Regional Connectivity and Economic Integration

In view of the uncertain prospects for a speedy and strong recovery in the industrial countries and the need to unwind the global imbalances indicated in chapter 1, the economies of Asia and the Pacific will need to rely more on domestic and regional demand. Regional economic integration could enhance regional demand, driven by populous and rapidly growing economies, such as China and India, the dynamic domestic markets of which could also benefit their smaller and poorer neighbours. However, such a desirable outcome cannot be taken for granted. The rising tide of development opportunities will not lift all boats if these are separated by water locks. These obstructions can take the form, for example, of restrictive non-tariff measures, complicated and time-consuming customs procedures, cross-country differences in legal and regulatory regimes and poor transport infrastructure. As a result, the enormous opportunities generated by the more dynamic economic growth centres may stop at their national borders.
Connectivity to boost regional integration

Economic development involves expanding not just production and consumption but also the kind of exchange activities that are enabled by the growth of cities and by the development of long-distance transport, telecommunication and energy networks. In this chapter the term “connectivity” refers to the degree to which exchange activities are facilitated, both within and across countries.

This term has often been associated with cross-country connectivity or regional connectivity. According to the Master Plan on ASEAN Connectivity the term refers to “the physical, institutional and people-to-people linkages that comprise the foundational support and facilitative means to achieve the economic, political-security and socio-cultural pillars towards realising the vision of an integrated ASEAN Community”.

Similarly, the Heads of Governments of the South Asian Association for Regional Cooperation (SAARC) agreed at their 14th summit to improve intraregional connectivity – particularly physical, economic and people-to-people connectivity – as a stepping stone towards a vision of a South Asian community “where there was smooth flow of goods, services, peoples, technologies, knowledge, capital, culture and ideas”.

Examples across the SAARC subregion include the recent initiative of Bangladesh to sell seaport services to Bhutan, India and Nepal, and the $1 billion soft loan that India granted to Bangladesh to help it upgrade its transport infrastructure.

However, it is important to keep in mind that physical transport, telecommunications and energy infrastructure connectivity take place mostly within countries, where these factors are closely related to economic development. This is illustrated in figure 3.1, which shows the relationship between the ESCAP infrastructure index, a composite measure of infrastructure development in countries of the region,

![Figure 3.1. Infrastructure and gross domestic product per capita in Asia and the Pacific, 2007](image)

Source: ESCAP; based on data from the World Bank, World Development Indicators Database.

Note: The composite measure of infrastructure development is based on eight physical infrastructure indicators covering 40 ESCAP member countries for 2007. See ESCAP (2010b, p. 143) for details.

Abbreviations: AM=Armenia; AU=Australia; AZ=Azerbaijan; BD=Bangladesh; BT=Bhutan; BN=Brunei Darussalam; CN=China; FJ=Fiji; GE=Georgia; HK=Hong Kong, China; ID=Indonesia; IN=India; IR=Iran (Islamic Republic of); JP=Japan; KG=Kyrgyzstan; KH=Cambodia; KR=Republic of Korea; KZ=Kazakhstan; LA=Lao People’s Democratic Republic; LK=Sri Lanka; MN=Mongolia; MO=Macao, China; MV=Maldives; MY=Malaysia; NP=Nepal; NZ=New Zealand; PG=Papua New Guinea; PH=Philippines; PK=Pakistan; RU=Russian Federation; SB=Solomon Islands; SG=Singapore; TH=Thailand; TJ=Tajikistan; TM=Turkmenistan; TO=Tonga; UZ=Uzbekistan; VN=Viet Nam; VU=Vanuatu; WS=Samoa.
and GDP per capita. There is also robust evidence of the importance of infrastructure for increasing productivity and reducing income inequality.\(^3\)

**The rising tide of regional development opportunities will not lift all boats if these are separated by water locks**

Enhancing connectivity requires a two-pronged approach. On one hand, it is necessary to build strong regional institutions for planning, managing and funding major cross-country initiatives – in physical infrastructure, trade, transport and harmonization of rules and regulations. At the same time it is important to provide specific support to the region's least developed countries, landlocked developing countries and small island developing States so that they can take full advantage of better regional connectivity. This chapter considers these issues starting with assessments of connectivity in trade, investment, transport and information and communications technology. It also discusses the roles of regional and subregional institutions, as well as national policies, and their potential for promoting regional connectivity.

### Intraregional trade

According to a common model known as the “gravity equation”, the value of bilateral trade increases with the economic size of the trading partners, measured by their GDP, and decreases with their distance apart.\(^4\) The model usually includes additional variables, such as the use of a common language or a common land border, although it omits other significant determinants, including sources of comparative advantage and trade policy regimes. According to this model about half of Asia-Pacific trade should be intraregional.

This is illustrated in figure 3.2 for the period 1993-2009, which compares modelled and actual data. In both cases the trend has been upwards. Between 1998 and 2008 the proportion of trade that was intraregional increased from 46.7% to 51.5%, and the modelled value from 44.7% to 53.6%. Until 2003, the actual shares exceeded the modelled values, but subsequently have been lower. This could reflect large trade surpluses. Between 1999 and 2008, the region accumulated a $3 trillion surplus with the United States and a $2 trillion surplus with the European Union, which during that period represented 20% of the region's imports. In comparison, between 1993...
and 1997 the region’s trade surpluses represented only 6% of its imports.

The trends in both modelled and actual intraregional trade suggest that the region could become an increasingly important market for its own exports, particularly if its GDP continues growing faster than that of the rest of the world. However, it may be asked: will this be supported by the region’s physical connectivity? Will Governments of countries in the region be able to dismantle non-tariff measures and harmonize and simplify regulations?

The extent to which countries trade with partners within a region as vast as that of Asia and the Pacific can also be expected to differ across subregions. The proportion of trade of each subregion conducted within Asia and the Pacific is indicated in figure 3.3, panel A. Over the period 2006-2009 it varied from 66% for both the Pacific and South-East Asia to a low of 31% for North and Central Asia, the countries of which are, on average, closer to Europe than to the rest of the Asia-Pacific region. The low figure of 38% for South and South-West Asia can also be explained by its proximity to Europe and the Middle East.

Over the period 2006-2009, the actual intraregional trade shares for North and Central Asia, South and South-West Asia, and East and North-East Asia were lower than modelled, suggesting that these subregions have room for expanding intraregional trade. In the Pacific, on the other hand, the actual share was greater than modelled, probably as a result of the long distances between countries in that subregion and those in the rest of the world, which creates an incentive for them to trade more with each other.

The trends in both modelled and actual intraregional trade suggest that the region could become an increasingly important market for its own exports

Between the periods 1993-1996 and 2006-2009 both modelled and actual intraregional trade shares increased significantly. The greatest modelled increase, 8 percentage points, was in East and North-East Asia, while the greatest actual increase, again 8 percentage points, was in South-East Asia,
followed by South and South-West Asia and the Pacific (7 percentage points each).

To offer more insights, table 3.1 decomposes intraregional trade shares of the Asia-Pacific subregions by partner subregion; the data should be read horizontally. For instance, the intraregional trade share of East and North-East Asia (51.9%) is decomposed as 32% with itself, 2.2% with North and Central Asia, 3.2% with the Pacific, 3.4% with South and South-West Asia and 11.1% with South-East Asia. The table shows that the East and North-East Asian subregion was the most important trading partner not just for itself but also for the other four subregions.

The numbers in parentheses in the table 3.1 show the modelled shares. The cells highlighted in yellow are those in which the actual trade shares exceed the modelled shares by 2 percentage points or more, indicating that trade is significantly larger than might be expected on the basis of the trading partners’ GDP and their distance apart. This may be the result of preferential trade agreements, good transport infrastructure, proper transport and trade facilitation, or complementarities that make trade particularly attractive. Conversely, cells highlighted in red are those in which the actual trade shares are less than the modelled ones by 2 percentage points or more, which could be explained by the lack of effective preferential trade agreements, insufficient transport infrastructure, high trading costs, poor trade facilitation or the lack of complementarities.

The main cases in which actual trade exceeds that indicated by the gravity model are within South-East Asia, within North and Central Asia, between East and North-East Asia and South-East Asia and between the Pacific and both East and North-East Asia and South-East Asia. Possible explanations include the trade and investment promotion institutions of ASEAN, infrastructure links in Central Asian countries that were developed in the former Union of Soviet Socialist Republics, the deployment of supply chains linking South-East Asia with North and North-East Asia and complementarities in production. Also significant are the relatively shorter distances from the Pacific to South-East Asia and

### Table 3.1: Decomposition of intraregional trade shares of the Asia-Pacific subregions, by partner subregions, 2006-2009

<table>
<thead>
<tr>
<th>Subregion</th>
<th>Partner subregion</th>
<th>East and North East-Asia</th>
<th>North and Central Asia</th>
<th>Pacific</th>
<th>South and South-West Asia</th>
<th>South-East Asia</th>
<th>Asia and the Pacific</th>
</tr>
</thead>
<tbody>
<tr>
<td>East and North East-Asia</td>
<td></td>
<td>32.0 (38.8)</td>
<td>2.2 (3.1)</td>
<td>3.2</td>
<td>3.4 (6.7)</td>
<td>11.1 (7.7)</td>
<td>51.9 (59.5)</td>
</tr>
<tr>
<td>North and Central Asia</td>
<td></td>
<td>14.9 (18.2)</td>
<td>8.3 (4.6)</td>
<td>0.2</td>
<td>6.5 (8.6)</td>
<td>1.4 (2.6)</td>
<td>31.3 (35.5)</td>
</tr>
<tr>
<td>Pacific</td>
<td></td>
<td>37.6 (22.6)</td>
<td>0.3 (1.7)</td>
<td>8.8</td>
<td>3.6 (5.5)</td>
<td>15.5 (9.2)</td>
<td>65.8 (46.6)</td>
</tr>
<tr>
<td>South and South-West Asia</td>
<td></td>
<td>17.4 (20.1)</td>
<td>4.9 (4.3)</td>
<td>1.5</td>
<td>8.1 (9.8)</td>
<td>6.3 (5.2)</td>
<td>38.4 (41.7)</td>
</tr>
<tr>
<td>South-East Asia</td>
<td></td>
<td>32.7 (30.5)</td>
<td>0.6 (1.8)</td>
<td>3.8</td>
<td>3.7 (7.0)</td>
<td>25.0 (21.2)</td>
<td>65.9 (65.7)</td>
</tr>
<tr>
<td>Asia and the Pacific</td>
<td></td>
<td>29.3 (31.3)</td>
<td>2.6 (3.1)</td>
<td>3.1</td>
<td>4.3 (7.4)</td>
<td>12.6 (8.7)</td>
<td>51.9 (51.7)</td>
</tr>
</tbody>
</table>


**Notes:** Modelled shares are shown in parentheses within each cell. Cells where the actual intraregional trade share exceeds the modelled share by 2 percentage points or more are highlighted in yellow. Cells where the actual share is less than the modelled share by two percentage points or more are highlighted in red. See Isogut (2011) for details on the computation of modelled shares.
North and North-East Asia – 7,700 and 7,300 km respectively – compared with 11,400 km to North America and 15,400 km to Western Europe.

The table highlights in red cases in which actual trade is less than the gravity model suggests. These include trade between East and North-East Asia and West and South-West Asia, trade within East and North-East Asia, and trade between North and Central Asia and East and North-East Asia – all of which suggest unexploited opportunities.

The region could benefit from a broader approach to regional integration which focuses not just on deepening integration within subregions but also on fostering trade links across subregions.

Although the gravity model provides useful insights about potential trade, it overlooks the product composition of exports and imports, which could play a role in determining the volumes of bilateral trade. To complement this analysis, box 3.1 shows calculations of the complementarity index between and within Asia-Pacific subregions. This index measures the degree to which the export pattern of one subregion matches the import pattern of another. A high value of the index for a pair of subregions indicates that there is high potential for them to trade with each other. The results suggest that the region could benefit from a broader approach to regional integration, which focuses not just on deepening integration within subregions but also on fostering trade links across subregions.

**Trade costs**

The volume of trade could be adversely affected by various costs, including import tariffs, export taxes, costs related to fulfilling regulatory import and export requirements, and domestic and international shipping and logistics costs. In particular, the costs associated with completing documents and other import and export procedures for international trade can account for up to 15% of the value of traded goods. The analysis of this section is based on a broad measure of trade costs, drawn from the ESCAP Trade Cost Database.

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**Box 3.1. Complementarities in products**

Since many Asia-Pacific countries export the same products as others in the region they may have less potential for trade with each other. The World Bank (2000) and Chen and Liao (2005) argue that the export structures of East Asian countries were becoming increasingly similar towards the mid-1990s and early 2000s, although a more recent study by Shirotori and Molina (2009) shows evidence of increasing trade complementarities among Asian developing countries.

To assess the degree of complementarities across Asia-Pacific subregions, values of the complementarity index between their exports and imports for 2007 are shown below. The index is calculated as follows:

$$CI_{ij} = \left[1 - \frac{\sum_p |S^X_{jp} - S^M_{jp}|}{2}\right] \times 100,$$

where $S^X_{jp}$ is the share of product $p$ in subregion $i$'s exports and $S^M_{jp}$ is the share of product $p$ in subregion $j$'s imports. In the hypothetical case where both shares coincide for all products, the summation is 0 and the value of the index is 100. If, instead, there is no overlapping between one subregion's exports and the other subregion's imports, the summation is 2 and the value of the index is 0. It should be noted that in general $CI_{ij} \neq CI_{ji}$ (except when $i = j$), so one subregion's exports...
can be complementary with another subregion’s imports even if the second subregion’s exports are not complementary with
the first subregion’s imports. This could happen, for example, if the first subregion exports a wide array of products but the
second subregion is very specialized in a few export products. In this calculation, the products are defined at the five-digit
level of the Standard International Trade Classification (rev. 2) and the unit of analysis is the subregion.

The results of this calculation, shown in the table above, suggest that there is an important degree of complementarity between
the Asia-Pacific subregions. The pair of subregions with the most complementarities are East and North-East Asia (ENEA) and
South-East Asia (SEA), with $CI_{ENEA,SEA} = 60$ and $CI_{SEA,ENEA} = 55$. The table also shows the complementarity index for
trade within subregions (shaded). Interestingly, it shows that the highest degree of complementarity is within the East and
North-East Asia subregion, the economies of which, as seen above, are trading less than expected (see table 3.1 above) and
are characterized by high trade costs (see table 3.2 below). It is also noteworthy that, with the exception of East and North-
East Asia, the value of the complementarity index is lower for trade within a subregion than for trade between that and other
subregions. For instance, the exports of North and Central Asia are more complementary with the imports of South-East Asia
and South and South-West Asia than with imports from the North and Central Asia subregion itself. Similarly, exports from
South and South-West Asia are more complementary with imports from East and North-East Asia and the Pacific. The case of
East and North-East Asia suggests that there are important gains from trade to be realized from further regional integration
within this subregion. The case of the rest of the Asia-Pacific subregions suggests the desirability of pursuing a broader
approach to regional integration, which focuses not just on deepening integration within subregions but also in fostering trade
links across subregions.

Finally, it should be emphasized that the index is based on historical data for 2007, and that the pattern of comparative advantage
changes over time, as countries develop and diversify their exports. For instance, a similar calculation for 1995 reveals that
South and South-West Asia increased substantially its complementarities with other Asia-Pacific subregions, from an average of
31 in 1995 to 38 in 2007. Such an increase in the index was particularly sharp for exports from South and South-West Asia
to South-East Asia (from 23 in 1995 to 37 in 2007), but was also important for exports from South and South-West Asia to
East and North-East Asia (from 34 in 1995 to 40 in 2007). It is expected that these trends will continue in the future and
not just for South and South-West Asia. If progress in regional integration and connectivity accelerate in the years to come,
countries in the region will be able to greatly benefit from trade opportunities.

Source: ESCAP.
For illustration, figure 3.4 shows the costs for trading with Japan for a range of Asia-Pacific countries, along with those of two other trading partners: Germany and the United States. Expressed as an ad valorem tariff equivalent, the median value is 158%, ranging from 45% for Malaysia to a high of 328% for Kyrgyzstan. Distance is one factor: trading costs with Japan are lower for neighbouring countries, such as China and the Republic of Korea, as well as for Australia, Indonesia, Malaysia, Thailand and Viet Nam. However, distance is not the main factor. For instance, the distance from Bhutan to Japan is roughly the same as that to Thailand – about 4,500 km– but the cost of trade is almost five times higher. In general, trade costs are significantly higher for landlocked countries, such as Afghanistan, Armenia, Bhutan, Georgia and Kyrgyzstan, as well as for Pacific island developing economies, such as Fiji, Samoa, Tonga, and Vanuatu.

Other costs include documents, administrative fees for customs clearance and technical control, customs broker fees, terminal handling charges and inland transport. These are reflected in the World Bank’s Doing Business database. For instance, in 2010 the average cost of importing a 20-foot container for China, Malaysia, the Republic of Korea, Thailand and Viet Nam was $645, compared with $2,630 for Afghanistan, Armenia, Bhutan, Georgia and Kyrgyzstan. Similarly, the average number of days to import was 15.8 for the first group of countries and 43.6 for the second.

Across Asia and the Pacific there are also significant differences in trade costs within and between subregions. As indicated in table 3.2, the trade efficiency of ASEAN is comparable to that of the North American Free Trade Agreement (NAFTA) and the European Union. But trade costs are more...
Table 3.2. Ad valorem intra- and extra-subregional trade costs, 2007

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Reporter</th>
<th>Partner</th>
<th>ASEAN4</th>
<th>SAARC4</th>
<th>East and North East-Asia</th>
<th>North and Central Asia</th>
<th>AUS-NZL</th>
<th>EU5</th>
<th>NAFTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASEAN4</td>
<td>53</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAARC4</td>
<td>139</td>
<td>138</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East and North East-Asia</td>
<td>141</td>
<td>227</td>
<td>113</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North and Central Asia</td>
<td>280</td>
<td>282</td>
<td>204</td>
<td>149</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUS-NZL</td>
<td>90</td>
<td>168</td>
<td>155</td>
<td>329</td>
<td>61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU5</td>
<td>113</td>
<td>139</td>
<td>135</td>
<td>166</td>
<td>129</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAFTA</td>
<td>109</td>
<td>162</td>
<td>122</td>
<td>259</td>
<td>130</td>
<td>107</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Notes: ASEAN4 comprises Indonesia, Malaysia, the Philippines and Thailand; SAARC4 comprises Bangladesh, India, Pakistan and Sri Lanka; and EU5 comprises France, Germany, Italy, Spain and the United Kingdom of Great Britain and Northern Ireland; ASEAN = Association of Southeast Asian Nations; AUS-NZL = Australia and New Zealand; EU = European Union; NAFTA = North American Free Trade Agreement; SAARC = South Asian Association for Regional Cooperation.

than twice as high for SAARC, East and North-East Asia, and North and Central Asia. In general, trade costs are lower within subregions because of geographic proximity as well as similarities in language and culture.

For SAARC, however, intra-subregional trade costs remain high: they are only 1% lower than those between SAARC and ASEAN or those between SAARC and the European Union. Trade is similarly expensive within North and Central Asian countries – only 10% less than between this subregion and the European Union. And trade costs within East and North-East Asia are only 9% lower than those between this subregion and NAFTA. It should also be noted that the costs of trade between Asian subregions are also high. For example, trade costs between ASEAN and SAARC are nearly 30% higher than those between ASEAN and NAFTA. Similarly, trade costs between North and Central Asia and SAARC are 70% higher than those between North and Central Asia and the European Union.

On a more positive note, the time spent in moving goods from factory to ship at the nearest seaport – or vice versa – fell on average by about 16% in ESCAP developing economies between 2005 and 2010, although the experience varied greatly from country to country. The greatest progress was in South-East Asia, which cut its average time to only 19 days; Cambodia and Thailand cut their trade time by over 40%. India and Pakistan achieved similar improvements, although in South and South-West Asia trade procedures still take 50% more time to complete than in South-East Asia. The North and Central Asian subregion, with its many landlocked countries, made small improvements, but procedures employed in moving goods to a seaport from most countries remain extremely lengthy (52 days on average). And no significant progress was made in the Pacific. Overall it still takes three times longer to complete trade procedures in ESCAP developing economies than in ESCAP developed economies.

However, in most ESCAP economies the inflation-adjusted cost of trade procedures has marginally increased. This may be attributed partially to the increased cost of labour or to the greater demand for logistics and transport services as trade volumes increase. Between 2005 and 2010 the biggest increases in the average cost of moving goods from factory to seaport by container were for South and South-West Asia (17%), and North and Central Asia (9%).

Trade costs are also affected by restrictions on the movement of vehicles and trains across borders.
For example, many countries allow only international transport by road within 30 to 100 km of their borders, or along limited routes, and designate only a few loading and unloading points. In addition, there are restrictions on the number of transport permits issued per year and on the length of their validity. In 2008 and 2009, the International Road Transport Union monitored road freight from the borders that China shares with Central Asian countries to Western and Central Europe and estimated that 40% of the overall travel time was being spent at national borders. These delays, together with the relatively high level of official and non-official payments at borders, act as deterrents to land-based road transport.

Finally, it is clear from available statistics and consultations that logistics account for a substantial component of production costs. In Indonesia, for example, logistics comprise 14% of total production costs compared with 5% in Japan. In China in 2004, logistics costs accounted for 21.3% of the total GDP, while in Thailand, the logistics costs in 2007 were equivalent to 18.9% of GDP. Better logistics can provide a substantial boost to competitiveness and trade. For example, it has been estimated that, in Cambodia and the Lao People’s Democratic Republic, a 20% reduction in logistics costs could increase the trade-to-GDP ratio by more than 10%.

Companies from Asia-Pacific developing countries can contribute investment and technology to enhance the productive capabilities of lower-income countries in the region

Over the last two decades, ESCAP developing economies have been the source of two significant waves of outward foreign direct investment (OFDI) (see figure 3.5). The first was between 1993 and 1997 (up to the start of the Asian financial crisis), when these countries accounted for 12.8% of global OFDI flows. Of this amount, almost 80% came from the “newly industrialized economies”: Hong Kong, China; the Republic of Korea; Singapore; and Taiwan Province of China. The second wave started in 2004: from 2004 to 2008, ESCAP developing economies accounted for an average of 10.5% of the global flows. During this second period, however, only 50% came from Asian newly industrialized economies. In fact, between 1993-1997 and 2004-2008, China and India increased their joint share from 5% to 20% and the Russian Federation increased its share from 1% to 18%.

Companies from Asian and Pacific developing countries can have a significant impact in the
Many low-income countries in Asia and the Pacific now get most of their FDI from other developing countries in the region. In Nepal, for instance, India (in manufacturing and services) and China (in manufacturing) account for more than half of FDI; in Sri Lanka, many of the foreign manufacturing firms are Indian; in Mongolia, most of the FDI comes from China and the Russian Federation. An important contribution to such flows has been the development of regional production networks. As a result, China and Malaysia, for example, have been investing in emerging countries such as Viet Nam. Industries that have benefited from intraregional FDI flows are electronics, steel and automotives. Banking has also been expanding: for example, a Chinese commercial bank, the Industrial and Commercial Bank of China, has recently acquired financial institutions in Indonesia and Thailand.

OFDI not only benefits the destination countries but also boosts the competitiveness and performance of firms and industries in the source country. To encourage this type of investment, Asian countries have therefore been liberalizing regulations on capital account outflows and, in some cases, providing financing for domestic firms seeking to invest abroad. In China, for example, the Government has declared its intention to develop national champions that can compete on the global stage. Similarly, the Government of India has gradually liberalized its OFDI policies, initially raising the threshold for the automatic approval of proposals and then in 2004 removing the limit and allowing Indian enterprises to invest abroad up to 100% of their net worth.

Regarding investment facilitation, a number of bilateral and subregional free trade agreements (FTAs) have provisions for investment liberalization, besides numerous bilateral treaties that are generally...
confined to investment promotion and protection, and to frameworks for the settlement of disputes. In addition a network of bilateral double tax avoidance treaties has been signed by a number of countries in the region to facilitate investments. In the Asia-Pacific region, ASEAN has the most developed provisions on intraregional investment promotion and facilitation.

**Preferential trading arrangements**

As discussed above, the last decade has witnessed a steady increase in intraregional trade flows, a trend that is expected to deepen in the future as a result of the higher rate of economic growth of Asia-Pacific countries compared with the rest of the world. However, important differences in the cost of trade across countries and subregions remain. In this context, the significantly lower costs of trade among ASEAN countries compared with other subregions in Asia and the Pacific suggest that preferential trading arrangements may play a role in stimulating trade. Therefore, expanding such arrangements region-wide could result in reduced trade costs and increasing volumes of trade across the region.

Lowering trade costs is particularly important to enable smaller countries to extend their markets and reap efficiency gains by exploiting economies of scale and specialization. Such process of efficiency-seeking industrial restructuring also facilitates the creation of supply capabilities in relatively poorer countries and their convergence to higher levels of development. This section provides an overview of the region’s preferential trading arrangements and suggests possible ways to creating a unified regional market to foster efficiency-seeking industrial restructuring.

Countries in Asia and the Pacific have been late starters in exploiting the potential of preferential trade agreements, as they tended to rely more on the multilateral trading system. Before the turn of the century, preferential trading arrangements in the region were limited to a few between countries in Central Asia, others in the Pacific subregion, the Bangkok Agreement (later known as the Asia-Pacific Trade Agreement, or APTA), a framework agreement on the ASEAN FTA, and bilateral agreements between India and Nepal and between the Lao People’s Democratic Republic and Thailand. At the turn of the century, bilateral FTAs and regional trade agreements (RTAs) were given due recognition in the trade policy of the Asia-Pacific region because of two factors. One was the growing importance of RTAs in the Western world, which started with the formation of the Single European Market in 1992 and the North American Free Trade Agreement (NAFTA) in 1994. That trend was followed by the implementation of similar arrangements in the rest of the world, such as the Southern Common Market (Mercosur) in South America and the Common Market for Eastern and Southern Africa (COMESA), leading to more than half of global trade being conducted on a preferential rather than most favoured nation basis. The second factor was the recognition of the importance of regional economic interdependence in the aftermath of the 1997/98 Asian financial crisis, which led to the formation of the ASEAN+3 (China, Japan and the Republic of Korea) grouping. Such recognition also contributed to strengthening the ASEAN dialogue partnership process, which has brought together the leaders of the 10 ASEAN countries with those of Australia, China, India, Japan, New Zealand and the Republic of Korea for annual summits on the sidelines of the ASEAN summits, and to the creation of a new annual forum, the East Asia Summit.

One decade later, at the end of 2010, there were 170 preferential agreements involving at least one ESCAP member State, 115 of which were in force, 16 were pending country ratification and 39 were under negotiation. Of these 170 agreements, 125 were bilateral FTAs and 95 were signed between an Asia-Pacific country and a country outside the region. Subregional trade agreements include the ASEAN Free Trade Area (AFTA), the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) FTA, the Economic
Cooperation Organization Trade Agreement (ECOTA) and the South Asia Free Trade Area (SAFTA).

Most RTAs with members from the Asia-Pacific region only are aimed at eliminating tariffs and other trade barriers. Trade agreements include rules of origin to avoid trade deflection to unintended partners. For some, especially the most recent ones, their scope extends beyond trade in goods to cover trade in services, investments and economic cooperation, in order to exploit the full potential of regionalism. While liberalization of trade in goods is generally on a negative list basis, that is, covering all products except those on a small exclusion list, trade in services and investment are liberalized generally on a progressive or positive list basis. However, some FTAs, such as the Japan-Singapore Economic Agreement for a New Age Partnership, include investment liberalization on a negative list basis as well, and a few have provisions for the movement of natural persons, such as the Japan-Philippines Economic Partnership Agreement, which allows the movement of medical caregivers to Japan, subject to a limit.

Agreements such as AFTA, SAFTA, BIMSTEC, Pacific Island Countries Trade Agreement and APTA provide room for special and differential treatment for least developed countries, offering them longer periods for tariff elimination, along with special measures regarding rules of origin.

The Asia-Pacific network of FTAs and RTAs, summarized in figure 3.6, presents a picture of a dense web of trade arrangements criss-crossing the region mostly within the subregions but also linking subregions. For instance, ECOTA links some Central Asian countries with some South and West-Asian countries and BIMSTEC links South Asian countries with some South-East Asian countries. The figure shows that North and Central Asia and the Pacific island developing economies are mostly unconnected with the rest of the region. It also shows that some countries, such as Australia, China, India, Japan, Malaysia, New Zealand, the Republic of Korea, Singapore and Thailand, are important hubs, with bilateral agreements linking them with other countries in their subregion and in three other subregions. ASEAN is the only subregional grouping that has trade agreements with countries in other subregions. The emerging ASEAN+3 (EAFTA) and ASEAN+6 (CEPEA) agreements, while not yet formally under negotiation, are included for reference.

While these agreements provide incentives to increase trade among their members, their bilateral and subregional nature does not contribute to the creation of a seamless, larger market in the region. The process of ASEAN economic integration is the most advanced in the region. It covers a progressive deepening, with AFTA being complemented by a number of agreements, including the ASEAN Framework Agreement on Trade in Services (AFAS), the ASEAN Industrial Cooperation scheme and the ASEAN Investment Area, with the goal to form an ASEAN economic community, comprising a single market, by 2015. Following the ASEAN lead, SAARC also adopted the SAARC Agreement on Trade in Services (SATIS) in 2010 to complement its SAFTA and it is working on an investment agreement.

Because of their bilateral and subregional nature, trading arrangements in Asia and the Pacific are not contributing to the creation of a seamless, larger market in the region

The process of ASEAN economic integration is the most advanced in the region. It covers a progressive deepening, with AFTA being complemented by a number of agreements, including the ASEAN Framework Agreement on Trade in Services (AFAS), the ASEAN Industrial Cooperation scheme and the ASEAN Investment Area, with the goal to form an ASEAN economic community, comprising a single market, by 2015. Following the ASEAN lead, SAARC also adopted the SAARC Agreement on Trade in Services (SATIS) in 2010 to complement its SAFTA and it is working on an investment agreement.
Figure 3.6. The Asia-Pacific network of preferential trading arrangements


Notes: This figure represents 78 trade agreements among 51 ESCAP Asia-Pacific countries. Only agreements in which all the members are Asia-Pacific countries are included. Yellow circles represent countries, small red circles represent bilateral agreements and large red circles represent subregional agreements. Dashed lines represent agreements under negotiation and dotted lines represent emerging agreements (EAFTA and CEPEA). The figure was created using the program Cytoscape, which is available from www.cytoscape.org.

Abbreviations: AFG=Afghanistan; ARM=Armenia; AUS=Australia; AZE=Azerbaijan; BGD=Bangladesh; BTN=Bhutan; BRN=Brunei Darussalam; KHM=Cambodia; CHN=China; COC=Cook Islands; FJI=Fiji; GEO=Georgia; HKG=Hong Kong, China; IND=India; IDN=Indonesia; IRN=Iran (Islamic Republic of); JPN=Japan; KAZ=Kazakhstan; KIR=Kiribati; KGZ=Kyrgyzstan; Lao=People’s Democratic Republic; MAC=Macao, China; MYS=Malaysia; MDV=Maldives; MHL=Marshall Islands; FSM=Micronesia (Federated States of); MMR=Myanmar; NRU=Nauru; NPL=Nepal; NZL=New Zealand; NIU=Niue; PAK=Pakistan; PLW=Palau; PNG=Papua New Guinea; PHL=Philippines; KOR=Republic of Korea; RUS=Russian Federation; SMO=Samoa; SGP=Singapore; SLB=Solomon Islands; LKA=Sri Lanka; TTN=Taiwan Province of China; TJK=Tajikistan; THA=Thailand; TGN=Tonga; TUR=Turkey; TKM=Turkmenistan; TUV=Tuvalu; UZB=Uzbekistan; VUT=Vanuatu; VNM=Viet Nam.
the synergies between factor endowments, production structures and specializations provide for mutually beneficial exchanges as highlighted by the analysis of complementarities reported above. The region is becoming aware of the potential for broader regional economic integration as a number of leaders, including those from Australia, India, Japan and the Philippines, have articulated visions of broader pan-Asian economic communities.

In the context of broader regional economic integration, two initiatives resulting from the ASEAN dialogue partnership could serve as stepping stones to a broader, unified Asia-Pacific market and economic community: an East Asia free trade agreement (EAFTA) proposed within the framework of the ASEAN+3 Summit, and the comprehensive economic partnership of East Asia (CEPEA) proposed within the framework of the East Asia Summit combining ASEAN+6 countries. Feasibility studies on these two proposals were conducted in parallel by track-II study groups and their reports were presented to the respective leaders at the Fifteenth East Asia Summit held in Cha-Am/Hua Hin, Thailand, in October 2009. Four ASEAN-plus working groups were appointed by the leaders of the respective countries to work further in parallel on the recommendations of the EAFTA and CEPEA studies. Independent simulation studies using computable general equilibrium models show that the EAFTA and CEPEA proposals would offer significant welfare gains for their member countries. Higher welfare gains were reported for CEPEA compared with alternative options probably because of synergies brought by additional members, such as Australia, India and New Zealand, and indeed a much larger market. In particular, CEPEA, which represents about 80% of the region’s population and GDP, could constitute the nucleus for an incipient Asia-Pacific-wide free trade area to which other countries in the region could accede in the future.

A complementary option could be to set up a regional framework to enable members of subregional groupings to exchange market access on a reciprocal basis. A good example of such a framework could be the European Economic Area (EEA) through which three of the four members of the European Free Trade Association, namely Iceland, Liechtenstein and Norway, entered a free trade agreement with the European Union. Given the large number of subregional groupings that exist in the Asia-Pacific region, a regional framework to facilitate the signing of agreements, such as the European Economic Area, among them could be useful. A broad regional organization with convening power in Asia and the Pacific, such as ESCAP, could provide a platform and a forum to assist in evolving such a framework.

Finally, in view of the wide developmental gaps in the Asia-Pacific region, an important objective of a broader economic integration in the region should be to bring about convergence in the levels of economic development of all countries through the optimum deployment of the region’s resources. However, there is some evidence suggesting that increased trade by itself, even if balanced, does not always ensure economic development. Complementary policies on investment in infrastructure and public goods such as education and research and development, as well as regional and sectoral programmes, are also needed.

**Transport links**

Merchandise trade depends on effective transport links. Today, Asia is home to the world’s top five container ports: Singapore; Shanghai, China; Hong Kong, China; Shenzhen, China; and Busan, Republic of Korea. Together they account for 23% of global container throughput. Over the past three decades
China in particular has dramatically increased its port throughput: between 1983 and 2005 such throughput rose from 1 million to 43.6 million 20-foot equivalent units.

The most important liner routes from Asia are still to Europe and North America. However, there has been a substantial increase in intra-Asian container shipping, particularly between China, Japan and the Republic of Korea, and between these countries and those in South-East Asia. China now tops the UNCTAD liner shipping connectivity index, followed by Hong Kong, China; and Singapore. Other Asian economies, namely India, Japan, Malaysia, the Republic of Korea, Sri Lanka, Taiwan Province of China and Thailand, were among the top-25 economies (see figure 3.7).

Many Governments of countries in the region have established special economic zones or export processing zones near their maritime ports. Such facilities, combined with the liberalization of some manufacturing sectors, the reduction of shipping costs, dedicated industrial infrastructure and improvements in communication technologies and Internet connectivity, have opened up a broader range of potential manufacturing locations. Transnational corporations can now break down production into discrete functions and carry them out in the most cost-effective locations, taking advantage of access to resources and capabilities, thus enabling them to gain competitive advantage to better penetrate important growth markets.

These factors have helped to disperse productive capacities across the region, but have also increased the significance of transport and logistics costs. As a result, much of the new growth has been concentrated in coastal areas, leaving large hinterland areas relatively underdeveloped.

The region’s land transport networks have strengthened since the 1990s, although, as elsewhere in the world, this phenomenon has been more rapid for road than for rail networks. In most countries road networks have increased faster than the population. Between 1993-1997 and 2003-2007 road networks increased fastest for China, at an annual average of

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**Figure 3.7. Liner shipping connectivity index, 2004 and 2010**


Notes: The index has five components: (a) number of ships; (b) the container carrying capacity of those ships in 20-foot equivalent units; (c) the number of companies; (d) the number of services; and (e) the maximum ship size, always referring to the ships that are deployed to provide liner shipping services to a country’s port(s).
growth rate of 9.3%, followed by Viet Nam (7.2%) and the Russian Federation (5.9%) (see figure 3.8). The increase in rail networks was slower: in China, it was at an annual rate of 1.2%, followed by the Republic of Korea (0.8%) and Viet Nam (0.5%). The faster expansion of roads probably reflects the significantly higher costs of extending rail networks; it might also reflect the rising demand among the middle classes for using automobiles.\(^{23}\)

In recent years, regional transport has benefited from intergovernmental frameworks (see figures 3.9 and 3.10). The Intergovernmental Agreement on the Asian Highway Network,\(^{24}\) for example, which entered into force in 2005 under the ESCAP auspices, sets out the route alignment for roads of international importance and defines technical standards. While the infrastructure along the Asian Highway is of varying quality it has been improving: between 2004 and 2008, the proportion of the roads under class III (2 lanes, paved) fell from 16% to 8%.\(^{25}\)

Similarly, ESCAP facilitated the Intergovernmental Agreement on the Trans-Asian Railway Network, which entered into force in 2009, aims at constructing missing links and dealing with the problem of differences in track gauges between countries. The latter are being overcome by improvements in logistical capacity and equipment.

Figure 3.8.

Despite these efforts, it is still often expensive to move goods to the hinterlands and across countries. This reflects not just the distances involved but also high operating costs for trucks due to poor roads and ageing vehicles, high transshipment costs and delays at border crossings due to complex procedures. At a particular disadvantage are the landlocked countries in Central Asia, for which reaching external markets involves multiple border crossings. The Pacific island developing economies face other challenges. Not only are they far from major ports, but with small populations and low productive capacities they do not warrant regular liner services, so they face high transport costs and low profits.\(^{26}\)

Figure 3.8. Growth of road and rail networks, selected Asia-Pacific countries, 1993-1997 to 2003-2007

Some countries are overcoming the problems posed by geography and economic size by developing air transport. Indeed, the International Air Transport Association reported that, despite the global economic downturn, airlines in Asia and the Pacific outperformed the industry average. The Association
of Asia Pacific Airlines estimated that in October 2010 year-on-year traffic was up by 8.2% for passengers and by 16.6% for freight. Much of this growth is attributed to strong demand on intraregional routes. However, the high cost of air transport limits its use to low-weight, low-volume, high-value products, such as organic foods for European markets.

Between 1993-1997 and 2003-2007, most Asia-Pacific countries saw a significant increase in both the number of air passengers and the volume of air freight. For those included in figure 3.11, the median annual rate of growth was about 4%; compared to 2.5% for the world. The annual rate of growth in the number of air passengers was highest in China (11.1%), Viet Nam (9.2%), India (7.9%) and the Islamic Republic of Iran (5.4%). The volume of air freight increased spectacularly in China (16.4% per annum), followed by Viet Nam (8.8%), Malaysia (8.6%) and the Russian Federation (5.6%).

Developing an integrated international transport network

The Intergovernmental Agreement on the Asian Highway Network and the Intergovernmental Agreement on the Trans-Asian Railway Network have contributed to infrastructure investment and also triggered several multilateral initiatives. For instance, the Asian Development Bank (ADB) recently initiated a project on the development of priority Asian Highway routes and Trans-Asian Railway...
lines in collaboration with ESCAP. The networks are forming the basis of infrastructure cooperation through other subregional organizations, such as ASEAN, Economic Cooperation Organization (ECO) and SAARC. In addition, the Trans-Asian Railway network is increasingly being used for cross-border movements of container block trains.

The main challenge for transport connectivity now is to improve linkages between modes, for example, between ports, roads and railways. It will also be important to extend routes to hinterland areas and through landlocked countries and transit countries, as well as to small island developing States in the Pacific. To assist in the integration of the networks, ESCAP is developing a third intergovernmental agreement focusing on international dry ports along the Asian Highway and Trans-Asian Railway networks (see box 3.2).

Another approach is the development of transport corridors. The Central Asia Regional Cooperation programme of ADB, for example, has identified a number of priority corridors and is planning to combine infrastructure investments with activities to streamline cross-border procedures. Corridor-based approaches also lend themselves to railway services. For example, in 2009 there was a trial run of a container block train on the 6,500-km rail route from Islamabad to Istanbul, Turkey, via Tehran. These demonstration runs have shown a clear time advantage.
Transport and trade facilitation

While building physical transport infrastructure is important to facilitate trade across borders, a geographical simulation study found that border costs constitute a much more serious obstacle. Reducing these trade costs is a great challenge because transport and trade facilitation measures are wide-ranging in complexity and resource requirements, and to be effective they depend on the level of infrastructure and the quality of the business regulatory environment. However, many countries in the region have fully realized the importance of streamlining procedures and are now engaged in the implementation of advanced facilitation measures, often taking advantage of modern information and communications technologies.

Streamlining trade documents. The preparation of documents takes about four times the amount of time needed for customs clearance and technical control at borders. Most countries now rely more on electronic data interchange; the long-term goal is to set up national electronic single windows through which traders can submit all the information online and also pay duties and receive relevant authorization and clearance. Hong Kong, China; the Republic of Korea; and Singapore are world leaders in the use of single windows. However, their full benefits cannot be realized until the electronic data and documents in a national single window can be accepted by authorities in partner economies. Although international standards have been developed to address technical issues related to cross-border data exchange, there has been little progress in developing an international legal framework. Even the pioneering ASEAN Single Window Initiative, which is aimed at creating a regional single window by 2012, has struggled to establish the necessary legal basis for electronic exchange.

The full benefits of single windows cannot be realized until the electronic data and documents in a national single window can be accepted by authorities in partner economies.

To build capacity for single windows and paperless trade, ESCAP and the Economic Commission for Europe in 2009 established a community of knowledge and practice: the United Nations Network of Experts on Paperless Trade for Asia and the

Figure 3.11. Air transport indicators, 1993-1997 and 2003-2007, selected Asia-Pacific countries

Source: ESCAP based on World Bank, World Development Indicators.

Abbreviations: CHN=China; IND=India; IDN=Indonesia; IRN=Iran (Islamic Republic of); JPN=Japan; KOR=Republic of Korea; MYS=Malaysia; RUS=Russia; THA=Thailand; VNM=Viet Nam.
Box 3.2. Developing dry ports

In the past, inland freight facilities were designed to handle simple functions, such as temporary container storage. However, now they are offering a wider range of services to support the transport and logistics needs of companies engaged in international trade. A dry port, for example, provides services for containers, as well as bulk cargoes entering by any mode of transport. According to ESCAP, dry ports should also, whenever possible, offer full customs and related services, such as inspections of cargos for export and import.

Dry ports enable goods to be transferred efficiently between transport modes. They can also serve as magnets for investment in manufacturing, agricultural processing and associated transport services, thereby stimulating local development and increasing employment. The ESCAP region has a number of successful dry ports, such as the Uiwang Inland Container Depot near Seoul and those of the Container Corporation of India which has 59 inland container depots, of which 49 are export-import depots.

Dry ports can add value to the logistics chain by offering single-window facilities to the various agencies involved in containerized cargo, such as customs, railways, road hauliers, freight forwarders and shipping lines.

A comprehensive regional strategy to develop dry ports at key locations would ensure more evenly spread economic growth and may also encourage modal shifts from road to rail and to inland waterways. In this regard, ESCAP will continue to collaborate with member States in 2011 and 2012 to define and finalize an intergovernmental agreement on dry ports along the routes of the Asian Highway and the Trans-Asian Railway networks.

Source: ESCAP.

Pacific (UNNExT). Some of the UNNExT tools, such as the Business Process Analysis Guide to Simplify Trade Procedures, have already been applied in almost a dozen countries.

Most regional trade agreements now include provisions for trade facilitation. For example, the latest ASEAN Trade in Goods Agreement, which came into force in 2010, includes an entire chapter on trade facilitation, while the third round of negotiations on APTA also resulted in a trade facilitation framework agreement in 2009 among China, India and other members of APTA. There have also been less formal approaches, such as the voluntary but systematic preparation by Asia-Pacific Economic Cooperation (APEC) members of an individual trade facilitation action plan and annual reporting of progress. This provides a potentially useful model for strengthening regional cooperation among all ESCAP members, by providing an inventory of trade facilitation measures and highlighting examples of effective practice.

Facilitating border crossing. In the area of transport facilitation, the harmonization of legal regimes related to international transport is a prerequisite to ensuring the smooth movement of goods through national borders and optimizing the overall efficiency of international transport. According to the Almaty Programme of Action, Addressing the Special Needs of Landlocked Developing Countries within a New Global Framework for Transit Transport Cooperation for Landlocked and Transit Developing Countries, international conventions in the area of international transport and transit, as well as regional and bilateral agreements, should be considered by landlocked developing countries as the main vehicles by which harmonization, simplification and standardization could be achieved. However, progress in implementing Commission resolution 48/11 of 23 April 1992, which recommended that countries in the ESCAP region accede to seven international conventions, has been uneven. The 12 landlocked countries in the region have acceded, on average, to only 4 of the 7 conventions, and only 2 countries, Kyrgyzstan and Uzbekistan, have acceded to all of them. Furthermore, some transit countries neighbouring the region’s landlocked countries have acceded to even fewer conventions, leading to a territorial discontinuity.
Barriers of access to international transport and transit conventions include costs of adjustment to meet their requirements, difficulties in implementation and inadequate national capacities.

In recent years, subregional organizations have been actively promoting subregional agreements on cross-border or transit transport. ASEAN, for example, has adopted the Framework Agreement on the Facilitation of Goods in Transit and the Framework Agreement on the Facilitation of International Road Transport, while a subset of ASEAN member States plus China has also adopted the Agreement on Facilitation of Cross-border Transport of Goods and People in the Greater Mekong Subregion. ECO member States have also adopted a wide-reaching transit transport framework agreement. In recent years ESCAP has been providing technical support for the formulation of an agreement among members of the Shanghai Cooperation Organization on Facilitation of International Road Transport. The effectiveness of these agreements will partly depend on the harmonization of arrangements for cross-border and transit transport across subregions.

Improving logistics and freight forwarding. Efficient movement of goods also depends on the performance of the logistics and freight forwarding industry. Some countries monitor the industry quite closely, requiring bonds and compulsory training and certification. However, many countries have yet to establish liability regimes for loss of, or damage to, goods while in the custody of service providers. Such liability regimes are based on a combination of the United Nations Convention on International Multimodal Transport of Goods of 1980, which has not yet entered into force, and the UNCTAD/ICC (International Chamber of Commerce) Rules for Multimodal Transport Documents.

Many ESCAP member countries have recognized the importance of logistics services and reflected this in their national development plans. For example, China has included measures to promote the rapid development of logistics in its eleventh five-year plan. In support of ASEAN Vision 2020 strategies for economic integration, the economic ministers of the Association resolved that logistics should be the ASEAN Economic Community’s twelfth priority sector for integration. Further efforts should be directed towards improving all aspects of logistics systems, including transport and communications infrastructure and equipment; international, regional and national rules, policies and institutions; and the professionalism of all actors.

Improving cooperation and coordination. Trade facilitation could benefit from better inter-agency cooperation and consultation with the private sector, more use of information and communications technologies and generally a more integrated approach to trade, transport and connectivity. While these issues are national they also affect connectivity with neighbours and the rest of the region. At the national level, Governments need to strengthen institutional mechanisms to remove bottlenecks, based on high-level political support and the involvement of multiple agencies and the private sector. One option is to designate single national lead agencies for transport and trade facilitation. Governments can declare their determination eventually to establish full fledged single windows and make a start on a detailed analysis of the processes to be streamlined.

At the regional level, such measures can be accompanied by a harmonized framework for electronic exchange of trade data and documents. This could involve, for example, creating an Asia-Pacific coordination mechanism that brings together representatives of key regional and subregional organizations, such as ADB, APEC, ASEAN, ESCAP and SAARC. It could also involve bilateral and global
donors and be linked with the annual Asia-Pacific Trade Facilitation Forum organized by ESCAP in collaboration with ADB and many other organizations.

All these activities need to take place in an integrated manner. An electronic single window, for example, will not be successful if the basic ICT infrastructure is not already in place. Similarly, there will be little progress in corridor approaches without accompanying legal and regulatory changes at the national level. In addition, boosting trade will require improvement in the business environment which includes, for example, ready access to credit information and the capacity to enforce contracts.

Information and communications technology connectivity

Information and communications technologies (ICT) have revolutionized the way in which people and businesses communicate and exchange information. ICT connectivity infrastructure can be categorized as wired, wireless and satellite. Fibre-optic wired connectivity occurs via submarine or terrestrial cables. For submarine cables, the Asia-Pacific region relies almost exclusively on those installed by various consortia; however, for terrestrial cables, countries have been building up their own networks to expand backhaul services.

For the poor, who are gaining access to telecommunication services for the first time, mobile technology is a tool for economic empowerment

The most astounding development in the region’s ICT connectivity, however, has been the rapid diffusion of mobile telephone networks and services (see figure 3.12). For the poorest countries almost all telephone lines are now mobile, as in Afghanistan (99%), Bangladesh (97%), Bhutan (92%) and Cambodia (99%). Just as important, access to mobile telephones has become more equal. Between 2000 and 2009, the Gini coefficient of the distribution of mobile telephone subscriptions across countries decreased from 0.75 to 0.55.

For the poor, who are gaining access to telecommunication services for the first time, mobile technology is a tool for economic empowerment. For instance, after the introduction of mobile telephones in Kerala, India, in 1997, fishermen started telephoning...
while still on their boats to choose the best beach market for selling their catch. This has benefited both fishermen and consumers, evening out the price of fish along the coast and reducing waste.\textsuperscript{31}

Nevertheless there is still significant inequality in ICT connectivity. The least developed countries and the Pacific island developing economies have on average fewer than 28 mobile telephone subscriptions per 100 persons, compared with an average of 99 in high-income countries. Internet usage remains low: 1 per 100 people in least developed countries, 6 in Pacific island developing economies and only 19 in the middle-income countries, compared with 78 in high-income countries. In addition, despite several countries having announced national plans for setting up broadband services, broadband penetration rates remain well below 10\% of the population in developing countries of the region. Moreover, the data on international Internet bandwidth, which measures the contracted capacity of international connections between countries for transmitting Internet traffic, reveals that great inequalities exist across countries in the Asia-Pacific region (see figure 3.13).

\textbf{Figure 3.13.} \textit{International Internet bandwidth per capita in Asia and the Pacific, 2007, selected countries}

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\caption{International Internet bandwidth per capita in Asia and the Pacific, 2007, selected countries}
\end{figure}

Deficiencies in broadband Internet services are hampering efforts to increase cost efficiency and productivity, particularly among small and medium-sized enterprises, which typically operate in highly competitive environments. Inadequate services reduce the opportunities for synergies among telecommunications, electricity, water and transportation grids, which could enable, for example, the design of “smart buildings” that use ICT innovations to control energy consumption. They also reduce the possibility of communities to access images, video and audio through the Internet, which could reach even illiterate people and children.

An important obstacle is the cost of deploying land-based fibre-optic cables. This is especially difficult in countries such as Mongolia, with widely dispersed populations, or in countries such as the Lao People’s Democratic Republic and Nepal, with their difficult terrain, or in remote island countries in the Pacific. Such countries can instead use satellites, although connections are slow and more expensive. With limited purchasing power, small economies have less bargaining strength in dealing with international service providers, although they can improve their positions through coordination and group negotiations. Other areas of possible cooperation include sharing ground facilities for satellite antennae, as well as for servers and information systems.

Across the region, there have been a number of initiatives on land-based, fibre-optic cabling. Progress continues, for example, in completing and upgrading the national sections of the Greater Mekong Subregion Information Superhighway Network. Similarly, the South Asia Subregional Economic Cooperation Information Highway Project is aimed at enhancing connectivity between Bangladesh, Bhutan, India and Nepal. The Trans-Eurasia Information Network provides high-capacity connectivity between research institutions in Australia, China, India, Indonesia, Japan, the Lao People’s Democratic Republic, Malaysia, Nepal, Pakistan, the Philippines, the Republic of Korea, Singapore, Sri Lanka, Taiwan Province of China, Thailand and Viet Nam and is expanding into Bangladesh, Bhutan and Cambodia. The Central Asia Research and Education Network, which has been operating since 2010, connects Kyrgyzstan, Tajikistan and Turkmenistan and is expected to be extended into Kazakhstan and Uzbekistan.

There has also been some progress in the Pacific, where some least developed countries have become connected by building linkages to existing cables. For example, Samoa and American Samoa are now connected through the American Samoa-Hawaii submarine cable, and Marshall Islands and the Federated States of Micronesia are connected via Guam through the HANTRU-1 submarine cable. Other Pacific island developing economies connected via submarine cables are French Polynesia through the Honotua cable to Hawaii, New Caledonia through Australia using the Gondwana-1 cable, and Fiji through the Southern Cross Cable Network (see figure 3.14). Fostering regional cooperation on submarine cabling and other infrastructure arrangements is one of the priorities of the Framework for Action on ICT for Development in the Pacific of the Secretariat of the Pacific Community.

The private sector has been playing an increasingly more important role in ICT connectivity. At the end of 2009, of the world’s top 30 telecommunications service providers by revenue, 9 were from Asia and the Pacific. Although some of these companies are government-controlled, they are all listed in stock exchanges and have large numbers of private shareholders. As a result, increasing shareholders’ returns is an important priority for them. Private companies are also playing an important role in ICT infrastructure investment. For example, since 2009 there has been a terrestrial link between China and India established by Reliance Communications and China Telecom. In 2011 one of the Tata companies in India and China Telecom will roll out
a 500-km fibre-optic terrestrial cable linking the two countries. As well as linking the region’s largest and fastest-growing economies these cables will provide additional high-speed connectivity between Europe and Asia, thus helping to increase network redundancy and security.

**Boosting ICT connectivity**

In order to boost ICT connectivity, policies at both the national and regional levels are needed. At the national level, policymakers need to adapt quickly to a rapidly changing technological environment, working with the private sector to promote economic growth while protecting consumers. Thus, they will need to foster fair and competitive markets, through transparent licensing practices, while establishing standards to ensure interoperability between service providers. They will also want to encourage innovative applications such as mobile banking.

For these purposes it is important to establish independent regulators. Acting in the best interests of both the State and end-users, independent regulators can also encourage investment and innovation by service providers, as well as stimulating competition between them. Between 1990 and 2009 the number of independent regulators around the world increased from 12 to 153.35

While promoting investments in ICT infrastructure, Governments need to take into account not just

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private returns but also social returns by, for example, connecting schools, health facilities and rural government offices to the Internet, establishing disaster early-warning systems and enhancing access to public information. Policymakers should also consider potential synergies with other types of infrastructure investments. For example, rights of ways established for roads and railways can also accommodate telecommunications cabling or base stations. This is particularly important at the regional level, where rights of way established under the Intergovernmental Agreement on the Asian Highway Network and the Intergovernmental Agreement on the Trans-Asian Railway Network could accommodate investment in ICT infrastructure. In fact, the linkages between ICT, energy and transport have been considered at the Joint Ministers Meeting for Energy, ICT and Transport that took place in Noumea in April 2011 under the auspices of the Secretariat of the Pacific Community.

For these purposes, small and low-income countries should also be able to rely on partnerships with development agencies and donor countries. They can also work together on the basis of regional or subregional cooperation to share resources, maximize the use of existing investments and improve their bargaining power with commercial service providers. A number of country groupings, such as ASEAN, SAARC and ECO, have working groups and committees for improving subregional connectivity through harmonization of their policies and regulations and through the exchange of good practices. For example, the Master Plan on ASEAN Connectivity, developed with the assistance of ESCAP and ADB, emphasizes the need to narrow the digital divide between lagging regions and urban areas, as well as between countries. Similarly, the Pacific Islands Telecommunications Association and the Secretariat of the Pacific Community are trying to assist member countries in improving ICT services. In June 2010, the Pacific Regional Information and Communication Technology Ministers’ Meeting adopted the Tonga Declaration, ICT for Development, Governance and Sustainable Livelihoods, recognizing the potential of ICT for socio-economic development; the ministers also endorsed the Framework for Action on ICT for Development in the Pacific. ICT connectivity could enable these countries to overcome the disadvantages of distance by expanding their trade in services (see box 3.3).

**Energy connectivity**

Between 1992 and 2008, demand for primary energy from ESCAP economies rose from 36.7% to 45.2% of the global total. China, India, Japan and the Russian Federation were among the top five consumers, accounting for 71% of Asia-Pacific consumption and 32% of the world's consumption. Only a few countries satisfy their needs from their own resources; the region as a whole is a net importer of primary energy. Nevertheless, by global standards the region’s net imports are relatively small: 83 million tons of oil equivalent (Mtoe) in 2008 compared with 477 Mtoe for North America and 1,020 Mtoe for Europe. However, this average hides...
Box 3.3. Information and communications technology overcomes the disadvantages of distance

ICT has created many new opportunities for cross-border trade in services. The ability to transmit documents and data instantly has enabled companies to shift some operations from Europe, Japan and the United States to lower-cost locations. There they can offer services such as software design and development, customer helpdesks, hosting data centres, accounting, administration, graphic design and other business processes. By 2009, India was the global leader for business processing offshore with 35% of the trade, followed by Canada, 21%; the Philippines, 15%; Ireland, 4%; China, 3%; and Central and Eastern Europe, 6%. Smaller and more remote countries however have also joined in. In Nepal, for example, entrepreneurs have established a state-of-the-art facility to produce animation and visual effects for the global movie industry.

Another country starting to make inroads into this market is Fiji where English is the language of education. In 2009, part of the Emirates Group, Dnata Mindpearl, established a call centre with capacity for 1,000 operators to serve the airline industry. According to the company, the country selected had to have three key characteristics: (a) a first-world telecommunications infrastructure; (b) people with the ability to speak English that would be easily understood by customers in Canada, the United Kingdom of Great Britain and Northern Ireland and the United States of America; and (c) readily available staff. Fiji was found to have all three characteristics.38

Some countries in the Pacific have also generated ICT-related revenues by creatively using their Internet domain codes. Tuvalu, with a population of 10,000, sells the use of the country code “.tv”; Time Warner Inc., for example, has registered the domain name TNT.tv. Other countries and territories in that subregion have used their code to gain global recognition, as well as revenue. For example, the territory of Tokelau competes globally with large countries, such as China and the Russian Federation, in the number of websites registered under its code “.tk”.39 At no cost, users can register a convenient website name, such as “escap.tk”, to redirect traffic to an existing web page that has a much longer address.

Smaller countries also use the Internet effectively to promote tourism. Samoa, for example, with a population of 180,000, displays six hotels in expedia.com, with room charges ranging from $100 to $300 and can thus compete in the global tourism marketplace.

Source: ESCAP.

large net surpluses and deficits across subregions. As shown in figure 3.15 for the period 1992-2008 the main energy trading subregions were North and Central Asia, whose surplus increased from 382 to 767 Mtoe, and East and North-East Asia, whose deficit increased from 550 to 947 Mtoe. The Pacific and South-East Asia have relatively small surpluses that have changed little over time. Net exports of South and South-West Asia deteriorated from a small surplus of 48 Mtoe to a deficit of 134 Mtoe.

The region’s largest exporter of primary energy is the Russian Federation (see figure 3.16). In 2008, its net exports of 589 Mtoe represented 77% of the total for North and Central Asia. Other important net exporters from that subregion are Kazakhstan (84 Mtoe), Turkmenistan (50 Mtoe) and Azerbaijan (46 Mtoe). Other significant net exporters from the Asian and Pacific region are Australia (155 Mtoe), Indonesia (154 Mtoe) and the Islamic Republic of Iran (130 Mtoe).

In contrast, in East and North-East Asia all the major economies are net importers: Japan (462 Mtoe), the Republic of Korea (208 Mtoe), China (148 Mtoe) and Taiwan Province of China (102 Mtoe). South-East Asia has net exporters, such as Brunei Darussalam, Indonesia, Malaysia and Myanmar, as well as net importers, such as the Philippines, Singapore, Thailand and Viet Nam. Except for the Islamic Republic of Iran, most countries in South and South-West Asia are net importers, among
which the most significant are India (157 Mtoe) and Turkey (77 Mtoe).

**Oil.** In 2008 the region imported 1,132 million tons of crude oil, or 42% of the world’s imports. That year, the combined oil imports of China, India and Japan alone amounted to 612 million tons, an amount comparable to the imports of the United States or the European Union. The largest source is the Middle East, which provides more than 60% of the total. While most of the oil trade is by maritime transport, there are two important oil pipelines. The Sino-Kazakh pipeline, opened in May 2006, transports oil from Kazakhstan and the Russian Federation to China, and the Russia-China oil pipeline, which opened in January of 2011, is part of the Eastern Siberia–Pacific Ocean oil pipeline that is designed to pump up to 1.6 million barrels of crude oil per day from Siberia in the Russian Federation to China. The construction of another important oil pipeline, as well as a gas pipeline, connecting Myanmar with Yunnan Province of China started in mid-2010.

**Gas pipelines.** In 2008, Asia and the Pacific exported by pipeline 183 billion cubic metres (bcm) of gas, representing 31% of the world’s total. The Russian Federation, the main exporter from the region, exported 154 bcm to European countries and Turkey. Other Asia-Pacific exporters of natural gas are the Islamic Republic of Iran (to Turkey and Armenia), Turkmenistan (to the Islamic Republic of Iran), Myanmar (to Thailand) and Indonesia and Malaysia (to Singapore). The region’s natural gas imports by pipeline accounted for less than 10% of the global total in 2008 and were sourced only from within the region. However, a number of pipeline construction projects, some of which are already operational, are expected to increase this figure considerably. Among them is a new 1,000-mile pipeline which in 2009 started pumping liquefied natural gas from Turkmenistan to north-western China. During its first year of operation, this pipeline pumped 4 bcm, a figure that is expected to triple in the future, furnishing 50% of the gas imported by China.
Recent initiatives include gas pipelines linking the Russian Federation with China; Myanmar with Bangladesh and India; the Islamic Republic of Iran with Pakistan; and Turkmenistan with Afghanistan, India and Pakistan. Construction for the Russia-China pipeline, which will go through the Altai area in southern Siberia, will start in 2011; it is expected to supply China with 30 bcm annually. In 2009, Bangladesh agreed to allow the passage through its territory of the Myanmar-Bangladesh-India tri-nation pipeline that would enable regional gas trade, but construction has yet to start. The Iran-Pakistan-India gas pipeline project was launched in the 1990s, but after long years of negotiations, from which India virtually withdrew after the terror attacks in Mumbai in 2008, the Islamic Republic of Iran and Pakistan agreed in March 2010 to build a 7.5 bcm pipeline by 2015. Finally, the 1,640-km Turkmenistan-Afghanistan-Pakistan-India pipeline, which will cost $7.6 billion, could inaugurate a new era of cooperation and solidarity in the region; it has been labelled by the Prime Minister of India as the “peace pipeline”.

**Liquefied natural gas.** Gas is also traded by ship as liquefied natural gas (LNG). The Asia-Pacific region is a net importer of LNG. In 2008 it exported 86 bcm, but it imported 161 bcm, which accounted for more than 70% of total LNG trade worldwide. More than half of this amount went to Japan. Other significant LNG importers from the region are China, India, the Republic of Korea, Taiwan Province of China and Turkey. More than half the region’s LNG imports come from Australia, Brunei Darussalam, Indonesia and Malaysia. These countries export LNG only within the region, and in 2008 their exports represented 38% of total LNG trade.
Coal. The Asia-Pacific region is a net coal exporter. Its exports reached 751 million short tons in 2007, 71% of the global trade in coal, and its imports amounted to 599 million short tons, or 59% of the world’s total. The region’s largest exporters are Australia, Indonesia and the Russian Federation, with combined exports in 2007 of 491 million short tons. The region’s largest importers are China, India, Japan, the Republic of Korea and Taiwan Province of China.

In 2008 Asia and the Pacific exported by pipeline 183 billion cubic metres of gas, 31% of the world’s total

Electricity. Trade in electricity usually takes place among countries that share a common border. Just over half the electricity trade in Asia and the Pacific is currently taking place in North and Central Asia, facilitated by a collective system of electricity management established in the period of the former Union of Soviet Socialist Republics. Within this system, the Russian Federation buys electricity from Kyrgyzstan and Tajikistan and supplies its own electricity to the northern regions of Kazakhstan. In addition, these countries, plus Uzbekistan and Turkmenistan, have had equal stakes in a public company based in Tashkent – the Central Asian United Dispatch Centre – which maintains a synchronized and balanced system for the transfer and distribution of electricity for member countries. However, electricity transmission within the region remains a major problem. There are a number of reasons for this: the absence of connections between certain regions within each country; considerable energy losses owing to the poor state of lines; and a lack of financing for constructing new lines or repairing old ones.

In addition, China has been exporting electricity to Hong Kong, China; Macao, China; and Viet Nam, and importing electricity from the Russian Federation. In South-East Asia the electricity grid of Thailand is connected with those of the Lao People’s Democratic Republic, Malaysia and Singapore. In South and South-West Asia electricity trade is relatively small, but Bhutan exports 75% of its hydroelectricity to India; Afghanistan imports electricity from the Islamic Republic of Iran, Turkmenistan, Uzbekistan and Tajikistan; Pakistan imports electricity from the Islamic Republic of Iran to the isolated grid of Baluchistan; the power system of Nepal is interconnected with the power systems of the states of Uttar Pradesh and Bihar in India, and talks are under way to set up a 130-km power transmission link connecting Behrampur in India and Bheramara in Bangladesh.

Between 1993-1997 and 2003-2007, per capita electricity consumption of the median Asia-Pacific country grew by close to 50%. Growth has been even faster for large energy importers, such as China (140%) and the Republic of Korea (100%). By contrast, some countries in the region have extremely low levels of electricity consumption. For instance, during the period 2003-2007 Bangladesh, Cambodia, Myanmar and Nepal consumed less than 138 KWh per capita – among the lowest consumers of electricity in the world. Similarly, the average annual electricity consumption per capita of India, Indonesia, Pakistan and Sri Lanka during that period was 508 KWh or less, placing these countries in the bottom 20% of such consumers in the world. Clearly, as development proceeds all these countries will increase their consumption of electricity substantially, giving rise to further opportunities for energy trade.

Towards a regional framework for energy connectivity

Because energy is a critical production input, and disruptions to either its availability or price can have serious economic consequences, energy security – understood as both a stable supply for importing countries and a stable demand for exporting countries – is a fundamental goal. As discussed above and shown in figure 3.17, the Asia-Pacific region includes both large energy-importing and large energy-exporting countries. Therefore, the region’s
energy security could be increased by enhancing physical connectivity and building institutions to promote cooperation between the region’s energy importers and energy exporters.

While no region-wide institutions currently exist, a number of subregional initiatives could serve as building blocks for a regional energy cooperation framework. A subregion that has built strong institutions over the years for cross-country energy cooperation is South-East Asia (see box 3.4). Because, as mentioned above, this subregion includes both net exporters and net importers of energy, cooperation among them has been particularly fruitful. In several Asia-Pacific countries, there is a predominance of net exporters or net importers that provides opportunities for a region-wide cooperation on energy matters. For this reason, the development of a regional Asia-Pacific Energy Forum is essential to ensure the consolidation of subregional efforts towards developing regional connectivity and enhancing energy security. Such a regional forum could provide the basis for institutional cooperation, the harmonization policies, exchanges of knowledge and facilitating physical connectivity.

Enhancing physical connectivity infrastructure across countries is one important objective of regional
Box 3.4. Association of Southeast Asian Nations institutions for energy cooperation

Since the 1970s, South-East Asia has built institutions to promote energy cooperation. In 1976, for example, the Association of Southeast Asian Nations (ASEAN) established the ASEAN Council on Petroleum to promote collaboration in the development of petroleum resources. In 1981 it established a task force involving the Heads of ASEAN Public Utilities/Authorities to establish cooperation on power grid connections and avoid supply disruptions. In 1986 the ASEAN Petroleum Security Agreement obliged ASEAN members to provide oil/petroleum products to a member in distress because of a sudden shortfall in supply.40

Since the 1990s, cooperation has extended beyond energy security to issues such as energy efficiency and environmental impacts. For instance, the ASEAN Plan of Action for Energy Cooperation included six programme areas: (a) Trans-ASEAN Gas Pipeline; (b) ASEAN Power Grid; (c) coal, including clean-coal, technologies; (d) energy efficiency and conservation; (e) new and renewable sources of energy; and (f) regional energy outlook, energy policy and environmental analysis. These initiatives are coordinated through the ASEAN Centre for Energy established in 1999.41

Among these programmes, the ASEAN Power Grid was created in 1997 to enhance trade in electricity across borders, optimize energy generation and development, and encourage reserve sharing. One important challenge will be to connect the power grids of Cambodia, the Lao People’s Democratic Republic, Myanmar and Viet Nam. Although the projects are technically viable they have yet to be accepted by participating economies.42

The Trans-ASEAN Gas Pipeline programme is aimed at developing a regional gas grid by 2020. With the completion in 2013 of the offshore Block M9 pipeline from Myanmar to Thailand, ASEAN will have 3,020 km of pipeline in place. The Trans-ASEAN Gas Pipeline will encounter substantial financial and legal complexities. The main challenges include high investment costs, synchronizing national technical and security regulation requirements and addressing differences in the supply, distribution and management of natural gas across countries. Countries also need to overcome the issues of political trust common in energy market cooperation.43

Source: ESCAP.

energy cooperation. As the number of pipelines planned or currently being constructed increases, it may be useful to identify missing infrastructure links and investment needs from a region-wide perspective, taking into account projected increases in the demand for energy within the region. In this respect, the modalities developed for the previously mentioned intergovernmental agreements on the Asian Highway and on the Trans-Asia Railway networks could provide useful models.

In addition, a region-wide energy cooperation framework could encourage joint investments by buyers and sellers in the region to create a pan-Asian gas grid linking multiple demand and supply sources. Cooperation could also be greatly beneficial for undertaking longer-term multilateral projects, such as joint research on energy technologies relevant to the region, or for the formation of joint ventures of regional energy companies for joint prospecting and exploration. Further, regional cooperation could play an important role for the development, commercialization and dissemination of energy-efficient technologies, including solar panels, wind turbines and other technologies that take advantage of renewable resources. Such an approach will be increasingly needed, given the region’s economic dynamism, the imperative of making energy available to all and the expectation that the price of crude oil will continue increasing over the next two decades.44

In order to promote energy cooperation and trade in the region, it is also necessary to develop a deep, liquid and transparent market for crude oil, petroleum products and gas. Building blocks of
such a market include identifying a benchmark price for crude oil or marker crude that is relevant for the region, obtaining support from key buyers and sellers to ensure adequate trading volumes, securing adequate physical storage infrastructure, establishing a conducive regulatory framework and being able to access robust financial markets to support hedging and tradings. Other fruitful areas for regional energy cooperation include sharing detailed information on demand, supply and inventory positions and building emergency response mechanisms by increasing physical supply security in Asia and the Pacific through strategic reserves and cross-border inventories.

The region’s energy security could be increased by enhancing physical connectivity and building institutions to promote cooperation between its energy importers and exporters

Overall, a region-wide framework could encourage further investments in energy infrastructure with a more systematic involvement of the private sector, resulting in increasing volumes of intraregional energy trade and enhanced energy security for both importing and exporting countries.

People-to-people connectivity

Exchange activities across countries can be classified into two kinds: those in which the parties to the transaction exchange goods, services, money, or information across the border but without leaving their respective countries, and those in which one of the parties moves to another country to provide a service and/or consume goods and services there. Short-term and long-term labour migration by both skilled and less skilled workers is a prime example of an exchange activity that involves people moving to another country to provide a service. International tourism and studying abroad are examples of exchange activities that involve people moving to another country to consume services. Such activities result in economic benefits for both countries. The country of origin often benefits from remittances sent by migrant workers to their families and the recipient country benefits from the purchases of goods and services by migrants, tourists and international students. In addition, such economic activities, which are often referred to as people-to-people connectivity, could help promote better mutual understanding, enhanced trust and greater respect for diversity, thus contributing to a culture of peace. This section provides a succinct overview of the state of people-to-people connectivity in the areas of labour migration, education and tourism.

Migration

International migration of both skilled and less skilled workers is driven by three basic factors: income differences across countries, proximity and networks. Income differences are due to differences across countries in economic growth, technological progress, levels and distribution of skills and population dynamics, which result in imbalances across their labour markets and create employment opportunities for migrants. Proximity between the countries of origin and destination of migrants reduces the financial and cultural costs of migration and enables migrants to be in closer contact with family and friends left behind in their country of origin. Immigrant networks often facilitate the search for employment for new migrants and, by creating a sense of community, their adaptation to live in a different country.

Migration flows are difficult to capture because of the variety of types of flows and channels to migrate and because a large number of migrants actually remain unrecorded. The most comprehensive data set of bilateral migration, prepared by researchers of the World Bank and the University of Sussex and updated to 2010, is based on stocks rather than flows. One problem of these data that should be kept in mind is that some countries define immigrants as “foreign born” individuals while others define them as “foreigners”, which include people born in the country but who are not citizens.
Another problem is that the stock data show the accumulation of past migration flows, but those flows could have occurred a long time ago. As a result, data on migrant stocks are more useful to measure long-term trends. With these caveats in mind, this section uses that data set to explore the degree to which the Asia-Pacific region is connected with itself and with other selected regions of the world through migration.

South and South-West Asia is the subregion with the most migrants in the rest of the world (20.8 million), followed by North and Central Asia (14.5 million), South-East Asia (7.3 million) and East and North-East Asia (6.3 million). The Pacific is the only subregion in Asia and the Pacific that has been a net receiver of immigrants.

The World Bank data show that approximately 34 million Asia-Pacific migrants live in other countries in the region. They represent 41% of the stock of migrants from the region and 64% of the stock of migrants to the region. Much of this movement is within subregions. Intra-subregional migration ranges from 30% of the stock of migrants in South and South-West Asia to 57% in the Pacific. Such migration could be partially attributed to historical ties and geographic proximity. In contrast, there has been less migration between subregions. East and North-East Asia and South and South-West Asia have been net senders of migrants to the rest of the region, while the Pacific and South-East Asia have been net receivers of migrants from the rest of the region.

Some of the key migration corridors within the region extend from South-East Asia to East and North-East
Asia or to migrant-receiving countries in South-East Asia, such as Brunei Darussalam, Malaysia, Singapore and Thailand. For instance, as of 2010, there was a stock of 1.4 million Indonesians living in Malaysia and 1 million Malaysians living in Singapore. Meanwhile, workers from Central Asian countries migrate easily to Kazakhstan and the Russian Federation through a visa-free regime among most of the countries of the Commonwealth of Independent States (CIS). As of 2010, there was a stock of about 6.6 million migrant workers from Central Asia in the Russian Federation and a stock of about 2.2 million from the Russian Federation in Kazakhstan. These numbers, however, include migration flows that took place while these countries were part of the former Union of Soviet Socialist Republics. Another important migration route is from China to other East and North-East Asian countries (3.4 million) and to South-East Asia (1 million). Finally, in South Asia 5.2 million migrants from Bangladesh, Nepal, Pakistan and Sri Lanka reside in India, while 2.2 million migrants from India reside in Bangladesh, Nepal and Sri Lanka.

Table 3.3 shows the origins and destinations of migrants for the five ESCAP subregions and selected regions elsewhere in the rest of the world. The main destination of migrants from East and North-East Asia and from South-East Asia has been North America.

In contrast, the main destinations of migrants from South and South-West Asia have been the Middle East and North Africa, followed closely by the South and South-West Asia subregion itself. For North and Central Asia, the most important destination is that subregion itself. The same is true for the Pacific, although, as mentioned above, this subregion has been the only net receiver of migrants in the Asia-Pacific region, mostly from countries that are currently part of the European Union.

A major limitation of migration data is that they do not account properly for irregular migration. It is virtually impossible to accurately estimate irregular migration flows, which often are revealed only in regularization campaigns that register irregular migrants in order to offer them amnesty. Migrants may have an irregular status owing to unauthorized entry, unauthorized employment, or a change in employment status, such as working for a different employer than the one specified in the employee’s work permit. Many irregular migrants, particularly in ASEAN countries, cross borders legally but work without permits.

**Studying abroad**

An important form of cross-border exchange of people is for education, especially at the tertiary level. This

### Table 3.3: Bilateral migrant stocks, by Asia-Pacific subregions and selected regions in the world, millions, 2010

<table>
<thead>
<tr>
<th>Origin</th>
<th>Destination</th>
<th>East and North East-Asia</th>
<th>North and Central Asia</th>
<th>Pacific</th>
<th>South and South-West Asia</th>
<th>South-East Asia</th>
<th>Middle East and North Africa</th>
<th>EU 15</th>
<th>North America</th>
</tr>
</thead>
<tbody>
<tr>
<td>East and North East-Asia</td>
<td>East and North East-Asia</td>
<td>4.09</td>
<td>0.00</td>
<td>0.68</td>
<td>0.04</td>
<td>1.24</td>
<td>0.08</td>
<td>1.17</td>
<td>4.59</td>
</tr>
<tr>
<td>North and Central Asia</td>
<td>East and North East-Asia</td>
<td>0.02</td>
<td>11.06</td>
<td>0.03</td>
<td>0.07</td>
<td>0.00</td>
<td>1.04</td>
<td>0.88</td>
<td>0.67</td>
</tr>
<tr>
<td>Pacific</td>
<td>East and North East-Asia</td>
<td>0.02</td>
<td>0.00</td>
<td>0.91</td>
<td>0.01</td>
<td>0.03</td>
<td>0.00</td>
<td>0.26</td>
<td>0.35</td>
</tr>
<tr>
<td>South and South-West Asia</td>
<td>East and North East-Asia</td>
<td>0.09</td>
<td>0.13</td>
<td>0.50</td>
<td>9.28</td>
<td>0.62</td>
<td>9.66</td>
<td>6.56</td>
<td>3.70</td>
</tr>
<tr>
<td>South-East Asia</td>
<td>East and North East-Asia</td>
<td>0.46</td>
<td>0.00</td>
<td>0.82</td>
<td>0.07</td>
<td>3.97</td>
<td>1.38</td>
<td>1.37</td>
<td>4.32</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>East and North East-Asia</td>
<td>0.00</td>
<td>0.01</td>
<td>0.26</td>
<td>0.43</td>
<td>0.01</td>
<td>9.91</td>
<td>5.27</td>
<td>1.32</td>
</tr>
<tr>
<td>EU 15</td>
<td>East and North East-Asia</td>
<td>0.05</td>
<td>0.19</td>
<td>2.35</td>
<td>0.49</td>
<td>0.10</td>
<td>0.22</td>
<td>10.31</td>
<td>4.63</td>
</tr>
<tr>
<td>North America</td>
<td>East and North East-Asia</td>
<td>0.11</td>
<td>0.00</td>
<td>0.19</td>
<td>0.02</td>
<td>0.07</td>
<td>0.12</td>
<td>0.84</td>
<td>13.35</td>
</tr>
</tbody>
</table>

Source: ESCAP, based on data from World Bank, Bilateral Migration and Remittances, 2010, go.worldbank.org/JITC7NYTT0.

Note: EU15 = Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and United Kingdom.
is becoming an increasingly attractive option for students who also want to familiarize themselves with the language and culture of the destination country. It may also result eventually in longer-term migration. Countries such as Australia, interested in attracting skilled immigrants, often facilitate the long-term settlement in the country of foreign students who completed their studies there. According to data from the UNESCO Institute for Statistics, the Asian countries that sent the most students abroad in 2008 were China (445,000), India (170,000) and the Republic of Korea (113,000). While most Asian international students go to North America and Europe, many study in other Asia-Pacific countries, such as Australia (183,000), Japan (118,000) and the Russian Federation (34,500).

Tourism

Tourism not only encourages greater interaction between countries and enhances mutual understanding but is also a major source of employment and foreign exchange. Intra-regional tourism is very important in Asia and the Pacific. According to the World Tourism Organization, the number of tourist arrivals originating from the Asia-Pacific region increased between 1980 and 2009, from 14 million to 140 million, which represented 77% of total tourist arrivals that year.

Much of this increase may be traced to easier travel. For instance, entry-visa exemption has been agreed between Cambodia and the Lao People’s Democratic Republic, as well as between Cambodia and Viet Nam, resulting in a significant increase in cross-border travel. In the aftermath of the global financial crisis, Asian consumers, whose purchasing power is rising, seem less constrained by debt than their Western counterparts and are now spending some of their savings on travel. Tourists from China, India and other Asian countries appear to be the driving force behind rapid growth in intra-Asian tourism. Other factors that are contributing to expanding intra-regional tourism are the deregulation of airline services and the development of low cost carriers (LCC) in some countries of the region. The latter is a relatively recent phenomenon. In East and North-East Asia the first LCCs, Skymark Airlines and Air Do, entered the market in 1998, offering limited routes in Japan. A decade later, other 9 airlines started operations in that subregion, including Jeju Air in the Republic of Korea, Spring Air in China and Oasis Hong Kong in Hong Kong. LCCs grew even more rapidly in South-East Asia, the most developed region for low-cost aviation in Asia. Air Asia, based in Malaysia, is the leading LCC in Asia. The development of LCCs was facilitated by deregulation policies. For instance, in 2001 Thailand allowed private airlines to enter any domestic route, and in 2003 airlines were free to charge any price, subject only to an upper limit. Unfortunately, the regulatory environment for intra-Asian routes is much more restrictive, but progress is under way, with ASEAN gradually moving towards a regional open sky policy.

Managing labour migration

Across the region, countries are keen to ensure that labour migration occurs on a legal basis. Some subregions and groups, such as North and Central Asia and ASEAN, have already moved ahead with multilateral agreements. Some countries have established bilateral memorandums of understanding. Although such agreements will not eliminate irregular migration, since many migrants may be deterred by the costs of and controls involved in using official channels, they can offer some protection from abuses.

North and Central Asia. This is the subregion most connected through migration. It is moving towards becoming a common labour market, facilitated by historical ties and a legacy of proficiency in the use of the Russian language. This led, for example, to the 1994 agreement among CIS on cooperation in labour migration and social guarantees for migrant workers. The 1998 agreement between the CIS countries on cooperation in preventing irregular migration, and the 2005 EurAsEc Customs Union
Agreement on visa-free trips between Belarus, Kazakhstan, Kyrgyzstan, the Russian Federation and Tajikistan. There are also bilateral agreements on labour migration, such as between the Russian Federation and Kyrgyzstan and Tajikistan. Since July 2010, migrants from CIS countries can enter the Russian Federation visa-free but they have to obtain licenses. Kazakhstan also grants visa-free entry to nationals of most of the CIS countries, allowing them 90 days to search for work.

ASEAN. In the ASEAN Economic Community Blueprint, the Association foresees a free flow of skilled labour by 2020 and is working to “facilitate the issuance of visas and employment passes for ASEAN professionals and skilled labour who are engaged in cross-border trade and investment-related activities”. As a first step, ASEAN has already agreed on a mutual recognition agreement for nurses, dental and medical practitioners, engineering and architectural services, surveying professionals and accountancy services. However, there are likely to be persistent language barriers. In Singapore, for example, migrants from Myanmar and the Philippines find it easier to obtain employment than those from Indonesia and Thailand who often lack proficiency in the English language. On the other hand, for nurses coming to Thailand, the Government requires that they speak Thai. Moreover, the ASEAN framework foresees a free flow only of skilled labour. In reality the majority of migrants within ASEAN are unskilled, attracted by persistent differences in real wages across countries, and the majority doing so are irregular migrants.

Pacific. Migration flows in the Pacific are largely shaped by political and other ties between source and destination countries. Migrants from several Polynesian and Micronesian States, for example, have had relatively easy access to Australia, New Zealand or the United States. However, access is more difficult for nationals of island States in Melanesia and therefore only about 1% of Melanesians live abroad. Australia and New Zealand have recently started opening up their borders for seasonal labour migration from all Pacific countries, as well as Asian countries, to work in agriculture. Although few Pacific islanders have yet benefited from the scheme, it is a step towards connecting all the Pacific countries, not only those with historical ties to Australia and New Zealand.

Key destination economies, such as Hong Kong, China; Macao, China; Malaysia; the Republic of Korea; Singapore; Taiwan Province of China; and Thailand, have points-based application schemes. The Quality Migrant Admission Scheme of Hong Kong, China, facilitates immigration of skilled workers based, among other criteria, on proficiency in the Cantonese or English languages. It also facilitates the migration of domestic helpers. However, neither scheme is open to nationals of Afghanistan, Albania, Cambodia, Cuba, the Democratic People’s Republic of Korea, the Lao People’s Democratic Republic, Nepal or Viet Nam. In addition, the scheme for domestic helpers does not apply to residents of China; Macao, China; and Taiwan Province of China.

In addition to general admission criteria and multilateral agreements, a number of countries have established memorandums of understanding. Thailand, for example, has entered into such arrangements with Cambodia, the Lao People’s Democratic Republic and Myanmar. These cover guidelines and procedures for employment protection and the return of workers. Even so, most migrants continue to move through irregular channels because this is easier and cheaper than doing so legally.

The Republic of Korea in 2004 established an employment permit system that determines yearly quotas for the admission of foreign workers for three-year stays. To administer this scheme it has entered into memorandums of understanding with 15 Asian countries: Bangladesh, Cambodia, China, Indonesia, Kyrgyzstan, Mongolia, Myanmar, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand, Timor-Leste, Uzbekistan and Viet Nam. In addition, it has reserved quotas for persons who are ethnically Korean but holding foreign nationality.
Regional financial cooperation

As mentioned in chapter 1, it is widely recognized that a regional financial architecture could be a useful complement of the international financial architecture. The recognition of this advantage led the members of ESCAP to set up the Asian Development Bank in the mid-1960s as a regional multilateral development bank to provide its member States with development financing. Another institution created in the ESCAP framework was the Asian Clearing Union, which was set up in the mid-1970s to facilitate intraregional trade through the periodic settlement of debits and credits accumulated by each member against the other members, using a unit of account.

The Chiang Mai Initiative

The 1997/98 Asian financial crisis highlighted both the vulnerabilities and the economic interdependence of economies, and stimulated a discussion on the need for a regional crisis-prevention and response mechanism in the form of an Asian monetary fund. While the proposal for such a fund did not go very far, the Chiang-Mai Initiative (CMI), a regional network of bilateral swaps to provide emergency assistance in times of crisis, was set up within the framework of ASEAN+3. In 2010 CMI was “multilateralized”, becoming the “Chiang Mai Initiative Multilateralization”, or CMIM, with a total pool of $120 billion to supplement the exiting international financing arrangements; 80% of the pool is contributed by the “plus three” countries – China, Japan and the Republic of Korea – while the ASEAN countries provide the remaining 20%. An independent regional surveillance office, ASEAN+3 Macroeconomic Research Office set up in 2010, is responsible for conducting surveillance for CMIM operations.

Development of regional financial markets

Another approach to financial cooperation resulting from policy discussions in the aftermath of 1997 crisis focused on the development of regional bond markets, which provide a relatively more stable source of debt financing than bank loans. Two initiatives have been taken in this regard.

Asian Bond Fund. This fund was established by the Executives Meeting of East Asia-Pacific Central Banks (EMEAP), an association of central banks of several economies in the region (Australia; China; Hong Kong, China; Indonesia; Japan; the Republic of Korea; New Zealand; the Philippines; Singapore; and Thailand). The first stage of the fund was launched in 2003 with voluntary contributions by the members of EMEAP to a $1 billion fund that invested in bonds denominated in the dollars issued by sovereign and quasi-sovereign borrowers from eight EMEAP members, and was managed by the Bank for International Settlements. In the second stage of the fund, launched in 2005, EMEAP created a $2-billion fund to invest in local currency bonds issued by sovereign and quasi-sovereign borrowers from eight EMEAP members. The main goal of the fund has been to enhance further the underdeveloped bond markets of the member economies by enhancing the efficiency of financial intermediation and promoting financial stability.

Asian Bond Market Initiative. Launched by ASEAN+3 in 2003, this initiative is aimed at developing local currency bond markets to make private savings available for regional investment needs. Efforts are being made to promote the demand for and issuance of such bonds. The relevant infrastructure and regulatory framework also need to be put into place. In this connection, ASEAN+3 has recently endorsed the establishment of a $700 million credit guarantee and investment facility that will provide guarantees for local currency denominated bonds issued by companies in the region. It is expected that such initiatives will help to channel money for regional investment needs and reduce the currency and maturity mismatches which made the region more vulnerable to external shocks in the past.

Subregional investment funds

SAARC Development Fund. This fund was set up in Bhutan in 2010 as a part of SAARC financial
cooperation with authorized capital of 1 billion special drawing rights (SDRs) and paid up capital of $200 million. The fund will finance infrastructure projects in the subregion, including the preparation of feasibility studies.

**ASEAN Infrastructure Fund.** Created as a part of an ASEAN initiative to mobilize resources for infrastructure development, this fund has a capital base of $800 million.

**Other initiatives**

In addition to the above-mentioned initiatives, several other initiatives are taking shape for regional cooperation in the fields of finance and macroeconomic policy. Within the framework of groupings such as ASEAN, SAARC, ASEAN+3, East Asia Summit and Asian Cooperation Dialogue, finance has been identified as an area of cooperation. Cooperation takes the form of periodic meetings of finance ministers and central bank governors, as in ASEAN and SAARC, as well as the exchange of information and expertise. Central banks in the region have formed four groupings or cooperative associations with different permutations of membership, namely South East Asia, Australia and New Zealand, or SEANZA; South East Asian Central Banks, or SEACEN; Network of Central Bank Governors and Finance Secretaries of the SAARC Region, or SAARCFINANCE; and Executives’ Meeting of East Asia-Pacific Central Banks, or EMEAP, all of which promote cooperation between members with a focus on capacity-building and sharing expertise. In addition, the Asian Exim Banks Forum was formed in 1996 with membership comprising the export credit agencies of Australia, China, India, Indonesia, Japan, the Republic of Korea, Malaysia, the Philippines and Thailand. Besides sharing information and training resources, the forum has fostered mutual cooperation among its members by facilitating lines of credit on a reciprocal basis. Finally, some countries in the region, such as Japan and India, have instituted bilateral swap arrangements that are not covered under CMI.

**Towards a development-friendly regional financial architecture for Asia and the Pacific**

Although several initiatives have been taken in the area of financial cooperation in the region, most of them are in their early stages and have limited scope and coverage. CMIM is an important initiative in the direction of developing a regional crisis response facility. However, it should be seen as a work in progress as it has been limited in scale and scope. First, the overall size of the fund is rather small when compared with the scale of bailouts in the recent crises. Second, only 20% of the liquidity available to a country is available without any conditionality, and beyond that threshold IMF conditionality is invoked. This link to IMF conditionality has possibly deterred some countries that needed liquidity support during the 2008/09 crisis from approaching CMI, such as Indonesia, the Republic of Korea and Singapore, which preferred to raise emergency financing from Japan and the United States on a bilateral basis. Finally, the expansion of CMIM membership to cover other key systemically important countries needs to be considered in order to make the initiative truly regional. ABF and the Asian Bond Markets Initiative have also been important initiatives towards developing regional financial markets, but they have been rather modest in scale to make a significant impact in view of the size of the region's economy. The SAARC Development Fund and the ASEAN Infrastructure Fund are also important initiatives for expanding the options for infrastructure financing facilities in the region but currently at a modest scale. Besides enhancing the depth of domestic bond markets in the region, it is important to facilitate cross-border listings to enhance the access of the region's least developed countries to capital markets, among other possibilities.

The region needs a more developed regional financial architecture that not only could assist it in managing the financial crisis but also could provide an adequate supply of development finance to narrow the development gaps. ESCAP analysis
shows that the region is characterized by wide infrastructure development gaps (see figure 3.19). There are also similarly wide gaps in social infrastructure and achievement of the Millennium Development Goals, as shown in the Economic and Social Survey of Asia and the Pacific 2010. Closing the infrastructure and other development gaps would require huge investments. Available estimates suggest that infrastructure gaps would require $8 trillion in investments over 10 years. Closing the gaps in achievement of the Millennium Development Goals would require an additional $639 billion in investments. With appropriate mechanisms available for mobilizing the region’s savings and channelling into these unmet investment needs through institutional intermediation and catalysing public-private partnerships, it would be possible not only to sustain the region’s dynamism for many years but also to make it an anchor of global stability.
The elements of a possible regional financial architecture that need to be developed for supporting the region’s development needs include the following:

**Crisis prevention and management.** In the area of crisis prevention and response, it is important to scale up and build further on the pioneering C mim to expand its scope and coverage. The expansion of the membership to cover other key systemically important countries, such as Australia, India and the Russian Federation, needs to be considered in order to make the initiative truly regional. Furthermore, with combined foreign exchange reserves of over $5 trillion, the region has the ability to expand considerably the size of the CMIM pool. The goal should be to build CMIM further into a well-endowed, truly regional crisis response facility that could reduce pressure on Governments to build large foreign exchange reserves for protecting their economies against speculative attacks and liquidity crises. Enhanced regional cooperation for crisis response and management, however, should not be regarded as an alternative to full participation in global economic relations. Rather, it should be seen as a complement to it, filling in the gaps and establishing the building blocks for global multilateral cooperation.

One option would be to create a large infrastructure development fund managed by a regional institution, as indicated in chapter 1. If such a fund secured just 5% of the region’s reserves of over $5 trillion it could provide start-up capital of $250 billion in addition to its ability to borrow from the central banks. Such a regional institution should be able to issue securities to enable the region’s central banks to be able to park their surplus reserves with it. This pooling of reserves could assist the region in meeting some of its investment needs, which are estimated to be on the order of more than $800 billion per annum in transport, energy, water and telecommunications.

The development of regional bond markets and the integration of the region’s capital markets would also facilitate investment flows within the region. A framework needs to be developed to enable cross-border listings in the region so that corporate entities in countries with relatively underdeveloped capital markets could raise capital in other regional markets.

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**In the area of crisis prevention and response, the goal should be to build CMIM further into a well-endowed, truly regional crisis response facility**

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**Development finance and capital markets integration.** The region needs to develop further its financial architecture for development financing, which would include systems of intermediation between its large savings and its unmet investment needs. Lack of an appropriate mechanism is the reason why the bulk of the region’s foreign exchange reserves has been invested in securities issued by Western Governments, such as United States treasury bills.

Exchange rate cooperation. Another area where regional financial architecture could make a positive contribution is in coordination of exchange rates. As economies of the region increasingly trade with each other, they will need a currency management system that facilitates trade and macroeconomic stability and discourages competitive devaluations. One option worthy of consideration is a basket parity relative to a number of reserve currencies, including key currencies of the region instead of the dollar alone, and a set of weights determined on the basis of regional trade shares.

**Closer cooperation between central banks and financing institutions.** As observed previously, a number of cooperative bodies of central banks have
been set up in the region, including South-East Asia, Australia and New Zealand; the Executives’ Meeting of East Asia-Pacific Central Banks; the Network of Central Bank Governors and Finance Secretaries of the SAARC Region; and South-East Asian Central Banks, facilitating the coordination, exchange of information and cooperation in training and capacity-building between them. However, there is a need for a broader regional body that could facilitate region-wide information sharing and assist in closing capacity gaps. Similarly, the Asian Exim Banks Forum could move forward to create an apex regional trade finance institution, for which it has developed an initial concept, in order to facilitate cooperation in trade finance.

**Capacity-building in public-private partnerships.** The enormity of resource requirements in Asia and the Pacific for infrastructure development makes it clear that a strong contribution from the private sector is needed, not just to bridge funding gaps but also to overcome the public sector’s limited delivery capacity and take advantage of the private sector’s efficiency and advanced technology. For this purpose Governments are increasingly turning to public-private partnerships (PPPs) to develop and operate both economic and social infrastructure. Some Governments have made considerable progress in the areas of institutional development, capacity-building, streamlining administrative processes and financing and approving new projects. Important steps have included the following: formulating PPP policy frameworks (Bangladesh, India, Indonesia, the Republic of Korea); enacting new laws or amending existing ones to create a PPP-supportive environment (Cambodia, Fiji, Indonesia, the Philippines, the Republic of Korea, Turkey, Viet Nam and many states in India); establishing institutional mechanisms to furnish government grant/support to PPP projects (Bangladesh, India, the Republic of Korea); establishing special infrastructure financing institutions (Bangladesh, India, Indonesia, the Russian Federation); creating special PPP units in Government (Australia, Bangladesh, Fiji, India, Indonesia, Malaysia, Pakistan, the Republic of Korea, Sri Lanka, Turkey); streamlining administrative processes (India, the Republic of Korea), among others. As a result there has been a considerable increase in PPPs for infrastructure. Between 2005 and 2009, 826 projects worth about $204 billion reached financial closure. However, a few countries, namely China, India, the Russian Federation and Turkey, accounted for the bulk (82%) of these projects.

In the aftermath of the global financial crisis, some Governments have been reinvigorating PPPs as a part of their stimulus packages, sometimes through policy and fiscal measures, including debt guarantees, direct financial stakes, tax-free bonds, lower-equity capital requirements and sharing interest rate risks. International financing institutions have also considered various measures. For example, the International Finance Corporation, the private sector arm of the World Bank, created a global $300 billion equity fund and a loan financing trust to support PPPs.

**Enhancing regional connectivity is a multifaceted task that will require the implementation of bold policy initiatives at the national and regional levels**

There is need for building capacity for fuller exploitation of PPPs for infrastructure development in the region. This would include a better understanding of PPPs at the policymaking level, with a clear policy on risk sharing, capacity for developing bankable projects and managing contracts, standardized administrative processes and project documents, clear legal and regulatory regimes and availability of long-term finance. In these areas regional cooperation for sharing development experiences and capacity—building, drawing upon the expertise of countries that started earlier, may be fruitful. Regional organizations, such as ESCAP and ADB, may assist the region in building such capability in the region.

**Regional cooperation for the reform of the international financial architecture.** The development of
a regional financial architecture would also enable the region to develop a regional perspective on the reform of the international financial architecture, including on various proposals such as an SDR-based global reserve currency, a global tax on financial transactions to moderate short-term capital flows, international regulations for curbing excessive risk-taking by the financial sectors, among other issues that are emerging in the G20, United Nations and other forums, as discussed in Chapter 1.

At its sixty-sixth session, held in Incheon, Republic of Korea, in May 2010, the Commission mandated the ESCAP secretariat to assist member countries in elaborating the elements of a regional financial architecture. In line with that mandate the secretariat is engaged in further work on a subject which will feed into the policy agenda of the region in years to come.

**Conclusion**

The analysis in this chapter suggests that the Asian and Pacific region is becoming more economically integrated and that it has considerable scope for deepening this integration. First, as a result of its higher rates of economic growth vis-à-vis the rest of the world, the region’s intraregional trade has increased faster than its total trade – a trend expected to continue into the future. Second, there is a large degree of complementarity in the structures of imports and exports in ESCAP subregions, suggesting large unexploited opportunities for increasing trade both within and across subregions. Third, intra-regional FDI flows are becoming more and more important in the region, providing smaller and poorer countries with much needed capital and technological expertise. Fourth, because the region includes both large energy-importing and energy-exporting countries, it has much to gain from boosting regional cooperation and trade in energy products. Fifth, economic activities that involve the movement of people across borders within the region are increasingly important, with a large share of the region’s labour migrants residing in neighbouring countries.

These trends towards a greater degree of regional economic integration suggest that the region is increasing its contribution to supporting its own economic growth and has the potential to contribute even more in the future. However, regional integration does not take place in a vacuum. Exchange activities across borders cannot take place without the physical and institutional infrastructure often referred to as connectivity. Although the region is making progress in boosting its connectivity, much more needs to be done to facilitate the seamless movement of goods, services, energy, capital and people throughout all countries of Asia and the Pacific.

In the area of trade, although the region has a large number of preferential trading arrangements, they are not contributing to the creation of a seamless, broader and unified Asia-Pacific market because of their bilateral and subregional nature. However, initiatives such as CEPEA, which represent about 80% of the region’s population and GDP, could constitute the nucleus of an incipient Asia-Pacific-wide free trade area to which other countries in the region could accede in the future.

A major obstacle to the expansion of trade is the high cost of moving goods to the hinterlands of some countries and across countries because of long distances, high vehicle operating costs, high transshipment costs and complex border crossing procedures. The latter in particular have been found to constitute a much more serious obstacle to trade and development of hinterland areas than the lack of physical transport infrastructure. In order to streamline trade procedures, countries are relying more on electronic data interchange and are trying to institute national electronic single windows through which traders can submit required documentation, pay duties and receive clearance. However, for the full benefits of single windows to be realized, the electronic data and documents should be accepted by authorities in all partner countries. For this to happen, it is necessary to develop of an international legal framework. Similarly, to reduce cross-border transport costs it is necessary for landlocked and transit countries to accede to the
relevant international conventions in the area of international transport and transit, as recommended by the Almaty Programme of Action.

In the area of physical infrastructure investment, it is important to exploit synergies across various types of infrastructure. For instance, rights of way for roads and railways, such as those established under the intergovernmental agreements on the Asian Highway and the Trans-Asian Railway, could also accommodate telecommunications cabling or base stations. Similarly, those agreements could provide a useful institutional model for identifying missing links and investment needs from a region-wide perspective for other types of infrastructure investment, such as oil and gas pipelines. In the area of energy, the development of a deep, liquid and transparent market for crude oil, petroleum products and gas could also be useful to promote intraregional energy trade.

Finally, in order to fund the large infrastructure investments required to boost its connectivity, the region needs to further develop mechanisms for the financial intermediation between its large savings and its equally large investment needs, estimated to be on the order of $800 billion per year. For that purpose, useful initiatives include deepening the development of bond markets, building on initiatives such as the Asian Bond Fund and the Asian Bond Markets Initiative, integrating capital markets by allowing cross-listings across stock exchanges, expanding the use of public-private partnerships for investment in infrastructure and considering the creation of a large regional infrastructure development fund to channel a small part of the region’s foreign exchange reserves into much needed infrastructure investments in the poorer and smaller countries of the region.

In sum, enhancing regional connectivity is a multifaceted task that will require the implementation of bold policy initiatives at the national and regional levels, and in many different areas. However, by facilitating the creation of a seamless and region-wide market, such a task could contribute to sustaining the region’s dynamism in decades to come and to reducing the wide disparities in economic opportunities within and across Asia-Pacific countries.

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