Nam	Ubonratchatani (Thailand) – Pakse (Lao PDR) – Savannakhet (Thai) – Devsavanh (Lao) – Dong Ha (Viet Nam)	589
Lao PDR	Viet Nam		Vientiane (Lao PDR) – Mu Gia (Viet Nam) – Vung An	569
Cambodia	Viet Nam		Bat Deng (Cambodia) – Loc Ninh (Viet Nam) – HCM City	385
<b>Total</b>				<b>2,493</b>

Note: km = kilometer, Lao PDR = Lao People's Democratic Republic.  
Source: UNESCAP (2011).

The Intergovernmental Agreement on the Trans-Asian Railway Network, which entered into force in 2009, sets forth a framework for the coordinated development of rail routes of international importance and their efficient operationalization. The links in the network were identified by members based on potential to serve immediate transport needs, and to support international trade within the ESCAP region as well as between Asia and Europe.

Currently, the TAR network is comprised of 117,000 km of rail routes. This includes about 10,500 km of missing links, which need to be constructed to provide for an unbroken TAR network. Gaps or missing links occur along the TAR network in sections where no physical linkage exists between the railway networks of neighboring countries or where there is an absence of continuous railway links within the countries. Table 2 indicates possible future links in the TAR network that could enhance connectivity between South and Southeast Asia. These represent about 25% of the missing links in the entire TAR network.

### Greater Mekong Subregion Railway

The ADB-funded GMS Railway Strategy Study (ADB 2011a) assessed various alternative routes for linking the unconnected railways in the GMS to strengthen the connectivity of the nodes and enhance the overall efficiency of the subregion's railway network. The highest priority was given to the Bangkok–Phnom Penh–Ho Chi Minh City–

Hanoi-Kunming-Nanjing route because it was determined to offer the following advantages:

- Largest potential traffic volume based on projections of freight and passenger demand
- Connects all the GMS countries except Myanmar
- Lowest construction cost
- Highest projected economic internal rate of return
- Attractive to investors and operators in the private sector

This route is also the most relevant to connectivity between South and Southeast Asia although it would require the establishment of links between Thailand and Myanmar of almost 263 km between Namtok, Thailand and Thanbyuzayat, Myanmar.

## 2.1.4 Seaports

### Bangladesh

Chittagong Port is the principal seaport of Bangladesh, responsible for handling over 90% of the country's external trade. It lies mainly on the north bank of the Karnaphuli River, about 16 km upstream from the Bay of Bengal (ADB 2011b). In 2011, Chittagong Port handled about 43.1 million tons of cargo, 1.4 million twenty-foot equivalent units (TEUs), and 2,248 vessels.<sup>7</sup>

Because of the width, curvature, and draft of the Karnaphuli River, the size of vessels that are able to call at Chittagong Port is limited. For vessels entering the port, the maximum permissible draft is 9.2 meters (m) and the maximum length is 186.0 m.<sup>8</sup> There are also constraints for port capacity and operations. Expansion of the port on the north bank of the river is restricted by the city. Land is available on the south bank, but is hampered by poor connectivity (ADB 2011b).

Severe capacity bottlenecks hamper the rail and road traffic between Chittagong Port and Dhaka. The 327 km railway between the port and Dhaka is partially single-track, limiting the number of daily trains. Moreover, because of the preference given to passenger traffic,

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<sup>7</sup> Chittagong Port Authority, <http://cpa.gov.bd/portal/> (accessed 13 March 2013).

<sup>8</sup> Chittagong Port Authority, <http://cpa.gov.bd/portal/> (accessed 13 March 2013).

only four or five container trains operate daily, carrying about 10% of containers between the two nodes. The 250 km highway between Chittagong Port and Dhaka is only two lanes and is bounded by load restrictions on bridges. Generally, fully loaded containers cannot be transported to the capital by road and the loading and unloading of containers has to take place at the port (ADB 2011b).

The Government of Bangladesh has plans to increase Chittagong Port's container handling capacity by fully operationalizing the New Mooring Container Terminal located directly west of the existing terminal. Railroad capacity between the port and Dhaka would also be increased in 3–5 years by converting single-track sections into double track. The highway would be widened from two to four lanes (ADB 2011b).

## Myanmar

Yangon is the principal port city of Myanmar. Yangon Port handles more than 90% of the country's imports and exports (Japan International Freight Forwarders Association [JIFFA] 2012). It is situated on the Yangon River, 30 km inland from the Gulf of Martaban, Andaman Sea. Yangon Port now includes a new port area at Thilawa, about 20 km downstream of the Yangon River. In 2011, Myanmar handled about 20.4 million tons of cargo, 0.4 million TEUs, and 1,836 vessels.<sup>9</sup>

As a result of the meanderings and shallow draft of the Yangon River, Yangon Port is accessible only to vessels of maximum 9 m draft, 167 m length, and 15,000 deadweight tons (DWT). The port area of Thilawa offers a deeper draft and is accessible to larger vessels with maximum 9 m draft, 200 m length, and 20,000 DWT (Min and Kudo 2012). However, the road between the Thilawa port area and the bridge leading to Yangon is in poor condition. Moreover, because of much higher container transport charges, Thilawa port area only has a 12% market share (Zaw and Kudo 2011). As Yangon Port is located close to the city center, it faces constraints on space.

It is reported that the facilities in Yangon Port are obsolete and lack sufficient generators. Port operations often halt when there is an electricity blackout. It is also reported that Yangon Port does not have

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<sup>9</sup> Myanma Port Authority. 2012. Development of Container Port and Inter modal Connections. <http://www.unescap.org/ttdw/common/Meetings/TIS/IntegratedTx-2012/Presentations/4.3.Myanmar.pdf> (accessed 18 March 2013).

sufficient cargo handling equipment, resulting in a long waiting time for the loading and unloading of cargo (JIFFA 2012). As the general cargo berths are located in the city center, Yangon Port contributes to chronic road congestion in the city, which leads to long and unreliable transport times. As for railway transport, not all routes are electrified yet, and all routes except between Yangon and Mandalay are single-track. Moreover, freight trains can only begin running in the afternoon, causing difficulty in establishing freight train schedules (JIFFA 2012).

In accordance with the Yangon Port Development Plan, 2010, dredging of the waterways of the Yangon River is ongoing. Upon completion, it would be deep enough for 35,000 DWT vessels with more than 9 m draft. The number of jetties would be tripled from 22 to 62, and port operations would be improved to handle the expected increase in cargo traffic. As for road transport, a new four-lane cargo road between the general cargo berths situated in the city center and Yangon River would be constructed, and some road sections linking to the main highways would be upgraded to six lanes. To ease the traffic problem in the city center, a new container yard terminal would be constructed in the outskirts of Yangon city (Zaw and Kudo 2011).

In the longer term, accommodating demands for traffic of larger vessels implies that the development of deep sea commercial ports will have to be implemented at suitable sites along the coast of Myanmar such as Kyaukpyu on the western coast and Kalegauk, Dawei and Bokpyin on the eastern coast of Myanmar (Htun, Lwin, Naing and Tun 2011). Dawei port has been proposed as a key link in the MIEC (see discussion in section 2.1.5 below).

## India

Kolkata Port is the gateway to Eastern India, including landlocked Nepal and Bhutan. It is situated on the west bank of the Hoogly River, upstream from the Bay of Bengal. Kolkata Port has the longest navigational channel in India, longer than all of the major Indian ports combined. It has two dock systems—the Kolkata Dock System (KDS) and the Haldia Dock System (HDS) (Kamath 2009). The pilotage distance of the KDS is 221 km while that of the HDS is 121 km.<sup>10</sup>

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<sup>10</sup> Kolkata Port Trust, <http://www.kolkataporttrust.gov.in/> (accessed 18 March 2013).

In 2011, Kolkata Port handled about 43.2 million tons of cargo, 0.6 million TEUs of container traffic, and 3,186 vessels.<sup>11</sup>

Similar to the other ports in the northern part of the Bay of Bengal, Kolkata Port suffers from draft restrictions, limiting the size of vessels that are able to call at the port (ADB 2008). The KDS is only accessible to vessels with a maximum draft of 8.5 m and length of 172 m, while the HDS is accessible to larger vessels with a maximum draft of 13.4 m and length of 240 m.<sup>12</sup>

Although Kolkata Port's performance indicators are more favorable than those of Chittagong Port, Kolkata Port is reported not to have been operating efficiently. The KDS is highly disorganized, with containers being stored wherever vacant land is available. The container yard operations are not computerized, causing the locating of individual containers to be a perennial problem. The HDS suffers from similar problems, but these are mostly masked by lower cargo volumes (ADB 2008). Road connectivity for Kolkata Port is heavily congested.

To address the draught restrictions, several new ports with deeper draught have been proposed, such as the Diamond Harbour Container Terminal, which is being developed south of the HDS.<sup>13</sup> Support has been expressed to conduct a feasibility study to link the various computer systems of the parties involved in port-related activities by a "Port Community Systems." To improve road connectivity, Kolkata Port Trust and the National Highways Authority have been tasked to develop remedial measures in terms of the development of road infrastructure, implementation of traffic management measures, or the introduction of expedited gate procedures (ADB 2008).

## 2.1.5 Multimodal and Economic Corridors

Multimodal corridors are corridors that combine different transport modes (land, canal, sea and air). The concept of economic corridor means a holistic strategy that improves and enhances investments in transport, energy, and telecommunications in a

<sup>11</sup> Kolkata Port Trust, <http://www.kolkataporttrust.gov.in/> (accessed 18 March 2013).

<sup>12</sup> Maximum draft from Dredge Point, <https://www.dredgepoint.org/> (accessed 18 March 2013); maximum length from Kolkata Port Trust, <http://www.kolkataporttrust.gov.in/> (accessed 18 March 2013).

<sup>13</sup> Kolkata Port Trust, <http://www.kolkataporttrust.gov.in/> (accessed 18 March 2013).

subregion in a coordinated way to enhance logistical efficiency. The aim is to develop a highly efficient transport system enabling goods and people move around the subregion without excessive cost or delay. Such improvement can promote further economic growth and regional development, thus contributing to poverty reduction. In particular, it can aid the development of production networks. An economic corridor tends to have the following characteristics:

- Covers a smaller, defined geographic space, usually, straddling a central transport artery such as a road, rail line, or canal; and
- Highlights physical planning of the corridor and its surrounding area, to concentrate infrastructure development and achieve the greatest benefits (ADB 2013b).

### Greater Mekong Subregion Economic Corridors

The GMS initiated its economic corridor program in 1998 and three corridors were initially identified, i.e., the East-West Economic Corridor (EWEC), the North-South Economic Corridor (NSEC), and the Southern Economic Corridor (SEC), although the latter two consist of multiple subcorridors. All six participating countries agreed to prioritize the East-West Economic Corridor connecting the Lao PDR, Myanmar, Thailand and Viet Nam along a 1,600 km route. The aim of the corridor program is to strengthen the transport systems and logistics necessary to increase GMS cooperation and to improve economic linkages with other countries and regions. The GMS subregional program has since developed a transport sector strategy, covering 2006–2015, which identifies nine economic corridors along with priority transport infrastructure investments.

GMS corridors in Myanmar have significant overlaps with the Asian Highway and AHN road networks and, accordingly, various GMS road links can contribute to the improvement of land connectivity between South and Southeast Asia. The GMS highway routes in Myanmar are as follows: (i) R3: Tachilek-Kyaington-Mongla (257 km); (ii) R4: Lashio-Muse (175 km); and (iii) R7: Kyaington-Loilem-Thibaw-Lashio (660 km). There is substantial interface between the AH and AHN on one hand and the GMS road corridors on the other. Thus the GMS corridors can be considered as building blocks of the AH/AHN.

The GMS has identified the following projects, which could rectify important infrastructure gaps (ADB 2012b):

- A gap identified by GMS along the Western Corridor is tied in with the extension of the East-West Corridor from Kawkaik to Payagi on the Western Corridor. Closing it would establish a link between the East West Corridor and the Western Corridor.
- Upgrading the Northern Corridor, from Monywa to the Indian border at Tamu, would link India with Myanmar and the PRC along the GMS Northern Corridor.
- Upgrading of the Kawkaik to Thaton Road Project (about 134 km) along the Asian Highway 1 route on the East-West Corridor and Western Corridor would link the East-West Corridor with the Western Corridor.

A new GMS corridor linking Myanmar-Lao PDR-Viet Nam, called the Trilateral East-West Corridor, has been proposed. In Myanmar, it would extend 1,340 km from Kyaukphyu to Kyainglat and overlap with the 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.

### SAARC Regional Multimodal Transport Strategy Corridors

The SAARC Regional Multimodal Transport Study (SRMTS) (SAARC 2006) was initiated to enhance multimodal transport connectivity among member states. Phase I of the study identified 10 Regional Road Corridors, 5 Regional Rail Corridors, 2 Regional Inland Waterways Corridors, 10 Maritime Gateways and 16 Aviation Gateways that could serve as SAARC corridors for inter-country movement. Some of the land and sea corridors identified to have the highest potential are the following:

#### Road Corridors

- Lahore-New Delhi-Kolkata-Petrapole/Benapole-Dhaka-Akhaura/Agartala (Pakistan, India and Bangladesh)
- Kathmandu-Birgunj/Raxaul-Kolkata/Haldia (Nepal and India)
- Thimpu-Phuentsholing-Jaigon-Kolkata/Haldia (Bhutan and India)

#### Rail Corridors

- Lahore (Pakistan)-Delhi/Kolkata (India)-Dhaka (Bangladesh)-Mahishasan-Imphal (India)
- Karachi (Pakistan)-Hyderabad-Khokrapara-Munabao-Barmer Jodhpur (India)

- Birgunj (Nepal)-Raxaul-Haldia/Kolkata (India)

#### **Maritime Gateway**

- Pakistan-Karachi; Port Bin Qasim
- India-Jawaharlal Nehru Port, Kolkata/Haldia, Cochin, Tuticorin
- Bangladesh-Chittagong; Mongla

#### Mekong-India Economic Corridor

One major proposal for cross-subregional economic corridors, developed under the auspices of the East Asian Summit, is the MIEC (proposed in ERIA (2009)). Its objective is to strengthen the manufacturing base in Myanmar, Thailand, Cambodia and Viet Nam, and to expand these countries' trade with the rest of the world, including India. The MIEC would link Chennai with Ho Chi Minh City, and two important key missing links are a deep sea port in Dawei, Myanmar, and a highway from Dawei to the Thai border. The new route would cut travel distances from India to Mekong countries by from 700 km to 2,000 km. It would also require special economic zones and supporting utilities to help establish a new sea route to India, the Middle East and Europe. This proposal was extensively analyzed in Kimura, Kudo and Umezaki (2011). ASEAN Leaders agreed to promote the completion of MIEC in the Master Plan on ASEAN Connectivity (ASEAN 2010b).

### 2.1.6 Summary and Way Forward

Critical gaps in land transportation connectivity between South and Southeast Asia exist mainly in Myanmar, the only land bridge between these subregions. Some additional gaps have been identified in Bangladesh, Cambodia, India, the Lao PDR and Thailand. In some cases, gaps are absolute in the sense that there are no linkages of any sort, particularly in the rail sector. For the road sector, gaps are usually poor quality roads which cannot accommodate reliable all-weather travel. The main cross-subregional highway links are the Asian Highway 1 and 2 connecting India and Bangladesh with Myanmar and the rest of Southeast Asia, and three significant gaps have been identified in crossings to Myanmar.

Regarding railways, the TAR competes in some cases with the GMS Program and the Singapore-Kunming Rail Link network. Key missing

links have been identified for India-Myanmar and Myanmar-Thailand. The Bangkok-Phnom Penh-Ho Chi Minh City-Hanoi-Kunming-Nanjing route has the greatest potential to foster South-Southeast Asia connectivity, although this would require 263 km of links across Myanmar and Thailand.

The three major ports closest to connecting the two subregions—Kolkata, Chittagong, and Yangon—suffer from numerous limits to capacity, including shallow channels, operational inefficiencies, and severe restrictions on road and rail access.

Addressing the issue of physical connectivity between South and Southeast Asia requires a multimodal perspective. This includes an assessment of non-land transport modes such as air and maritime transport. The implications of gas and oil shipments—which can be transacted through pipes, ships, rail, and in some cases roads—also need to be considered.

## 2.2 Energy Infrastructure and Trading

Energy trading can be motivated by several factors, including (i) differences in energy resource endowments relative to demand; (ii) differences in the timing of peak loads; (iii) locational factors that favor cross-border connectivity, and (iv) economies of scale and operation from linking electric power grids. Energy trade can provide substantial benefits through more efficient use of energy resources, including economies of scale achieved by setting up larger generating plants to meet both local and regional demand; improved energy security and reliability via diversification of supply; an optimized transmission network to meet varying peak load demands in different countries; and reduced environmental damage through increased access to clean sources such as hydropower and more efficient power generation. These should lead to lower energy costs and more reliable energy supplies that will provide direct benefits to the economy and society in terms of higher growth and productivity, and access to energy.

## 2.2.1 Current Situation of Energy Trading

Significant intra-regional energy trading already takes place within South Asia and Southeast Asia, although the latter is more advanced with respect to both volume and institutional infrastructure. Within Southeast Asia, energy trading in the GMS is probably the most relevant example for intra-regional trade, especially since the development of South-Southeast Asia connectivity in this area would most likely involve cooperation between the GMS and SASEC programs.

### Greater Mekong Subregion

Energy cooperation in the GMS began as part of the GMS Economic Cooperation Program (GMS Program) launched in 1992. The GMS Program aims at fostering regional cooperation to contribute to growth and poverty reduction and to address the provision of regional public goods. ADB has provided vital support to the GMS since the program's founding, acting as its secretariat and providing coordination, financing, and technical expertise for all sectors covered in the program, including energy.

Recent estimates of the energy resources in the GMS include about 229 gigawatts (GW) of annual hydropower potential, as well as proven reserves of about 1.2 billion cubic meters of natural gas, 0.82 billion tons of oil, and 28.0 billion tons of coal. While the subregion is well endowed with energy resources, they are unevenly distributed. The Lao PDR, Myanmar, Viet Nam, and the two PRC provinces in the GMS account for about 94% of the hydropower resources in the subregion. The hydropower potential of the Lao PDR and of Myanmar, respectively, is substantial compared with their population size and expected power needs. Myanmar, Thailand, and Viet Nam possess natural gas deposits; Viet Nam has the most oil reserves; and Yunnan Province, PRC holds the main coal deposits. Cambodia, Thailand, and the two PRC provinces have mainly been net energy importers, while the Lao PDR, Myanmar, and Viet Nam are net energy exporters to other GMS countries and the rest of the world. Similarly, for electric power, the Lao PDR and Myanmar have been generating electricity for export, beyond the supply requirements of their grid-connected domestic consumers (ADB 2012a). Table 3 shows the level of energy trading within the GMS.

**Table 3: Greater Mekong Subregion Power Trade and Net Imports, 2010 (GWh)**

Country	Imports	Exports	Total Trade	Net Imports
Cambodia	1,546	—	1,546	1,546
Lao PDR	1,265	6,944	8,210	-5,679
Myanmar	—	1,720	1,720	-1,720
Thailand	6,938	1,427	8,366	5,511
Viet Nam	5,599	1,318	6,917	4,281
PRC	1,720	5,659	7,379	-3,939
<b>Total</b>	<b>17,069</b>	<b>17,069</b>	<b>34,139</b>	<b>—</b>

PRC = People's Republic of China, GWh = gigawatt-hour, Lao PDR = Lao People's Democratic Republic.

Note: The table refers to trade within the Greater Mekong Subregion only and does not consider power flows from Guangxi Zhuang Autonomous Region and Yunnan Province to the rest of the PRC or Thailand's power imports from Malaysia.

Source: ADB (2012a:12).

The economic and environmental benefit of regional integration in the GMS energy sector is estimated to save about 19% of total energy costs or about \$200 billion. The savings resulting from expanding the interconnection of GMS power systems alone are estimated at \$14.3 billion, mainly resulting from the substitution of fossil fuel generation with hydropower. Integration of power systems is also expected to result in slower growth of carbon emissions compared with business as usual (ADB 2012a).

Simulations under the latest GMS master plan update anticipate Thailand, Viet Nam, and the PRC provinces to be net power importers in the subregion, while the Lao PDR and Myanmar will be net exporters, with Cambodia expected to transition from a net power exporter to a net importer (ADB 2012a).

### South Asia Subregional Economic Cooperation

Energy trading within SASEC includes electric power, petroleum products, and coal (Table 4). The main trade in electricity is hydroelectric power exported from Bhutan to India, with India also importing much smaller amounts of hydroelectric power from Nepal. Trade in fuel and coal via rail or truck transport is a much simpler matter than

**Table 4: South Asia Subregional Economic Cooperation Energy Trade**

Countries	Volume
India-Bhutan (power)	5,620 GWh <ul style="list-style-type: none"> <li>• The present installed capacity in Bhutan is 1,500 MW, of which approximately 350 MW is used for Bhutanese domestic consumption</li> <li>• The government of India has agreed to import a minimum of 10,000 MW by 2020</li> <li>• Such an increase will demand a significant increase in transmission capacity through either alternate current (AC) or high voltage direct current (HVDC)</li> </ul>
India-Nepal (power)	Annual 100–150 MW import from India
India-Bangladesh (diesel)	100,000 tons (2008) import from India
India-Nepal and India-Bhutan (petroleum products)	Nepal and Bhutan do not have refining capacities. Nepal imports 1.2 million tons per annum, with an annual increase of 20 percent, from the Indian Oil Corporation. Bhutan imports 63,875 metric tons per annum.
India-Bangladesh (coal)	3–4 million tons of coal import from India

GWh = gigawatt-hour, MW = megawatt.  
Source: Gippner (2010).

electricity trading. SASEC does not currently have an equivalent to the Electric Power Forum in the GMS (see discussion in section 2.2.3).

## 2.2.2 Opportunities for Cross-Subregional Energy Trading

With oil reserves of 3.2 billion barrels (bbl) and annual production of 7.3 million bbl, confirmed gas reserves of 18 trillion cubic feet (TCF) and probable gas reserves of 89.7 TCF, and hydropower capacity of 39,669 MW, Myanmar is an energy resource rich country in the vicinity of South Asia, and hence the most likely candidate for cross-subregional trade. This could provide opportunities for South Asian countries to import both electricity and gas from Myanmar. However, one of the limiting factors for electricity imports may be that several of the hydropower projects are being developed as joint venture projects with foreign partners, who will probably want to reserve the electricity from such projects for their own countries.

India is developing the Tamanti multipurpose project, close to the India-Myanmar border, with an installed capacity of 1,200 MW in the first stage, 400 MW in the second stage, and 700MW in the third stage.

Most of the electricity generated from this project is meant for export to India (SAARC Secretariat 2010). Myanmar has invited substantial FDI for the exploration and development of oil and gas fields. Indian energy companies from both the public and private sectors have taken equity stakes for the development of gas and oil fields in Myanmar (SAARC Secretariat 2010).

### 2.2.3 Institutional Development

In the GMS, the Electric Power Forum (EPF) established in 1995 adopted a two-pronged approach to developing the GMS power market, focusing on: (i) the policy and institutional framework for promoting power trade, and (ii) physical interconnections to facilitate cross-border power dispatch. A decade after the GMS Program commenced, an intergovernmental agreement (IGA) on regional power trade in the GMS was signed in November 2002, confirming member countries' commitment to advance power trade and harmonize their power systems development based on the principles of cooperation, gradualism and environmental sustainability. The IGA established a Regional Power Trade Coordination Committee (RPTCC), meeting annually or semiannually, and responsible for setting the rules governing power trade. A Regional Power Trade Operating Agreement (PTOA) was soon proposed anchored on four development stages, from bilateral cross-border connections to multiple seller-buyer regulatory frameworks and a wholly competitive regional market.

The Vientiane Plan of Action (VPOA) for GMS Development for 2008-2012 was concluded at the end of 2012. It comprised 73 activities in energy designed around four strategic thrusts, concerned mainly with building the capacity for regional power trade. A GMS Regional Investment Framework (RIF) and pipeline under the new GMS Strategic Framework (2012-2022) are underway to replace the VPOA. Presently, regional power in the GMS is broadening its focus from regional power trade to include sustainable energy development, comprising renewable energy deployment, energy efficiency promotion, and increased energy access. The benefits from regionally integrating the energy sector across the GMS include \$200 billion or 19% savings from total energy costs over two decades. A 5.5% reduction in import dependence is likewise anticipated. Moreover, slower carbon emissions

growth is expected, for instance, in displacing fossil fuel generation with traded hydropower sources.

Major institutional milestones are expected in moving forward with regional power trade in the near future. By December 2013, prior to the 19th GMS Ministerial Conference, all six member countries are expected to have signed the Memorandum of Understanding (MOU) for the Establishment of the Regional Power Coordination Center (RPCC). The RPCC will be an independent, neutral organization with a legal personality that will oversee the efforts to harmonize power programs, system operations and regulatory frameworks in the GMS toward a well-coordinated regional power market. Simultaneously, the pipeline of regional energy cooperation projects, having undergone several review sessions throughout 2013, will be endorsed to the 19th GMS Ministerial Conference for implementation under the new GMS Strategic Framework (2012-2022). It includes national grid investments in Cambodia, Lao PDR and Myanmar serving as building blocks for the regional grid while enhancing modern energy access to remote areas. Finally, moves to create two working groups—the Working Group on Performance Standards and Grid Code, and the Working Group on Regulatory Issues—will continue as agreed in previous RPTCC meetings.

## 2.2.4 Barriers to Energy Trading

Numerous potential barriers confront energy trading, including technical, political, and environmental. First, technical barriers are extensive, ranging from grid synchronization and grid codes to electric power and natural gas pipeline technology. Second, there tends to be political resistance to energy trade within South Asia. Third, negotiations for trading agreements are commonly affected by unequal starting positions and differing security concerns. Political instability can also hinder such negotiations.

Fifth, regulatory barriers and distorted energy pricing and subsidy regimes in countries of the subregion discourage trading of energy on commercial terms, as the entities that are selling energy at subsidized rates will have to pay for the energy at cost, with negative financial consequences. Infrastructure and financial barriers are also formidable in the subregion. Finally, hydropower generation

and the construction of multipurpose projects are considered to have significant environmental repercussions. The construction of multipurpose projects, which include large reservoirs, means a disruption of riverine fauna, and displacement of human settlements and agriculture (Gippner 2010).

## 2.2.5 Summary and Way Forward

The main opportunities for energy trading between South and Southeast Asia (aside from conventional shipments of coal or petroleum products via sea or rail) lie in the areas of electric power (mainly hydroelectric) and gas pipelines. Given its substantial reserves of hydroelectric power capacity and natural gas, plus its critical position as a pipeline location, Myanmar has the potential to play a key role in exploiting such opportunities. Therefore, the key challenges will be to develop both the physical and institutional infrastructures that can enable such trading to take place. Further advantages could be obtained by linking the electric power grids of GMS and SASEC in order to deepen power pooling and interconnection arrangements.

## 2.3 Trade Facilitation

Trade facilitation covers a wide spectrum of activities and stakeholders along the entire supply chain and production network, including both demand and supply sides. Trade facilitation includes all factors affecting the time and monetary cost of moving goods across international borders, including customs procedures, transit procedures, and the use of information and communication technology (ICT) to facilitate transport-related transactions (Brooks 2010).

### 2.3.1 Need for Efficient Multimodal Transport

An important trade issue relating to connectivity between South and Southeast Asia is the relationship between land-based and maritime transport. Myanmar has in the past been seen as a barrier

to inter-subregional connectivity because of the lack of infrastructure and transit arrangements. However, the main sources of demand and possible sources of supply in the two subregions are located too far from each other. For example, the road distance from Bangkok to Kolkata is 4,323 km, slightly longer than the sea voyage. It is unlikely that land transport can be competitive over such long distances, compared with maritime costs which tend to exhibit decreasing costs over longer distances. Sea transport is and will continue to be dominant between the two subregions because it is the most commercially attractive, rather than necessarily because the land transport linkages are poor. This suggests that the initial focus of trade facilitation should be on seaport facilitation incorporating trade facilitation, rather than trade facilitation in isolation, which has become more oriented toward resolving constraints at land borders. Thus, the two subregions will be expected to be connected through a network of seaports for the bulk of trade, and a network of land transport (road and rail connections) largely aiming to facilitate greater access to seaports and promoting connectivity between major cities and other commercial centers. Enhanced land transport connectivity would help transform the landlocked countries in the two subregions into land-linked economies. It would help promote inclusive growth and social stability by enhancing trade ties between bordering subregions (e.g., Bangladesh and Myanmar, and North East India and Myanmar), thereby helping reduce geography-based inequality.

### 2.3.2 Need to Ensure an Inclusive and Participatory Approach in Trade Facilitation

Most institutional programs focus on import, export, and transit controls undertaken by the various border agencies, particularly customs. The requirements for trading activities are centrally-based and predominantly are applied irrespective of the country of import source. Clearance procedures at land and sea borders are almost identical. As a result, when preparing and carrying out trade facilitation initiatives, it is critical to involve all stakeholders, rather than concentrating solely on institutional parties. Traders and carrier and forwarder agents are the parties that can determine the best way

to satisfy the demand, having to address the impact of various NTBs. Any meaningful trade facilitation initiative, therefore, has to develop a mechanism for their involvement in order to have an integrated approach to the resolution of identified NTBs.

### 2.3.3 Limited Cooperation among Trade Facilitation Agencies

Despite initiatives on institutional cooperation on trade facilitation, particularly between customs organizations, the reality is that each organization acts nationally with limited regional interest. This is mainly because they operate within national legislation and regulations that contain limited flexibility. These authorities tend to cooperate at the border level to resolve some operational issues, but high level cooperation tends to be more limited. Agencies still concentrate on their revenue collection and control responsibilities, rather than on trade facilitation, where cooperation is an important ingredient. Given that at this stage cooperation on trade facilitation within South Asia and Southeast Asia is at best limited, cooperation on trade facilitation between the two subregions may prove to be challenging and difficult in initiating change.

### 2.3.4 Need for Effective Customs Modernization

Existing customs procedures have not changed much in recent years, despite the heavy investment by customs in automation in the two subregions, although the biggest advances in automation have occurred in Malaysia, Singapore and Thailand. The Revised Kyoto Convention represents a benchmark for customs modernization in relation to procedures and this is expected to be adopted in principle by all customs organizations, but current procedures are generally not compliant with the convention. Even between the major customs stations in both subregions that have modern ICT systems for processing of trade, there are significant differences in their application. While all have processing modules within their systems,

in many countries they are predominantly used as a transaction recording system with the processing applications still being manually based. This means that the benefits of automation are not being realized in terms of faster clearance times. The development of a single window represents a major advance in ICT, though it will be difficult for the smaller countries to implement since the basic ICT environment is not developed enough and the levels of automation in some border agencies are low. However, a single window in more advanced countries, such as India and Thailand, could be realized over the short term. Small and remote custom stations, particularly in less developed countries of the two subregions, are underequipped and almost all clearance processes—from the submission of export/import manifests to clearance, inspection, goods release, and port handling—are manually processed with limited or no automation.

### 2.3.5 Other Key Trade Facilitation Issues

Other key trade facilitation issues in the two subregions include: (i) lack of border infrastructure and traffic planning; (ii) lack of land ports at the border crossing points; (iii) lack of cross-border transport arrangements; and (iv) inefficient trader practices (often importers do not submit clearance documents to customs immediately on arrival of the goods at the border). Another key NTB in South and Southeast Asia is the lack of harmonized technical regulations, standards, and conformity assessment procedures. This has resulted in the duplication of product re-testing and re-certification (ADB 2008).

### 2.3.6 Way Forward for Cooperation on Trade Facilitation in Southeast and South Asia

Customs administrations in the member states of ASEAN have embarked on the acceleration of modernization of customs techniques and procedures, with the main thrust being to enhance trade facilitation. New provisions have also been promulgated in member countries to enable ASEAN customs practices to align to international conventions and standards such as the Revised Kyoto Convention, the

WTO Customs Valuation Agreement, and implementation of the World Customs Organization SAFE Framework. Efforts in facilitating regional connectivity and activating the ASEAN Customs Transit System under the ASEAN Framework Agreement on the Facilitation of Goods in Transit have intensified. The ASEAN customs administrations are working to fully operationalize the ASEAN Single Window, which is expected to provide a common platform of partnership among regulatory and enforcement agencies and economic operators in expediting customs clearance and release. The ADB-supported GMS Program has been implementing trade and transport facilitation measures to complement improvements in land transport connectivity that have been put in place since the program's inception in 1992. These include the cross-border transport agreement, which aims to allow through transport between and among GMS member countries and to facilitate frontier crossing formalities.

Trade and transport facilitation measures are being carried out, in varying degrees, by individual countries in South Asia. Efforts are being made to accede to the Revised Kyoto Convention and to modernize customs management and administration. Under the SASEC Program, trade facilitation measures are being promoted to complement the improvement of transport corridors. These include both countrywide regulatory reforms and corridor-specific facilitation initiatives. At this stage, support is being provided by ADB for regulatory reforms that center around custom operations, including:

- **Modern and effective customs administration.** ADB is assisting Bangladesh, Bhutan, and Nepal in acceding to and complying with the provisions of the Revised Kyoto Convention and in applying the World Customs Organization SAFE Framework.
- **Streamlined and transparent regulations and procedures.** ADB is assisting the enhancement of these countries' automated customs management systems as well as supporting the establishment of a national single window.
- **Improved services and information for traders and investors.** ADB is assisting SASEC governments in implementing reforms that will provide greater information and increased responsiveness to importers and exporters, notably through electronic trade portals and the establishment of national trade facilitation committees.

SASEC trade facilitation will expand other regulatory agencies, such as quarantine (animal, and plant health) standards, and technical barriers to trade, as well as issues related to transport such as transit agreements.

## 2.4 Financing Infrastructure

Financing infrastructure projects in the region presents many challenges, and this is particularly so for cross-border projects where spillover benefits can be substantial and some countries involved may be more constrained in terms of financial capacity than others. 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. This is especially true for fundraising by private entities. Institutional infrastructure to support PPP arrangements may also be inadequate. Inevitably, regional projects will have to be split between those that must be financed by public investment and those whose economic prospects would make them sufficiently attractive to attract private investment. In this environment, ADB is likely to be required to play multiple facilitating roles.

### 2.4.1 Domestic Financial Capacity

The overall availability of finance, either public or commercial, for infrastructure projects depends on how developed national and regional financial markets are in terms of their capacity to intermediate savings into infrastructure projects. Though Asian financial markets have developed significantly in recent years, they are still relatively shallow in terms of their capacity to intermediate savings in the region for long-term investments such as infrastructure. Lack of long-term infrastructure finance and underdeveloped capital markets in many regional economies increase the challenges. Major reasons for lack of financial sector development in these countries include lack of reforms in contractual savings, and a general reluctance to allow foreign banks and financial institutions to participate in building local capital markets.

**Table 5: South and Southeast Asia Sources of Financing**

% of GDP	Private credit by deposit money banks and other financial institutions			Stock market capitalization			Outstanding domestic public debt securities			Outstanding domestic private debt securities			Total		
	1990	2000	2010	1990	2000	2010	1990	2000	2010	1990	2000	2010	1990	2000	2010
<b>South Asia</b>															
Afghanistan	N/A	5.0 <sup>h</sup>	9.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0	9.0
Bangladesh	15.1 <sup>a</sup>	22.7	41.2	2.1 <sup>a</sup>	2.1	11.1	N/A	N/A	13.3	N/A	N/A	N/A	17.3	24.8	65.6
Bhutan	4.2	8.5	36.0	10.8 <sup>c</sup>	12.0	13.8	N/A	N/A	1.7	N/A	N/A	N/A	15.0	20.4	51.5
India	24.1	26.5	43.5	9.7	34.3	83.1	18.7	22.5	33.4	0.3	0.4	5.0	52.7	83.8	165.1
Maldives	N/A	42.6 <sup>g</sup>	65.7	N/A	8.3	6.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	50.9	72.2
Nepal	11.7	27.7	52.1	5.8 <sup>b</sup>	10.5	33.1	N/A	N/A	12.0	N/A	N/A	N/A	17.5	38.2	97.2
Pakistan	23.3	21.0	21.0	6.3	8.7	19.8	27.4	34.4	28.8	N/A	N/A	N/A	57.0	64.1	69.6
Sri Lanka	17.7	27.0	23.9	7.9	7.8	28.0	41.6	53.8	45.8	N/A	N/A	N/A	67.2	88.6	97.6
<b>Southeast Asia</b>															
Brunei Darussalam	N/A	53.7 <sup>e</sup>	45.4 <sup>i</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	53.7	45.4
Cambodia	3.1 <sup>b</sup>	5.9	25.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1	5.9	25.1
Indonesia	38.0	17.6	26.4	4.4	26.5	39.5	0.7 <sup>d</sup>	28.5	13.5	1.6 <sup>d</sup>	1.3	1.6	44.6	74.0	81.0
Lao PDR	0.5	6.7	13.0 <sup>j</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.5	6.7	13.0
Malaysia	77.0	122.8	109.0	100.0	139.6	144.7	54.8	28.2	48.6	18.2	32.8	51.9	250.0	323.3	354.3
Myanmar	3.3	8.2	3.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.3	8.2	3.8
Philippines	19.5	39.0	27.7	18.9	38.1	60.3	23.8	24.5	29.5	0.2 <sup>c</sup>	0.2	1.0	62.4	101.8	118.5
Singapore	86.3	104.8	99.0	98.9	182.2	165.0	12.5	24.0	45.3	16.0	16.5	11.8	213.7	327.5	321.2
Thailand	72.4	116.6	111.0	29.3	34.6	67.1	3.2	13.2	47.6	6.6	11.5	18.8	111.5	175.9	244.5
Viet Nam	17.2 <sup>c</sup>	30.4	109.1	N/A	0.4 <sup>f</sup>	18.7	N/A	0.3	13.5	N/A	0.0	2.3	17.2	30.7	124.9

Notes: Superscript "a" means data point used is 1994; "b" means 1995; "c" means 1996; "d" means 1997; "e" means 2001; "f" means 2004; "g" means 2006; "h" means 2007; and "i" means 2009. Lao PDR = Lao People's Democratic Republic.

1. Afghanistan, Brunei Darussalam, Cambodia, the Lao PDR, and Myanmar do not have stock exchanges during the measured periods.
2. Afghanistan is financed through donor aid and transitioning to self-government.
3. Bhutan did not have domestically financed public debt in 1990 and 2000.
4. The Maldives' public debt may all be externally financed.
5. Brunei Darussalam, Cambodia, and the Lao PDR do not have domestic bond markets during the measured periods.
6. Myanmar's bond market is active, but it is unclear if participants are domestic or international.
7. Sri Lanka's domestic private bond markets are inactive.
8. Pakistan's corporate bond market participation might be negligible according to data from the Bank for International Settlements (BIS).
9. Nepal's bond market is underdeveloped and dominated by government.
10. Bangladesh's bond market is dominated by the government (only one company listed in 2008).

Sources: Unless otherwise stated, all figures from World Bank Global Financial Development Database; Viet Nam debt securities figures obtained from Asian Bonds Online; Bangladesh and Nepal 2010 debt securities figures approximated using September 2010 figures obtained from BIS Quarterly Review March 2011 (Sri Lanka's 2010 figures are also available, but used CEIC database 2000–2010 figures for consistency); Maldives stock market capitalization figures obtained from Maldives Capital Market Development Authority Annual Report 2007 and 2010; Bhutan stock market capitalization and outstanding private debt securities (proxied using outstanding corporate bonds) figures obtained from Royal Securities Exchange of Bhutan Annual Report, 2005–2011; outstanding public debt securities (proxied using internally financed debt) obtained from Bhutan Ministry of Finance National Budget Report, 2006–2011; Sri Lanka outstanding domestic public securities (proxied using domestically financed sovereign debt) figures obtained from CEIC database; and Bhutan outstanding public debt securities (proxied using internally financed debt) obtained from Bhutan Ministry of Finance National Budget Report, 2006–2011.

Table 5 shows the overall share of financing capacity in individual countries relative to GDP, including bank lending to the private sector and outstanding levels of equity and bond markets for countries in the two subregions. The table underscores the large variation in terms of overall financing capacity by country, and many gaps in terms of the availability of specific markets, especially in South Asia. The last column of the table shows total financing capacity, and ranges dramatically from 354% of GDP for Malaysia to only 3.8% for Myanmar. In South Asia, only India has a private bond market, while in Southeast Asia Brunei Darussalam, Cambodia, the Lao PDR, and Myanmar lack both public and private bond markets. Even among countries that have private bond markets, only those of Malaysia and Thailand have achieved substantial scale.

Moreover, bond markets in both subregions typically have narrow investor bases and low liquidity in secondary markets, and the usual strategy is that of buy and hold with limited retail participation. Longer term institutional savings in pensions, provident funds, and insurance have regulatory constraints which prevent them from investing in infrastructure assets and cash-flow-backed bonds (securitized) from infrastructure projects.

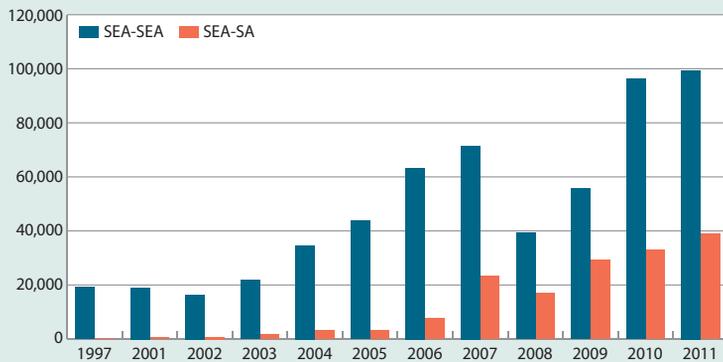
The banking sector dominates commercial credit but is often unsuitable for the long-term lending required by commercial infrastructure projects. The banking sector makes up more than half of total financing in South Asia except in India, Pakistan, and Sri Lanka, and in Southeast Asia except for Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

## 2.4.2 Regional Financial Integration Still Limited

The lack of regional financial integration leads to much of national savings and foreign exchange reserves being parked in US and European government securities, rather than being intermediated within the region, despite the fact that returns on these assets have been extremely low since 2009. For example, cross-subregional portfolio investment remains quite limited. The International Monetary Fund's (IMF's) Coordinated Portfolio Investment Survey shows that Southeast

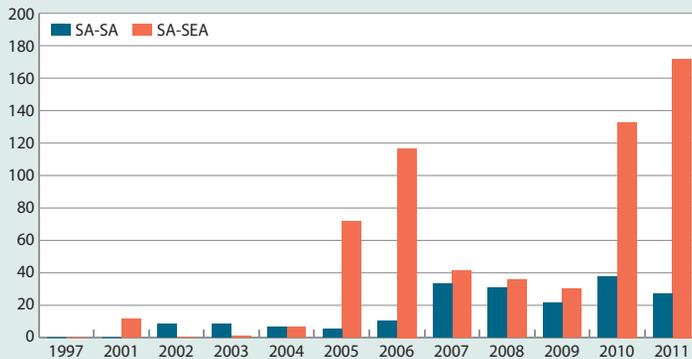
Asia invested a total of \$39 billion in South Asia in 2011 (Figure 8), about 15% of total inward portfolio investment in the region, but almost all of this came from Singapore, presumably most of which was funds originating from firms outside the subregion with regional offices in Singapore. Excluding Singapore, outstanding portfolio investment from Southeast Asia to South Asia in 2011 totaled only \$757 million. Outstanding portfolio investment from South Asia to

**Figure 8: Southeast Asia Intra- and Cross-Subregional Portfolio Investment Total Assets, 1997–2011 (\$ million)**



Note: SA = South Asia and SEA = Southeast Asia.  
 Source: IMF Coordinated Portfolio Investment Survey (<http://cpis.imf.org/> [accessed March 2013]).

**Figure 9: South Asia Intra- and Cross-Subregional Portfolio Investment Total Assets, 1997–2011 (\$ million)**



Note: SA = South Asia and SEA = Southeast Asia.  
 Source: IMF Coordinated Portfolio Investment Survey (<http://cpis.imf.org/> [accessed March 2013]).

Southeast Asia in 2011 totaled only \$147 million—a miniscule fraction of total investment into Southeast Asia—although representing about 9% of South Asian outward investment (Figure 9).

Low-income countries in the region depend significantly on international capital markets, donors, and bilateral and multilateral institutions to supplement financing of such infrastructure investments. However, some countries in both subregions have large savings, high remittances, and significant foreign exchange reserves; hence, the challenge is to facilitate appropriate financial intermediation for infrastructure investments. New institutions and markets would be needed to tap and intermediate savings within the region. The overall approach may require banking and capital market reforms, the development of domestic bond markets, domestic infrastructure funds and facility structures, regional financial institutions and regional infrastructure funds, channeling social security and pension contributions, private equity funds, and guarantee or credit enhancement institutions.

### 2.4.3 Financing Connectivity Infrastructure Investments Needs to Explore All Possible Options

Traditional methods of government financing of infrastructure have limitations, and most infrastructure investment is financed by commercial banks, which leads to serious asset-liability mismatches. The connectivity-related infrastructure investment required would need to be broken down to individual projects—national and cross-border—and classified as public, private, and PPPs depending on the extent to which commercialization is possible. Subject to available fiscal space, non-commercial infrastructure would need to be developed as public investments, and private or PPP projects would have to be structured suitably to attract private investment, and appropriate risk sharing allocated to ensure bankability from a commercial lending perspective.

The countries that are critical to regional connectivity between South Asia and Southeast Asia are Bangladesh, India, Myanmar and

Thailand. All these countries, with the possible exception of Myanmar<sup>14</sup>, have allowed private and FDI in infrastructure. Their PPP frameworks are evolving, with India, for example, having a large structured PPP program for private sector investment in infrastructure. However, challenges lie in the development of bankable infrastructure projects with appropriate risk sharing to attract the right kind of capital, and the financial sector's ability to provide long-term infrastructure finance.

## 2.4.4 Structuring and Financing Cross-Border Infrastructure Particularly Challenging

Regional and cross-border projects<sup>15</sup> are generally larger and more complex than national projects and do not lend themselves easily to PPPs. Cross-border infrastructure projects require investments and coordination in at least two countries and broader regional projects require agreements between more than two countries, which are very difficult to reach without a third party honest broker like ADB. Regional projects are likely to involve building infrastructure in less developed and sparsely populated border regions, which are usually difficult to develop and implement as PPPs. Financing is complicated further since costs and benefits are not evenly distributed between countries participating in cross-border projects. Given the reduced economic and financial viability of such projects, grant or concessional financing becomes a crucial component of financing strategies.

One potential institutional approach could be through an Asian Infrastructure Fund (AIF) structure, i.e., an expansion of the ASEAN Infrastructure Fund to a broader group of Asian countries, which could mobilize Asian and international funds from governments, sovereign wealth funds, and other multilateral and bilateral institutions (Box 2). The AIF could also provide support in the preparation of bankable cross-border infrastructure projects.

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<sup>14</sup> Myanmar has started inviting private sector investment in some infrastructure sectors, and clarity on its investment laws is expected to improve.

<sup>15</sup> Regional infrastructure projects are defined as projects that involve physical construction and coordinated policy actions in more than one country or national projects with significant cross-border impacts.

### **Box 2: The ASEAN Infrastructure Fund**

The Association of Southeast Asian Nations (ASEAN) Infrastructure Fund was established in 2012 to finance the critical infrastructure needs of the region. The Asian Development Bank (ADB) has estimated that ASEAN countries will need to invest about \$60 billion per year in infrastructure to address current deficiencies. Vast expenditure will be needed in numerous sectors including roads, railways, ports, energy, water, and sanitation to allow ASEAN countries to reduce the infrastructure deficit, support growth, and promote regional economic integration.

The fund seeks to address these issues by recycling some of the \$700 billion foreign exchange reserves of the region for its benefit. The initial equity of the fund will be \$485 million, of which \$335 million will be funded by the ASEAN countries and the remaining \$150 million will be funded by ADB.

The fund will finance about six projects a year, with a \$75 million lending cap per project. Criteria for investments include their potential to cut poverty, increase trade, and bolster investment. The fund's total lending commitment through 2020 is anticipated to be about \$4 billion which, with co-financing by ADB and other financiers, could be leveraged to more than \$13 billion.

However, very few successful cross-border infrastructure projects have been undertaken using private sector investment or PPPs. Examples include the Second Crossing Bridge between Malaysia and Singapore, the Channel Tunnel between the United Kingdom and France, and the rail link between France and Spain. Most regional infrastructure projects have been developed and financed via interventions by regional development banks with significant political, institutional, and financing (or guarantees) support by the concerned country governments. Similar arrangements are likely to be required of South Asia and Southeast Asia transportation connectivity projects.

## 2.4.5 Way Forward for Financing Connectivity Infrastructure

The menu of options for financing connectivity infrastructure needs to be expanded. ADB could play a variety of roles in enabling

connectivity infrastructure between South and Southeast Asia, including financier, knowledge partner, technical advisor, capacity builder, and honest broker. While public sector finance should play a major role in financing connectivity infrastructure investments, it alone generally will not be enough. For regional projects it would need to be supplemented by concessionary finance from multilateral institutions. Menu options should include:

- **Public finance.** Public investments for non-commercial infrastructure financed by loans or grants from multilateral institutions.
- **Off-budget financing.** Use existing public sector corporations in respective countries as platforms for investment in national infrastructure projects specific for connectivity between the subregions.
- **Public-private partnerships.** Identify, develop, and procure PPP projects wherever commercially feasible and bankable .
- **Financial intermediary lending.** Enable long-term infrastructure financing by extending the tenure of loans through lines of credit to national financial institutions (and banks).
- **Bond markets.** Focus on developing local and regional bond markets and enhancing the integration of Asian capital markets, to mobilize resources for infrastructure projects, including the use of credit enhancement structures and guarantees.
- **Regional infrastructure funds and facilities.** Develop regional financial institutions or funds directed toward developing and financing cross-border infrastructure and mobilize regional savings with sovereign contributions.

## 2.5 Trade and Investment Policy Reforms

Trade barriers, including both tariff and non-tariff ones, continue to constrain the scope for trade and investment between South Asia and Southeast Asia. Expanding FTAs between the two subregions is the most promising way to reduce these barriers and promote greater trade connectivity. The first part of this section describes current

trade barriers, while the second part describes recent and prospective developments in FTAs, including the potential for an RCEP.

## 2.5.1 Trade Barriers

The reduction of trade barriers, including both tariffs and NTBs, has contributed substantially to the increased integration of South Asia and Southeast Asia with the global economy. In this section, we show that there is still ample scope to reduce remaining tariff and NTBs to help the two subregions sustain this momentum and further benefit from greater cross-subregional trade and investment.

### Tariff Barriers

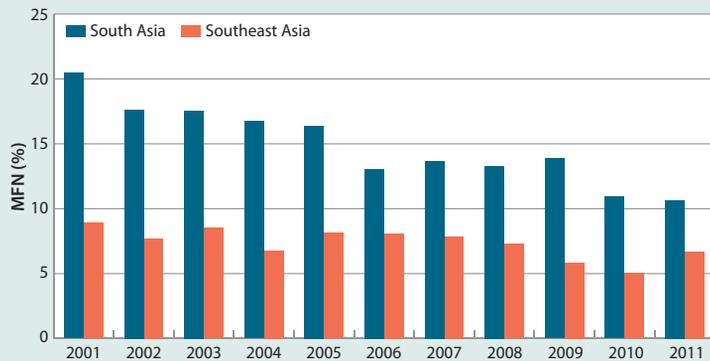
Tariff barriers in the two subregions have generally fallen, as the MFN tariff rates exercised by both South and Southeast Asia have declined in the past decade, especially in South Asia, falling by almost half. Between 2001 and 2011, the average MFN tariff rate applied by Southeast Asia fell from 8.9% to 6.7% (Figure 10), making it among the most liberal regions in the developing world and not far above most economies in the Organization for Economic Co-operation and Development (OECD). In the same period, average MFN tariffs applied by South Asia fell from 20.5% to 10.7%. Despite much progress, scope exists for further reduction, as the average MFN tariff applied by South Asia remains higher than the WTO member average of 9.7%. Moreover, averages do not tell the whole story; for both South and Southeast Asia, there exist many tariff spikes at the product level, suggesting considerable further room for liberalization.

EATRs<sup>16</sup> in both South and Southeast Asia have also fallen in the last decade. Between 2000 and 2011, the average EATR on total trade by Southeast Asia dipped from 10.5% to 6.7% (Figure 2), while the average EATR on total trade by South Asia fell from 14.7% to 11.1%. Again, these are low by developing economy standards.

Although the EATRs on cross-subregional trade between South and Southeast Asia were higher than those on total trade in the base year of 2000, the decrease in EATRs between the two subregions over

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<sup>16</sup> The effectively applied rate is the minimum tariff granted by a reporter to a partner for the considered product. The effectively applied tariff is the MFN applied tariff unless there is a preferential tariff.

**Figure 10: Average Most Favored Nation Tariff Rates on all Commodities**

MFN = most favored nation.

Source: World Integrated Trade Solution (<http://wits.worldbank.org/wits/> [accessed March 2013]).

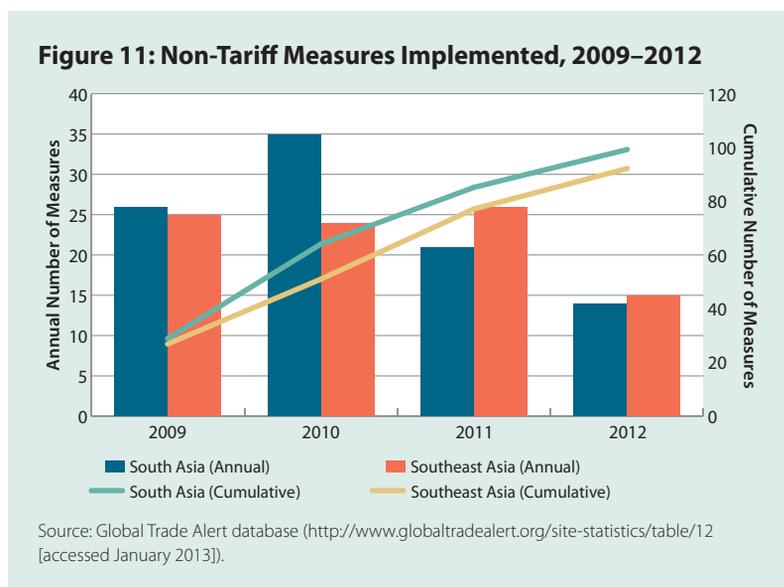
the past decade was steeper than that for total trade. From 2000 to 2011, Southeast Asia's average EATR on cross-subregional trade with South Asia fell from 11.8% to 6.6%. In the same period, South Asia's corresponding EATR dipped from 17.3% to 11.4%.

These trends resulted in comparable EATRs for the two subregions' respective cross-subregional and total trade in 2011. For South Asia, the average EATR on cross-subregional trade is only marginally higher (0.3 percentage point) than that on total trade, while for Southeast Asia the EATR is only 0.1 percentage point lower than for total trade. However, South Asia's average EATR on trade between the two subregions remains nearly double (1.7 times) that applied by Southeast Asia. This points to room for further improvement in this area.

The EATRs on cross-subregional trade by both subregions are relatively close to the MFN applied tariff rates. This indicates that the application of preferential tariff rates (which are typically lower than MFN tariff rates) between the two subregions has not been significant. As closer economic integration between South and Southeast Asia promises substantial welfare gains for both subregions, there is ample scope for reducing tariff barriers between the two subregions as a means of boosting growth. This could be accomplished by extending progressively deeper and broader coverage of preferential tariff rates on trade between the two subregions through unilateral liberalization or FTAs.

### Non-Tariff Barriers

NTBs are always a problem, but during economic downturns governments may be particularly tempted to increase discriminatory measures against foreign commercial interests. These NTBs are generally less well regulated by multilateral trade rules. Since November 2008, South and Southeast Asian countries have respectively introduced<sup>17</sup> 99 and 92 non-tariff<sup>18</sup> measures that discriminate against foreign commercial interests (Figure 11). Although the number of newly introduced non-tariff measures in both subregions has fallen annually, about 75%–80% of these measures may still remain in force, distorting trade and investment flows in costly and often nontransparent ways (Evenett 2012).

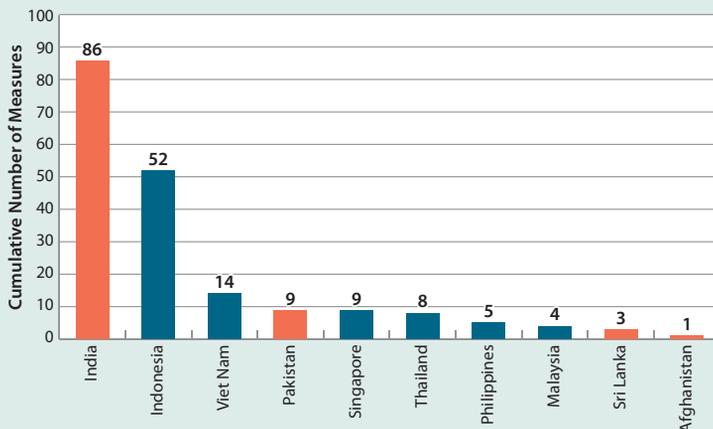


<sup>17</sup> “Introduce” is defined as the date of inception of measures as captured in the Global Trade Alert database.

<sup>18</sup> “Non-tariff measures” consist of measures that are color coded red and amber in the Global Trade Alert database. Red refers to measures classified as “almost certainly discriminatory against foreign commercial interests” and amber refers to “likely discriminatory” measures.

The largest economies in both subregions are more active in imposing NTBs. In South Asia, India was responsible for 86 of the discriminatory non-tariff measures introduced, Pakistan was a distant second with nine measures, and Sri Lanka was third with three measures (Figure 12). In Southeast Asia, Indonesia accounted for 52 of the measures, Viet Nam was second with 14 measures, and the other more advanced ASEAN economies were responsible for the balance.

**Figure 12: Top 10 Countries' Non-Tariff Measures Implemented, 2008–2012**



Source: Global Trade Alert Database (<http://www.globaltradealert.org/site-statistics/table/12> [accessed January 2013]).

Particularly for Southeast Asia, whose economies are bound by a greater number of trade agreements, discriminatory measures may have become “murkier” (i.e., harder to detect). These include discriminatory subsidies, public procurement regimes, etc., which are less well regulated by existing trade agreements as opposed to more traditional forms of discriminatory measures like tariffs and trade defense instruments. Thus, they can be more inhibiting to trade and investment than tariff barriers. In South Asia, tariff and trade defense measures accounted for about 80% of newly introduced measures, while only about 60% of Southeast Asia’s introduced measures are of the more traditional variety.

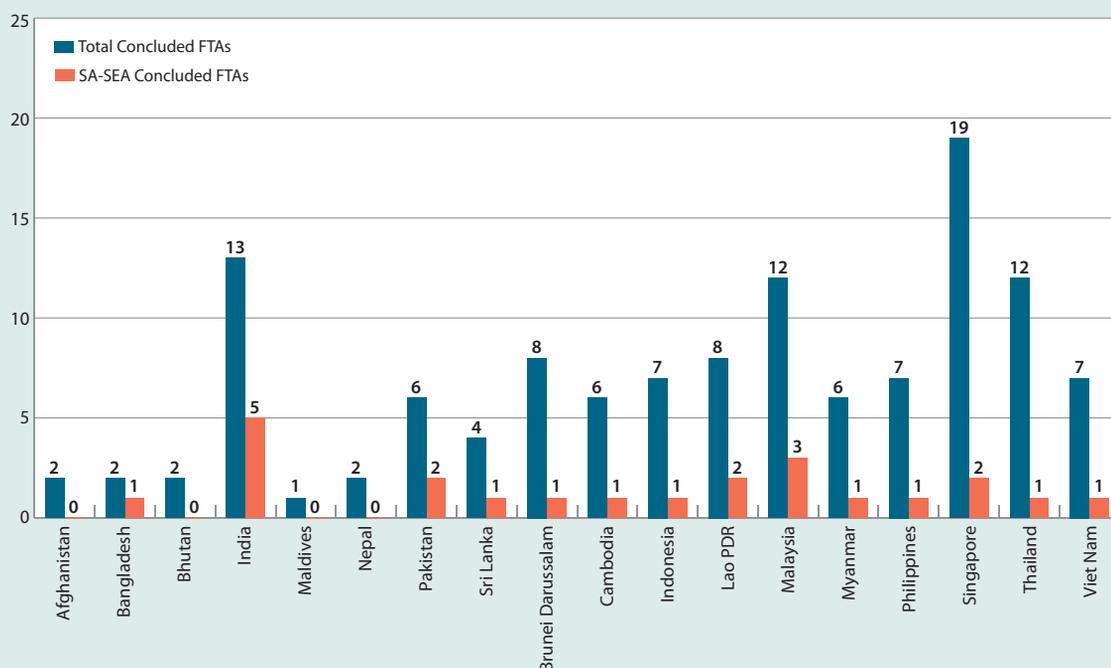
## 2.5.2 Free Trade Agreements

Asian regional economic cooperation and integration has been accelerated by the spread of FTAs since 2000 (Kawai and Wignaraja 2013). The number of FTAs in Southeast Asia increased tremendously over the last decade. Some South Asian countries, in particular India, Pakistan, and Sri Lanka, have also been active in promoting FTAs. However, as shown in Figure 14, the number of FTAs between South and Southeast Asia is small relative to the total number of FTAs. The concluded South and Southeast Asia FTAs include those for India (four), Malaysia (four), Indonesia (three), Pakistan (three), Bangladesh (two), the Lao PDR (two), Singapore (two), and the rest of the Southeast Asian countries (Figure 13). Although the number of South and Southeast Asia FTAs is limited, it is increasing. Prior to 2005, the Asia-Pacific Trade Agreement (concluded in 1976) was the only South–Southeast Asia FTA. Today, out of 56 FTAs in the subregions, seven are cross-subregional FTAs. More South–Southeast Asia FTAs are under negotiation or being proposed. Thus, South–Southeast Asian subregional integration and cooperation are expected to increase further given the continuous growth of cross-subregional trade and the stalemate in the Doha Round negotiations.

### Connecting South and Southeast Asia

Lagging behind the general trend of Asia's FTA boom, South Asian countries did not actively enter into FTAs until late 2000. The agreements also tended to be modest in terms of depth and coverage. Prior to 2005, South Asia nations were selective with their FTA partners and generally tended to enter into trade agreements with their neighbors. Given the lack of progress at Doha and the economic malaise in the OECD, South Asia has increasingly turned toward Southeast Asia for market access. However, among South Asia countries, only India and Pakistan are active players. A preferential tariff arrangement exists between Bangladesh, Indonesia, Malaysia and Pakistan, but it is not yet in force. Other South Asian countries have made no clear moves to integrate with Southeast Asia.

Among the FTAs concluded by South Asia and Southeast Asian countries, the scope and depth vary. As part of its Look East policy, India has signed FTAs with ASEAN as a whole and two ASEAN members—

**Figure 13: South and Southeast Asia Concluded Free Trade Agreements, 2013**

Note: SA = South Asia and SEA = Southeast Asia. FTA = free trade agreement, Lao PDR = Lao People's Democratic Republic.

Source: Asian Development Bank Asia Regional Integration Center Free Trade Agreements database, ([www.aric.adb.org](http://www.aric.adb.org) [accessed March 2013]).

Singapore and Malaysia. The ASEAN+India FTAs are relatively comprehensive in terms of general sectoral inclusion, covering trade in goods, services, and investment.<sup>19</sup> Following the implementation of the FTA in goods, total trade grew by 41% from 2010 to 2011. The FTAs in services and investment are scheduled to be implemented by the end of 2013, and are expected to boost trade to \$100 billion from 2014 to 2015. At the same time, the FTAs were not very deep, as WTO-plus issues were not under negotiation.

In contrast to India's strong determination for deep integration with Southeast Asia, Pakistan has taken cautious steps. It first concluded a comprehensive economic partnership agreement with Indonesia by opening market access of trade in goods. Recently, it renegotiated

<sup>19</sup> India agreed on trade in goods with ASEAN countries in 2009, and a comprehensive pact on services and investment agreements was finalized in December 2012.

with Indonesia and agreed on a preferential trade agreement that came into force in January 2013, eliminating tariffs on goods and expanding the market further (Swire 2012). The FTA with Malaysia is more comprehensive and includes liberalization of services and investment. But none of these agreements include WTO-plus issues.

Among South Asian countries, India and Pakistan have more FTAs in the pipeline with Southeast Asian countries. In addition to the ASEAN members mentioned above, India has sought to negotiate FTAs with Thailand and Indonesia. More importantly, India is also interested in integrating with Southeast Asia under other frameworks besides ASEAN, such as the Comprehensive Economic Partnership for East Asia being promoted by Japan. Following approaches to individual ASEAN countries, such as the Philippines, Singapore, and Thailand, Pakistan proposed to negotiate an FTA with ASEAN as a whole in 2009. Despite no obvious progress in these FTAs, it shows the increasing attention that Pakistan is paying to facilitating economic cooperation with Southeast Asian nations. Sri Lanka and Singapore proposed to negotiate an FTA, but no substantial progress has been made on this.

### 2.5.3 The Regional Comprehensive Economic Partnership as an Opportunity for Connecting South and Southeast Asia?

In November 2012, ASEAN members and their FTA partners<sup>20</sup> agreed to negotiate an RCEP, which would build up the world's largest trading bloc covering 40% of world trade. India is the only country from South Asia to join the negotiations so far. This will give its businesses a greater opportunity to access markets in Southeast Asia and to integrate into production networks in this subregion. None of the other economies in South Asia has expressed willingness to join, but this may change if they become concerned about the economic effects of being left out of the regional integration group.<sup>21</sup> The first negotiations under RCEP are scheduled to begin in May 2013 with the goal of finishing in 2015.

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<sup>20</sup> Australia, the PRC, India, Japan, the Republic of Korea and New Zealand.

<sup>21</sup> See ADB (2013) for an evaluation of the RCEP.

## 2.6 Institutions

Another constraint to deepening cross-subregional integration is “coordination gaps”—difficulties inherent in cooperative planning and implementation processes. Coordination across national ministries is challenging to virtually all countries but especially to developing ones. Forming agricultural policies and projects, for example, usually involves coordination across many ministries, including agriculture, environment, trade, health, and finance. Finding effective approaches to interministerial coordination and implementation is an important part of the development planning process.

If bridging coordination gaps is so important at the national level, problems increase geometrically when policies need to be developed across two or more countries. In addition to national coordination problems, divergent political and legal systems, economic institutions, levels of development, even sociocultural traditions render joint policy formulation even more difficult. Moreover, intra- and cross-subregional projects and programs generate benefits that are not appropriated by a single country and often government bureaucracies are hesitant to mainstream projects for which they may only receive part of the gains. Further, in the national political discourse, the returns from cross-subregional cooperation may not be—or at least may not be perceived to be—evenly shared, which complicates mainstreaming and implementation. The win-win nature of cross-subregional cooperation is often lost in national dialogue.

An additional complication regards the optimal level at which coordination should take place. For example, should liberalization of trade policies be undertaken in a concerted fashion only at the WTO, inter-regionally, intra-regionally, bilaterally, or unilaterally? In creating its Single Market, the EU addressed the fundamental question by adopting the rule of subsidiarity, in which cooperation takes place at the lowest level possible, but no lower than that. For example, setting up a high-speed train between France and Italy falls under European law, procedures, and specifications, but the necessary coordination and other practical issues involve only France and Italy.

While South and Southeast Asian interconnectivity is very different from the European context, there is a strong economic case to be made

for building strong mechanisms for cross-subregional cooperation. Planning of South and Southeast Asian infrastructure projects usually involves a subset of economies in the two subregions; while it is only natural that they be planned and financed by the participating countries and the interested stakeholders involved, planning these projects with a larger scope in mind and nesting them in a cross-subregional context is beneficial to all countries. To do this, however, requires forward planning and close cooperation and coordination across countries and ministries.

### 2.6.1 Regional Institutions for Connectivity

Connectivity in the two subregions has been enhanced through several subregional infrastructure initiatives in the last few decades. A list of the initiatives most relevant to promoting connectivity between South and Southeast Asia is provided in Table 6, and an overview of each program is given below. Two complementary models of institutions are used to promote regional coordination in the area. The first model is functional corridor-led institutions for technical cooperation, including SASEC and GMS, which have been spearheaded by ADB. They focus on areas such as multimodal transport systems and trade facilitation agreements with loose coordination by a secretariat. The second model is subregional political cooperation, which is represented by ASEAN, BIMSTEC and SAARC. They have their own charters and secretariats.

ASEAN is a formal grouping composed of 10 member countries with a broad mandate, including infrastructure development. Its four flagship regional infrastructure programs are the ASEAN Power Grid, the Trans-ASEAN Gas Pipeline, the ASEAN Highway Network, and the Singapore-Kunming Rail Link. It also has programs to promote energy efficiency and renewable energy, and has established the AIF.

BIMSTEC is comprised of countries in South Asia and Southeast Asia and is supported by ADB. Economic integration through an FTA is one of its ultimate objectives. A framework agreement for an FTA was signed in 2004 but has yet to be implemented. In 2004, the BIMSTEC Trilateral Highway project linking India, Myanmar, and Thailand, with a total length of 1,360 km, was taken up by member countries to improve transport links and promote trade and tourism in the

subregion.

GMS is another informal institution involving five countries as well as two provinces of the PRC, supported by ADB. Its main goal is integration, and its main functional areas are trade and infrastructure. Its activities encompass transport, energy, telecommunications, agriculture, and tourism (ADB 2010b). An important focus of the GMS Economic Cooperation Program is improving connectivity in the subregion by improving transport, energy, and telecommunications links.

The Mekong-Ganga Cooperation (MGC) was established on November 10, 2000 at Vientiane at the First MGC Ministerial Meeting. It comprises six member countries, namely India, Thailand, Myanmar, Cambodia, Laos and Viet Nam. It emphasizes four areas of cooperation, including tourism, culture, education, and transportation linkage in order to establish a solid foundation for future trade and investment cooperation in the region.

SAARC is composed of the seven countries in South Asia, and its main objective is economic integration through the South Asia Free Trade Area. SAARC's main objectives are to promote quality of life and economic growth in the region, strengthen collective self reliance, encourage collaboration in economic, technical and related fields, and increase cooperation among members.

SASEC is made up of four countries in South Asia, with ADB providing technical assistance. In 2007, the SASEC information highway project was approved, with technical assistance financed from the Regional Cooperation and Integration Fund.

**Table 6. Subregional Cooperation Programs in South Asia and Southeast Asia**

Name	Year Established	Members	Objectives
Association of Southeast Asian Nations (ASEAN)	1967	Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam	ASEAN primarily aims to create a prosperous and peaceful community of Southeast Asian Nations. To achieve this, it endeavors to accelerate the economic growth, social progress and cultural development in the region. It also aims to promote regional peace and stability, active collaboration and mutual assistance on matters of common interest in various fields.
Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)	1997	Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka and Thailand	BIMSTEC aims to contribute to economic development of the sub-region by promoting active collaboration and mutual assistance on matters of common interest. It also aims to improve cooperation of member countries on sub-regional projects by providing each other with technical assistance, cooperate in joint efforts that are supportive of and complementary to national development plans, and cooperate in projects that can be dealt with most productively on a sub-regional basis.
Greater Mekong Subregion (GMS)	1992	Cambodia, Lao PDR, Myanmar, Thailand, Viet Nam, plus Guangxi and Yunnan provinces of the PRC	With the adoption of the new GMS Strategic Framework 2012-2022 in Naypyitaw, Myanmar, the objectives of the GMS Program have expanded from conventional infrastructure to multi-sector investments to foster economic corridor development, create stronger cross-sectoral linkages, and more local stakeholder involvement and participation.
South Asian Association for Regional Cooperation (SAARC)	1985	Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka	SAARC's main objectives are to promote quality of life and economic growth in the region, strengthen collective self reliance, encourage collaboration in economic, technical and related fields, and increase cooperation among members.
South Asia Subregional Economic Cooperation (SASEC)	2001	Bangladesh, Bhutan, India, and Nepal	The South Asia Subregional Economic Cooperation (SASEC) program is a project-based initiative to promote economic cooperation through the enhancement of cross-border connectivity and facilitation of trade among the member countries.
Mekong-Ganga Cooperation	2000	India, Thailand, Myanmar, Cambodia, Lao PDR and Viet Nam	The Mekong-Ganga Cooperation (MGC) took its name from the Ganga and Mekong, two large rivers in the region. It aims to enhance cooperation of the six member countries in the areas of culture, tourism, human resource development and education, and transport and communication.
<b>Others</b>			
ASEAN-India Connectivity	ASEAN and India became sectoral dialogue partners in 1992 and full dialogue partners in 1996.	ASEAN and India	ASEAN-India connectivity was the main theme of the 2nd phase of the Comprehensive Asia Development Plan (CADP) proposed by ERIA. The main objective of this project is to enhance partnership of ASEAN and India by improving physical infrastructure links to support cooperation across a range of sectors such as trade, agriculture, new and renewable energy, tourism, among others.
Mekong-India Economic Corridor (MIEC)	2008	Myanmar, Thailand, Cambodia, Viet Nam, India	MIEC aims to create an economic corridor that will enhance trade and investment flow among members, augment trade with India by reducing travel distance between India and the four Mekong Countries, and remove supply side bottlenecks.

Source: ADB (2008), ADB (2010), ASEAN Secretariat (2009), ERIA (2008), ERIA (2011) and SAARC Secretariat (2009).

	Strategic Priorities
	<p>Projects and activities are organized under Economic Community, Political-Security Community and Socio-Cultural Community. Economic Community projects include Economic Ministers Meeting, the ASEAN Free Trade Area Council, and Finance Ministers Meeting. Political-Security Community includes the ASEAN Regional Forum, the Defence Ministers Meeting, and the Ministerial Meeting on Transnational Crime. Socio-cultural community projects include the Ministerial Meeting on Disaster Management, the Educators Meeting, the Labor Ministers' Meeting, and the Ministerial Meeting on Social Welfare and Development. Various other programs and projects had been launched to support ASEAN community building, e.g. infrastructure development and trade and investment facilitation projects.</p>
	<p>Strategic priorities include trade and investment, transport and communication, energy, tourism, information technology, and fisheries. Other areas of focus for BIMSTEC's operations include agriculture, public health, poverty alleviation, counterterrorism and transnational crime, protection of biodiversity and environment, natural disaster management, and cultural exchanges.</p>
	<p>Projects of high priority include transport, energy, telecommunications, environment, human resource development, tourism, trade, private sector investment, and agriculture. These subregional projects are implemented with support from ADB and other donors.</p>
	<p>Regional development programs on health, agriculture and rural development, energy, education, disaster management and other cooperation programs are pursued and implemented by several regional centers.</p>
	<p>Six priority sectors are the focus of SASEC, namely transport; tourism; trade, investment and private sector cooperation; energy and power; environment; and information and communications technology. ADB has been a partner of SASEC in its Information Highway Project, Transport Logistics and Trade Facilitation and Tourism Projects.</p>
	<p>In addition to the four areas of collaboration under the Mekong-Ganga Cooperation, namely culture, tourism, human resource development and education, and transport and communication, other priority sectors that were recently identified were health; micro, small and medium-size enterprise development; and food security.</p>
	<p>Multi-modal transport covering land and sea routes. The land route will be along the Trilateral Highway or Asian Highway 1 (AH1) connecting Thailand, Myanmar and India. The sea route will be the west link of the Mekong India Economic Corridor (MIEC).</p>
	<p>Multi-modal transport linkage (road, railway, seaport, and airport), by creating new and/or upgrading old linkages.</p>

## 2.6.2 Factors Affecting Success of Cooperation Initiatives

These programs have shown varying degrees of success, and it is important to identify factors that promote successful performance. The GMS has been cited as an example of a regional organization that has performed well and should be replicated in other regions (ADB and ADBI 2010). Cooperation among the diverse membership of the GMS has been a great success in improving cross-subregional connectivity via the GMS Economic Corridors and GMS Railway programs. The GMS has also been supported by a secretariat housed at ADB, which is a key stakeholder and honest broker in GMS projects. This has permitted a careful nesting of these projects in the context of broader regional efforts—e.g., the Asian Highway—and it has facilitated the targeting and prioritizing of major gaps in subregional connectivity.

## 2.6.3 The Way Forward

Closing coordination gaps in South and Southeast Asian cooperation and integration may require retooling existing institutions and creating new ones to facilitate economic links, identify and prioritize emerging and long-run obstacles to cross-subregional connectivity and cooperation, and help contribute to the solutions.

It may be productive to find some way to link SASEC with the GMS, since the GMS has arguably been the most successful example of cooperation in the two subregions. Perhaps a pragmatic way to start is to focus on specific regional projects and to convene project-specific technical working groups to oversee the planning and implementation of the projects. These projects could, in turn, be included in the agenda of meetings of the relevant GMS and SASEC working groups. As secretariat of both GMS and SASEC, ADB should be able to help with this process.

# 3 Main Messages and the Way Forward

## 3.1 Main Messages

**Trade between the two subregions considerably lags potential.**

Trade between South Asia and Southeast Asia has grown dramatically over the past decade, but remains modest relative to its potential, especially compared with the development of trade between Southeast and East Asia. South Asia particularly lags in terms of integrating with production networks. This reflects shortcomings in terms of both hard infrastructure and soft infrastructure, the latter including FTAs, investment agreements, and trade facilitation measures.

**Increased cross-subregional trade promises substantial benefits.**

Increased trade between South and Southeast Asia promises substantial benefits in terms of specialization and increased market size. An earlier study using a slightly different regional unit of analysis (ASEAN+3 and South Asia) estimates large gains (about \$260 billion, or 2% of GDP) from an East and South Asian FTA, under conservative assumptions (François, Rana, and Wignaraja 2009: 28 [Table 1.6]).

**Supply chain network development has great potential.**

Supply chain networks between South Asia and Southeast Asia are still very modest, and have great potential for increasing trade between the two subregions.

**Infrastructure gaps.**

This report has identified major gaps and bottlenecks in land (road and railway) and sea transport infrastructure and a list of priority investment projects. Major land infrastructure gaps have been identified in links between India and Myanmar, Bangladesh and Myanmar, and Myanmar and Thailand. Closing

these gaps—together with improvements in trade facilitation—could substantially increase cross-subregional trade.

**Energy trading.** The main opportunities for energy trading between South Asia and Southeast Asia (aside from conventional shipments of coal or petroleum products via sea or rail) lie in the areas of electric power (mainly hydroelectric) and gas pipelines, plus pooling and interconnection of electric power grids. Given its substantial reserves of hydroelectric power capacity and natural gas, plus its critical position as a pipeline location, Myanmar has the potential to play a key role in exploiting such opportunities. Therefore, the key challenges will be to develop both the physical and institutional infrastructures that can enable such trading to take place.

**Need for effective customs modernization.** Existing customs procedures have not changed much in recent years, despite the heavy investment by customs in automation in the two subregions. The Revised Kyoto Convention represents a benchmark for customs modernization in relation to procedures, but procedures in many countries in the subregions are not compliant with the convention. The development of the Single Window represents a major advance, which will be difficult for the smaller countries to implement, especially as the levels of automation in some of the border agencies are low. However, the Single Window in more advanced countries, such as India and Thailand, could be realized over the short term.

**Other key trade facilitation issues.** Other key trade facilitation issues in the two subregions include (i) lack of border infrastructure and traffic planning, (ii) lack of land ports at the border crossing points, (iii) lack of cross-border transport arrangements, and (iv) inefficient trader practices. Another key NTB in South and Southeast Asia is the lack of harmonized technical regulations, standards, and conformity assessment procedures. This has resulted in the duplication of product re-testing and re-certification.

**Further liberalization of trade and investment.** Reducing barriers to trade and investment between South Asia and Southeast Asia is an important long-term goal. Second generation domestic policy reforms

are one way to lock in the benefits of regional liberalization. Another possibility is greater participation by South Asian countries in the RCEP.

**Need for development of regional bond markets, public-private partnership financing, and cross-border infrastructure financing vehicles.** The banking sector dominates commercial credit, but is often unsuitable for the long-term lending required by commercial infrastructure projects. The banking sector makes up more than 50% of total financing in South Asia except in India, Pakistan, and Sri Lanka; and in Southeast Asia except for Indonesia, Malaysia, the Philippines, Singapore, and Thailand. It is important to develop further the capacity of local currency bond markets to finance such projects. Securities exchanges in countries such as Myanmar need to be developed. Moreover, public funds may not be adequate, so institutions that support PPPs should be encouraged. Finally, there is an important role for cross-border funding, including by multilateral banks and possible new institutions such as an Asian Infrastructure Fund, a potential enlargement of the current ASEAN Infrastructure Fund.

**Institutional issues.** The major gap is a program to effectively link the contiguous countries of South Asia and Southeast Asia to provide a framework for the promotion of deeper land-based cross-subregional connectivity. A pragmatic way to start may be to focus on specific regional projects and to convene project-specific technical working groups to oversee the planning and implementation of the projects. These projects could, in turn, be included in the agenda of meetings of the relevant GMS and SASEC working groups. As secretariat of both GMS and SASEC, ADB should be able to help with this process.

## 3.2 Way Forward

This interim report from the study of South and South Asian connectivity highlighted the economic ties between the two subregions and the key role of physical connectivity and associated software in strengthening cross-subregional economic integration, including transport infrastructure, energy trading, and trade facilitation. In

addition, it identified various options for financing such projects. It has also developed proposals for broadening FTAs between the two subregions, and for strengthening cross-subregional programs related to infrastructure investment.

Three implications from the preliminary research done to date are worth noting. First, much is already happening in relation to strengthening economic ties between the two subregions, but it is not enough, and considerable potential exists for strengthening economic ties. Second, there are substantial economic benefits to greater cross-subregional integration, but possible costs will need to be mitigated. Third, an integrated approach to connectivity is needed to move forward. Such an approach would include investment in cross-border transport and energy infrastructure, improvements in trade facilitation, development of infrastructure financing at national and regional levels, implementation of trade and investment reforms, and building institutions that will improve coordination and address coordination gaps.

The next steps for the study are proposed to include:

- Mapping of trade and energy infrastructure patterns across South and Southeast Asia and identification of infrastructure investment projects.
- Modeling the benefits and costs of enhanced cross-subregional economic integration using ex-ante and ex-post methods.
- Highlighting the state of infrastructure financing and possible options.
- Assessing barriers to cross-subregional trade and investment and the prospects for liberalization at the national and regional levels.
- Evaluating coordination gaps and appropriate institutional solutions.
- Examination of the political economy of an agenda for strengthening institutions to promote better connectivity and closer economic relations between South and Southeast Asia.
- Assessments of selected countries conditions, needs, and strategies for cross-subregional economic cooperation through connectivity.

The main study report is expected to be completed in 2014.

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## Connecting South Asia and Southeast Asia Interim Report

This report analyzes how closer regional connectivity and economic integration between South Asia and Southeast Asia can benefit both subregions, with a focus on the role played by infrastructure and public policies in facilitating this process. It examines major developments in South Asia–Southeast Asia trade and investment, economic cooperation, the role of economic corridors, and regional cooperation initiatives. In particular, it identifies significant opportunities for strengthening these integration efforts as a result of the recent opening up of Myanmar in political, economic, and financial terms. This is particularly the case for land-based transportation—highways and railroads—and energy trading. The report’s focus is on connectivity in a broad sense, covering both hardware and software, including investment in infrastructure, energy trading, trade facilitation, investment financing, and supporting national and regional policies.

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ADB’s vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region’s many successes, it remains home to two-thirds of the world’s poor: 1.7 billion people who live on less than \$2 a day, with 828 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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ADBI, located in Tokyo, is the think tank of the Asian Development Bank. Its mission is to identify effective development strategies and improve development management in ADB’s developing member countries. ADBI has an extensive network of partners in the Asia and Pacific region and beyond. ADBI’s activities are guided by its three strategic priority themes of inclusive and sustainable growth, regional cooperation and integration, and governance for policies and institutions.

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## INTERIM REPORT

