

PROGRESS IN REGIONAL COOPERATION AND INTEGRATION

Introduction

When economic and financial crises force countries to collaborate, recovery runs smoother and crisis prevention is strengthened.

A key lesson from past crises—whether Latin American debt crisis, Europe’s 1992 currency crisis, and the 1997/98 Asian financial crisis—is that when countries work together to address some of the root causes of economic and financial crises, they recover from the crisis much more quickly. Crises help promote regionalism, which in turn builds greater resilience against future crises.⁴ For Asia in particular, the 1997/98 Asian financial crisis led governments to cooperate to monitor the region’s crisis impact, pursue needed financial reforms, build regional safety nets, and thus helped the region to better manage the impact of the 2008/09 global financial crisis (**Table 2**). Closer cooperation further promoted market-led integration across Asia—as supply chains and production networks accelerated trade, investment, and finance—both intraregionally and increasingly inter-regionally via “South-South” trade. And without global cooperation—in response to the 2008/09 liquidity crunch—the impact would likely have been much worse.

The 2008/09 global financial and eurozone debt crises also triggered further cooperation in Asia, helping build resilience to future shocks.

As external demand from advanced economies slowed following the 2008/09 global financial crisis, regional trade—including trade in services—picked up the slack. Free trade agreements (FTAs) continue to proliferate and support for regional trade agreements has grown—with the Association of Southeast Asian Nations plus Australia, the People’s Republic of China (PRC), India, Japan, the Republic of Korea, and New Zealand (ASEAN+6) launching Regional Comprehensive Economic Partnership (RCEP) negotiations in November

⁴Crises have been described in studies as “triggers”, “catalysts”, “turning points”, “critical junctures”, and “historical episodes” that create intense pressure to act quickly and forge a collective response to a common threat. They can either help or hinder the development of regionalism, defined here as government-led policy initiatives that focus on regional cooperation, which in turn tends to bring about greater integration.

Table 2: Country Coverage¹

Central Asia		
Armenia	Kazakhstan	Turkmenistan
Azerbaijan	Kyrgyz Republic	Uzbekistan
Georgia	Tajikistan	
East Asia		
People’s Republic of China	Japan	Mongolia
Hong Kong, China	Republic of Korea	Taipei, China
South Asia		
Afghanistan	India	Pakistan
Bangladesh	Maldives	Sri Lanka
Bhutan	Nepal	
Southeast Asia		
Brunei Darussalam	Malaysia	Thailand
Cambodia	Myanmar	Viet Nam
Indonesia	Philippines	
Lao People’s Democratic Republic	Singapore	
The Pacific		
Cook Islands	Nauru	Timor-Leste
Fiji	Palau	Tonga
Kiribati	Papua New Guinea	Tuvalu
Marshall Islands	Samoa	Vanuatu
Federated States of Micronesia	Solomon Islands	
Oceania		
Australia	New Zealand	
Asia = Central Asia + East Asia + South Asia + Southeast Asia + the Pacific + Oceania.		

¹Applies to this chapter of the *Asian Economic Integration Monitor*, unless otherwise stated.

2012. Intra-Asian labor mobility is also expanding with remittance inflows consistently rising. Boosting physical connectivity across the region is now a major priority. ASEAN+3—ASEAN, the PRC, Japan, and the Republic of Korea—also expanded their regional financial safety net, established an independent surveillance unit, and continued work on deepening local currency bond markets across the region. India has offered to finance a financial safety net for South Asia, while several countries have expanded bilateral currency swap arrangements to step up financial cooperation and promote trade settlement in local currencies. All these initiatives bolster Asian economic integration.

However, as Asia's policymakers digest the ongoing eurozone debt crisis and costs of contagion, they may have a reduced appetite for deeper cooperation.

The link between Europe's monetary integration and sovereign debt crisis raised several issues underlying the very *raison d'être* of regional cooperation and integration. The contagion across Europe was a vivid reminder of the risk of a highly integrated system. This could give pause to policymakers behind Asia's cooperation efforts. At the same time, increasing global and regional interdependence implies that economic and financial shocks from advanced economies channel across the region more quickly. This was true after the 2008/09 global financial and eurozone debt crises, when financial markets and currencies in the region tumbled despite their relative strength. This is a key weakness of the global financial system, which Asia must reassess and rethink. Moreover, integration, while helping low-income countries grow faster than higher-income economies, appears to have contributed to increasing inequality within countries. Thus, in Asia, both the costs and benefits of integration are increasingly being debated.⁵

Work on future cooperation will likely become more challenging as well.

Regional economic integration has progressed rapidly in Asia, with the easy and more straightforward benefits from regional cooperation and integration having been realized. The remaining areas of cooperation and integration—and deepening existing ones—are much more complex. For instance, while trade tariffs are generally low, other barriers—such as quantitative restrictions, border administration and even closures—along with behind-the-border barriers affecting logistics, transport, infrastructure, and weak institutions significantly constrain further integration. Trade in services is often restricted through domestic regulations. The impact of regional trade blocs remains unclear—for example, the Trans-Pacific Partnership (TPP) and the RCEP could result in either debilitating competition or supporting global trade agreement. Financial integration is limited and cooperation on macroeconomic policy has barely begun. Furthermore, the degree of integration varies significantly across subregions and economies within subregions. Therefore, integration and cooperation benefit some economies more than others, widening disparities. Diversity is a blessing, but also a

challenge in prioritizing initiatives that lead to regional convergence. Further cooperation in these key areas is likely to be much more difficult and challenging than before.

Progress of Regional Cooperation and Integration in Asia

The first issue of the *Asian Economic Integration Monitor* (AEIM) used five indicators to track the progress of regional integration in Asia during the pre-Asian financial crisis (1990–1996), post-Asian financial crisis (2000–2007) and global crises (2008–2011, covering the 2008/09 global financial and eurozone debt crises) periods. These indicators included the shares of intraregional flows in foreign direct investment (FDI), tourism, and total trade; intraregional holdings of equities and debt securities, and output correlations between economies in the region (**Figure 11**). The progress of integration in Asia was most evident through trade, tourism, capital markets, and macroeconomic links, with output correlations during the global crises most likely reflecting the impact of the global shock as it hit the region. The only exception was intraregional FDI flows, which remained below its pre-Asian financial crisis share.⁶

These indicators have several limitations. They are not exhaustive and do not cover other important areas of cooperation and integration, such as infrastructure connectivity and institutional development, among others. They also hold different benchmarks for measuring the progress of integration; and it is quite difficult to judge—by merely comparing values—whether the level of integration in trade is, say, greater than the level of integration in tourism or capital markets.⁷

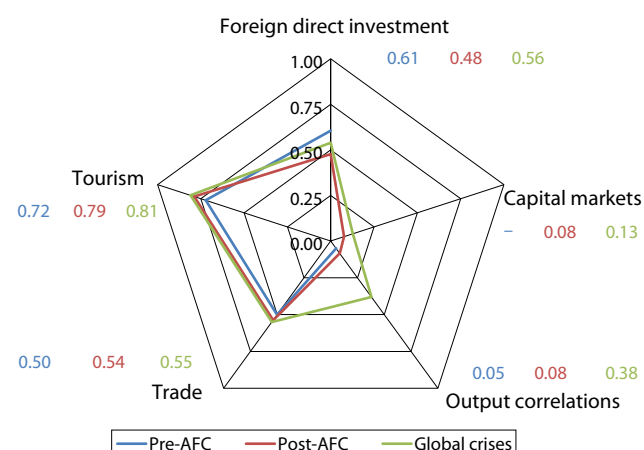
This issue of the AEIM examines integration indicators differently (**Box 1**). To help compare changes across indicators and assess areas of interdependence that have strengthened the most, the five indicators are “normalized” to assess the changes of these indicators

⁶This could be due to the quality of FDI data, which are patchy, released with a long lag, and prone to large revisions.

⁷Another problem is how to apply these indicators to Asia's various subregions, which are quite diverse and unique. While these indicators may be suitable for East and Southeast Asia—where trade and capital flows are essential—they may not reflect levels of integration in other subregions, such as Central Asia, which is more integrated from the perspective of physical connectivity. Quite the opposite, for example, from the perspective of the widely dispersed Pacific island countries.

⁵See, for example, ADB. 2012. Regional Integration: A Balanced View. *Asian Economic Integration Monitor* July 2012. Manila.

Figure 11: Advancing Integration: Regional Indicators—Asia
(Pre-AFC, post-AFC, and global crises)



AFC = Asian financial crisis. Unless otherwise stated, pre-AFC = 1990–1997, post-AFC = 1998–2007, and global crises = 2008–2011 (covering 2008/09 global financial and eurozone debt crises).

Foreign direct investment: Average share of the intraregional foreign direct investment inflows. Data unavailable for Afghanistan; Bhutan; the Cook Islands; Kiribati; the Maldives; the Marshall Islands; the Federated States of Micronesia; Mongolia; Nauru; Nepal; Palau; Samoa; Solomon Islands; Sri Lanka; Taipei, China; Tajikistan; Timor-Leste; Tonga; Turkmenistan; Tuvalu; Uzbekistan; and Viet Nam. Value for 2011 assumed to be the same as the previous year.

Capital markets: Average share of intraregional debt and equity investment based on investments from Hong Kong, China; India; Indonesia; Japan; Kazakhstan; the Republic of Korea; Malaysia; Pakistan; the Philippines; Singapore; Thailand; and Vanuatu. Post-AFC = 2001–2007. Data available from 2001. Does not include Oceania. Recipient data unavailable for Azerbaijan, Bhutan, the Federated States of Micronesia, Palau, Samoa, Tonga, Turkmenistan, and Tuvalu.

Output correlations: Based on simple averages of 3-year rolling bilateral correlations of annual growth rates (difference of natural logarithms) of real GDP series (2005 base year). Pre-AFC = 1996–1997; global crises = 2008–2012. Data unavailable for Afghanistan, the Cook Islands, the Marshall Islands, the Federated States of Micronesia, Myanmar, Nauru, Palau, Timor-Leste, and Tuvalu. Does not include Oceania.

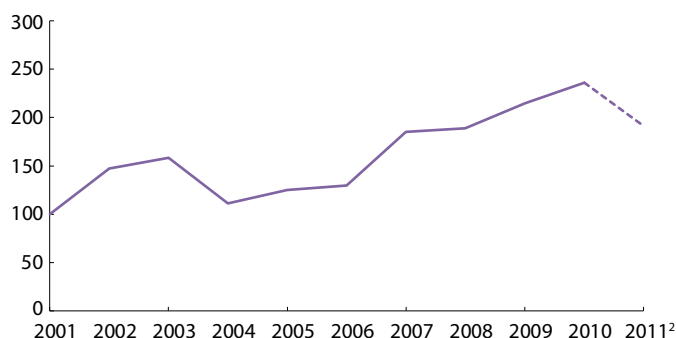
Trade: Average share of intraregional trade. Reporter data unavailable for Bhutan, Kiribati, Nauru, Palau, Timor-Leste, and Tuvalu. Reporter and partner data unavailable for the Cook Islands, the Marshall Islands, and the Federated States of Micronesia.

Tourism: Average share of intraregional tourist flows. Pre-AFC = 1995–1997. Does not include Oceania. Value for 2011 assumed to be the same as the previous year.

Source: ADB calculations using data from Bloomberg; CEIC; Asia Regional Integration Center, Asian Development Bank; Coordinated Portfolio Investment Survey, International Monetary Fund; Direction of Trade Statistics, International Monetary Fund; World Economic Outlook Database October 2012, International Monetary Fund; United Nations Conference on Trade and Development; and United Nations World Tourism Organization.

relative to a benchmark of typical economy-to-economy variations in the region. In general, normalizing an indicator shows how far the indicator has changed from its long-term, region-wide average—expressed in terms of units of standard deviation. The normalized indicators were then converted into indexes to show how they have changed over time. To measure the overall level of integration in the region, a composite index is constructed from the average indexes of the normalized indicators for Asia from 2001 to 2011—period where the five indicators are available. It is clear from the composite index that integration has progressed in Asia during this period—more sharply after 2006—although the progress has tapered off in 2011 reflecting less synchronized output growth in the region due to effects of domestic shocks such as the Japanese earthquake and Thailand floods (Figure 12).

Figure 12: Composite Integration Index¹—Asia (2001=100)



¹Average of five standardized indicators: foreign direct investment, capital markets, output correlations, trade, and tourism. Standardization involves transforming each observation using the following formula: $x_{ijt}^* = (x_{ijt} - A_i)/s_i$, where x_{ijt} is the value of indicator i in region j at time t , A_i is the average of the i th indicator over all j and t , and s_i is the standard deviation of the i th indicator over all j and t .

²Uses estimates for foreign direct investment and tourism.

Foreign direct investment: Average share of the intraregional foreign direct investment inflows. Data unavailable for Afghanistan; Bhutan; the Cook Islands; Kiribati; the Maldives; the Marshall Islands; the Federated States of Micronesia; Mongolia; Nauru; Nepal; Palau; Samoa; Solomon Islands; Sri Lanka; Taipei, China; Tajikistan; Timor-Leste; Tonga; Turkmenistan; Tuvalu; Uzbekistan; and Viet Nam. Value for 2011 assumed to be the same as the previous year.

Capital markets: Average share of intraregional debt and equity investment based on investments from Hong Kong, China; India; Indonesia; Japan; Kazakhstan; the Republic of Korea; Malaysia; Pakistan; the Philippines; Singapore; Thailand; and Vanuatu. Does not include Oceania. Recipient data unavailable for Azerbaijan, Bhutan, the Federated States of Micronesia, Palau, Samoa, Tonga, Turkmenistan, and Tuvalu.

Output correlations: Based on the median of 3-year rolling bilateral correlations of annual growth rates (difference of natural logarithms) of real GDP series (2005 base year). Data unavailable for Afghanistan, the Cook Islands, the Marshall Islands, the Federated States of Micronesia, Myanmar, Nauru, Palau, Timor-Leste, and Tuvalu. Does not include Oceania.

Trade: Share of intraregional trade. Reporter data unavailable for Bhutan, Kiribati, Nauru, Palau, Timor-Leste, and Tuvalu. Reporter and partner data unavailable for the Cook Islands, the Marshall Islands, and the Federated States of Micronesia.

Tourism: Share of intraregional tourist flows. Does not include Oceania. Value for 2011 assumed to be the same as the previous year.

Source: ADB calculations using data from Bloomberg; CEIC; Asia Regional Integration Center, Asian Development Bank; Coordinated Portfolio Investment Survey, International Monetary Fund; Direction of Trade Statistics, International Monetary Fund; World Economic Outlook Database October 2012, International Monetary Fund; United Nations Conference on Trade and Development; and United Nations World Tourism Organization.

To assess the progress of integration over a longer period, the normalized indicators and their averages are also calculated for three periods: before and after the 1997/98 Asian financial crisis, and during the global crises (Figure 13). The averages of the normalized indicators show that regional integration has advanced since the 1997/98 Asian financial crisis and after the global crises. This seemed to suggest that financial crises could have spurred regional cooperation and integration in the past two decades, with the progress of integration evident in the areas of trade, tourism, capital markets, and macroeconomic links.

Regional integration in Asia has progressed in two stages: trade and tourism links improved prior to closer capital market and macroeconomic links.

In the first stage, which occurred after the 1997/98 Asian financial crisis, trade and tourism links rose significantly—by as much as 0.5–2.0 standard deviations

Box 1: An Asian Economic Integration Monitor Roadmap

The *Asian Economic Integration Monitor* (AEIM) tracks the progress of regional economic cooperation and integration across Asia and its subregions. It examines and analyzes new regional cooperation and integration developments, continuing—on a regular basis—the work of a trilogy of studies conducted jointly by the Asian Development Bank (ADB) and ADB Institute: (i) *Emerging Asian Regionalism: A Partnership for Shared Prosperity* (2008); (ii) *Infrastructure for a Seamless Asia* (2009); and (iii) *Institutions for Regional Integration: Toward an Asian Economic Community* (2010). By monitoring the region's progress, the AEIM can help assess how the region balances the benefits and costs of integration.

Each issue of the AEIM will hone in on specific aspects of integration—some are discussed based on available data and general trends, while others will be analyzed from a more technical, empirical perspective.

The inaugural issue of AEIM—published in July 2012—analyzed developments in regional cooperation and integration since the publication of the trilogy, mainly covering progress since the global financial crisis in 2008. It examined in depth stylized facts for each area of regional integration in Asia and its subregions.

The depth of trade integration varies across subregions, with the primacy of intermediate goods trade reflecting deepening regional production networks. Cooperation in trade policy has developed most effectively in Asia through a combination of unilateral liberalization and a plethora of free trade agreements. Asia's financial integration lags behind trade integration, with the region's financial markets more integrated through global markets than among themselves. But there are signs since the 2008/09 global financial crisis that financial integration is accelerating. The crisis provided further impetus to regional macroeconomic and financial cooperation in Asia—through dialogue processes, regional financial safety nets, and developing bond markets. Internationalizing the renminbi will likely boost regional cooperation and integration, particularly in East and Southeast Asia.

Regional labor mobility remains low, even if migrant stock data showed mobility increased between 2000 and 2010—migrants increasingly favor countries outside Asia. However, surging remittance inflows suggest labor mobility within Asia increased significantly over the past decade.

Closer trade, investment, financial, and labor links are making the region's economies more interdependent. Correlations of output and inflation rose sharply in recent years, largely due to the impact of the common shocks from the 2008/09 global financial crisis and the rise in world commodity prices in 2006–2008. As Asia's economies

integrate, income disparity across the region has declined as low-income countries grew faster than higher-income economies. Strong growth in the People's Republic of China and India were major factors in the reduction in income disparity between Asian economies.

Asia's infrastructure gap remains huge, requiring far greater cross-border connectivity to strengthen intraregional trade and regional demand. In addition to physical infrastructure, Asia needs to strengthen its “soft” infrastructure—policy, legal, regulatory, and institutional frameworks, along with the systems and procedures for moving goods and services across borders.

The inaugural July 2012 issue also included a special chapter, “Regional Integration: A Balanced View.” Examining various facets of regional integration, its main premise was that both benefits and costs should be carefully gauged in evaluating proposals for regional integration. The overall aim of regional cooperation and integration, like any development agenda, is to boost people's welfare—reducing poverty and narrowing inequality. Small and large economies alike should equally benefit from regional integration. Greater cooperation is needed to better and carefully manage market processes to reap benefits of integration while minimizing its potential costs.

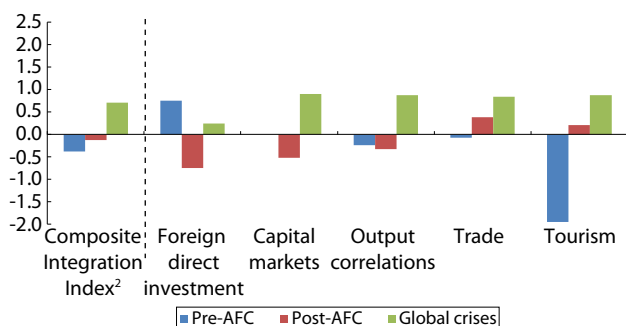
This second issue of the AEIM continues to track the progress of regional cooperation and integration—and also discusses new issues not covered in the July 2012 issue. The trade section delves into trade in services, while the financial integration section examines whether variations in returns and yields in the region's financial markets are driven by global or regional shocks. The macroeconomic interdependence section examines risk sharing in Asia by analyzing the behavior of consumption and output. The labor mobility part looks closely at remittance data and its implications for labor mobility in Asia.

The infrastructure connectivity section explains in detail several subregional cross-border infrastructure projects—information communication and technology, transport, and energy. The macroeconomic and financial cooperation section tracks recent progress through global and regional policy forums. It also discusses currency swap arrangements—a major form of central bank coordination used widely since the 2008/09 global financial crisis.

This issue also discusses the provision of regional public goods.

The special chapter—“Multilateralizing Asian Regionalism: Approaches to Unraveling the Asian Noodle Bowl”—critiques various options for further trade cooperation in Asia.

Figure 13: Progress of Integration in Asia¹
(Pre-AFC, post-AFC, and global crises)



AFC = Asian financial crisis. Unless otherwise stated, pre-AFC = 1996–1997, post-AFC = 1998–2007, and global crises = 2008–2011 (covering 2008/09 global financial and eurozone debt crises).

¹Indicators are standardized for comparability. Standardization involves transforming each observation using the following formula: $x_{ijt}^* = (x_{ijt} - A_i) / s_i$, where x_{ijt} is the value of indicator i in region j at time t , A_i is the average of the i th indicator over all j and t , and s_i is the standard deviation of the i th indicator over all j and t . The average of each indicator's standardized observations is taken for each period specified.

²Average of foreign direct investment, output correlations, trade, and tourism only. Capital markets do not have a pre-1997 benchmark as data unavailable.

Foreign direct investment: Average share of intraregional foreign direct investment inflows. Data unavailable for Afghanistan; Bhutan; the Cook Islands; Kiribati; the Maldives; the Marshall Islands; the Federated States of Micronesia; Mongolia; Nauru; Nepal; Palau; Samoa; Solomon Islands; Sri Lanka; Taipei, China; Tajikistan; Timor-Leste; Tonga; Turkmenistan; Tuvalu; Uzbekistan; and Viet Nam. Value for 2011 assumed to be the same as the previous year.

Capital markets: Average share of intraregional debt and equity investment based on investments from Hong Kong, China; India; Indonesia; Japan; Kazakhstan; the Republic of Korea; Malaysia; Pakistan; the Philippines; Singapore; Thailand; and Vanuatu. Post-AFC = 2001–2007. Data available from 2001. Does not include Oceania. Recipient data unavailable for Azerbaijan, Bhutan, the Federated States of Micronesia, Palau, Samoa, Tonga, Turkmenistan, and Tuvalu.

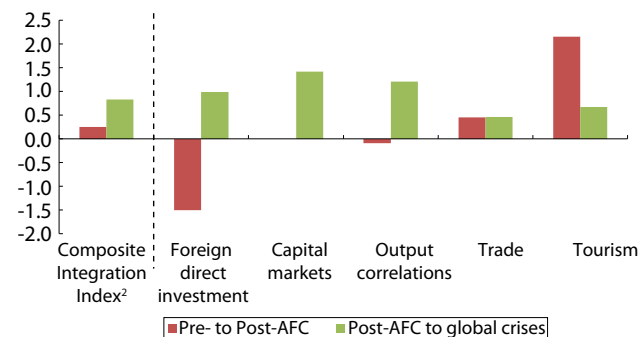
Output correlations: Based on the median of 3-year rolling bilateral correlations of annual growth rates (difference of natural logarithms) of real GDP series (2005 base year). Data unavailable for Afghanistan, the Cook Islands, the Marshall Islands, the Federated States of Micronesia, Myanmar, Nauru, Palau, Timor-Leste, and Tuvalu. Does not include Oceania.

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Tourism: Average share of intraregional tourist flows. Does not include Oceania. Value for 2011 assumed to be the same as the previous year.

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Figure 14: Average Change in Integration Indicators¹—Asia
(Pre-AFC, post-AFC, and global crises)



AFC = Asian financial crisis. Unless otherwise stated, pre-AFC = 1996–1997, post-AFC = 1998–2007, and global crises = 2008–2011 (covering 2008/09 global financial and eurozone debt crises).

¹Change in the average of standardized indicators from pre- to post-AFC and post-AFC to global crises. Standardization involves transforming each observation using the following formula: $x_{ijt}^* = (x_{ijt} - A_i) / s_i$, where x_{ijt} is the value of indicator i in region j at time t , A_i is the average of the i th indicator over all j and t , and s_i is the standard deviation of the i th indicator over all j and t . The average of each indicator's standardized observations is taken for each period specified, then the difference between the averages is calculated.

²Average of foreign direct investment, output correlations, trade, and tourism only. Capital markets do not have a pre-1997 benchmark as data unavailable.

Foreign direct investment: Average share of intraregional foreign direct investment inflows. Data unavailable for Afghanistan; Bhutan; the Cook Islands; Kiribati; the Maldives; the Marshall Islands; the Federated States of Micronesia; Mongolia; Nauru; Nepal; Palau; Samoa; Solomon Islands; Sri Lanka; Taipei, China; Tajikistan; Timor-Leste; Tonga; Turkmenistan; Tuvalu; Uzbekistan; and Viet Nam. Value for 2011 assumed to be the same as the previous year.

Capital markets: Average share of intraregional debt and equity investment based on investments from Hong Kong, China; India; Indonesia; Japan; Kazakhstan; the Republic of Korea; Malaysia; Pakistan; the Philippines; Singapore; Thailand; and Vanuatu. Post-AFC = 2001–2007. Data available from 2001. Does not include Oceania. Recipient data unavailable for Azerbaijan, Bhutan, the Federated States of Micronesia, Palau, Samoa, Tonga, Turkmenistan, and Tuvalu.

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Trade: Average share of intraregional trade. Reporter data unavailable for Bhutan, Kiribati, Nauru, Palau, Timor-Leste, and Tuvalu. Reporter and partner data unavailable for the Cook Islands, the Marshall Islands, and the Federated States of Micronesia.

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from their long-run averages. During this period, however, FDI flows within the region actually weakened. In the second stage, beginning with the global financial crisis in 2008, however, regional integration deepened more in terms of FDI flows, capital markets, and output correlations—between 0.75 and 2.5 standard deviations above their long-run averages (**Figure 14**).

The progress of integration in trade and tourism, however, appears to have plateaued or slowed during the global crises, while output correlations and integration in capital markets and FDI strengthened. There are three possible explanations for this. First, the global crises, still ongoing, was relatively short compared with the other two periods, such that the crisis

impact on both trade and travel dominated. Second, the slowdown in trade integration reflected the strong global orientation of PRC trade and the relative fall of its trade with its neighbors. The PRC's share of intraregional trade has been falling in recent years, as it vastly expanded trade links with Latin America and Africa. On the contrary, the global crises not only increased risks, but also lowered returns of real and financial assets in advanced economies—mostly outside of Asia—and thus FDI and portfolio investment increasingly flowed within Asia. In addition, the shocks from the global crises affected all economies simultaneously and therefore boosted output correlations between Asian economies.

Trade Integration

Trade in Goods

The eurozone debt crisis continues to affect Asia through the trade channel; although far less than the 2008/09 global financial crisis.

After recovering to a year-high of \$80.6 billion in July 2011, exports to the European Union (EU) as of August 2012 have remained roughly 20% below the peak. For the same period, exports to the US were also 5.3% below its 2011 peak (\$68.7 billion). More broadly, in the months following the eurozone debt crisis, merchandise exports of major Asian economies fell a modest 10%. This fall, however, was more modest than the nearly 40% drop during the 2008/09 global financial crisis (**Figure 15**). Asia's merchandise exports were climbing back since August 2012, almost reaching their pre-eurozone debt crisis peak.

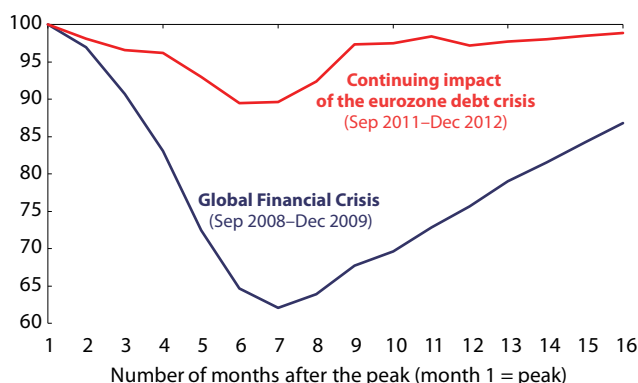
While Asia's export growth continues to slow—with exports to the EU contracting most—exports to Africa, Latin America, and the Middle East rose in 2012.

Asia's total export growth fell to 5.5% in July and August 2012 from a high of 19.8% in the same period of 2011. From its peak in 2010, the region's export growth in 2012 also moderated across the board reflecting the broad impact of the eurozone debt crisis (**Table 3**). In contrast, exports to the Middle East grew strongly, followed by Africa and Latin America.⁸ As a result, the export share to these regions increased from 8.4% in January 2007 to 11.3% in August 2012 (**Figure 16**).

Despite a shift in the direction of Asia's exports, the share of its intraregional exports has remained unchanged.

In the first 8 months of 2012, intraregional exports accounted for 56% of total Asian exports—equivalent to its 2009–2011 average (see **Figure 16**). Similarly, Asia's intra-subregional trade shares were also quite stable—except for East Asia, which moderated slightly (**Figure 17**). The slight easing in East Asia can be

Figure 15: Merchandise Exports¹ During Crisis—Asia²
(peak month = 100)



¹3-month moving average. Based on \$ values.

²Includes Australia; the People's Republic of China; Hong Kong, China; India; Indonesia; Japan; the Republic of Korea; Malaysia; New Zealand; the Philippines; Singapore; Taipei, China; Thailand; and Viet Nam. Only economies with up-to-date data were included.

Source: ADB calculations using data from CEIC.

Table 3: Merchandise Export Growth by Destination—Asia
(y-o-y, %)

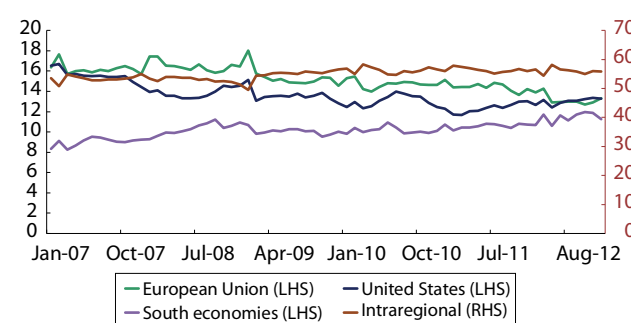
	2008	2009	2010	2011	2012 ¹
Intraregional	14.6	-15.4	33.2	18.2	-3.7
United States	2.9	-20.1	25.9	11.7	4.1
European Union	17.5	-24.3	25.4	15.4	-13.1
Africa	27.4	-13.8	27.4	25.0	4.2
Latin America	29.0	-26.4	50.5	27.2	2.9
Middle East	36.3	-19.9	22.1	18.9	8.3
Total	15.5	-18.5	30.3	18.0	-3.1

Note: Country groupings for Asia, Africa, Latin America, and the Middle East are based on *Asian Development Outlook 2011: South–South Economic Links*, Asian Development Bank. European Union (EU) refers to the aggregate of 27 EU members.

¹Data up to Aug 2012.

Source: ADB calculations using data from *Direction of Trade Statistics*, International Monetary Fund; and CEIC for Taipei, China.

Figure 16: Merchandise Exports by Destination—Asia (% of total)



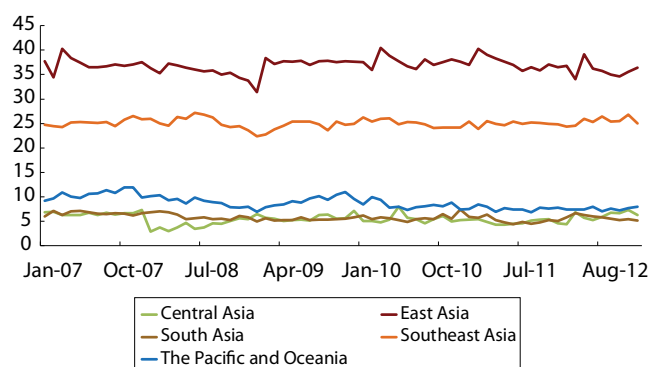
LHS = left-hand scale, RHS = right-hand scale.

Note: Country groupings of South economies (Asia, Africa, Latin America, and the Middle East) based on *Asian Development Outlook 2011: South–South Economic Links*, Asian Development Bank. European Union (EU) refers to the aggregate of 27 EU members.

Source: ADB calculations using data from *Direction of Trade Statistics*, International Monetary Fund; and CEIC for Taipei, China.

⁸S. Hamanaka and A. Tafgar. 2013. Critical Review of East Asia–South America Trade. *ADB Working Paper Series on Regional Economic Integration*. No. 105. Manila: Asian Development Bank.

Figure 17: Intra-subregional Trade Share¹—Asia (%)



¹Intra-subregional trade share (INTS) of region i is defined as $INTS_i = X_{ii}/X_i$; where X_{ii} = exports of region i to region i and X_i = total exports of region i .

Source: ADB calculations using data from *Direction of Trade Statistics*, International Monetary Fund; and CEIC for Taipei, China.

explained by slowing trade between the PRC and Hong Kong, China—a knock-on effect of weak demand from advanced economies on intraregional trade.

Trade in Services

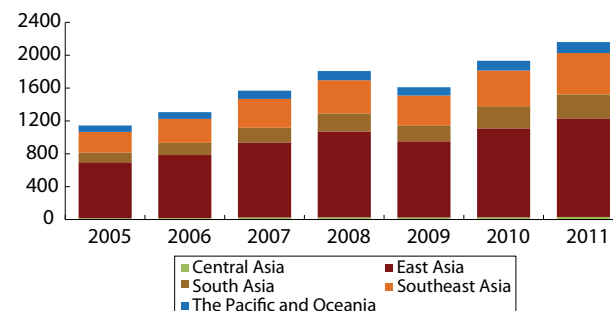
During the last decade, services trade has become an important driver of economic growth.⁹

The growing importance of services trade can be seen from stories of some small countries that have successfully exported high-tech services worldwide. As a result, service exports of developing countries almost tripled between 1997 and 2007.¹⁰ Generally, the importance of services trade grew with the information and technology revolution, which enhanced the technology, transportability and tradability of services. Traditionally, services exports are mostly confined to the production of inputs or the provision

⁹This section uses data based on the Balance of Payments Manual Sixth Edition (BPM6) (see Box 3 for a comparison of BPM6 and BPM5 data).

¹⁰S. Mishra et al. note the global value of cross-border services exports in 2007 was \$3.3 trillion (20% of total world trade). However, this could be higher. H. Escaith (2008) notes that the share of services is almost 50% if transactions are measured in terms of direct and indirect value-added content—that is, if measured in terms of processing imported components into final products for export. If sales of services by foreign affiliates of multinational firms are added, then the value of trade in services rises further. Data for 15 OECD countries put the value of these sales at around \$1.5 trillion in 2007. See S. Mishra, S. Lundstrom, and R. Anand. 2011. Service Export Sophistication and Economic Growth. *Policy Research Working Paper*. No. 5606. Washington, DC: The World Bank; H. Escaith. 2009. Measuring Trade in Value Added in the New Industrial Economy: Statistical Implications. MPRA Paper. 4 April. http://mpra.ub.uni-muenchen.de/14454/1/MPRA_paper_14454.pdf; World Trade Organization. 2009. *International Trade Statistics 2009*. Geneva; and B. Hoekman and A. Mattoo. 2008. Services Trade and Growth. *Policy Research Working Paper*. No. 4461. Washington, DC: The World Bank.

Figure 18: Total Trade in Services¹—Asian Subregions² (\$ billion)



¹Exports plus imports.

²Central Asia does not include Tajikistan, Turkmenistan, and Uzbekistan. South Asia does not include Afghanistan, Bhutan, and the Maldives. Southeast Asia does not include Brunei Darussalam.

Source: ADB calculations using data from *Balance of Payments Statistics*, International Monetary Fund.

of personal services.¹¹ However, with improvements in telecommunications and digital technology, a modern class of services—limited by neither time nor space—has emerged. These services take advantage of information and communications technology (ICT), globalization, and economies of scale; and benefit from higher productivity. They include information technology, education, and business processing outsourcing—transcribing medical records, data services, call centers, and entertainment production services, among others.¹²

Trade in services is increasingly important to Asia; though it is growing slower than trade in goods.

Since 2005, the value of services trade in Asia doubled from \$1.1 trillion to \$2.2 trillion in 2011 (preliminary data)—an annual growth of 11.2%. A large chunk of services trade originates from East and Southeast Asia (**Figure 18**). Comparatively, services trade growth remains below growth in trade in goods. The value of goods trade in Asia more than doubled from \$5.2 trillion in 2005 to \$10.9 trillion in 2011—an annual growth of 13.1%. As a result, the share of Asia's services exports to total exports fell from 16.5% in 2005 to 15.7% in 2011, after reaching a peak of 18.0% in 2009 (**Figure 19**).¹³

¹¹Traditional services include transport; travel; construction; personal, cultural, and recreational services; government goods and services; manufacturing services on physical inputs owned by others such as processing, assembly, labeling or packing; and maintenance and repair services

¹²This modern class of services includes financial services covering financial intermediation and auxiliary services; insurance and pensions; telecommunications, computer, and information; charges for the use of intellectual property or royalties and license fees; other business including research and development, professional and management consulting; and technical, trade-related, and other business services.

¹³The ratio peaked in 2009 as services export growth proved to be more resilient to the 2008/09 global financial crisis than goods export growth.

Box 2: Trading Goods and Services—What you can hold and What you cannot

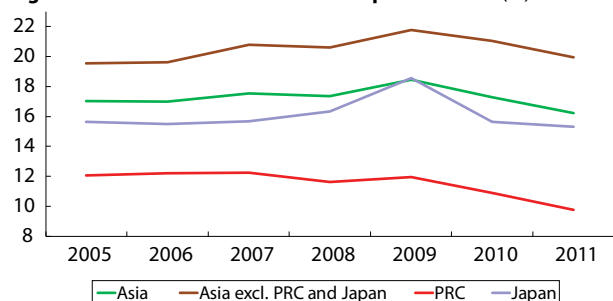
There are important differences when trading goods and services—both within and across borders. First and foremost, services are intangible. There is no inventory for services; immediate consumption is usually required. Direct contact between supplier and consumer is needed for some services. As a result, trading services internationally is more complicated than goods.

To comprehensively capture how international services are traded, they are categorized four ways in computing balance of payments: Mode 1 (cross-border trade) where the service moves across borders; Mode 2 (consumption abroad) where it is the consumer who travels; Mode 3 (trade through commercial presence) where an institutional service supplier

moves across borders; and Mode 4 (movement of natural persons) where an individual supplier of the service travels across borders. Balance of payments data mainly covers Modes 1 and 2, although services can also be transacted using a combination of various modes.

While there are some commonalities between goods and services trade in terms of explanatory factors (for example, a large GDP leads to large trade flows), there are also some notable differences: (i) common language between two trading countries significantly increases services rather than goods trade; and (ii) archipelagoes prove critically unfavorable for goods trade, but not for trade in services.

Figure 19: Share of Services to Total Exports¹—Asia² (%)



PRC = People's Republic of China.

¹Goods and services.

²Asia includes all subregions. Central Asia does not include Tajikistan, Turkmenistan, and Uzbekistan. South Asia does not include Afghanistan, Bhutan, and the Maldives. Southeast Asia does not include Brunei Darussalam.

Source: ADB calculations using data from *Balance of Payments Statistics* and *Direction of Trade Statistics*, International Monetary Fund; and CEIC.

There is a good chance that the preliminary data for 2011 will be revised (**Boxes 2, 3**).¹⁴

Excluding Asia's two largest economies, the share of services exports for the majority of Asian economies is growing.

The decline in the share of services exports is mainly due to falling shares in the PRC and Japan (see Figure 19). In particular, the falling services export share in the PRC—and increasing share of goods exports—reflects the PRC's growing role as global factory and the trade

in parts and components associated with regional supply chains, rather than any weakness in services trade. Excluding the PRC and Japan, Asia's services share increased from 19.1% in 2005 to 21.3% in 2009, before falling back to 19.4% in 2011.

Unlike trade in goods, which generates a cumulative surplus for Asia, trade in services shows a cumulative deficit.

For goods trade, Asian economies had an average cumulative surplus of \$428 billion a year since 2005. This is in contrast to trade in services, which generated an average cumulative deficit of \$34 billion a year.¹⁵ Despite narrowing slightly from 2005 to 2007, the region's services trade deficit has shown an upward trend since 2008 (**Figure 20**).

Country level data show that the PRC and Japan account for most of the services trade deficit in Asia. For the PRC, its prime deficit lies with Hong Kong, China; the EU-6; and the US.¹⁶ In the case of Japan, it has large deficits with the US and Hong Kong, China. In contrast, Hong Kong, China; India; and the Philippines show significant surpluses (**Figure 21**). For Hong Kong, China, most of its surplus is with the PRC, the US, and EU-6—mostly derived from financial services. The modest

¹⁴Balance of payment data on services trade are patchy and have limited history, with data revisions made even after 2–3 years. Therefore, caution is needed when interpreting trends, especially during more recent years.

¹⁵These figures refer to the cumulative trade balance of all Asian economies and reflect their net trade position with all trading partners, including other Asian economies. Unfortunately, bilateral trade data are not available for all Asian economies for all years.

¹⁶EU-6 includes France, Germany, Italy, the Netherlands, Spain, and the United Kingdom.

Box 3: Statistics on Services Trade—Balance of Payments Manuals 5 and 6

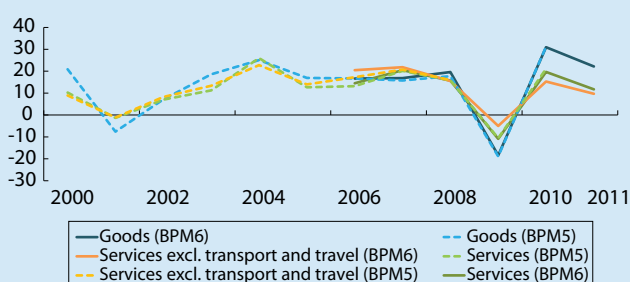
Data on services trade is based on the *Balance of Payments Manual* (BPM) of the International Monetary Fund (IMF). The BPM serves as the standard for statistics on transactions and positions between an economy and the rest of the world. Since 1948, the BPM has undergone several revisions to incorporate new economic and financial developments, changes in analytical demand, and better experienced compilers. To date, the fifth edition of the manual (BPM5) provides the longest historical series for services trade—up to 2010 for most countries. However, a new edition (BPM6) was released in 2009. BPM6 aims to ensure consistency with the updated System of National Accounts and IMF definition of foreign direct investment. Data for BPM6, however, are only available from 2005 to 2011.

Although BPM5 remains adequate, BPM6 data are used in this section to incorporate the numerous updates and improvements. Below is a comparison of some key trends for services trade under BPM5 and BPM6 (**Box table**). The share of services exports to total exports in Asia increased up to 2009, under both BPM5 and BPM6—but declined thereafter. More so, services trade showed more resilience relative to goods trade (excluding transport and travel) during the 2008/09 global financial crisis (**Box figure**).

BPM6 has 12 services sectors: (i) manufacturing services on physical inputs owned by others—such as processing, assembly, labeling or packing; (ii) maintenance and repair; (iii) transport; (iv) travel; (v) construction; (vi) insurance and pensions; (vii) financial services covering financial

intermediation and auxiliary services (except insurance and pensions); (viii) charges for the use of intellectual property or royalties and license fees; (ix) telecommunications, computer, and information; (x) other business services including research and development, professional and management consulting, and technical, trade-related, and other business services; (xi) personal, cultural and recreational services; and (xii) government goods and services. Among the 12 components, travel is different as it does not refer to a single product but to the expenses for services incurred by a person during his visit to a country other than his own.

Total Trade Growth¹—Asia² (%)



BPM = Balance of Payments Manual.

¹Exports plus imports.

²Asia includes all subregions. Central Asia does not include Tajikistan, Turkmenistan, and Uzbekistan. East Asia does not include Taipei, China. South Asia does not include Afghanistan, Bhutan, and the Maldives. Southeast Asia does not include Brunei Darussalam and Viet Nam.

Source: ADB calculations using data from *Balance of Payments Statistics*, International Monetary Fund; and CEIC.

Share of Services to Total Exports¹—Asia² (%)

	Edition	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Asia	BPM6	–	–	–	–	–	16.5	16.5	17.0	16.8	18.0	16.8	15.7
	BPM5	14.3	15.4	15.5	14.9	15.3	15.1	14.9	15.6	15.7	16.9	16.0	–
Asia excl. PRC and Japan	BPM6	–	–	–	–	–	19.1	19.1	20.3	20.1	21.3	20.5	19.4
	BPM5	11.0	11.9	12.0	11.3	11.5	11.3	11.2	11.8	11.8	12.9	12.1	–
PRC	BPM6	–	–	–	–	–	11.6	11.7	11.8	11.1	11.4	10.4	9.3
	BPM5	10.9	11.1	10.9	9.6	9.5	8.9	8.7	9.1	9.3	9.7	9.8	–
Japan	BPM6	–	–	–	–	–	15.2	15.0	15.2	15.8	18.1	15.1	14.8
	BPM5	13.1	14.4	14.2	14.7	15.3	16.3	16.0	16.0	16.6	19.1	16.2	15.6

– = data unavailable, BPM = Balance of Payments Manual, PRC = People's Republic of China.

¹Goods and services.

²Asia includes all subregions. Central Asia does not include Tajikistan, Turkmenistan, and Uzbekistan. East Asia does not include Taipei, China. South Asia does not include Afghanistan, Bhutan, and the Maldives. Southeast Asia does not include Brunei Darussalam and Viet Nam.

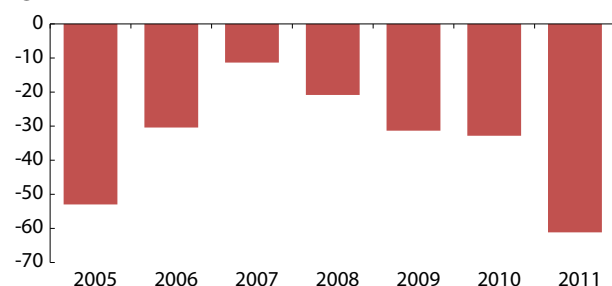
Source: ADB calculations using data from *Balance of Payments Statistics*, International Monetary Fund; and CEIC.

surplus in India and the Philippines comes from trade in telecommunications, computer, and information services (**Box 4**).

Asia plays a moderate but increasing role in the global services trade.

In 2011, only the PRC, Japan, India, and Singapore made it to the top 10 in services trade (**Table 4**). The PRC ranked fourth, with Japan sixth. Interestingly, both the PRC and Japan are more dominant in global exports of goods—ranking first and fourth, respectively. Despite this, the region's share in global services trade has been increasing, with its share of world services trade up from 17.6% in 2005 to 20.1% in 2011 (**Figure 22**). Trends for individual economies are mixed, with most Asian economies showing rising shares, except for Australia which is flat, and Japan which is declining (**Figure 23**).

Figure 20: Services Trade Balance—Asia¹ (\$ billion)



¹Asia includes all subregions. Central Asia does not include Tajikistan, Turkmenistan, and Uzbekistan. South Asia does not include Afghanistan, Bhutan, and the Maldives. Southeast Asia does not include Brunei Darussalam.

Source: ADB calculations using data from *Balance of Payments Statistics*, International Monetary Fund; and CEIC.

Table 4: Services Trade¹—Top Ten Economies
(% of world trade)

	2011
United States	12.8
Germany	7.1
United Kingdom	5.9
People's Republic of China	5.3
France	5.0
Japan	3.9
India	3.3
Spain	3.0
Singapore	2.8
Italy	2.8

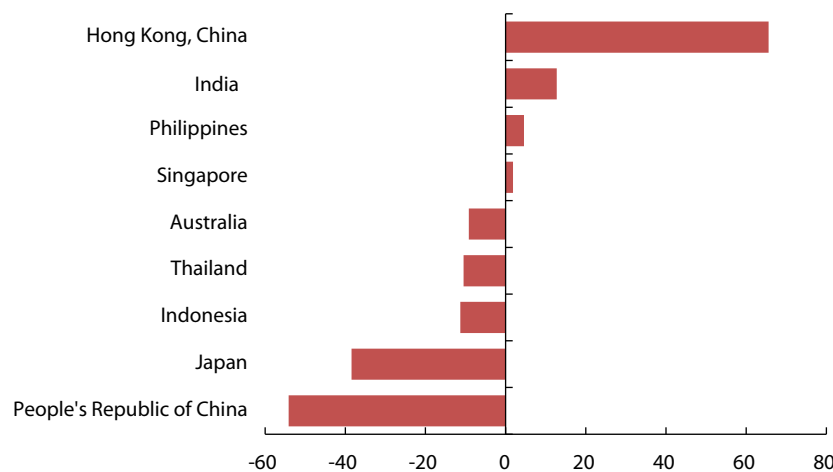
¹Exports plus imports.

Source: ADB calculations using data from *Balance of Payments Statistics*, International Monetary Fund; and CEIC.

Asia should prioritize services exports as a new growth channel—particularly exports of modern services.

Services exports hold much promise for the region. First, the region has a large pool of highly trained labor to support these industries. The capital requirements for some of these modern services are not huge. These modern services can also be unbundled—their production fragmented across the region—thereby providing a good opportunity for Asia to create high-tech services jobs for some of its low- and middle-income countries. More importantly, exports of these types of services are not hampered by trade or other physical barriers and could potentially contribute to greater regional integration. The only challenge is domestic regulation that still limits market access.

Figure 21: Services Trade Balance—Selected Asian Economies, 2011 (\$ billion)



Source: ADB calculations using data from *Balance of Payments Statistics*, International Monetary Fund.

Box 4: Services Trade in India and the Philippines

While Asia's overall trade services deficit reached \$61.2 billion in 2011, India had a \$12.7 billion surplus and the Philippines \$4.6 billion. Historically, both countries had a services trade deficit. But India was able to generate a surplus beginning in 2004, while the Philippines joined in 2005. The two countries today earn large surpluses from trade in telecommunication, computer and information services (TCIS). These surpluses are offset by deficits in transport. For example, in 2011, India had a TCIS surplus of \$55.8 billion, partially offset by a deficit in transport of \$39.2 billion. Similarly, the Philippines posted a surplus in TCIS of \$8.7 billion with a transport deficit of \$3.6 billion. In terms of data availability, TCIS has two subcategories—(i) telecommunications services, and (ii) computer and information services (CIS). Telecommunications services include broadcast or data transmission or other information using telephone, mobile, email, satellite, or other means. CIS consists of hardware- and software-related services, data processing services, news agencies, and database services.

For India, its strong TCIS surplus comes from telecommunications services, which generated a \$59.6 billion surplus in 2011. This derives from India's huge telecommunications network—the second largest in the world—with a telephone subscriber base of about 940 million, over 900 million of which are wireless connections (as of August 2012). The strong growth of India's telecommunication industry reflects the successful

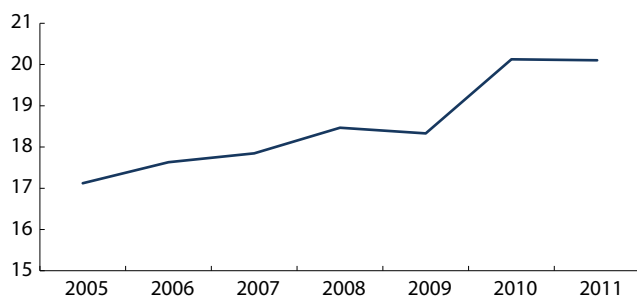
liberalization in the early 1990s, which transformed the industry from being wholly government-owned to one with up to 74% foreign equity participation. Liberalization brought with it increased competition from foreign investors. Due to intense competition, India has one of the lowest call tariffs in the world.

For the Philippines, its strength mainly lies in providing CIS—with a surplus of around \$6.7 billion in 2011—although there is no breakdown to help identify its strong subcomponents. A large part of business process outsourcing (BPO) services falls within CIS. Based on the Philippine government classification, BPO includes the provision of information- and technology-enabled services.¹

The BPO sector comprises call centers, back office support, information technology outsourcing, engineering services outsourcing, transcription, and animation. Of these, call centers in the Philippines account for 80% of the BPO business. Part of the reason for their success is low cost and reliable telecommunications; affordable real estate; up to 100% foreign ownership; a large pool of young, English speaking graduates; and some tax incentives.

¹Bangko Sentral ng Pilipinas. 2010. *Results of the 2010 Survey of Information Technology-Business Process Outsourcing (IT-BPO) Services*. http://www.bsp.gov.ph/downloads/Publications/2012/ICT_2010.pdf

Figure 22: Trade in Services¹—Aggregate of Key Asian Economies²
(% of world trade)

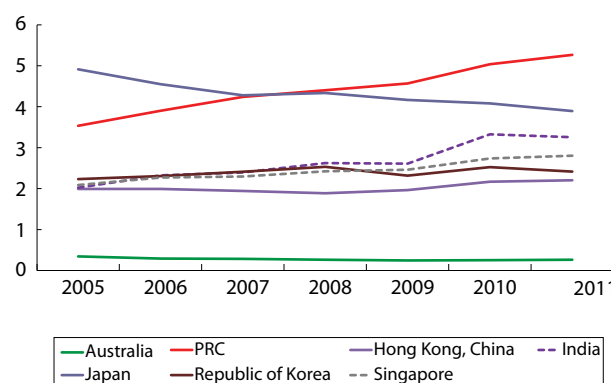


¹Exports plus imports.

²Australia; the People's Republic of China; Hong Kong, China; India; Japan; the Republic of Korea; and Singapore.

Source: ADB calculations using data from *Balance of Payments Statistics*, International Monetary Fund; and CEIC.

Figure 23: Trade in Services¹—Key Asian Economies
(% of world trade)



PRC = People's Republic of China.

¹Exports plus imports.

Source: ADB calculations using data from *Balance of Payments Statistics*, International Monetary Fund; and CEIC.

The composition of Asia's services trade is changing toward modern services.

The region's trade in modern services has grown faster than trade in traditional services (**Figure 24**). In the 7 years to 2011, modern services grew an average 13.2% per year compared with 9.6% for traditional services. Thus, the share of traditional services declined from 65.4% in 2005 to 60.8% in 2011. During the same period, the share of modern services increased from 34.6% to 39.2%.

Similar to goods trade, trade in services is income elastic; but more resilient than trade in goods, thereby cushioning the region from global shocks.

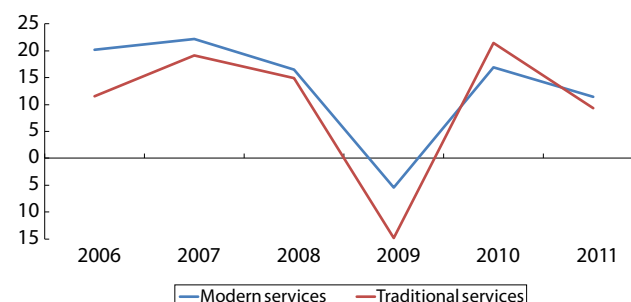
In the aftermath of the 2008/09 global financial crisis, services trade in Asia fell 10.9% in 2009 (**Figure 25**). But the decline for modern services trade was even smaller (5.4%), well below the decline in goods trade (18.4%). Generally, the provision of traditional services—particularly transport, travel, and services inputs to the production of goods—are directly linked to the flow of goods and people in the region. They can be sensitive to economic shocks, making them volatile. Travel is also quite cyclical, largely discretionary, and the first to be cut when there is an economic crunch. On the other hand, trade in modern services such as insurance, communication, and telecommunications, and computer and information are more robust and tend to remain stable. Studies show that services such as bookkeeping are “necessities,” irrespective of the economic situation.¹⁷ Also, services trade/production is generally less reliant on external finance than goods. Thus, they continue regardless of financial volatility.

Financial Integration

The 2008/09 global financial crisis severely affected Asian financial markets; but it also accelerated the pace of the region's financial integration.

The 2008/09 global financial crisis and eurozone debt crisis in 2011 saw Asia's stock prices, bond yields, and exchange rates fluctuating wildly, usually in tandem

Figure 24: Growth of Traditional and Modern Services Trade¹—Asia² (y-o-y, %)



¹Exports plus imports. **Modern services** include financial services covering financial intermediation and auxiliary services; insurance and pensions; telecommunications, computer, and information; charges for the use of intellectual property or royalties and license fees; other business including research and development, professional and management consulting; and technical, trade-related, and other business services. **Traditional services** include transport; travel; construction; personal, cultural, and recreational services; government goods and services; manufacturing services on physical inputs owned by others such as processing, assembly, labeling or packing; and maintenance and repair services.

²Asia includes all subregions. Central Asia does not include Tajikistan, Turkmenistan, and Uzbekistan. East Asia does not include Taipei, China. South Asia does not include Afghanistan, Bhutan, and the Maldives. Southeast Asia does not include Brunei Darussalam and Viet Nam. Source: ADB calculations using data from *Balance of Payments Statistics*, International Monetary Fund; and CEIC.

Figure 25: Total Trade Growth¹—Asia² (y-o-y, %)



¹Exports plus imports.

²Asia includes all subregions. Central Asia does not include Tajikistan, Turkmenistan, and Uzbekistan. East Asia does not include Taipei, China. South Asia does not include Afghanistan, Bhutan, and the Maldives. Southeast Asia does not include Brunei Darussalam and Viet Nam.

³Modern services includes financial services covering financial intermediation and auxiliary services; insurance and pensions; telecommunications, computer, and information; charges for the use of intellectual property or royalties and license fees; other business including research and development, professional and management consulting; and technical, trade-related, and other business services.

Source: ADB calculations using data from *Balance of Payments Statistics*, International Monetary Fund; and CEIC.

with global financial developments. This was due to the close links between Asia's financial markets and global markets. However, there are also signs that financial integration in Asia has been deepening in the aftermath of the 2008/09 global financial and eurozone debt crises. The progress of financial integration can be measured by an assessment of both price and volume indicators. When markets are financially integrated, prices for similar assets—those with similar expected risk-adjusted returns—should converge from capital flows and arbitrage; so the greater the financial integration, the greater the co-movement in prices. And this would be

¹⁷ I. Brochert and A. Matoo. 2009. The Crisis-Resilience of Services Trade. *Poverty Reduction and Economic Management Network Notes*. No. 135. Washington, DC: the World Bank.

typically accompanied by an increase in the share of financial assets traded within the region and held by regional market participants.

Cross-market dispersions of daily equity returns and 10-year bond yield spreads relative to US Treasury bond yields are used in this analysis as price indicators of financial integration. Lower dispersion implies that markets are integrating—as risk-adjusted asset prices converge. To help identify whether variations of asset prices are driven more by global or regional shocks, vector autoregressions (VAR) are estimated to decompose variances in asset prices (**Box 5**).

Price co-movements among Asian equities increased since the early 2000s, with some acceleration in 2009 and 2012, mostly due to the global shocks.

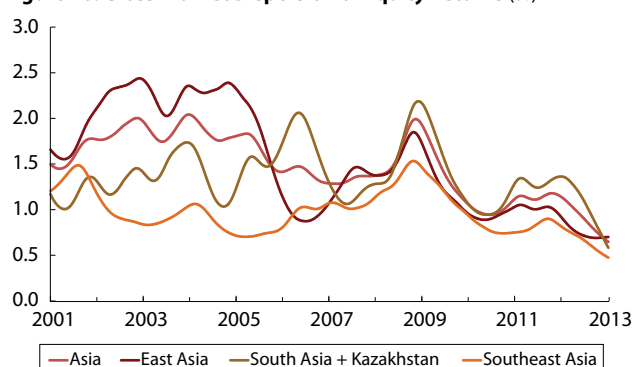
Asian daily stock returns have converged over the past few years, with cross-market dispersion of equity returns lower in 2012 compared with 2001 throughout the region and its subregions (**Figure 26**). The increase in co-movements accelerated (i) following the September 2008 Lehman Brothers collapse, (ii) as political bickering over the US public debt ceiling rattled markets in mid-2011, and (iii) in 2012, when worries over the eurozone debt crisis were at their peak.

While equity returns are largely driven by local conditions, they are increasingly affected by regional and global events. The VAR analysis suggests that shocks emanating from US markets in 2009 and 2012, when global financial markets were rattled, accounted for more than 20% of the total variations in Asian stock market performance (**Figure 27**). Shocks from Japan and other Asian economies had much less impact. However, the rising share of regional shocks in explaining variations in equity returns also suggests that the region's financial markets are integrating further. There are some differences across Asia's subregions (**Table 5**). East Asia's markets have the strongest local bias—given the PRC's stock markets' unique behavior. Southeast Asia—which is integrated heavily in global production networks—is least susceptible to local shocks. South Asia's stock prices are largely affected by local events (explaining more than 75% of total variations), implying these markets are not yet well-integrated with regional and global markets.

Co-movements in Asia's bond yield spreads, however, have not changed much since 2000, indicating that markets may have become more risk sensitive to an individual economy's fundamentals.

After converging until mid-2007, Asia's bond yield spreads diverged following the 2008/09 global financial crisis (**Figure 28**). Yet, bond yield spreads converged within subregions or among economies holding similar macroeconomic fundamentals. For example, yield spreads converged among the middle income ASEAN-4 (Indonesia, Malaysia, the Philippines, and Thailand), which possess similar fundamentals. The same was true within East Asia and South Asia subregions. East Asia economies generally have stable inflation and current

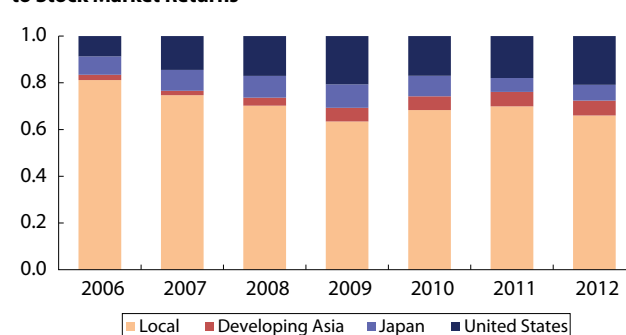
Figure 26: Cross-Market Dispersion of Equity Returns (%)



Note: Cross-market standard deviation of daily stock market returns, de-trended using Hodrick-Prescott (HP) filter. Asia includes East Asia, South Asia plus Kazakhstan, and Southeast Asia. East Asia includes the People's Republic of China; Hong Kong, China; Japan; the Republic of Korea; Mongolia; and Taipei, China. South Asia includes Bangladesh, India, Pakistan, and Sri Lanka. Southeast Asia includes Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam. Data until 8 January 2013.

Source: ADB calculations using data from Bloomberg.

Figure 27: Annual Average of Originations of Shocks to Stock Market Returns¹



¹Variance decomposition of local shocks and external shocks from Asia, Japan, and the United States (US) measured using vector autoregression (VAR) (Refer to Box 5). Annual figure is computed by averaging the mean of variances of countries within the subregion. Shock from local source is the aggregate of country—country variance; shock from Asia is the aggregate of Asia—country variance. Developing Asia includes the People's Republic of China; Hong Kong, China; India; Indonesia; Kazakhstan; the Republic of Korea; Malaysia; the Philippines; Pakistan; Singapore; Sri Lanka; Taipei, China; Thailand; and Viet Nam.

Source: ADB calculations using data from Bloomberg.

Box 5: Using Vector Autoregression Models to Identify the Origination of Shocks

Assessing capital mobility from price movements is difficult, given that price merely skims the surface of complex and fungible money flows.¹ One of the difficulties of using price co-movements is that it does not distinguish between co-movements driven by either regional or global factors. Co-movements may increase if there is a strong global shock, even without increasing capital mobility within a region. To address this limitation, it is necessary to identify the origins of shocks to help interpret price co-movement indicators. If regional shocks account for a larger share of variations (relative to global shocks) in an economy's asset price movements, then that market is likely regionally integrated. In contrast, price movements in a market integrated more globally will likely respond more to global shocks. Vector autoregression (VAR) can help identify the source of shocks.

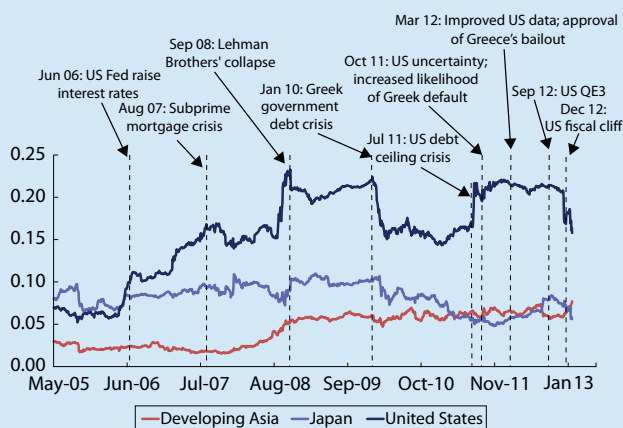
Variances in asset prices are decomposed by using VAR for each economy to identify originations of shocks. The results for each economy are aggregated into a regional index weighted by market capitalization, and the annual average for each source of shocks is then computed. The specification of the VAR model for each country is the following:

$$y_t = c + A_1 y_{t-1} + A_2 y_{t-2} + \dots + A_p y_{t-p} + \varepsilon_t$$

where y_t is a vector of four variables: the daily returns on assets (equity or 10-year government bonds) of (i) the United States (US), (ii) Japan, (iii) other Asia (excluding Japan and the individual economy), and (iv) the individual economy. A_p is a $1 \times k$ vector of coefficients to be estimated, where p and k are the number of lags and variables, respectively. The US variable is used as a proxy for global prices. The return of "other Asia" is calculated by aggregating the daily returns of other Asian economies weighted by market capitalization. Lags are determined based on several information criteria. The order of impulse response functions is set as "US–Japan–other Asia–individual economy".² The samples were rolled from 1 January 2005 to 10 January 2013 within a 364-day window to see the time-varying trend of shock origination.

¹One of the harshest criticisms of using price indicators is the argument that price may not have a direct relationship with capital mobility, and hence, cannot assess links between economies. However, price at least reflects an investor's belief on how an economy connects to others.

Comparison of Shocks from Asia, Japan, and the United States to Equity Markets in Developing Asia¹



¹Variance decomposition of external shocks from developing Asia, Japan, and the United States (US) using vector autoregression (VAR). The value is computed by averaging the daily variances of each economy in developing Asia (the People's Republic of China; Hong Kong, China; India; Indonesia; Kazakhstan; the Republic of Korea; Malaysia; the Philippines; Pakistan; Singapore; Sri Lanka; Taipei, China; Thailand; and Viet Nam). Data until 10 January 2013. Source: ADB calculations using data from Bloomberg.

Variance decomposition analysis can show how much of the forecast error variance of each economy's asset prices is explained by shocks from the US, Japan, and the rest of Asia. The results—before computing the annual average on the originations of shocks to Asian equity returns—shows that a series of global events closely influenced Asian equity prices (**Box figure**). Shocks originating from the US began rising in early 2007 as the subprime loan problem came to light, culminating in September 2008 when Lehman Brothers collapsed. The second rise appeared in mid-2011, when the US debt ceiling grabbed the headlines and the eurozone debt crisis intensified. It only declined after the fiscal cliff was narrowly averted in January this year. These results also suggest that an increase in price co-movements of Asian asset prices in 2009 and 2012 were accented by strong global shocks.

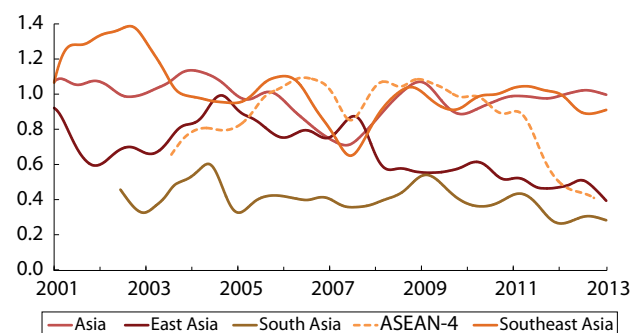
²One of the potential weaknesses of this indicator lies in this ordering. The reduced model assumes that a variable in the late order does not affect a variable in the former position. Although it may be natural to assume that the US shocks affect Asia but not vice-versa, more research is needed to examine the validity of this assumption as well as to explore better restrictions.

Table 5: Annual Average of Variance Decomposition of Shocks to Stock Market Returns—Asian Subregions¹

	Local Shock							United States Shock						
	2006	2007	2008	2009	2010	2011	2012	2006	2007	2008	2009	2010	2011	2012
East Asia	0.78	0.84	0.76	0.71	0.73	0.73	0.61	0.09	0.06	0.09	0.10	0.10	0.12	0.16
Southeast Asia	0.61	0.46	0.46	0.39	0.46	0.52	0.41	0.21	0.37	0.35	0.37	0.31	0.31	0.40
South Asia plus Kazakhstan	0.78	0.74	0.66	0.65	0.72	0.77	0.75	0.13	0.18	0.19	0.23	0.18	0.13	0.17

¹Variance decomposition of local shocks and external shocks in Asia, Japan, and the United States measured using vector autoregression (VAR) (Refer to Box 5). Annual average is computed by taking the mean of variances of countries within the subregion. East Asia includes Hong Kong, China; the People's Republic of China; the Republic of Korea; and Taipei, China. South Asia includes India, Pakistan, and Sri Lanka. Southeast Asia includes Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam.

Source: ADB calculations using data from Bloomberg.

Figure 28: Coefficient of Variation of 10-Year Bond Yield Spreads

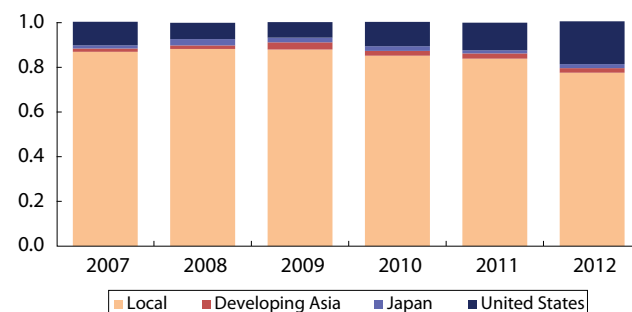
Note: Coefficient of variation of 10-year government bond yield spreads over benchmark United States Treasuries, de-trended using Hodrick-Prescott (HP) Filter. Asia includes East Asia, South Asia, and Southeast Asia. East Asia includes the People's Republic of China; Hong Kong, China; Japan; the Republic of Korea; and Taipei, China. South Asia includes India, Pakistan, and Sri Lanka. ASEAN-4 includes Indonesia, Malaysia, the Philippines, and Thailand. Southeast Asia includes ASEAN-4 plus Singapore and Viet Nam. Data until 9 January 2013.

Source: ADB calculations using data from Bloomberg.

account surpluses. By contrast, most of South Asia suffers from high inflation and high current account and fiscal deficits. The difference in fundamentals between these subregions drove the price divergence within Asia as a whole. As would seem intuitive, relatively healthier economies attracted more foreign investment, while economies with weak fundamentals received less. For example, if Singapore and Viet Nam are added to the ASEAN-4 grouping, then yield spreads diverge.

Asian bond yields are mostly affected by local events, though US shocks also had spillover effects on Asian bond yields.

In general, domestic shocks drive local bond yields, while global shocks have less impact on bond yields than on equity returns (**Figure 29**). However, since mid-2011, the impact of US shocks on Asian bond yields was much greater across bond markets in all Asian subregions (**Table 6**). This may be due to the severity of global risks—the uncertainty over the US recovery and worries

Figure 29: Annual Average of Originations of Shocks to 10-Year Bond Yields¹

¹Variance decomposition of local shocks and external shocks from Asia, Japan, and the United States measured using vector autoregression (VAR) (Refer to Box 5). Annual figure is computed by averaging the mean of variances of countries within the subregion. Shock from local source is the aggregate of country—country variance; shock from Asia is the aggregate of Asia—country variance. Developing Asia includes the People's Republic of China; Hong Kong, China; India; Indonesia; Kazakhstan; the Republic of Korea; Malaysia; the Philippines; Pakistan; Singapore; Sri Lanka; Taipei, China; Thailand; and Viet Nam. Data for Viet Nam beginning in November 2007 and for Sri Lanka in September 2009.

Source: ADB calculations using data from Bloomberg.

about the eurozone. Local bond markets have shown vulnerability to the ongoing eurozone debt crisis as the crisis impact on mature markets is transmitted into Asia's domestic asset markets.¹⁸

After the 2008/09 global financial crisis, intra-Asian debt holdings grew quickly while intra-Asian equity holdings declined, due to heightened risk aversion, Asia's robust growth, and aggressive quantitative easing in the US and Europe.

Deepening financial integration can also be measured by volume indicators, which track the amount of Asian assets held by Asian investors.¹⁹ The ratio of Asian assets

¹⁸ADB. 2012. *Asia Bond Market Monitor November 2012*. Manila.

¹⁹Data for equity and debt security holdings are sourced from the IMF's *Coordinated Portfolio Investment Survey*, which covers most Asian economies as investment destinations, but does not cover some important investor economies such as the PRC and Taipei, China.

Table 6: Annual Average of Variance Decomposition of Shocks to 10-Year Bond Yields—Asian Subregions¹

	Local Shock						United States Shock					
	2007	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
East Asia	0.79	0.80	0.92	0.84	0.93	0.80	0.15	0.16	0.06	0.15	0.05	0.11
Southeast Asia ²	0.98	0.95	0.97	0.91	0.81	0.80	0.01	0.01	0.01	0.05	0.16	0.17
South Asia plus Kazakhstan ³	–	–	0.95	0.93	0.93	0.75	–	–	0.03	0.03	0.05	0.24

– = data unavailable.

¹Variance decomposition of local shocks and external shocks from Asia, Japan, and the United States (US) measured using vector autoregression (VAR) (Refer to Box 5). Annual figure is computed by averaging the mean of variances of countries within the subregion. East Asia includes the People's Republic of China; Hong Kong, China; the Republic of Korea; and Taipei, China. South Asia includes India, Pakistan, and Sri Lanka. Southeast Asia includes Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam. Data availability for Viet Nam beginning in November 2007 and for Sri Lanka in September 2009.

²Variance decomposition of local and US shocks in Southeast Asia for 2007 starts November.

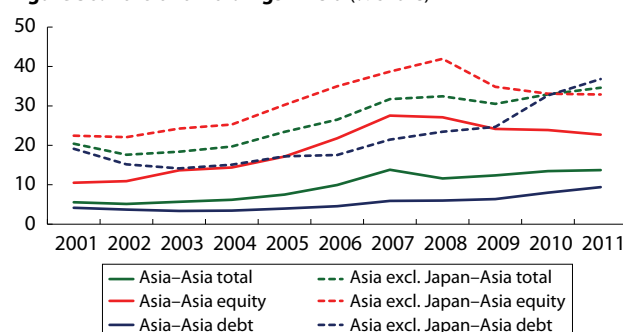
³Variance decomposition of local and US shocks in South Asia + Kazakhstan for 2009 starts September.

Source: ADB calculations using data from Bloomberg.

to total cross-border assets held by Asian investors show that—despite a drop in 2008 due to heightened global risk aversion—intra-Asian holdings increased steadily (**Figure 30**). Intra-Asian bond holdings rose to 9.4% in 2011 from 5.9% in 2007. In contrast, intra-Asian equity holdings fell from a 2007 peak of 27.6% to 22.7% by 2011—a substantial decline even accounting for changes in stock price valuations.²⁰ Excluding Japan (with its US investment bias), intra-Asian debt holdings jumped from 21.4% in 2007 to 36.8% in 2011. Excluding Japan, the level of intra-Asian debt holdings exceeded that of intraregional equity holdings in 2011.

There are two reasons why intraregional asset holdings are rising and shifting from equities to bonds. One is the heightened global risk aversion following the 2008/09 global financial crisis—which shifted investments away from Asian equities to less riskier bonds. The heightened risk also drove investors away from Asia in general, with intraregional bond holdings flat in 2008.

Massive monetary easing in the US and Europe—and the relatively robust growth of Asian economies despite the global slowdown—are key factors behind the increase of intra-Asian asset holdings, particularly bonds. The near-zero US and eurozone policy rates increased relative returns on Asian assets compared with US and eurozone bonds. Asia's robust and resilient economic growth also made Asian assets increasingly attractive. This created expectations among investors of further Asian currency appreciation and lower risk premiums. Thus, higher returns and further currency appreciation, coupled with lower risk premiums, are driving Asian investors to purchase Asian assets—particularly bonds—resulting in higher intra-Asian asset holdings.

Figure 30: Portfolio Holdings—Asia (% share)

Note: Asia-Asia total refers to the total portfolio holdings (equity and debt securities) in Asia divided by the global portfolio holdings of Asia. Asia includes East Asia, Central Asia, South Asia, Southeast Asia, and the Pacific. Australia and New Zealand are excluded as source and destination due to differences in the structure of their economies with the rest of Asia. Countries included in Asia as recipient differ from that of Asia as source due to data unavailability. In particular, data for the People's Republic of China as source is unavailable. Source: ADB calculations using data from *Coordinated Portfolio Investment Survey*, International Monetary Fund. Accessed 19 December 2012.

Increased investment in East Asia's debt was a key driver behind the rise in intra-Asian bond holdings following the 2008/09 global financial crisis.

Rising intra-Asian bond holdings was driven by increased intraregional investment to East Asia—particularly to the PRC and Japan (**Figure 31**). It appears that much of the investment flow to Japan was considered “flight to safety,” as Japan's bond market is deep and liquid, with the yen strong prior to the end of 2012. The increased investment in the PRC, in contrast, was more of a “search for yield,” driven by expected renminbi appreciation and relatively high bond yields. The PRC's gradual internationalization of the renminbi also helped Asian investors purchase CNY-denominated assets.²¹

²⁰The difference in equity valuations can change intra-Asian equity ratios even if the level of intra-Asian stock holdings remains the same.

²¹ADB. 2012. Macroeconomic and Financial Cooperation. *Asian Economic Integration Monitor* July 2012. Manila.

The share of Asian economies' international borrowing from Japanese banks increased through the third quarter of 2012, largely replacing European exposure.

Another volume indicator on international banking claims shows developing Asia's increasing reliance on Japanese lending, with Southeast Asia receiving most. Japanese claims on Asia's liabilities to foreign banks increased from 11.1% in the first quarter of 2005 to 14.6% in the third quarter of 2012 (**Figure 32**). Declines

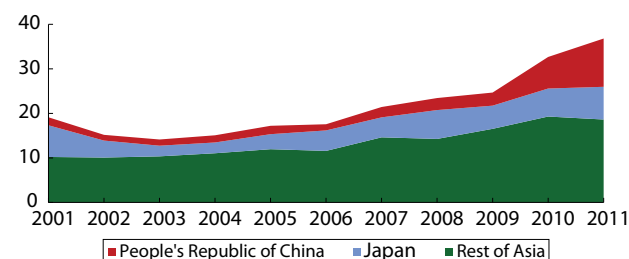
in the share of European bank exposure (excluding the United Kingdom) over the same period implies that the increased Japanese share in effect eased the impact of Europe's deleveraging. The share of Asian loans in Japanese bank portfolios increased steadily from 6.3% in the first quarter of 2005 to 11.0% in the third quarter of 2012.

Macroeconomic Interdependence

A trend toward greater co-movement of consumption across the region's economies is a sign of increased macroeconomic interdependence.

There has been a deepening of financial development and integration in Asia over the past two decades. One of the expected benefits would be to allow more efficient risk sharing across countries. When economies have the opportunity to invest in each other's financial assets, they can more easily diversify risk. As a result, consumption patterns can be smoothed out.

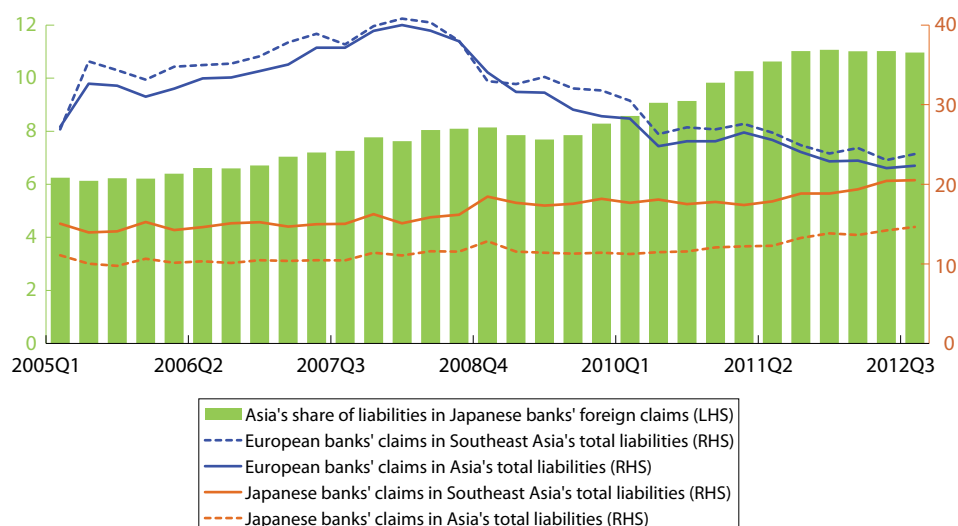
Figure 31: Total Debt Securities—Asia excl. Japan
(by investment destination, % share)



Note: Asia includes East Asia, Central Asia, South Asia, Southeast Asia, and the Pacific. Australia and New Zealand are excluded due to differences in the structure of their economies with the rest of the countries in Asia. Countries included in Asia as recipient differ from that of Asia as source due to data unavailability. In particular, data for the People's Republic of China as source is not available.

Source: ADB calculations using data from *Coordinated Portfolio Investment Survey*, International Monetary Fund. Accessed 19 December 2012.

Figure 32: Japanese and European¹ Banks' Foreign Claims in Asia² (% share to total claims³)



LHS = left-hand scale, RHS = right-hand scale.

¹European banks (excluding British banks) based on Bank for International Settlements (BIS) definition.

²Asia excludes Australia, Japan, and New Zealand due to differences in the structure of their economies with the rest of Asia.

³Total foreign claims of banks from 22 BIS reporting economies.

Source: ADB calculations using data from Bank for International Settlements (Table 9D). Data accessed on 20 February 2013.

Economic models predict that in a world without trade and financial integration, consumption would be highly correlated with domestic output.²² However, when markets become integrated, risk sharing happens. And this should help countries sever the link between movements in domestic output and domestic consumption. In a world with perfect risk sharing, domestic consumption should be affected only by global or regional output shocks—risks that cannot be diversified away. As a result, there would be little or no link between domestic consumption and domestic output. Instead, there would be significant co-movements of consumption across countries, driven by a common regional or global shock. Further, fluctuations in consumption would be more highly correlated with global or regional output, than with national output.

This section analyzes the four facets of consumption and output behavior that would result from risk sharing. Of course, perfect risk sharing in Asia's economies is unlikely. However, given the general trend toward greater financial integration in the region, some trends toward greater risk sharing should appear. An increase in risk sharing would show (i) higher cross-country correlations of consumption, (ii) that these cross-country consumption correlations are higher than those of cross-country output correlations, (iii) lower co-movements between domestic consumption and domestic output, and (iv) domestic consumption that is more highly correlated with regional or global output than with national output.

The analysis uses a sample of nine economies from East Asia and Southeast Asia, covering 1993–2011.²³ The sample is limited to these economies because of data requirements (a sufficient length of quarterly data on per capita GDP and consumption). The data series for per capita output and consumption are seasonally adjusted and converted to constant 2005 US dollars before deriving the quarter-on-quarter growth rates, which form the basis of the analysis. The impact of major shocks to the region's economies is taken into account and the sample period is thus divided into four sub-periods: 1993Q1–1996Q4 and 2000Q1–2007Q2 are “calm” periods without major shocks; while 1997Q1–1999Q4 and 2007Q3–2011Q4 are “crisis” periods, when the region was affected by the 1997/98 Asian financial crisis and 2008/09 global financial crisis, respectively.

Cross-economy correlation of private consumption growth is rising; but cross-economy correlation of output growth is rising faster.

The results also show that cross-economy correlation of private consumption growth across the sample increased between 1993Q1–1996Q4 and 2007Q3–2011Q4 (**Table 7**).²⁴ At first glance, this would seem to support greater risk sharing in the region. However, the analysis shows that private consumption correlations tend to increase during periods of crisis in line with the rise in output growth correlations. This suggests that the latter is the likely source of rising consumption correlation, not risk sharing. Comparing 1993Q1–1996Q4 with 2000Q1–2007Q2—both non-crisis periods—the results are more mixed. Some economies—such as the PRC, the Republic of Korea, the Philippines, Singapore, and Thailand—had an increase in the median of the correlation consumption, while others like Hong Kong, China and Indonesia saw their cross-country correlations of consumption fall.

One of the factors causing higher consumption correlations could be that output correlations have been increasing in the region with the increase in trade integration (**Table 8**).²⁵ The results show that there has been an increase in correlation in output since the start of the sample period. In particular, correlations of output tend to be much higher during the crisis periods (1997Q1–1999Q4 and 2007Q3–2011Q4). But even comparing the two non-crisis periods (1993Q1–1996Q4 and 2000Q1–2007Q2), there was a significant increase in the correlation of output. Therefore, some of the observed increases in consumption correlations could be due to higher output correlations. Interestingly, the increase in correlations in output tends to be higher than the correlations in consumption. This suggests there has been limited progress in risk sharing (**Table 9**). Some of the rise in output correlations in the last sub-period is due to the effects of the 2008/09 global financial crisis, which were transmitted worldwide.

²²See S. Kim, S.H. Kim, and Y. Wang. 2006. Financial Integration and Consumption Risk Sharing in East Asia. *Japan and the World Economy*. 18 (2). pp. 143–157.

²³The People's Republic of China; Hong Kong, China; Indonesia; the Republic of Korea; Malaysia; the Philippines; Singapore; Taipei, China; and Thailand.

²⁴Results for private consumption are presented here to separate out the effect of public consumption.

²⁵The decline in investment rates across many of the region's economies following the 1997/98 Asian financial crisis may also have contributed to the increase in the correlations of consumption.

Table 7: Cross-Economy Correlation of Private Consumption Growth

	PRC	Hong Kong, China	Indonesia	Korea, Rep. of	Malaysia	Philippines	Singapore	Taipei, China	Thailand
Full sample	0.04	0.32	0.50	0.57	0.53	0.44	0.56	0.45	0.59
1993Q1–1996Q4	-0.12	0.27	0.21	0.08	0.25	-0.12	0.29	0.35	0.25
1997Q1–1999Q4	0.27	0.48	0.73	0.65	0.83	0.71	0.71	0.71	0.66
2000Q1–2007Q2	0.14	0.14	0.15	0.38	0.25	0.23	0.43	0.35	0.50
2007Q3–2011Q4	0.18	0.50	0.45	0.64	0.35	0.45	0.62	0.55	0.42

PRC = People's Republic of China.

Note: Figures are the median of the bilateral cross-economy correlations across the sample of nine economies.

Source: ADB calculations using data from *International Financial Statistics*, International Monetary Fund; and national sources for Taipei, China.

Table 8: Cross-Economy Correlation of Output Growth

	PRC	Hong Kong, China	Indonesia	Korea, Rep. of	Malaysia	Philippines	Singapore	Taipei, China	Thailand
Full sample	0.04	0.36	0.56	0.64	0.67	0.54	0.64	0.56	0.65
1993Q1–1996Q4	-0.01	0.02	-0.02	0.27	0.30	-0.11	0.11	0.33	0.13
1997Q1–1999Q4	0.25	0.53	0.70	0.68	0.82	0.75	0.78	0.71	0.71
2000Q1–2007Q2	0.24	0.25	0.33	0.47	0.36	0.37	0.55	0.44	0.59
2007Q3–2011Q4	0.14	0.61	0.63	0.70	0.77	0.55	0.77	0.77	0.63

PRC = People's Republic of China.

Note: Figures are the median of the bilateral cross-economy correlations across the sample of nine economies.

Source: ADB calculations using data from *International Financial Statistics*, International Monetary Fund; and national sources for Taipei, China.

The correlation of domestic output growth to domestic consumption growth remains high.

Correlations between output growth and consumption growth in each economy are examined to show the correlation of total consumption and private consumption with domestic output for the full sample period (**Table 10**). The correlation for each economy was calculated. Then the cross-sectional medians of the correlations for each group of economies were determined. The result was that the median correlation between both total consumption and private consumption with domestic output are very high—close to unity for all economic groups. There is no clear trend of an increase in correlations over time for Asian economies. However, correlations tend to fall during non-crisis periods and increase during crisis periods. This effect is stronger for the 1997/98 Asian financial crisis than the 2008/09 global financial crisis. For G7 economies, there was little change in the correlations. To check for the robustness of these results, correlations over a 3-year period for each group were calculated to check if the results are sensitive to the specific choice of time periods. The results are broadly similar.

The correlation of domestic consumption growth with Asian output growth was driven mainly by co-movements between domestic output and Asian output.

The correlations between output and consumption growth rates were then examined in each economy with respect to the growth rates of an aggregate of Asian economies (**Table 11**).²⁶ Over the entire sample, the economies tended to have similar correlations between domestic consumption and Asian output, and between domestic output and Asian output. This suggests that the correlation with regional output is not driven by risk sharing, but by the co-movement of domestic output with regional output. This is particularly true during crisis years, not as much during “calm” years. Further, the correlations are much lower than 1.0. All these suggest that risk sharing is quite limited within Asia.

²⁶For each economy, computed as the aggregate of the other Asian economies in the sample.

Table 9: Difference Between Cross-Economy Correlation of Consumption Growth and Output Growth

	PRC	Hong Kong, China	Indonesia	Korea, Rep. of	Malaysia	Philippines	Singapore	Taipei,China	Thailand
Full Sample	-0.01	-0.04	-0.06	-0.07	-0.14	-0.10	-0.07	-0.11	-0.06
1993Q1–1996Q4	-0.11	0.25	0.23	-0.19	-0.05	-0.01	0.17	0.02	0.12
1997Q1–1999Q4	0.02	-0.05	0.02	-0.03	0.01	-0.04	-0.07	0.00	-0.04
2000Q1–2007Q2	-0.10	-0.10	-0.18	-0.09	-0.11	-0.14	-0.12	-0.09	-0.09
2007Q3–2011Q4	0.05	-0.11	-0.18	-0.06	-0.41	-0.10	-0.15	-0.22	-0.20

PRC = People's Republic of China.

Note: Figures are the median of the bilateral cross-economy correlation of consumption growth minus bilateral cross-economy correlation of output growth across the sample of nine economies. Source: ADB calculations using data from *International Financial Statistics*, International Monetary Fund; and national sources for Taipei,China.

Table 10: Correlation of Domestic Consumption Growth and Domestic Output Growth

	Total Consumption				Private Consumption			
	Asia	East Asia	Southeast Asia	G7	Asia	East Asia	Southeast Asia	G7
Full Sample	0.94	0.91	0.94	0.99	0.94	0.95	0.93	0.98
1993Q1–1996Q4	0.62	0.85	0.33	0.99	0.73	0.86	0.55	0.98
1997Q1–1999Q4	0.98	0.89	0.99	0.99	0.99	0.92	0.99	0.97
2000Q1–2007Q2	0.84	0.83	0.89	0.99	0.85	0.82	0.88	0.98
2007Q3–2011Q4	0.87	0.95	0.82	0.99	0.88	0.96	0.81	0.99

G7 = Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

Note: Calculated as median correlation for each regional group. Asia includes East Asia and Southeast Asia. East Asia includes the People's Republic of China; Hong Kong, China; the Republic of Korea; and Taipei,China. Southeast Asia includes Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

Source: ADB calculations using data from *International Financial Statistics*, International Monetary Fund; and national sources for Taipei,China.

Table 11: Correlation of Domestic Output Growth and Consumption Growth with Asian Output Growth

	Domestic Output				Total Consumption				Private Consumption			
	Asia	East Asia	Southeast Asia	G7	Asia	East Asia	Southeast Asia	G7	Asia	East Asia	Southeast Asia	G7
Full Sample	0.47	0.34	0.58	0.14	0.48	0.32	0.51	0.12	0.49	0.36	0.57	0.24
1993Q1–1996Q4	-0.15	-0.18	-0.03	-0.35	0.22	0.23	0.21	-0.38	0.36	0.14	0.45	0.20
1997Q1–1999Q4	0.85	0.73	0.85	0.19	0.82	0.71	0.84	0.22	0.66	0.54	0.78	0.32
2000Q1–2007Q2	0.61	0.43	0.64	0.26	0.41	0.34	0.41	0.22	0.35	0.38	0.32	0.53
2007Q3–2011Q4	0.52	0.51	0.57	0.73	0.50	0.50	0.52	0.72	0.33	0.23	0.44	0.50

G7 = Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

Note: Calculated as median correlation for each regional group. Asia includes East Asia and Southeast Asia. East Asia includes the People's Republic of China; Hong Kong, China; the Republic of Korea; and Taipei,China. Southeast Asia includes Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

Source: ADB calculations using data from *International Financial Statistics*, International Monetary Fund; and national sources for Taipei,China.

Correlations of domestic consumption growth with global output are lower—as Asian economic growth is more correlated with regional than global growth.

Correlations of consumption growth rates with global output were also examined (**Table 12**).²⁷ The correlation

of domestic consumption growth with world output (0.39) is lower than the correlation with Asian output (0.48). This may imply that there is more risk sharing within Asia than with the rest of the world. However, this is not likely the case—as the correlation of domestic output growth with global output (0.43) is also lower than the correlation with Asian output (0.47). This generally tracks the increase in correlation of domestic output with global output. The correlations rose markedly during the crisis periods, especially during the 2008/09 global financial crisis.

²⁷The output of the G7 economies, which accounted for 48% of global output in 2011, is taken as a proxy for global output.

Table 12: Correlation of Domestic Output Growth and Consumption Growth with World Output Growth

	Domestic Output				Total Consumption				Private Consumption			
	Asia	East Asia	Southeast Asia	G7	Asia	East Asia	Southeast Asia	G7	Asia	East Asia	Southeast Asia	G7
Full Sample	0.43	0.33	0.44	0.67	0.39	0.36	0.40	0.66	0.34	0.30	0.41	0.68
1993Q1–1996Q4	0.39	0.23	0.39	0.25	0.34	0.34	0.34	0.25	0.28	0.24	0.31	0.36
1997Q1–1999Q4	0.35	0.33	0.41	0.70	0.35	0.32	0.36	0.55	0.41	0.52	0.36	0.61
2000Q1–2007Q2	0.37	0.22	0.43	0.80	0.35	0.21	0.37	0.78	0.37	0.24	0.41	0.76
2007Q3–2011Q4	0.70	0.68	0.70	0.81	0.61	0.68	0.58	0.82	0.61	0.62	0.60	0.83

G7 = Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

Note: Calculated as median correlation for each regional group. Asia includes East Asia and Southeast Asia. East Asia includes the People's Republic of China; Hong Kong, China; the Republic of Korea; and Taipei, China. Southeast Asia includes Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

Source: ADB calculations using data from *International Financial Statistics*, International Monetary Fund; and national sources for Taipei, China.

Another implication of risk sharing is that there would be lower correlation between domestic consumption and domestic output than between domestic consumption and regional or global output. Comparing the results for the full sample, the correlations of domestic consumption with domestic output (see Table 10) are much higher than those of domestic consumption with Asian (see Table 11) or global output (see Table 12). Based on a regression model, there has been some improvement in risk sharing in the region over time, although it remains low (**Box 6**).

These results suggest that there has been limited consumption risk sharing in Asia.

While there has been some increase in risk sharing over time, it appears to be quite small. While cross-country correlations of consumption tend to be quite high, they reflect the closer co-movement of Asian economies with regional and global output. Some of the increases over time of consumption correlations are also attributable to greater integration with the global economy. Also, cross-country correlations of consumption are about the same as cross-country correlations of output. Further, domestic consumption is highly correlated with domestic output, much higher than the correlation with regional or global output. All the above shows little evidence of consumption risk sharing in the region.

The results consistently show that risk sharing continues to be low in Asia. The region has witnessed a rise in cross-economy correlations in consumption growth, driven more by an increase in correlations of output growth across the region. The results also show that correlations between domestic consumption and domestic output growth remain high, suggesting little diversification of risks across the region. In addition, correlations between domestic consumption and Asian output seem not to be driven by risk sharing, but rather by the co-movement of domestic output with regional output. Finally, correlations between domestic growth and global output growth are generally lower than with regional growth, except during the 2008/09 global financial crisis. While there are economies—like Singapore and Malaysia—that fare better, consumption growth in Asia still largely track movements in domestic output growth. Progress in financial integration in the region does not improve cross-economy smoothing of consumption. Nevertheless, the region has made progress in cooperative risk sharing—such as the doubling of funds in the Chiang Mai Initiative Multilateralization (CMIM), which helps pool resources in ASEAN+3 to mitigate the impact of crises in individual countries.²⁸

²⁸See footnote 21.

Box 6: Risk Sharing in Asia

A test was conducted to determine the presence of risk sharing—by regressing growth rates of consumption on growth rates of output. To isolate the economy-specific movements in output and consumption, the common growth component corresponding to external factors from each variable is taken out. Global growth is subtracted from individual economic output and consumption growth to obtain the economy-specific growth.

For the panel model, the estimated equation is

$$\Delta \log c_{it} - \Delta \log C_t = \alpha + \beta (\Delta \log y_{it} - \Delta \log Y_t) + \varepsilon_{it} \quad (1)$$

while in the time-series model, the equation below is estimated

$$\Delta \log c_{it} - \Delta \log C_t = \alpha + \beta_t (\Delta \log y_{it} - \Delta \log Y_t) + \varepsilon_{it} \quad (2)$$

where c_{it} and y_{it} denote per capita consumption and GDP of country i in time t ; and C_t and Y_t are world per capita consumption and world GDP.

As countries move toward greater risk sharing, there will be a lower coefficient of output growth (β), or conversely, higher value of $1-\beta$. The results from estimating the panel model (equation 1) show output to be a statistically significant determinant of consumption. There is a very high coefficient on output, although this has declined after the 2008/09 global financial crisis (**Box table 1**). This suggests that the

power of output in explaining the consumption growth rate—although still high—declined from 2007 to 2011. Examining the relationship on an annual basis—using a 9-year rolling window—shows a steady drop in the coefficient of output growth since the start of the 2008/09 global financial crisis (**Box table 2**).

To see if there are regional differences in this pattern, results between Southeast Asia and East Asia are compared, with largely similar results. However, Southeast Asia shows a bigger decline in the coefficient of output growth during the 2008/09 global financial crisis compared with East Asia—risk sharing rose faster in Southeast Asia than East Asia during the 2008/09 global financial crisis. This is consistent with results of the correlation analysis (**Box table 3**).

Aside from this regional difference, there are also country variations in the level of risk sharing in Asia. The estimated risk sharing index ($1-\beta$) for each of the country was calculated from the time-series model (equation 2) (**Box table 4**). After examining how the figures had changed over the years, it is evident that (i) risk sharing remains low, but has been rising, particularly in recent years; (ii) some economies with more developed financial systems—Singapore and Malaysia, for example—have relatively higher levels of risk sharing, while in others—Thailand and the Republic of Korea, for example—they remain low.

1: Dependent Variable—Domestic Consumption Growth (Net of G7 Consumption Growth) by period

	Full Sample	1993Q1–1996Q4	1997Q1–1999Q4	2000Q1–2007Q2	2007Q3–2011Q4
Output growth	0.974	0.854	1.041	0.972	0.755
Constant	-0.001	0.002	0.002	-0.002	0.000
Observations	682	142	108	270	162
Adjusted R ²	0.846	0.567	0.961	0.701	0.684

G7 = Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

Note: Output growth is statistically significant at 1% level.

Source: ADB calculations using data from *International Financial Statistics*, International Monetary Fund; and national sources for Taipei, China.

Continued on next page

2: Dependent Variable—Domestic Consumption Growth (Net of G7 Consumption Growth), by year

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Output growth	1.014	1.016	1.021	1.022	1.023	1.024	0.945	0.929	0.893	0.849	0.817
Constant	0.001	0.000	0.000	-0.001	-0.001	-0.001	-0.002	-0.001	-0.002	-0.002	-0.001
Observations	322	324	324	324	324	324	324	324	324	324	324
Adjusted R ²	0.883	0.893	0.904	0.906	0.915	0.894	0.688	0.699	0.719	0.690	0.681

G7 = Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

Note: Based on a 9-year rolling window ending the year indicated. Output growth is statistically significant at 1% level.

Source: ADB calculations using data from *International Financial Statistics*, International Monetary Fund; and national sources for Taipei,China.

3: Dependent Variable—Domestic Consumption Growth (Net of G7 Consumption Growth), by region and period

	Southeast Asia				East Asia			
	1993Q1– 1996Q4	1997Q1– 1999Q4	2000Q1– 2007Q2	2007Q3– 2011Q4	1993Q1– 1996Q4	1997Q1– 1999Q4	2000Q1– 2007Q2	2007Q3– 2011Q4
Output growth	0.644	1.035	0.987	0.669	0.930	1.085	0.952	0.836
Constant	0.003	0.004	-0.001	0.001	0.001	0.000	-0.002	-0.001
Observations	78	60	150	90	64	48	120	72
Adjusted R ²	0.175	0.961	0.662	0.513	0.927	0.961	0.785	0.870

G7 = Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

Note: East Asia includes the People's Republic of China; Hong Kong, China; the Republic of Korea; and Taipei,China. Southeast Asia includes Indonesia, Malaysia, the Philippines, Singapore, and Thailand. Output growth is statistically significant at 1% level.

Source: ADB calculations using data from *International Financial Statistics*, International Monetary Fund; and national sources for Taipei,China.

4: Risk Sharing by Economy

	PRC	Hong Kong, China	Korea, Rep. of	Taipei,China	Indonesia	Malaysia	Philippines	Singapore	Thailand
2001	0.08	0.23	-0.08	0.25	0.00	-0.10	0.04	0.39	0.07
2002	0.06	0.21	-0.12	0.17	-0.02	-0.17	0.01	0.22	0.02
2003	0.01	0.17	-0.11	0.22	-0.01	-0.15	0.02	0.18	0.01
2004	0.02	0.21	-0.11	0.17	-0.01	-0.20	0.02	0.25	0.00
2005	0.02	0.19	-0.11	0.18	-0.01	-0.21	0.03	0.24	0.00
2006	0.07	0.20	-0.11	0.19	-0.01	-0.24	0.03	0.18	-0.01
2007	0.07	0.22	-0.13	0.21	-0.03	-0.28	0.04	0.21	0.10
2008	0.05	0.23	-0.11	0.21	0.01	-0.01	0.03	0.43	0.15
2009	0.05	0.23	-0.02	0.25	-0.01	0.24	0.11	0.32	0.02
2010	0.06	0.25	0.01	0.34	0.01	0.55	0.11	0.31	-0.06
2011	0.10	0.26	0.02	0.30	0.07	0.21	0.13	0.56	-0.04

PRC = People's Republic of China.

Note: Based on a 9-year rolling window ending the year indicated.

Source: ADB calculations using data from *International Financial Statistics*, International Monetary Fund; and national sources for Taipei,China.

Labor Mobility

Given Asia's diverse labor market structure, easing labor mobility offers economies greater efficiency; however, managing worker movements is a critical challenge facing Asian policymakers.

The structure of labor varies across Asia's landscape. Some of Asia's high-income and middle-income countries have labor shortages, while others have a large, young workforce with a shortage of job opportunities. This diversity underpins growing labor flows and will benefit both source and recipient economies. Recipient economies better fulfill labor needs for production, while source economies can enjoy more job opportunities and benefit from inward remittances, contributing to higher efficiency for the region's human resource allocation.

Labor flows within Asia will likely continue to increase for the foreseeable future. First, demography changes slowly. So Asia will continue with both labor surplus and shortage in the decades to come. Second, development gaps between economies will also persist. Regional approaches are also growing. For example, ASEAN is working toward the free movement of skilled labor by the 2015 launch of the ASEAN Economic Community.

This section examines recent trends in Asia's labor mobility using remittance data. As shown in the inaugural *AEIM*, migrant stock data and remittance data provide the most consistent information—even if remittances are affected by a variety of economic conditions. Also, remittances between Asian economies can be the result of—or lead to—greater regional cooperation and integration. Some countries, including the Philippines, Bangladesh, and Sri Lanka, provide bilateral remittance data that paints a picture of growing intra-Asia labor mobility.

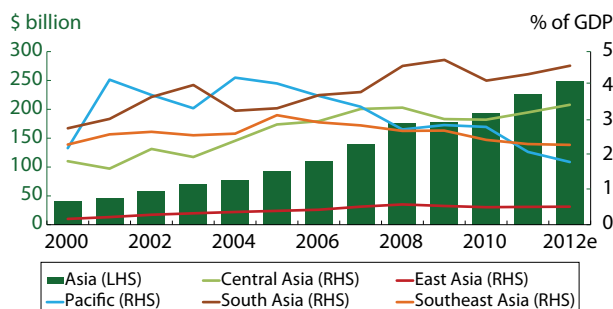
Asia is home to the world's major labor exporting countries, and receives more than 40% of global aggregate remittance inflows.

Asia received more than 40% of global aggregate remittance inflows in 2011. Globally, the top two net remittance recipients are Asian—India and the PRC—with the Philippines, Pakistan, Bangladesh, and Viet Nam also among the top 15 (**Table 13**). However, with Asia home to more than half the world's population, its labor mobility remains below the global average. Remittance-to-GDP ratios also suggest wide regional differences. Labor mobility in Central Asia and South Asia is above the world average, while East Asia and Southeast Asia is lower. Small landlocked and island countries have very high labor mobility and are highly dependent on

Table 13: Top 15 Remittance Sources, 2011

Net Remittance Inflows (\$ million)		Net Remittance Outflows (\$ million)		Net Remittance Inflows (% of GDP)		Net Remittance Outflows (% of GDP)	
India	59,123	United States	46,155	Tajikistan	43.8	Luxembourg	16.2
People's Republic of China	57,799	Saudi Arabia	28,231	Lesotho	24.9	Maldives	11.2
Mexico	23,588	Switzerland	27,473	Kyrgyz Republic	23.4	Oman	9.9
Philippines	22,986	Russian Federation	17,064	Liberia	23.3	Bahrain	7.9
Nigeria	20,543	Kuwait	11,770	Nepal	22.0	Kuwait	7.3
Egypt, Arab Republic of	14,031	Luxembourg	9,643	Moldova	21.6	Solomon Islands	6.9
Pakistan	12,235	Netherlands	9,031	Samoa	20.5	Bhutan	5.8
Bangladesh	12,056	Oman	7,176	Haiti	17.7	Saudi Arabia	4.7
Viet Nam	8,600	Italy	5,992	Honduras	16.5	Macao, China	4.2
Morocco	7,185	Norway	3,662	El Salvador	16.0	Switzerland	4.2
Ukraine	6,685	Kazakhstan	3,304	Kosovo	15.0	Papua New Guinea	3.1
Belgium	6,381	Israel	2,553	Tonga	14.2	Brunei Darussalam	2.7
Poland	5,660	Japan	2,472	Nicaragua	12.5	Libya	1.8
United Kingdom	4,824	Germany	2,197	Jamaica	12.2	Kazakhstan	1.8
France	4,713	Australia	2,175	Armenia	11.1	Bahamas, The	1.6

Source: ADB calculations using World Bank estimates based on *Balance of Payments Statistics Yearbook 2011* and *World Economic Outlook Database October 2012*, International Monetary Fund.

Figure 33: Gross Remittance Inflows—Asia

e = estimate, LHS = left-hand scale, RHS = right-hand scale.

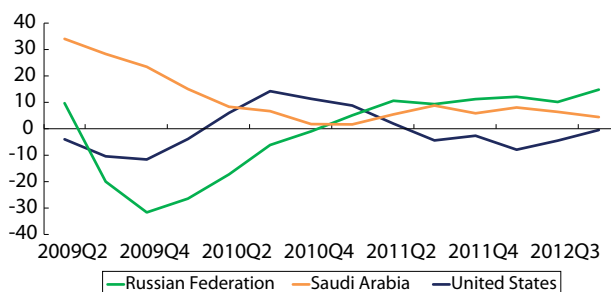
Note: 2012 figures are estimates. GDP shares are computed as total remittances for a subregion divided by total GDP of a subregion. Asia excludes Oceania. Central Asia includes Armenia, Azerbaijan, Georgia, Kazakhstan and the Kyrgyz Republic. Tajikistan is included starting 2002. East Asia excludes Taipei, China. The Pacific includes Fiji, Papua New Guinea, Samoa, Solomon Islands, and Vanuatu. Tonga is included starting 2001. South Asia excludes Afghanistan, while Bhutan is included starting 2007. Southeast Asia excludes Brunei Darussalam and Singapore. Source: ADB calculations using World Bank estimates based on *Balance of Payments Statistics Yearbook 2011*, and *World Economic Outlook Database October 2012*, International Monetary Fund.

remittances. In 2011, among Asian economies, Tajikistan has the highest remittance-to-GDP ratio (43.8%), followed by the Kyrgyz Republic (23.4%), Nepal (22.0%), and Samoa (20.5%). As for host economies, the Maldives ranks second worldwide with remittance outflows equivalent to 11.2% of GDP. Solomon Islands, Bhutan, PNG, Brunei Darussalam, and Kazakhstan also rank in the top 15. Other countries—Malaysia, Singapore, and Thailand, for example—are growing rapidly as host countries.

With significant subregional variations, remittance inflows to Asia increased 16.3% in 2011, with growth estimated at 10.1% last year; Asian labor mobility is expanding.

Remittance inflows to the region recovered from a dip in 2009 and continue to grow solidly (**Figure 33**). They surged 16.3% in 2011 and are estimated to have grown 10.1% in 2012—to \$248.5 billion.²⁹ The remittance-to-GDP ratio grew slightly from 1.17% in 2010 to 1.19% in 2011 and to an estimated 1.22% in 2012. Growth has varied across subregions. Inflows to Central Asia and South Asia show robust growth in both nominal values and the remittance-to-GDP ratio in 2011 and 2012; while the value of remittances to the Pacific fell 7.5% in 2011, recovering marginally (0.3%) last year, resulting in an overall decline in the remittance-to-GDP ratio. Nominal inflows to Southeast Asia and East Asia have increased steadily since 2010, while remittance-to-GDP ratios have remained stable.

²⁹World Bank estimate for 2012.

Figure 34: Remittance Outflows (quarterly moving average, y-o-y, %)

Note: Remittances are defined by the Central Bank of Russia as compensation paid to employees, by the Saudi Arabian Monetary Agency as workers' remittances, and by the United States Bureau of Economic Analysis as private remittances and other transfers. Source: ADB calculations using data from Haver Analytics.

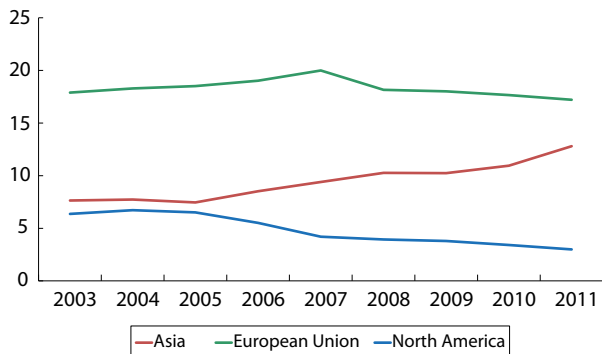
Differences in remittance flows among subregions illustrate migrant destination profiles.³⁰

Based on migrant stock data, 62.0% of Central Asia's out-migrants head to the Russian Federation. Remittance flows from Russian Federation recovered from a steep decline in 2009, growing 16.9% in the first 3 quarters of 2012 compared with the same period in 2011—high commodity prices helped improve economic conditions. Thus, robust growth of remittance inflow to Central Asia captures the dominance of Russian Federation as destination. Growth in remittance outflows from the Middle East—destination for 40.7% of all out-migrants from South Asia—has slowed, but the decline was more modest than the slowdown in remittances from the US after the 2008/09 global financial crisis (**Figure 34**). Thus, South Asia did not see remittances fall in nominal value during the global financial crisis, even if its remittance-to-GDP ratio declined slightly. In contrast to Central Asia and South Asia, 35.9% of out-migrants from East Asia, 33.7% from Southeast Asia, and 26.7% from the Pacific work in North America. For these subregions, US remittances fell dramatically in 2009 and have declined modestly since 2011. The countries with declining remittances after the crisis appear to have large shares of US-bound workers. The US remains the world's largest source of remittances.

Economic conditions in the host country clearly affect remittance flows—and they can be volatile. Inflows to Central Asia and South Asia are also subject to conditions in the Russian Federation and the Middle East, respectively. One way to address these risks is to diversify destination profiles. In fact, based on bilateral remittance

³⁰For further discussion on destination of migrants, see ADB, 2012. International and Regional Transmigration. *Asian Economic Integration Monitor July 2012*. Manila. pp. 31–32.

Figure 35: Remittance Shares—Sri Lanka (by origin, % of total)



Note: Asia includes Afghanistan; Bangladesh; Bhutan; Brunei Darussalam; Hong Kong, China; India; Indonesia; Japan; the Republic of Korea; the Maldives; Myanmar; Pakistan; the Philippines; Singapore; Taipei, China; Thailand; and Viet Nam. European Union (EU) includes the 27 EU member countries. North America includes Canada and the United States. Source: ADB calculations using data from CEIC.

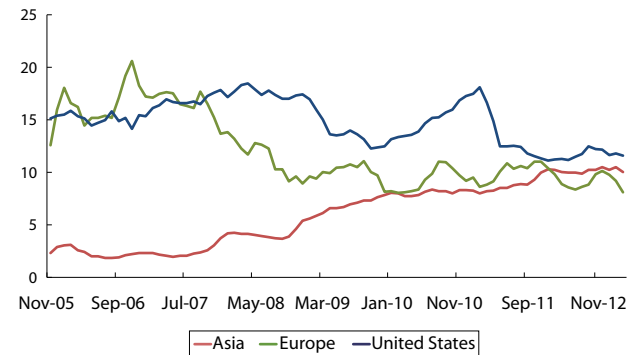
data, this is beginning to happen. With a limited number of economies providing regular bilateral remittance data, any conclusions must be qualified and biased toward economies with available data. What there is, shows that—after the crisis in particular—more Asian migrants are destined to other Asian economies. Thus, it appears that intra-Asia labor mobility is rising.

Still, the largest portion of Asian migrants continues to work outside Asia. For instance, in the Philippines, Asia accounted for 13.8% of 2012 remittance receipts, while the North America accounted for 52.3%.³¹ In Sri Lanka, remittances in 2011 from Asia were 12.8% of the total, while 58.9% came from the Middle East. However, Sri Lanka's Asian share has grown steadily—from 7.6% in 2003. In contrast, the share of North America—6.4% of total remittances in 2003—declined to 3.0% in 2011 (**Figure 35**). Some Asian economies are increasingly becoming hosts for foreign labor. Malaysia, Singapore, and Thailand have grown rapidly as recipient countries, significantly contributing to intraregional migration. Thailand hosts workers from Myanmar, the Lao PDR, and Cambodia. Flows into Malaysia come primarily from Indonesia and several South Asian countries. Singapore receives migrants from both South Asia and Southeast Asia. With economic growth in developing Asia above that in advanced economies, the shift to greater intraregional migration will likely continue.

³¹ Asia refers to Hong Kong, China; Japan; and Singapore. Data from *Bangko Sentral ng Pilipinas*. <http://www.bsp.gov.ph>

Figure 36: Remittance Shares—Bangladesh¹

(by origin, % of total)



¹3-month moving average.

Note: Asia includes Hong Kong, China; Japan; the Republic of Korea; Malaysia; and Singapore. Europe includes Germany, Italy and the United Kingdom.

Source: ADB calculations using data from CEIC.

In Bangladesh, intraregional remittances are rising faster than those from the US, and have surpassed Europe.

While some 65% of remittances to Bangladesh originate in the Middle East, the share from Asia has increased dramatically, from roughly 2% in 2005 to almost 10% last year (**Figure 36**). The remittance share from the US and Europe have declined from about 17% before the 2008/09 global financial crisis to about 10% today. This shift contributed to the average 14% growth in remittance flows during the past 5 years. Moreover, cooperation between governments will help continue this trend. A recent memorandum of understanding signed between Malaysia and Bangladesh lifts an existing ban on recruiting new Bangladeshi workers. The first group of 10,000 new workers is expected to be recruited early this year. Also, both governments plan to take a more direct role in recruitment to avoid the risks of fraud by unscrupulous recruiters.

Despite the huge benefits of labor mobility, it is often a contentious issue (as in the US and Europe); as intraregional labor migration grows, better management to avoid conflict is an essential.

Movements from labor surplus to deficit economies can lead to more efficient use of the region's human resources and contribute to growth in both source and recipient economies. Recipient countries benefit by increasing their stock of a core factor of production. This allows for growth momentum and increases international competitiveness. It can even out job mismatches in labor markets. At the same time, source economies also benefit. Sending labor abroad

eases population pressure on domestic job markets. Remittances boost consumption and investment at home, as well as contribute to the current account and, in some cases, ease foreign exchange pressure. In addition, mobility among skilled workers supports technology transfer and can promote the establishment of new industries.

Nonetheless, labor mobility is often a sensitive issue for both source and host economies—and can heighten social and political tensions. The biggest challenge is to better manage and work toward resolving the issue of illegal foreign workers and worker protection. The combination of the need for cheap labor and migrants desperate for jobs often results in illegal workers exploited by transfer agents and employers. Poor understanding of the benefits of migrant labor to a host country's economy or the belief that migrants "steal" jobs help set battle lines over immigration policy.³² If conflicts become severe, they often lead to immigration bans, which hurt both source and recipient economies. Close cooperation is essential to address these issues and set a conducive environment for properly managed labor flows and ensuring adequate living conditions in host countries.

For Asia, tackling these issues requires close cooperation bilaterally and regionally; lessons learned from experiences in Asia and elsewhere can aid policymakers in finding better solutions.

Asia's policymakers can use their own and others experience—such as the EU—to map out ways to benefit from greater labor mobility. The Philippines is an example of a mature source country. In 1977, it established government programs to protect and promote the welfare of overseas Filipino workers (OFW). The Overseas Workers Welfare Administration (OWWA) works on many levels, from negotiating with host economies over OFW living conditions to offering seminars on language and culture prior to departure—which lessens the possibility of host country conflicts. The agency also works with the central bank and others to encourage use of the formal banking system to remit funds. For returning workers, OWWA also has a program to smoothen reintegration. The Philippine government also offers incentives for Filipinos to work abroad—for

instance, exempting OFWs from airport fees and taxes on income earned abroad. Over the past decade, several South Asian countries—including Bangladesh (2001), India (2004) and Pakistan (2008)—have established government agencies with similar aims and functions, and adopt policies to better protect and motivate overseas workers.

Some labor exporting economies have reached the stage of economic development where returnees, especially skilled workers, identify opportunities at home to develop new industries—India's IT industry and medical tourism in Southeast Asia are two examples. Malaysia recently established a government body to attract talent—especially skilled Malaysians working abroad—to further promote national development. Of course, some of these economies enticing skilled migrants back home continue exporting unskilled labor, while some shift to importing labor, including unskilled migrants. These new trends demonstrate that there is long-run dynamism in international migration; a labor-exporting country may evolve into a labor-importing economy—although great variance exists in reality. Understanding these developments will help Asia fully benefit from greater labor mobility. A regional approach may help Asian countries better learn and adapt from others' experience at lower cost than doing so individually.

The EU experience shows that managing perceptions and attitudes toward immigrants in a recipient economy is prerequisite to attracting skilled workers or professionals.

Europe has much experience in managing skilled labor mobility, including the design and implementation of Mutual Recognition Agreements. It also deals with the issue of unskilled migrants and their welfare. Unskilled labor often attracts discriminatory attitudes, and these can also be barriers to attracting skilled workers, given the greater options they have in choosing destinations.³³ Preventing and managing potential conflicts between source and host economies or between overseas workers and the host population are critical if Asia is to benefit from labor mobility. This is a major challenge. Studies discuss attempts to properly manage international labor

³²A famous example is the negative impact on wages in host countries. Various empirical research demonstrate that even the (maximum) wage decline in the host country (advanced countries in most cases) due to the influx of foreign workers is very small or negligible.

³³See M. Kahanec. 2012. *Skilled Labor Flows: Lessons from the European Union*. IZA Research Report Series. No. 49. Bonn: Institute for the Study of Labor (IZA).

flows as a “quest for control,” and there is no consensus on what proper management is or whether it can be achievable or not.³⁴

A cooperative, regional approach is perhaps the best option in addressing these issues, given the complexity of the migration web within Asia. Regional cooperation can help assure the benefits of labor mobility outweigh its costs. Economies or regions that have dealt with immigration issues can provide useful knowledge for others as they confront common challenges—recruitment practices, worker protection, handling illegal migrants, and how to construct a management framework of cooperation between source and recipient economies.

Infrastructure Connectivity

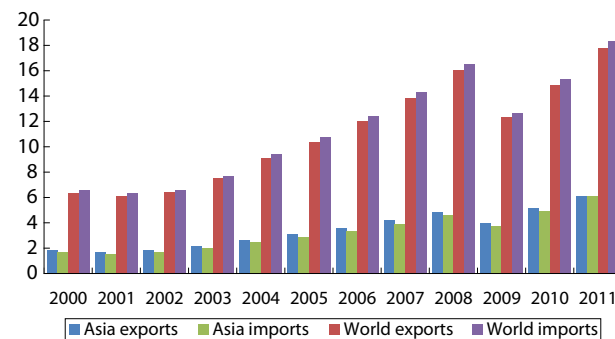
While regional connectivity is improving, demand continues to rise faster than supply, widening the infrastructure gap.

As globalization deepens and Asian economies continue to expand, demand for greater information and communication technology (ICT), energy, power, and transport and logistics is intensifying. Asia’s renowned supply chains and production networks—euphemistically labeled “Factory Asia”—have driven growth in intraregional, inter-regional, and global trade. Raw materials, intermediate and final goods and services require efficient infrastructure to link producers to suppliers, suppliers to manufacturers, and manufacturers to markets. The services that promote and finance this trade also require seamless infrastructure. And underlying the entire process is the power needed to fuel production. Higher incomes and growing populations also increase demand for food and natural resources, requiring more efficient infrastructure.

World trade grew at an average annual rate of 9.8% between 2000 and 2011—despite the 23% contraction during the 2008/09 global financial crisis. It reached a historic high of over \$36 trillion in 2011 (**Figure 37**). Asia’s total trade surged from \$3.5 trillion in 2000 to \$12.2 trillion in 2011—an annual growth rate of 12.0%. This has increasingly overwhelmed transport infrastructure and service in the region. In addition, production fragmentation increasingly requires better trade efficiency to feed global supply chain networks.

³⁴See S. Castles and M.J. Miller. 2009. *The Age of Migration: International Population Movements in the Modern World*. 4th ed. Basingstoke: Palgrave Macmillan.

Figure 37: Merchandise Trade—Asia and the World (\$ trillion)



Source: ADB calculations using data from *Direction of Trade Statistics*, International Monetary Fund; and CEIC for Taipei, China.

Today’s industries and firms actively use multimodal transport services and apply just-in-time inventory management with low overheads and shorter lead times. All these require efficient transport infrastructure, logistics services, and customs, especially at airports and seaports—where more than 90% of international trade passes.

The quality of cross-border connectivity is improving in Asia, yet more needs to be done.

To satisfy projected demand, new regional infrastructure in Asia is estimated to cost \$320 billion during 2010–2020.³⁵ Of this total, about half is needed for regional transport and logistics, while the rest covers cross-border infrastructure that moves power from surplus to deficit economies. This includes building and upgrading the Asian Highway Network, Trans-Asian Railway Network, and Asian Container Ports programs. It also includes regional ICT, transport, and energy projects promoted under regional cooperation programs such as ASEAN, the Brunei Darussalam–Indonesia–Malaysia–Philippines East ASEAN Growth Area (BIMP-EAGA), the Central Asia Regional Economic Cooperation (CAREC) program, the Indonesia–Malaysia–Thailand Growth Triangle (IMT-GT), the Greater Mekong Subregion (GMS), South Asia Subregional Economic Cooperation (SASEC) program, and Council of Regional Organisations of the Pacific (CROP).

³⁵B. Bhattacharyay. 2010. Estimating Demand for Infrastructure in Energy, Transport, Telecommunications, Water and Sanitation in Asia and the Pacific: 2010–2020. *Asian Development Bank Institute Working Paper Series*. No. 248. Tokyo: Asian Development Bank Institute.

Asia's economies, together with bilateral and multilateral partners, have actively promoted regional cooperation on infrastructure connectivity, mobilizing more than \$40 billion for regional infrastructure during the last 2 decades. For example, 172 GMS and CAREC regional projects were completed by the end of 2011, costing \$35 billion.³⁶ Regional transport projects absorbed 77% (\$27 billion) of the total. The two programs also conducted numerous training sessions, strengthening human capital to support regional infrastructure management and new trade facilitation and security measures, among others. IMT-GT is working on connectivity projects worth over \$5 billion. About \$1 billion has been earmarked for regional projects under BIMP-EAGA with \$22 million in technical support. Since the start of SASEC in 2001, 19 subregional projects worth over \$6 billion have been approved. SASEC has gained momentum in the past few years, with \$4 billion in investments covering transport, energy, security, and trade facilitation planned for 2013–2015. In 2012, SASEC approved two complementary subregional projects—a highway corridor with two cross-border facilities in Bangladesh (a strategic intervention after SASEC corridor improvements in Nepal and Bhutan) and a trade facilitation program. CROP, a committee of the heads of eight subregional organizations in the Pacific (the oldest dating back to 1947), was established in 1988 to better coordinate work on regional ICT and aviation safety control—reflecting the unique characteristics of the subregion.

Improvements along the GMS East–West Economic Corridor (EWEC) have shortened travel time between Dong Ha in Viet Nam and Savannakhet in the Lao PDR from 12 hours to 3 hours. It also attracted foreign direct and domestic investment, creating business opportunities in district towns and employment opportunities for villagers used to subsistence farming. Automotive part suppliers use the Second Mekong International Bridge between the Lao PDR and Thailand and the upgraded road along EWEC in the Lao PDR to transport parts assembled in the Lao PDR to factories in Thailand. Wood chips travel the same route to feed Thai paper mills. Da Nang port, at the eastern end of EWEC, has been upgraded to handle more trade and provide new business opportunities. Cambodia and Thailand simplified cross-border procedures at the Cambodia–Thailand border along the GMS Southern Economic Corridor, which runs through southern Thailand, Cambodia, and Viet Nam. Automotive suppliers are establishing factories in Cambodia near the border

to supply parts to assembly lines in Thailand. A CAREC Corridor Performance Measurement and Monitoring system assesses regional transport and trade efficiency along CAREC corridors—in 2011, the time taken to cross borders by road declined to 6.2 hours on average, a 2% decline from 2010.

There are few regional projects on energy. The Nam Theun 2 Hydropower project in the Lao PDR supplies electricity to Thailand, generating about \$2 billion for the Lao PDR over the 25-year project period. The revenue supports government programs, while the electricity offers Thailand a less expensive alternative to domestically produced electricity. A \$6 billion-worth ASEAN Power Grid—with nine interconnections to be completed by 2015—should save more than \$600 million at current electricity prices. Five interconnections are currently operational with four under construction. In 2010, Cambodia imported about 385 million kilowatt hours (kWh) of electricity from Thailand and 1,162 million kWh from Viet Nam through cross-border electricity trade arrangements. Indonesia and Malaysia signed a memorandum of understanding for interconnection between Peninsular Malaysia and Sumatra and an agreement to begin electricity trade in 2015 between West Kalimantan and Sarawak.³⁷ ASEAN utilities and power authorities are working to harmonize regulatory and technical standards. India is offering to sell power to the Bangladesh Power Development Board; they are constructing an interconnection line between the western power grid of Bangladesh and India's eastern electrical grid.

A gas pipeline between Myanmar and Thailand has been completed, with Myanmar exporting about 80% of total gas production from the Yadana and Yetagun offshore gas fields to Thailand—more than 30% of Myanmar's total export earnings. The Trans-ASEAN Gas Pipeline program consists of seven pipelines totaling 1,659 kilometers (**Table 14**).

ICT is creating new cross-border business opportunities and providing greater efficiency.

Global ICT market liberalization has increased user-access exponentially. Based on SIM card distribution basis, mobile phone users are estimated at about six billion, equal to some 86% of the world population. This has fed new cross-border business opportunities.

³⁶Comprises \$20 billion under the CAREC Program and \$15 billion under the GMS Program.

³⁷See Southeast Asia Infrastructure. 2012. Integrated Prosperity: Cross-Border Infrastructure Crucial. <http://southeastasiainfra.com/integrated-prosperity/>

Table 14: Trans-ASEAN Gas Pipeline Program

Project	Length (kilometers)
West Natuna (Indonesia)–Duyong (Malaysia)	100
Malaysia–Thailand (Joint Development Area)	270
Yetagun (Myanmar)–Ratchaburi (Thailand)	340
Yadana (Myanmar)–Ratchaburi (Thailand)	470
Grissik (South Sumatra, Indonesia)–Singapore	470
Two Cross-Border Pipelines between Malaysia and Singapore	9
Total	1,659

Source: Southeast Asia Infrastructure, 2012. Integrated Prosperity: Cross-Border Infrastructure Crucial. <http://southeastasiainfra.com/integrated-prosperity/>

It has allowed finance to become more inclusive, even in remote Asia. ICT network development also supports logistics services and customs operations between customs authorities globally.

The 2015 ASEAN Economic Community includes an ICT Master Plan 2015 and the creation of an ASEAN Broadband Corridor. It promotes harmonizing radio spectrum allocations as services shift from analogue to digital—the so-called digital dividend. SASEC began building an information highway in 2007 and has increased the broadband supply, skilled ICT manpower, which has led to more e-government, e-learning, tele-medicine, e-remittance, and e-commerce services—with special focus on the poor. It links SASEC to the global information economy. ICT connectivity has helped the geographically dispersed Pacific island countries by generating new business globally and creating employment regionally (**Box 7**).³⁸

The private sector is increasingly getting concerned with transport and trade transaction costs, and other non-tariff barriers as duties decline globally.

With the general decline in tariffs levied, the private sector has shifted its focus from tariffs to reducing transport and transaction costs, along with other non-tariff barriers such as border procedures. Logistics is increasingly important. According to the World Bank's Logistics Performance Index (LPI), logistics performance in Asia improved 8% during the last 5 years—notably higher than the 5% world average over the same period (**Table 15**). Improvements in infrastructure (11%),

tracking and tracing (9%), and customs (9%) are partly behind these gains. Among subregions, East Asia and Southeast Asia are at the top of the LPI list. Governments in the Pacific and Central Asia subregions improved their LPI scores by 17% and 16%, respectively. Central Asia has focused on infrastructure upgrading, improving 25% over the past 5 years, followed by South Asia (15%), and the Pacific (14%). Tracking and tracing, and customs procedures have likewise improved.

Developing Asia's logistics score—2.82 in 2012—is comparable with the 2.87 world average, but remains far behind North America's 3.89 and the EU's 3.51. As with other regional indicators, developing Asia's logistics performance is uneven, with East Asia doing best, particularly in timeliness, and the Pacific lowest, particularly in customs administration. Performance by Southeast Asian economies range from 4.13 (Singapore) to 2.37 (Myanmar), and in East Asia from 4.12 (Hong Kong, China) to 2.25 (Mongolia). Narrowing disparities is a major private sector challenge.

Cross-border procedures need to be simplified, harmonized, and use international best practices.

Asia's relatively low logistics performance and wide variations between subregions mean time-consuming and cumbersome cross-border procedures. Greater cooperation can help. The private sector expects cross-border efficiency, while governments want to reduce security risks and smuggling. International agreements, conventions, and best practices boosts efficiency, safety, and security. The plethora of free trade agreements (FTAs) created an Asian noodle bowl of FTAs (see *Multilateralizing Asian Regionalism: Approaches to Unraveling the Asian Noodle Bowl*, page 49). Multilateral conventions can disentangle trade-related issues as they define global rules applicable to all participating countries. Regional cooperation should work toward accession to major international conventions, supported by domestic laws and procedures. Despite the benefits of membership, accession to these conventions has been slow and uneven (**Figure 38**).

For customs, the Harmonized System (HS) Convention—a commodity nomenclature classification system—has the highest level of accession with 72% of United Nations (UN) members (139 contracting parties), including 60% of ADB developing member countries (DMCs). The Revised Kyoto Convention, the blueprint for modern and efficient customs, has 39% of UN members (76 contracting parties), including 28% of ADB DMCs.

³⁸See footnote 37.

Box 7: Improving ICT Connectivity in the Pacific

ADB has long supported regional cooperation and integration among its 14 Pacific developing member countries (Pacific DMCs), often with co-financing. Contributions include support for regional development forums; infrastructure finance; regional projects focused on renewable energy, marine and coastal management; and strengthening disaster preparedness. ADB's regional technical assistance contributes to strengthening capacity for public financial management, statistics, and data collection.

More recently, ADB positioned itself to support improved regional Information and Communications Technology (ICT) connectivity in the Pacific—predicated on the assumption that the development potential of improved broadband connectivity hinges on three complementary pillars: (i) the availability and quality of broadband infrastructure (fiber optics, satellites, domestic backbone); (ii) the quality of regulatory regimes to ensure competitiveness of the telecommunications sector, cost-based wholesale and retail pricing, and universal access policies; and (iii) broadband-based improvements to promote inclusive service delivery in key social sectors like health and education, and reduce the cost of doing business.

The experience from a range of low and middle-income countries suggests that when these pillars come together, improved broadband connectivity contributes to more inclusive economic growth and wider social impact. In the Pacific, ADB and the World Bank have actively supported the development of infrastructure and innovative broadband-based service delivery, along with strengthening regulatory regimes.

Recent Developments

Since 2010, the Federated States of Micronesia (FSM), Papua New Guinea (PNG), the Marshall Islands, Samoa, and Fiji have been connected by submarine fiber-optic cables. All other Pacific DMCs rely on satellite, which is expensive and constrained by limited bandwidth.

In response to Pacific Islands Forum's call for improved international connectivity, ADB has been supporting the Pacific Regional ICT Connectivity Project (initiated by the World Bank), which aims to connect Tonga, Samoa, Solomon Islands, and Vanuatu by submarine fiber optic cables to the existing global submarine cable network.

Under the first phase of the initiative, endorsed in August 2011, ADB and the World Bank jointly supported Tonga Cable Limited in developing a submarine cable system (SCS) that includes installation of an 827-kilometer cable link between Nuku'alofa (Tonga) and Suva (Fiji).

Under the second phase—the “Broadband for Development Project”—support is provided to the Solomons Oceanic Cable Company, in developing a SCS that will link Solomon

Islands to the existing Pipe Pacific Cable-1 cable that runs between Guam and Sydney. In addition to the international link (roughly 430-kilometers), SCS will comprise two domestic spurs to Malaita and the Western Province (roughly 400 and 150 kilometer, respectively). An interesting feature of this project is that the financing plan comprises a mix of sovereign funds (loan and grant) and non-sovereign funds (commercial debt and equity). The sovereign financing component was approved in September 2012.

Discussions on a possible extension of the Tonga–Fiji cable to Samoa, as well as ADB's possible support for a SCS linking Guam with the FSM and Palau are currently under discussion.

ADB also supports a regional resource center for ICT regulatory reforms (based in Fiji) and initiatives focused on improving delivery of public services, mainly in e-governance, health and education. The Rural Health Services Improvement Program in PNG, for example, is piloting the use of mobile data devices in selected remote provinces of the country.

Benefits of Improved Regional ICT Connectivity

A recent World Bank study indicates that a 10% increase in broadband penetration results in a 1.38% increase in GDP growth in low- and middle-income countries.¹ These result from (i) reduced transaction costs for business, government, and household communications; (ii) new business opportunities such as investments in e-commerce and business process outsourcing (BPO); and (iii) improved public service delivery, in particular through the introduction of e-education and e-health services; the remote delivery of agricultural extension, policing, judicial, employment, disaster management and other public services; and mobile banking. Wholesale bandwidth prices will likely be halved, leading to a conservatively estimated retail price reduction of 20%.

Across the Pacific, lack of access to markets and services, combined with high transport and communication costs leaves many countries relatively isolated. The regional ICT connectivity project in the Pacific supports economic and social development and new business opportunities. Improved ICT connectivity also supports the development of services such as tourism and BPO by increasing the frequency and quality of communications, not only among the countries in the region but also the rest of the world.

¹World Bank. 2009. *Information and Communications for Development 2009: Extending Reach and Increasing Impact*. Washington, DC. Source: ADB Pacific Regional Department.

Table 15: Logistics Performance Index (LPI)¹, 2012

Regions	LPI	Customs	Infrastructure	International Shipments	Logistics Competence	Tracking and Tracing	Timeliness
East Asia	3.54	3.29	3.60	3.44	3.46	3.56	3.90
Southeast Asia	3.02	2.78	2.82	3.02	2.95	3.11	3.42
Central Asia	2.51	2.40	2.43	2.45	2.42	2.53	2.86
South Asia	2.58	2.47	2.38	2.59	2.58	2.48	2.93
Pacific Islands ²	2.40	2.14	2.15	2.40	2.17	2.46	3.06
Asia	2.90	2.72	2.78	2.85	2.82	2.92	3.28
Developing Asia ³	2.82	2.63	2.68	2.79	2.74	2.83	3.22
Europe and Central Asia	2.71	2.47	2.60	2.66	2.65	2.75	3.14
Latin America and the Caribbean	2.71	2.46	2.57	2.70	2.64	2.73	3.12
East Asia and the Pacific	2.77	2.51	2.58	2.77	2.64	2.85	3.26
Middle East and North Africa	2.58	2.29	2.40	2.68	2.49	2.56	3.02
Sub-Saharan Africa	2.46	2.27	2.29	2.47	2.43	2.40	2.86
World Average	2.87	2.66	2.77	2.82	2.82	2.88	3.26

Note: Asia, Central Asia, East Asia, South Asia, and Southeast Asia are based on ADB regional classification. Europe and Central Asia, Latin America and the Caribbean, East Asia and the Pacific, Middle East and North Africa, and Sub-Saharan Africa based on World Bank regional classification.

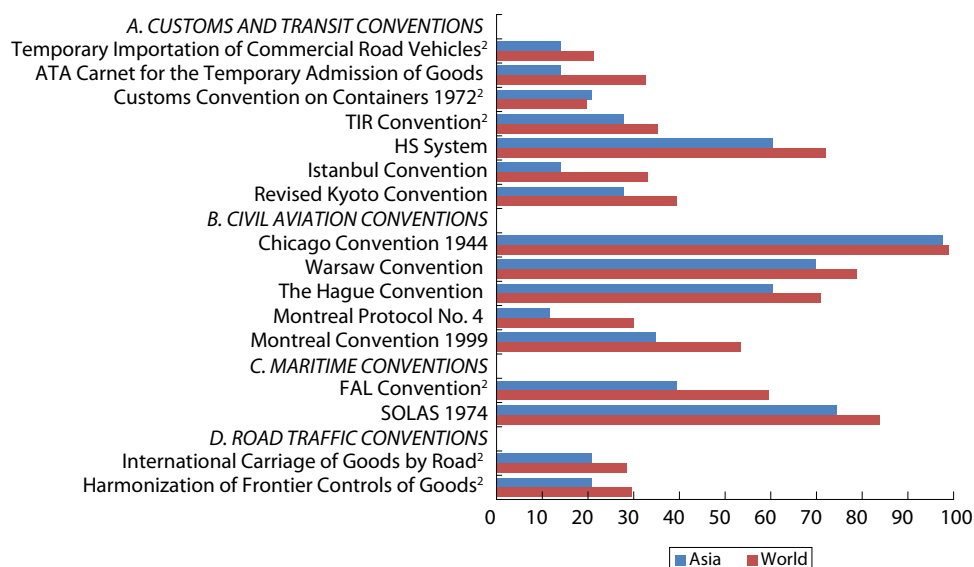
¹LPI scores are based on the following dimensions: (i) efficiency of border control and customs process, (ii) transport and trade-related infrastructure, (iii) competitively priced shipments, (iv) ability to track and trace consignments, and (v) timeliness of shipments. Countries are rated from 1 to 5, with 1 being the worst performance and 5 being the best.

²Fiji, Papua New Guinea, and Solomon Islands.

³Refers to 44 developing member countries of the Asian Development Bank and Brunei Darussalam, an unclassified regional member.

Source: ADB calculations using data from *Logistics Performance Index*, World Bank.

Figure 38: Levels of Accession to Selected International Conventions—Asia and the World¹ (%)



ATA = Admission Temporaire/Temporary Admission, FAL = Facilitation of International Maritime Traffic, HS System = International Convention on the Harmonized Commodity Description and Coding System, SOLAS = International Convention for the Safety of Life at Sea.

¹Asia refers to the level of participation of Asia excluding Australia, Japan, and New Zealand. World refers to the level of participation of the 193 United Nations members.

²One of the eight international conventions with respect to facilitation across international borders that United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) Resolution 48/11 of April 1992 recommends countries in the region to accede to.

Source: International Civil Aviation Organization (ICAO), Current Lists of Parties to Multilateral Air Law Treaties. <http://www.icao.int/secretariat/legal/Lists/Current%20lists%20of%20parties/AllItems.aspx>; International Maritime Organization, Status of Conventions. <http://www.imo.org/About/Conventions/StatusOfConventions/Pages/Default.aspx>; United Nations Treaty Collection, Status of Treaties. <http://treaties.un.org/pages/participationStatus.aspx>

About 80% of global trade now follows the provisions of this convention.³⁹

In air transport, almost all countries are party to the Chicago Convention, which provides for the regulation of air navigation and international air transport. The Montreal Convention (1999) aims to provide a universal system to govern airline liability to passengers and shippers. It currently includes 53% of UN members (103 countries), including 35% of ADB DMCs. The Warsaw Convention (1929), which unifies rules relating to international air carriage, has been amended and modified by the Hague Convention (1955), Montreal Protocol No. 4 (1975), and the Montreal Convention (1999). Several countries remain outside the system.

The Convention on Facilitation of International Maritime Traffic (FAL)—designed to help reduce delays in maritime traffic and introduce standardized procedures—has 60% UN member participation (115 countries) and 40% of ADB DMCs. Regarded by the maritime community as the most important treaty covering the safety of merchant ships, the International Convention for the Safety of Life at Sea (SOLAS 1974) has 84% of UN members' signatures (162 countries) and 74% of ADB DMCs. SOLAS 1974 specifies minimum safety standards with respect to the construction and operation of ships, and includes the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code was adopted in 2002 after the 9/11 attacks in the US and includes security requirements for governments, port authorities, and shipping companies.

Private sector calls for interagency coordination among transport, trade and customs authorities and efficient multimodal transport are growing.

Despite substantial transportation investments, many Asian economies maintain poor regional transport connectivity, constraining international and regional trade and transport, and increasing costs of doing business. Several initiatives are underway.

On air transport, an electronic-freight (e-freight) initiative introduced by the International Air Transport Association (IATA) has taken shape. In 2004, IATA carried out an industry-wide program—involving airlines, shippers, freight forwarders, ground handling agents, and customs authorities—to replace paper accompanying airfreight shipments with cheaper, more accurate, and

more reliable electronic messaging. With each shipment requiring up to 30 paper documents required by several government authorities across different points in the supply chain, the benefits of e-freight are obvious, particularly the efficiency of one-time data entry. Electronic documentation also allows pre-screening and real-time tracking. In 2007, e-freight began with six pilot locations. As of September 2012, there were 42 countries and 437 airports, of which 110 carried out international e-freight operations.⁴⁰ With 42 participating airlines, 1,569 freight forwarders, 12,558 ready trade lanes, and 3,004 trade lanes, e-freight is now supporting a monthly e-freight volume of 139,412 consignments, or 5.5% market penetration.⁴¹ While less than 1% of the global freight market, e-freight has enormous potential to support air cargo, which accounts for about 35% of the value of the goods traded globally.

Provision of Regional Public Goods

As countries increasingly collaborate on economic issues, they find that regional cooperation also allows them to tackle collective threats to public welfare—regional public goods.

Integration can bring with it unintended consequences—from the spread of disease (epidemics) to cross-border crime (money laundering and human trafficking), among others. But it also creates the opportunity to cooperate on crisis prevention—whether through disaster preparedness, environmental sustainability, or in pursuing regional financial stability. All of these opportunities and issues combine with increased cross-border interdependence to build demand for regional public goods.

³⁹World Customs Organization. <http://www.wcoomd.org>

⁴⁰As defined by IATA, "countries" may also be administrative areas with local e-freight Operational Procedures (e-FOP) defined and validated by local customs, which accept inbound and outbound shipments performed as e-freight. "Airports" are where stakeholders can operate e-freight to or from another participating airport. See International Air Transport Association. <http://www.iata.org/>

⁴¹A trade lane between two participating airports is where at least one e-freight shipment has been performed, whereas a ready trade lane is a trade lane between two participating airports in countries which have ratified the Montreal Convention 1999 and/or Montreal Protocol No. 4. Both conventions update the Warsaw Convention in relation to a system of liability and liability limits, among others. See International Air Transport Association. <http://www.iata.org/>

Box 8: ASEAN's Response to Transboundary Haze

The recurrence of large forest fires and haze have important environmental and economic impacts, bringing transboundary air pollution, disrupting transportation, creating health hazards, and damaging social welfare. ASEAN countries—home to 60% of the world's tropical peatlands—are prone to forest fires that are the major cause of fire and transboundary haze pollution. The blaze of 1997/98 affected six ASEAN countries and was among the most damaging in recorded history.¹

In response to the problem—which began to intensify in the 1980s, ASEAN members signed an ASEAN Agreement on Transboundary Haze Pollution (ASEAN Haze Agreement) in 2002 to collectively address the haze problem.²

The agreement takes a holistic approach and includes national, bilateral, subregional, and regional cooperation to cover prevention, monitoring, mitigation and fire

¹Affected countries included Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Thailand. The fire burned more than 9 million hectares of land, 6.5 million of which were forested. Damage was estimated at more than \$9 billion in economic, social and environmental losses, including the release of an estimated 1–2 billion tons of carbon.

²The agreement recognizes the importance of mitigating the transboundary haze pollution through concerted national and international cooperation, and comprehensively addresses all aspects of fire and haze including prevention, monitoring, and mitigation. An ASEAN Transboundary Haze Pollution Control Fund was established to mobilize financial resources, and the ASEAN Secretariat was designated to coordinate operational activities under the Agreement.

Source: ASEAN HazeOnline. <http://haze.asean.org/> and ADB. 2001. Fire, Smoke, and Haze: The ASEAN Response Strategy. Manila.

suppression measures. Public awareness is a first step through outreach programs down to communities and villages. A panel of ASEAN experts was created in 2005 to provide rapid independent assessments and recommendations on how to mobilize resources during expected critical periods. An ASEAN website—ASEAN Haze Action Online—was created to provide daily updates on fire-and-haze conditions and other information. Substantial progress has been made in implementing the agreement, including the conduct of simulation exercises, implementation of the ASEAN Peatland Management Strategy, and the use of zero-burning and controlled-burning practices. The establishment of a regional air quality monitoring network and development and refinement of the fire danger rating system are planned.

Funds were mobilized through several channels, including ASEAN government funding, the ASEAN Haze Fund (with voluntary contributions), and contributions from international and regional development partners. A broad range of bilateral and multilateral development partners participated in the program, including ADB, Australian Agency for International Development, Canadian International Development Agency, EU, Global Environment Facility, GTZ, Hanns Seidel Foundation (Germany), International Fund for Agricultural Development, Japan International Cooperation Agency, United Nations Environment Programme, United States Agency for International Development, World Health Organization, World Meteorological Organization, and the World Bank. ADB provided \$1 million in technical assistance to support ASEAN capacity building in tackling the haze pollution.

The Importance of Regional Public Goods

Public goods have two fundamental characteristics—no one is excluded from using them; and consumption of a good does not diminish the amount available to others.

As an issue for development economics, regional public goods has a relatively short history, although the study of public finance and related issues of externalities extend back considerably further.⁴² A regional public good is generally defined as a public good that is

shared by two or more countries in a specified region. Public goods vary in terms of “publicness” depending on how they are produced. But in general, they cannot be supplied by usual market mechanisms, as potential suppliers are deterred by the knowledge that they will be unable to reap the full benefit of their efforts. Public sector intervention is needed to define the issue, create appropriate policies, and ensure adequate supplies of public goods. In the context of regional economic cooperation, regional public goods correct problems that individual countries cannot address on their own. For example, the ASEAN response on transboundary haze illustrates how regional public goods can help members address cross-border challenges (**Box 8**).

⁴²I. Kaul. 2006. Public Goods: A Positive Analysis. In J-P. Touffut, ed. *Advancing Public Goods*. Cheltenham, UK and Northampton, MA, USA: Edward Elgar. pp. 13–39.

Climate change and the environment, disease and disaster, good governance and crime-fighting are all regional public goods.

There are many types of regional public goods. One study identifies three essential regional public goods: peace and security, knowledge, and communicable diseases.⁴³ Another highlights taxation, environment, health, criminal activities, and infrastructure.⁴⁴ Generally, these can be classified into the following areas⁴⁵:

- i. Clean energy and energy efficiency—Climate change is a global public good, but its regional dimensions are just as critical. Rising fossil fuel use is increasing CO₂ emissions which, in turn, cause global climate change. Financing, technology, and knowledge are needed to adapt to the impact of climate change and to mitigate its acceleration. Emissions-induced climate change also requires regional institutions for capacity building and knowledge sharing. For example, Clean Air Asia—a joint initiative of ADB, the World Bank, and the US–Asia Environmental Partnership—acts as the region’s air quality network to reduce air pollution and greenhouse emissions from transport, energy, and other sectors.
- ii. Environment—Rapid economic growth has brought tremendous benefits to various regions, but the environmental damage from urban and industrial expansion, and the depletion of natural resources have become increasingly obvious. Problems include serious air and water pollution, dust and sandstorms, marine and coastal management, and competition over river resources. One example in addressing these issues is the Greater Mekong Subregion’s (GMS) Core Environment Program and Biodiversity Conservation Corridors Initiative, an ADB-administered program that seeks to approach economic growth and environmental protection in parallel, and in a way that boosts people’s welfare all along the Mekong river basin.
- iii. Communicable Diseases—The rapid spread and emergence of diseases such as HIV/AIDS, severe acute respiratory syndrome and avian influenza can be exacerbated by greater integration and increased cross-border mobility. Regardless, the potential for epidemics requires regional frameworks and coordinated policy structures among vulnerable countries, as well as between developed and developing countries. This could also include vaccines and best practices for treating region-specific diseases. Recently, a new alliance between Singapore, Indonesia and Malaysia, *UNITEDengue*, was formed to speed up dengue surveillance and control, and hopes to expand to other countries in the region that face the same vulnerability.
- iv. Disaster Risk Management—Asia is more prone to natural disasters than anywhere else in the world. Earthquakes, tsunamis, transboundary pollution, and rising sea levels highlight the cross-border impact of natural (and some man-made) disasters. There is need for a high degree of regional coordination to respond quickly and efficiently. It also stresses the need for regional disaster prevention as well as early warning systems. To reduce Central Asia’s vulnerability to disasters, for example, the UN established the Central Asia and Caucasus Disaster Risk Management Initiative, where risk assessments are prepared and regional issues and potential areas of co-operation addressed, including financing and information sharing.
- v. Governance—Good governance is a quintessential public good. The importance of collective and coordinated action for good governance, the adoption and monitoring of sound practices, and control of transborder crime is becoming increasingly important as the region’s economies become more integrated through trade facilitation and improved infrastructure. In 1999, 30 governments in Asia joined to cooperate in the fight against corruption, creating an Anti-Corruption Initiative for Asia-Pacific under the joint leadership of ADB and the Organisation for Economic Co-operation and Development. The program’s Anti-Corruption Action Plan for Asia and the Pacific sets out goals and standards for sustainable safeguards against economic and political corruption.
- vi. Human and Drug Trafficking and Money Laundering—The problem of human trafficking may be increasing as result of differential growth rates, rising inequality and improved connectivity. Sustained progress in addressing this issue requires policy dialogue in appropriate forums. The problem of money laundering also requires a coordinated regional solution—an objective pursued by the 41-member Asia/Pacific Group on Money Laundering.

⁴³T. Sandler. 2006. Regional Public Goods and International Organizations. *The Review of International Organizations*. 1 (1). pp. 5–25.

⁴⁴V. Tanzi. 2005. Social Protection in a Globalizing World. *Rivista di Politica Economica Policy Paper*.

⁴⁵ADB. 2010. *Institutions for Regional Integration: Toward an Asian Economic Community*. Manila.

Throughout its 47-year history, ADB has been active in many of these fields. Regional public goods is the fourth pillar of ADB's 2006 *Regional Cooperation and Integration Strategy*.

Challenges in Providing Regional Public Goods

While proliferation of regional and subregional programs in Asia heightens the attention given to regional public goods, financing the supply and logistics required remains a challenge to regional cooperation.

Development banks like ADB have increasingly taken up the cause of regional public goods.⁴⁶ But they are not without problems. Conceptually, some studies note that regional public goods may be more difficult to provide for than global public goods. Some of the problems identified include:

- i. lack of spillover/benefit for major donors,
- ii. lack of lead countries,
- iii. political security issues in some regions,
- iv. lack of a single beneficiary as borrower, and
- v. lack of interest in part due to apathy and the perceived lack of influence in international forums where different regional public goods are discussed.

Also, the financing and logistics in delivering regional public goods differ widely and are heavily dependent on how they are produced. For example, finding a cure for AIDS is most likely a “best shot” public good, where the largest effort determines the level of public good that can be achieved. This, however, means that a lead nation—most likely an advanced economy—must work to coalesce and focus resources. Without such a leader, little can actually be achieved.

There has been much discussion on how to tackle these difficulties, using innovative financing to produce regional public goods. In Asia, several ideas have been explored:

- i. tapping private resources from both nonprofit sources (philanthropies) and business;
- ii. establishing public-private partnerships—especially where there is some prospect for the longer-term private sector profitability, for example, the Medicines for Malaria Venture, which concentrates resources to achieve best shot public goods (new medicines); and
- iii. fees for cooperation programs that essentially operate as “clubs”—where membership benefits and costs are clearly discernible and hence more likely to attract collection of “club fees”. Subregional cooperation initiatives within each cooperation program could also collect fees—for example, regional power grids, waterways, and cross-border economic corridors.

Regional Public Goods and Institutional Design

Regional public goods pose two major challenges to the design of institutions for regionalism—new or existing institutions, and the standards used to deliver goods where they are needed most.

First, is the public good to be provided by new or existing institutions? On balance, there is much to favor existing institutions as it takes advantage of hard-earned trust and minimizes the risk and marginal costs of addressing a new area. For example, the 20-year old GMS could extend cooperation into disaster risk management. A potential problem with using existing institutions would be lack of interest by a significant number of members or the need to cooperate with areas outside the cooperation program.

Second, how should a group establish subsidiary standards to bring institutional responses as close as possible to the area affected by the goods spillover? There will be those who get no benefits being asked to contribute, or some who receive benefits remain out of the group of participants. The subsidiary principle also leads to a decrease in transaction costs derived from negotiating and supervising regional public goods—it reduces the number of participants and allows great homogeneity in the interests of those involved. This argues against the need for a pan-Asian institution to deliver regional public goods. The strict application of the subsidiary principle may actually

⁴⁶See, for example, A. Estevadeordal et al. 2009. *Bridging Regional Trade Agreements in the Americas*. New York, US: Inter-American Development Bank.

be counterproductive when goods have important economies of scale in their production or distribution, such as in the procurement of pharmaceuticals or transactions in the international carbon market, particularly for small economies. In that case, it may prove more efficient to search for institutions, which have a large jurisdiction. Similarly, if goods have broad economies of scope, the subsidiary approach will have to be modified. In this case, it might be better to integrate different activities under the same institutional structure to take advantage of existing links.⁴⁷

Regional public goods can play a key role in addressing many global issues as well.

Increasing interdependence among countries may also make regional public goods imperative. The increase in regional cooperation programs in Asia greatly facilitates the production of regional public goods. Although financing and production of regional public goods is not without problems, large regional development banks like ADB maintain regional public goods programs effectively covering a wide spectrum of issues. The subsidiary principle should play a key role in designing regional institutions, but factors such as economies of scale and scope, how specific regional public goods are produced, as well as the goods themselves, also must be carefully considered in designing institutions for regional cooperation.

Macroeconomic and Financial Cooperation

While advanced economies continue to struggle with debt and fiscal issues, Asia is moving forward with initiatives and exploring ways to enhance regional collaboration and coordination.

The global economic outlook remains uncertain as authorities continue to grapple with how to restructure and reignite growth. For Asia, it accents the need for deeper cooperation to ensure macroeconomic and financial stability. Further monetary and financial cooperation is also needed to promote trade and integrate production further—key to rebalancing Asia's

sources of growth from overreliance on exports to more domestic and regional demand. Initiatives are underway to further develop and broaden regional financial markets. In September 2012, ASEAN Exchanges—a collaboration of seven ASEAN stock exchanges—announced the rollout of the much-awaited ASEAN Trading Link, initially connecting Bursa Malaysia and the Singapore Exchange. In October, the Stock Exchange of Thailand joined, creating a \$1.4 trillion virtual market. ASEAN+3 has also begun exploring ways to enhance the role of the region's currencies for trade settlement in East Asia.

The Group of 20 (G20) is also pursuing greater economic policy coordination and cooperation to address lackluster growth and job creation, along with the financial and sovereign debt crisis in advanced economies.

In 2012, the G20—the premier forum for international economic cooperation—concentrated on immediate risks to the global economy, including the eurozone debt crisis. It made progress on policy coordination through its Los Cabos Growth and Jobs Action Plan and Accountability Assessment Framework—to establish procedures for reporting progress on policy commitments. To strengthen the global financial firewall and enhance the International Monetary Fund's (IMF) role in crisis prevention and resolution, the G20 agreed last year to increase IMF resources and total commitments to about \$461 billion. Moreover, it expanded policy coordination and cooperation on numerous agendas—such as open trade and investment (to resist protectionism), financial regulation and reform, financial inclusion, food security, commodity price volatility, the development challenge, and inclusive green growth.

In early January this year, the Basel Committee on Banking Supervision agreed to loosen restrictions on which assets can be used for the liquidity coverage ratio, postponing full implementation until 2019.

The liquidity coverage ratio (LCR) was developed to increase short-term resilience of banks' liquidity risk profile—an essential component of the Basel III reforms. The LCR standard forces banks to have an adequate stock of unencumbered high quality liquid assets (HQLA)—cash or assets that can be converted into cash without losing much value in private markets—to meet

⁴⁷R. Kanbur. 2001. Cross-Border Externalities, International Public Goods and their Implications for Aid Agencies. *Cornell University Department of Applied Economics and Management Working Paper Series*. No. 127364. New York: Cornell University.

their liquidity needs for a 30-calendar day liquidity stress scenario. The Basel Committee on Banking Supervision amended the HQLA definition and the timetable for phasing in the standard. Given ongoing market and economic pressures, the introduction of the LCR standard was made more pragmatic and gradual.⁴⁸ This gradual approach is designed to ensure the least disruption to banking systems and real economies.

Various regional groupings and policy forums remain the main venue for policy cooperation and coordination, particularly when working toward financial stability regionally and globally.

The Executives' Meeting of East Asia Pacific Central Banks (EMEAP)—a cooperative organization of central banks and monetary authorities in East Asia and the Pacific—met in July 2012 to discuss progress on bank supervision, financial markets, payment and settlement systems, and information technology, among others. The governors also examined progress on enhancing surveillance and creating a regional crisis management framework. The South East Asian Central Banks (SEACEN) Meeting of the Board of Governors and High Level Seminar in November 2012 explored ways to bolster financial stability through enhanced regional collaboration and coordination. Also in November, ministry of finance and central bank deputies from ASEAN+3 met to review progress of ASEAN+3 financial cooperation initiatives and conduct economic review and policy dialogue.

Inter-regional policy forums promote dialogue across regions, contribute to global cooperation in addressing economic crises, and support inter-regional trade and investment.

At the 2012 Asia–Pacific Economic Cooperation (APEC) Finance Ministerial Meeting held in Moscow, Russia at the end of August last year, ministers highlighted the need to promote growth and stability amid uncertainty and significant downside risks to the global economy. The discussions also stressed the importance of financial literacy and financial policies in tackling the impact of natural disasters. The Asia-Europe Meeting (ASEM) of Finance Ministers in Thailand last October discussed how regional financial arrangements in Asia and Europe could

help secure financial stability. Ministers also reaffirmed Asia and Europe's partnership for enhancing inter-regional investment and trade. The IMF and World Bank annual meeting—in effect a global policy forum—was held in Japan in October 2012 with the eurozone debt crisis and US recovery topping its agenda.

Currency swap arrangements have been used widely since the 2008/09 global financial crisis and have become a major form of central bank coordination.

A currency swap is a financial transaction in which two counterparties exchange specific amounts of two different currencies and repay at a future date based on a predetermined rule reflecting both interest payments and principal amortization.⁴⁹ A simpler form of currency swaps has been used much more frequently—where only principal amounts are exchanged on the initial and maturity dates at agreed exchange rates. The primary purpose of currency swaps between central banks is to provide ample liquidity, manage international reserves, and help stabilize financial markets. The 2008/09 global financial crisis, particularly after the collapse of Lehman Brothers in late-2008, led to unprecedented use of bilateral currency swaps between central banks. To offer dollar liquidity to financial institutions and thus relieve financial stress, the US Federal Reserve (the Fed) extended swap lines initially to the central banks of Canada, eurozone, Japan, Switzerland and the United Kingdom, and then to those in other advanced economies. For the first time, the Fed granted similar arrangements with four emerging economies: Brazil, the Republic of Korea, Mexico, and Singapore (\$30 billion each). The European Central Bank also established swap agreements with some European economies—helping calm global financial markets, including those in emerging economies.

Central banks in Asia have expanded multilateral and bilateral currency swap agreements to guard against financial crises in the region and to ease trade settlement in local currencies.

In addition to accumulating large stocks of foreign exchange reserves to insure against future crises, ASEAN+3 also set up a regional reserve pooling

⁴⁸Specifically, the LCR will start as planned on 1 January 2015, but the minimum requirement will begin at 60%, rising gradually to full implementation on 1 January 2019.

⁴⁹S.Y. Cross et al. 1986. Recent Innovations in International Banking (Cross Report). *Committee on the Global Financial System Publications*. No. 1. Basel: Bank for International Settlements.

Table 16: Swap Arrangements—India, Japan, and the Republic of Korea

Counterparties	Date	Amount	Swap Term	Note
Republic of Korea–Japan	Jun-10	\$3 billion	3 years	Bank of Japan (BoJ) and the Bank of Korea (BoK) bilateral won–yen swap arrangement extended until 3 July 2013. Originally signed in May 2005, it was expanded to \$20 billion from Dec 2008 to Apr 2010 and \$30 billion from Oct 2011 to Oct 2012.
Republic of Korea–PRC	Oct-11	KRW64 trillion (CNY360 billion)	3 years	The BoK and the People's Bank of China (PBOC) doubled its bilateral won–renminbi swap arrangement. Originally signed on Dec 2008, it was on top of the existing arrangement under the Chiang Mai Initiative. On Dec 2012, the swap was expanded to finance trade settlement facility.
Japan–India	Dec-12	\$15 billion	3 years	The BoJ and the Reserve Bank of India signed a yen–rupee Bilateral Swap Arrangement (BSA). Expanded from \$3 billion, the BSA was originally signed in Jun 2008.
India–SAARC	May-12	\$2 billion		The South Asian Association for Regional Cooperation (SAARC) Swap Facility will be offered in US dollar, Euro or Indian Rupee against the domestic currency or domestic currency denominated government securities of the requesting country. The corpus of \$2 billion is contributed entirely by India. SAARC members are Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka.

PRC = People's Republic of China.

Source: Bank of Japan, Reserve Bank of India, and The Bank of Korea.

arrangement—Chiang Mai Initiative Multilateralization (CMIM), a multilateral currency swap agreement governed by a single contract—to provide emergency liquidity support and supplement existing financial facilities.⁵⁰ A similar swap arrangement is emerging in South Asia with the Reserve Bank of India offering a \$2 billion facility to members of the South Asian Association for Regional Cooperation (SAARC). Major Asian economies, including the PRC, India, Japan, and the Republic of Korea, also established bilateral swap lines among themselves or with other trading partners to provide short-term liquidity support. Those facilities are mostly in US dollars and mitigate the spillovers from financial turmoil (**Table 16**). However, the currency swaps offered by the People's Bank of China (PBOC) are mostly in the local currencies of signatories.

Beyond promoting financial cooperation and financial stability, PBOC's swap lines aim to expand trade settlement in local currencies—thus promoting trade and investment between the PRC and its partners.

Since December 2008, the PRC signed local-currency swap agreements with 18 central banks within and outside of Asia, including some advanced economies (**Table 17**). The swap lines total about CNY1.7 trillion. It is unclear whether any have been activated, except briefly

to the Hong Kong Monetary Authority, which activated its swap line in 2010 when it faced a renminbi shortage. PBOC's swap arrangements are effective for an initial period of 3–4 years and can be extended, as opposed to the usual validity of 1 year or less. The swaps can be activated by either party to provide local currency liquidity—critical when global financial stress heightens and major settlement currencies such as the US dollar are in short supply. By using local currencies, economies are better able to stabilize bilateral trade flows even when trade finance collapses and exchange rates fluctuate wildly. This also reduces the US dollar reliance, currency risks, and possibly trade transaction costs. One of the key lessons from the 2008/09 global financial crisis was how the global credit crunch froze US dollar-based trade finance, which led to a sudden halt in trade flows.

Beyond short-term liquidity support, renminbi swaps have a clear long-term objective of supporting bilateral trade and investment in local currencies. In December 2012, the Bank of Korea, Korean Ministry of Strategy and Finance, and PBOC introduced a trade-settlement facility—financed by the PRC–Republic of Korea currency swap arrangement (with an amount of CNY360 billion or KRW64 trillion). The facility will be used to support trade settlement in renminbi by Korean firms and in won by Chinese firms. An active use of both countries' currencies in bilateral trade and investment will open the renminbi-won foreign exchange markets and make the swap facility permanent, thus deepening financial integration between the two economies. The PRC–Republic of Korea swap-financed trade settlement facility could become a model for other countries. While improving renminbi

⁵⁰For a detailed introduction of CMIM, see ADB. 2012. *Asian Economic Integration Monitor* July 2012. Manila. p. 49.

Table 17: Swap Arrangements—People's Bank of China

Date	Counterparty	Amount (CNY billion)	Swap Term (years)	Note
Mar-09	Belarus	20.0	3	
Mar-09	Indonesia	100.0	3	
Mar-09	Argentina	70.0	3	
Jun-10	Iceland	3.5	3	
Jul-10	Singapore	150.0	3	
Apr-11	New Zealand	25.0	3	
Apr-11	Uzbekistan	0.7	3	
Jun-11	Kazakhstan	7.0	3	
Oct-11	Republic of Korea	360.0	3	Swap amount increased from CNY180 billion in Dec-08
Nov-11	Hong Kong, China	400.0	3	Swap amount increased from CNY200 billion in Jan-09
Dec-11	Pakistan	10.0	3	
Dec-11	Thailand	70.0	3	
Jan-12	UAE	35.0	3	
Feb-12	Malaysia	180.0	3	Swap amount increased from CNY80 billion in Feb-09
Feb-12	Turkey	10.0	3	
Mar-12	Mongolia	10.0	4	Swap amount increased from CNY5 billion in May-11
Mar-12	Australia	200.0	3	
Jun-12	Ukraine	15.0	3	
Total		1,666.2		

Source: People's Bank of China.

settlement facilities in Hong Kong, China, the PBOC and its counterpart are also setting up similar platforms in Taipei, China and Singapore. These bilateral local currency trade settlement facilities will pave the way for a regional local currency trade settlement infrastructure.

Renminbi bilateral swaps are one key element in boosting international use of renminbi and ensure its convertibility.

Establishing swap agreements is a significant step in internationalizing the renminbi. In 2009, to cope with the global financial crisis, the PRC introduced pilot schemes to encourage renminbi use in cross-border

trade settlement—later expanded to cover all current account transactions. Renminbi swaps provide easy and low-cost access to renminbi liquidity in other countries, and thus, increases the use of renminbi internationally. As the world's biggest exporter, the PRC could easily boost renminbi use in trade settlement. Building on its use in current account transactions, the renminbi could gradually be used in capital account transactions as the PRC gradually removes controls.

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The Asian Economic Integration Monitor is a semiannual review of Asia's regional economic cooperation and integration. It covers the 48 regional members of the Asian Development Bank. This issue includes a special chapter—Multilateralizing Asian Regionalism: Approaches to Unraveling the Asian Noodle Bowl.

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