## PROGRESS IN REGIONAL COOPERATION AND INTEGRATION

Asian Economies under Changing Global Environment Updates on Trade and Investment Integration Updates on Financial Integration Updates on Movement of People Updates on Trade Policy

# **Progress in Regional Cooperation and Integration**

## Asian Economies under Changing Global Environment

n the past decade, Asia emerged as a growth leader of the global economy. This strength was largely supported by deepening regional economic integration, anchored on expanding global production networks as well as positive external conditions during this period. For instance, in the decade after the Asian financial crisis (AFC), global trade grew 5.7% on average, benefitting Asia's relatively more open economies than the rest of the world. From 2000 to 2007, the share of intraregional cross-border trade grew two percentage points and financial flows five percentage points. As a result, economic growth in developing Asia continued to increase steadily—peaking at 10.1% in 2007.

The strength of Asia's growth was also supported by the set of structural reforms. Generally, these (i) fostered greater macroeconomic stability, (ii) liberalized trade and investment regimes, (iii) strengthened economic policy making, and (iv) made markets more efficient. Infrastructure investment—particularly in transport and logistics—helped reduce trade costs, providing an impetus to growth. Resilience strengthened by stockpiling reserves, declines in public deficits and debt, lower inflation, and in some economies more flexible exchange rate regimes helped the region withstand several episodes of global financial volatility.

Amid slowing demand from advanced economies during the global financial crisis (GFC) of 2008/09, domestic and regional demand cushioned the fall in output. This occurred as most economies in the region cut interest rates and used fiscal stimulus to support domestic consumption and investment growth. Meanwhile, regional supply chains continued to benefit from unilateral and regional liberalization arrangements—boosting regional demand and regional resilience. In 2014, intra-Asian trade remained 55.6% of its total trade, slightly higher compared with intraregional foreign direct investment (FDI) (52.6%).

The GFC's impact on growth was much more modest than that of the AFC **(Figure 1)**. And since the GFC, Asia's economic growth remains strong relative to other regions. But growth has slowed in recent years—after recovering to 9.3% in 2010, aggregate growth declined to 6.2% in 2014—still well above the 3.4% global average, but lower than the region's precrisis growth rates.

Figure 1: Real GDP Growth (%, y-o-y)



2000 2002 2004 2006

-Advanced economies -Developing Asia

2008

201

12 10

8 6

4 2 0

-2 -4 -6

992

766

966

366

# Structural reasons for Asia's recent growth slowdown

Empirical analysis suggests that income convergence could be one reason for the slowing growth trend across developing Asia.<sup>1</sup> Generally, given a certain fixed level of technology, growth decelerates as an economy reaches higher income levels. This pattern emerges as the marginal contribution to growth of capital accumulation tends to be much higher for low-income than high-income economies. Ito (2015) examined the growth of four "growth miracle economies" (GME)-the People's Republic of China (PRC); Hong Kong, China; the Republic of Korea; and Singapore—the growth of four ASEAN economies (ASEAN-4) and the growth of Cambodia, Lao PDR, Myanmar, and Viet Nam (CLMV) during the pre-AFC (1985-1996), post-AFC/pre-GFC (1999-2007), and post-GFC (2010-2015).<sup>2</sup> He finds that PRC growth followed the GME growth path, with others following several decades later. The same correlation was observed for the ASEAN-4, although the correlation appears less tight. It is notable that CLMV economies are approaching the ASEAN-4 convergence growth path; while Malaysia and Thailand have thus far failed to reach the higher GME convergence growth path (Figure 2). Some other results include (i) the Philippines showing a continuously increasing growth trajectory, and (ii) Singapore remaining above the GME growth path from the start.

To test these results further, an income convergence model is estimated following Barro and Sala-i-Martin (1990)—using 111 economies with growth rates calculated for 1999–2007 and 2010–2014.<sup>3</sup> The results confirm Ito's finding of two income convergence paths in the region, with GME economies tracking a higher income convergence path **(Figure 3)**.

The PRC remains the region's center of gravity in economic expansion. Its shift to a slower but more sustainable growth path is another primary reason behind the mild deceleration in both regional and global economic growth. Moreover, the growth slowdown in the region can be explained

- <sup>1</sup> As in Barro and Sala-i-Martin (2003), ".... conditional convergence applies when the growth rate of an economy is positively related to the distance between this economy's level of income and its own steady state. Conditional convergence should not be confused with absolute convergence, a concept that applies when poor economies tend to grow faster than rich ones (and, therefore, the poor tend to "catch up." .....The two concepts are identical if a group of economies tend to converge to the same steady state."
- <sup>2</sup> T. Ito. 2015. Lessons of Global Financial Crisis for Asia. Presentation for the 7<sup>th</sup> International Policy Advisory Group Meeting. Manila. 3–4 August.
- <sup>3</sup> R. Barro and X. Sala-i-Martin. 1990. Economic Growth and Convergence Across the United States. *NBER Working Papers*. No. 3419. Cambridge, MA: NBER.

#### Figure 2: Income Convergence— Selected Asian Economies



CAM = Cambodia; PRC = People's Republic of China; HKG = Hong Kong, China; IND = India; INO = Indonesia; KOR = Republic of Korea; LAO = Lao People's Democractic Republic; MAL = Malaysia; MYA = Myanmar; PHI = Philippines; SIN = Singapore; THA = Thailand; VIE = Viet Nam.

Note: Per capita levels and growth rates computed over three subperiods: 1985–1996, 1999–2007, and 2010–2015, where 2015 is the IMF forecast.

Source: T. Ito. 2015. Lessons for Global Financial Crisis for Asia. Presentation at the 7th International Policy Advisory Group Meeting. Manila. 3–4 August. Using data from *World Economic Outlook April 2015 Database*, International Monetary Fund.

## Figure 3: Income Convergence—GMEs vs ROW



GME = "growth miracle economies" (PRC; Hong Kong, China; Republic of Korea; Singapore), ROW = rest of the world.

Note: Dataset comprises of 111 economies from the World Bank's WDI database with GDP per capita data beginning 1985 (96); 1999 (110) and 2010 (111). Log per capita GDP in the x-axis corresponds to values per these 3 years. The model follows work done by Barro and Sala-i-Martin (NBER, 1990). The dependent variable is log(GDPcap<sub>2014</sub>/GDPcap<sub>1999</sub>)\*1/T, where T is the years within each interval (1999-2007 and 2010-2015). The independent variables are per capita GDP (1999) and a GME dummy.

Source: ADB calculations using data from World Development Indicators, World Bank.



Note: Economies were classified by type of growth of their working age population (those aged 15–64). They are considered as fast growing if their working age population expands by at least 2% per year; moderately fast if their working age population growth is between 1% and 2%; stagnant if their working age population growth is between 0 and 1%; and declining if their growth is negative. Source: ADB calculations using data from *World Population Prospects: The 2015 Revision*, United Nations.

#### Figure 5: Labor Productivity





PRC = People's Republic of China. Note: Growth rates were de-trended using Hodrick-

Prescott filter. Source: ADB calculations using data from Conference Board Total Economy Database, May 2015 edition. in part by the demographic dividend—which has turned from positive to negative. An analysis of labor force growth in Asia shows the number of economies with rapidly growing labor force (greater than 2%) is decreasing **(Figure 4)**. More so, the number of economies with stagnant labor force growth (between zero to 1%) has stabilized and includes some of the biggest economies in the region—the PRC; Hong Kong, China; the Republic of Korea, and Thailand, for example. The number of economies with negative labor force growth rates has also grown.

The region's growth slowdown also coincides with slowing labor productivity growth. From 1990 to 2014, labor productivity has slowed for most of developing Asia (Figure 5). The PRC's labor productivity growth began to fall in 2007, while India's labor productivity slowed subsequently. The slowdown in labor productivity in agriculture is mainly due to falling investment, diversion of productive agricultural land to nonfarm purposes, and climate change—which reduced most farm yields. Similarly, labor productivity growth in manufacturing eased as benefits from trade reform were exhausted and skilled labor shortages sparked wage increases across the region. In services, labor productivity also stalled from the rising share of low-productivity informal sector and household-orientated services. Efforts to boost fertility to shore up the future working age population in some economies—the PRC's shift from a one-child to a two-child policy is an example-must be accompanied by efforts to shore up productivity by investing in human capital as well as promoting creativity and innovation.

## **External impact on economic growth**

To analyze how external conditions have affected growth in Asia over time, a structural vector autoregression (SVAR) model of the growth of Asian economies is estimated. Several external and domestic factors grouped as external and internal blocks—are used as explanatory variables of Asian GDP growth.<sup>4</sup> External factors represent economic conditions outside the domestic economy that affect the growth of Asian economies. These include (i) US GDP growth, a proxy of growth in advanced economies; (ii) US Federal Funds Futures, a measure of US monetary policy; and (iii) VIX index, a measure of global risk.<sup>5</sup> Together, they comprise the external block in the baseline model, and are assumed to be unaffected contemporaneously by shocks from the internal block. Further, shocks to the external factors are assumed to be transmitted in the same order as above. In an alternate specification, the external block is expanded by including PRC GDP growth—to analyze the impact of PRC growth on emerging Asian economies.

The domestic block includes four variables: (i) the economy's GDP growth, (ii) the domestic short-term policy or money market rate, (iii) the

<sup>&</sup>lt;sup>4</sup> The approach follows the International Monetary Fund analytical framework used in Chapter 4 of its World Economic Outlook April 2014. See IMF. 2014. On the Receiving End? External Conditions and Emerging Market Growth Before, During, and After the Global Financial Crisis. World Economic Outlook April 2014. Washington.

<sup>&</sup>lt;sup>5</sup> We take the US Federal Funds Futures as the key explanatory variable representing QE tapering (and expected changes thereof). While we have modeled the SVAR assuming that it is not contemporaneously affected by the variables in the domestic block, this feedback loop is indeed possible, but not explored in the current specification of the model.

#### Figure 6: Impulse Response of Domestic Real GDP Growth to External Shocks

(percentage points; x-axis = number of quarters)







GFC = global financial crisis.

Note: Pre-GFC = 2001Q1 to 2008Q1; Post-GFC = 2009Q1 to 2015Q2. Average for sample economies. Source: ADB calculations using data from CEIC and national sources.

domestic inflation rate, and (iv) the growth of domestic credit. While the internal block does not affect the external factors contemporaneously, it affects the external block with a lag.<sup>6</sup> The SVAR model was estimated from 2000Q1 to 2015Q2, using economic data of 11 Asian economies—the PRC, India, ASEAN-4 and Viet Nam (collectively "ASEAN-5"), and the newly industrialized economies (NIEs).<sup>7</sup> To analyze the changing pattern of spillover effects on the region, the estimation period was split into "pre-GFC" (2001–2008Q1) and "post-GFC" (2009–2015Q2) periods.<sup>8</sup>

Consistent with results from similar studies, stronger growth in the US exerts a positive and persistent boost to economic growth in Asia. However, the US growth impact appears to have weakened and become less persistent after the GFC. Prior to the crisis, a one-percentage point increase in US growth typically boosted Asian economies' growth by about 0.3 percentage points. The effect lasted for about a year and gradually died down after 5 to 6 quarters. After the GFC, however, the impact was less—at about 0.2 percentage points. It also died down more quickly, by the end of the first year **(Figure 6)**.

The expectation of tighter US monetary policy, represented by the US Federal Funds Futures (FF), appears to have a mixed effect on Asian growth. Prior to the GFC, a positive shock to the FF had a positive effect on Asian growth. However, after the GFC, a shock to the FF had a positive effect on growth initially, but turns negative after the second quarter.<sup>9</sup>

- <sup>6</sup> All variables enter the model with two lags. Due to the short time period employed in the model, the use of higher than two lags results into nonconvergence and/or near-zero estimates.
- <sup>7</sup> NIEs include Hong Kong, China; the Republic of Korea; Singapore; and Taipei, China.
- <sup>8</sup> Pre-GFC period refers to quarters through 2008Q1; post-GFC refers to 2009Q1 through 2015Q2.

<sup>&</sup>lt;sup>9</sup> Due to little variance in the FF in the post-GFC period, its impact on Asian growth warrants further analysis. It may be possible that before the GFC, the expectation for tighter monetary policy in the US could be associated with strengthening US economic growth—which had a positive spillover on Asian economies. In the post-GFC, while the expectation for tighter monetary policy still carries a positive US growth spillover effect, episodes of capital flow reversals—such as those during the "taper tantrum" between May and September 2013 could also introduce a negative spillover effect.

#### Figure 7: Share of Asian Output Variance Due to External and Local Factors—Baseline Model (%, x-axis =

number of quarters)



GFC = global financial crisis, US = United States. Note: Pre-GFC = 2001Q1 to 2008Q1; Post-GFC = 2009Q1 to 2015Q2. Average for sample economies. Source: ADB calculations using data from CEIC and national sources.

#### Figure 8: Response to Real GDP Growth

**Shock in the PRC** (percentage point response to a 1 SD rise in PRC growth)



US = United States. Note: Pre-GFC = 2001Q1 to 2008Q1; Post-GFC = 2009Q1

to 2015Q2. Average for sample economies. Source: ADB calculations. Finally, higher global risks—as measured by higher levels of VIX—exert negative effect on Asian economic growth, with the effect lasting for about 2 years. The negative effect appears much larger during the pre-GFC period compared with the post-GFC period.

Taking all three global factors into account, the variance decomposition analysis reveals that shocks to internal factors still tend to explain most of the growth variance **(Figure 7)**. Further, the importance of these internal factors also increased in the postcrisis period—not surprising given the change in the region's policy landscape. In the aftermath of the GFC, policy makers worked to rebalance growth away from exports to domestic demand. And this rebalancing effort could explain the increasing importance of internal factors. Another possibility, however, is the presence of other exogenous factors—such as the rising importance of the PRC—exerting a stronger influence on the growth dynamics of Asian economies.<sup>10</sup>

Consequently, the proportion explained by shocks to external factors declined between the two periods. In particular, while shocks to external factors used to account for about 41% of the growth variance in the precrisis period, it fell to about 24% in the postcrisis period. Results for the NIEs and ASEAN-5 shows the relatively more open NIEs saw a larger drop in the share of external factors' contribution to their growth variance—from about 41% pre crisis to about 17% postcrisis. The ASEAN-5, on the other hand, still derives 25% of its growth variance from external factors, down from about 44% in the precrisis period.

The baseline model is expanded to add PRC growth as another external (or "regional") factor. The model assumes PRC growth is unaffected by the growth of other Asian economies, but affected by US growth and monetary policy. In contrast, US growth is assumed not to be affected by PRC growth contemporaneously. This expanded model could help show how exposed Asian economies are to PRC growth slowdown.

As expected, a positive shock to PRC growth—controlling for the impact of other global factors—can boost Asian economic growth. The positive impact also tends to be more persistent after the GFC. More specifically, in the precrisis period, the positive effect only lasted for about four quarters. However, in the postcrisis period, the growth effect is much higher and long-lasting **(Figure 8)**." This result confirms the PRC's increasing role as a major growth driver in the region.

<sup>&</sup>lt;sup>10</sup> The variance decomposition shows the proportion of the growth variance that can be explained by shocks to external as against internal factors.

A positive GDP shock from the PRC can affect Asian economies immediately through increased trade, but after a while, this increase in demand from the PRC can significantly raise commodity prices, which also in turn affects import prices. This increase in commodity prices appears to negatively impact Asian economies over time, which was quite pronounced pre-GFC due to a huge price increase in the run-up to the crisis, yet largely disappeared post-GFC.

#### Figure 9: Share of Asian Output Variance due to External and Local

Factors—Expanded Model (%, x-axis = number of quarters)



PRC = People's Republic of China, GFC = global financial crisis, US = United States. Note: Pre-GFC = 2001Q1 to 2008Q1; Post-2009Q1 to 2015Q2. Average for sample economies. Source: ADB calculations using data from CEIC and national sources.

Consistent with the baseline model, the variance decomposition for the "SVAR model with the PRC" confirms the declining importance of the US factor and increasing importance of the PRC to the region's growth **(Figure 9)**. While the share of US factors—as proportion of the growth variance—fell across the sample group of economies, the share of PRC factor increased from 16% to 24% over the same period. Among individual economies, the largest increases from the precrisis period are for Singapore; Indonesia; the Republic of Korea; and Taipei,China; while decreasing PRC contribution is observed for the Philippines, Malaysia, and Viet Nam.

Nonetheless, domestic factors still explain most of the variation in output growth as a whole across the two models. On average, domestic factors account for at least 40% of the variability in individual growth rates in the precrisis period, and slightly increasing to 43% in the postcrisis period.

## Updates on Trade and Investment Integration

## Asia's overall trade

While Asia's trade expansion has traditionally outpaced GDP growth except during the 2008/09 GFC—it fell below GDP growth beginning in 2012. World trade growth has also been below 3% since 2012—lower than global GDP growth **(Figure 10)**. Even after excluding oil and other commodities, trade growth has fallen by volume as well. And the negative divergence is more pronounced in Asia.

Asia's income elasticity of trade has also dropped—from 2.69 pre-GFC (2000Q1-2007Q4) to 1.30 post-GFC (2009Q1-2015Q2)—implying that trade grows less now per one percentage rise in GDP **(Box 1)**.

Aside from protracted global economic recovery, there are several structural factors behind this phenomenon. The shift from exports and







Note: GDP growth for Asia is weighted using gross national income, Atlas Method. For both Asia and world, trade refers to the total trade volume index of the World Trade Organization (WTO). Source: ADB calculations using data from from various issues of *the Asian Development Outlook*, ADB; *International Trade Statistics*, WTO; *World Economic Outlook April 2015 Database*, International Monetary Fund; and national sources.

## **Box 1: Asia's Income Elasticity of Trade**

e assess Asia's declining trade sensitivity using a vector error-correction model (VECM) of Asia's total imports and GDP. Using seasonally adjusted quarterly imports and GDP at 2005 constant prices, we estimate two models covering the pre-GFC (2000Q1-2007Q4) and post-GFC period (2009Q1-2015Q2). Long-run income elasticity of trade is measured by the coefficient of Asia's GDP in the cointegrating equation. Unit root and cointegration tests validate the use of VECM for this exercise. Due to limited data availability for quarterly GDP, the economies included in this analysis are Australia; the PRC; Hong Kong, China; India; Indonesia; Japan; Malaysia; the Philippines; Singapore; the Republic of Korea; Taipei,China; and Thailand.

Long-run coefficient estimates show that there has been a decline in income elasticity of trade. During the pre-GFC, elasticity was 2.69; after the GFC, elasticity fell to 1.30 **(Box table)**. The error-correction term is also consistent

#### VECM Results: Income Elasticity of Trade—Asia

Dependent variable: Log (Asia Imports) Independent variable: Log (Asia GDP)

Period	Cointegrating equation	Error-correction term		
Pre-GFC (2000Q1-2007Q4)	2.69**	-0.28**		
Post-GFC (2009Q1-2015Q2)	1.30**	-0.29**		

\*\* = significant at 5%, GFC = global financial crisis, VECM = Vector Error Correction Model.

Note: Coefficients in the cointegrating equation are multiplied by -1 for presentation purposes. Actual estimates are supposed to be negative since the cointegrating (error-correction) term is constructed by subtracting the right-hand side variable (GDP) from imports. GDP and imports are in constant 2005 US dollars, seasonally adjusted using Census X12.

Source: ADB calculations using data from Oxford Economics Databank.

and statistically significant, indicating a short term deviation of the two series converges to the long-term stable relationship relatively quickly.

Lower income elasticity of trade for Asia could have ramifications through trade-growth nexus: (i) overall economic growth is slowing; and (ii) for the same GDP growth level, import grows less than before. Lower exports to Asia implies less income generation for trading partners—particularly intraregional, which in turn induces even lower growth for the region **(Box figure)**. This highlights the need to make Asia's trade and investment environment more open by lowering trade barriers particularly nontariff barriers and by supporting trade facilitation.

#### **Asia's Imports By Source**

(% of total Asia imports)



EU = European Union, ROW = rest of the world. Source: ADB calculations using data from *Direction of Trade Statistics*, International Monetary Fund.

investment toward consumption and services as growth driver underlies this trend (See "Impact of the PRC's structural transformation", p. 12).

Global and regional value chains are not expanding as rapidly as before. Maturing global value chain linkages can be seen by slowing growth in intermediate goods trade—which accounts for about 60% of Asia's total trade **(Figure 11)**. While the region recovered quickly in 2010 following the GFC, trade across commodity groups began to fall afterward. Intermediate goods trade grew just 3.3% year-on-year (y-o-y) in 2013 and contracted 2.6% in 2014, pulling down Asia's overall trade growth **(Figure 12)**.Excluding highly volatile fuel, oil, and other primary goods, growth in intermediate goods trade fell from almost 5% in 2013 to just 0.5% in 2014. Trade in consumption and capital goods, however, continued to expand in 2014. But this was not enough to offset the sharp fall in intermediate goods as their share in Asia's total trade—though increasing—is still low. "Other goods" trade growth has fallen faster than intermediate goods, though its impact on Asia's overall trade is minimal given its small 5% share.

Given the PRC's large influence in Asia's intraregional trade, its moderating growth induces sluggish export growth across Asia. Asia's trade with the PRC since 1994 has followed a similar growth pattern as its trade with the rest of Asia. It has also been a buffer for the region, particularly during crises **(Figure 13)**. However, in 2014 Asia's trade growth with the PRC fell, coinciding with the sharp fall in Asia's total trade growth (see Figure 10).

## Asia's intraregional trade

Despite declining trade growth, Asia's intraregional trade share has stabilized since the early 2000s at around 55% (Figure 14). This implies roughly half of Asia's trade flows within the region. Indeed, gravity model estimates suggest Asia's intraregional exports are significantly higher than its exports to the rest of the world—after controlling for the impact of economic size, geographic, cultural, and economic proximity (Box 2, Table 1). This is likely driven mostly by consumption goods intraregional exports are significantly higher than Asia's exports to the rest of the world. Results also show that the region imports relatively more capital goods and intermediate goods from the rest of the world than its exports of these goods.

#### **Subregional trade links**

Assessing integration only at the regional level may mask certain patterns that are observed at the subregional level.<sup>12</sup> Subregional bias could show clearer patterns of trade linkages—as intraregional trade is dominated by "large" subregions (in terms of trade share) such as East Asia and Southeast Asia **(Figure 15)**. An estimation model is constructed with subregional dummies—subregional exports to outside Asia as the benchmark. After controlling for bilateral trade frictions and multilateral trade resistance, Central Asia, East Asia, and Southeast Asia trade significantly higher within their subregion across all commodities **(Table 2)**. This shows significant trade linkages occur subregionally. It is worth noting that these subregions have the most developed cooperation and integration initiatives—such as ASEAN, Central Asia Regional Economic Cooperation (CAREC), and Greater Mekong Subregion (GMS), among others.

Intersubregional trade—or trade flows with the rest of Asia—is also statistically significant across all Asian subregions, but it is strongest in South Asia and the Pacific and Oceania where intrasubregional trade links are the weakest. For the Pacific and Oceania, consumption goods are the main driver of intersubregional trade; while in South Asia, intermediate and consumption goods are the main drivers. It should be

Figure 11: Total Trade By Commodity Groups—Asia (\$ billion)



Note: Based on Broad Economic Categories. Source: ADB calculations using data from United Nations Commodity Trade Database.

#### Figure 12: Total Trade Growth, By Commodity Groups—Asia (%, y-o-y)



Note: Based on Broad Economic Categories. Source: ADB calculations using data from United Nations Commodity Trade Database.

#### Figure 13: Asia ex PRC Trade Growth, by Partner (%, y-o-y)



PRC = People's Republic of China. Source: ADB calculations using data from *Direction of Trade Statistics*, International Monetary Fund.

<sup>&</sup>lt;sup>12</sup> See ADB. 2014. Updates on Trade Integration. Asian Economic Integration Monitor April 2014. Manila.

## Box 2: A Dynamic Gravity Model in Measuring Regional Trade Integration

sing simple intraregional trade shares retain a problem in assessing regional trade integration. In particular, trade shares tend to increase as the number of members increase. Inclusion of members with large world trade weights also tends to increase intraregional trade shares (Plummer, Cheong, and Hamanaka 2010).<sup>1</sup> While trade bias represented by intraregional trade intensity can account for the size of the members relative to world trade, it also has problems in range variability, range asymmetry, and dynamic ambiguity which can make interpretation difficult (lapadre and Tajoli 2014).<sup>2</sup> Furthermore, these two measures of trade integration may not control for the size of the economy, trade costs, and unobserved trade friction which can have a direct impact on trade flows.

In international trade literature, gravity models have been staple in measuring trade flows. Trade flows (either exports or imports) are determined by the size of the respective source and destination economies and distance, which appears to be an overall proxy for trade costs. However, this simple specification fails to capture the unobserved multilateral trade resistance (MTR). MTR measures the cost of country *i* to export to country *j* relative to the cost of exporting to other economies (outward multilateral resistance) or the cost of country *i* to import from country *j* relative to the cost of importing from all possible import sources (inward multilateral resistance).

Because of the structural weakness of the intuitive gravity model in assessing trade flows, international trade literature uses Anderson and van Wincoop's (2003) gravity model specifications that account for MTR.<sup>3</sup> To account for time-varying characteristics of each trading partner, the gravity model is augmented with country fixed effects interacted with year dummies—as in Olivero and Yotov (2012):<sup>4</sup>

$$\ln X_{ijt} = \beta_0 + \sum_{i=1}^N \delta_i F_{it} + \sum_{j=1}^M \delta_j F_{jt} + \sum_{i=1}^N \sum_{j=1}^M \beta_{ij} \tau_{ijt} + \rho_{ij} R_{ij} + v$$

- <sup>1</sup> M. Plummer, D. Cheong, and S. Hamanaka. 2010. *Methodology for Impact* Assessment of Free Trade Agreements. Manila: Asian Development Bank.
- P. Iapadre and L. Tajoli. 2014. Emerging Countries and Trade Regionalization: A Network Analysis. *Journal of Policy Modeling*. 36 (1). pp. 89–110.
- <sup>3</sup> J. Anderson, and E. van Wincoop. 2003. Gravity with Gravitas: A Solution to the Border Puzzle. *The American Economic Review*. 93 (1). pp. 170–192.
- 4 M.P. Olivero and Y. Yotov. 2012. Dynamic Gravity: Endogenous Country Size and Asset Accumulation. *Canadian Journal of Economics*. 45 (1). pp. 64–92.
- <sup>5</sup> J. Heckman. 1979. Sample Selection Bias as a Specification Error. *Econometrica.* 47 (1). pp. 153–161.

In this specification, a set of exporter country dummies  $F_{a}$  accounts for all unobserved time-varying country effects that can enhance (GDP) or deter trade (outward multilateral trade resistance). A set of importer country dummies  $F_{it}$  is included for the same purpose. This effectively captures trade resistance factors otherwise left out in traditional gravity models. The term  $\tau_{ii}$  captures the observed trade costs such as distance, shared border, and language, among others.  $R_{ii}$  is a vector of regional dummies. Depending on the sign of  $\rho_{ii}$ , we can test whether countries tend to trade more within the region or outside the region after controlling for trade costs and unobserved country effects. A positive p suggests high intra-Asia trade relative to Asia's exports to the rest of the world, while a negative  $\rho$  suggests otherwise. A statistically insignificant  $\rho$  indicates no difference between intra- and extra-Asia exports.

To account for missing bilateral trade, Heckman's (1979) sample selection estimator (called Heckit estimator) is used.<sup>5</sup> It is assumed that the missing bilateral trade data has a latent data-generating process that using ordinary least squares will result in sample selection bias. Indeed, it can be observed that certain country pairs have nonmissing data in one period, which vanish in subsequent periods. We use the common colonizer dummy from CEPII as the instrumental variable for the selection equation.

For trade data, the United Nations Commodity Trade Database (UN Comtrade) is used with Broad Economic Categories (BEC) commodity classification and regrouped into capital goods, consumption goods, and intermediate goods. Capital goods include capital goods (BEC 41) and industrial transport equipment (BEC 521). Intermediate goods include industrial food and beverage (BEC 111 and BEC 121), industrial supplies (BEC 21 and 22), fuels and lubricants (BEC 31 and 322), and parts and accessories of capital goods and transport equipment (BEC 42 and 53). Consumption goods include food and beverage for household consumption (BEC 112 and 122); transport equipment, nonindustrial (BEC 522); and consumer goods not elsewhere specified (BEC 61, 62, and 63). The model uses 2010-2014 data of 173 countries, of which 43 are from Asia.

#### **Table 1: Gravity Model Estimation Results**

[Dependent variable: Log (Exports)]

Variables	All	Capital	Consumption	Intermediate
	goods	goods	goods	goods
Log(Distance)	-1.83**	-1.76**	-1.86**	-1.78**
	(0.02)	(0.02)	(0.02)	(0.02)
Colonial relationship dummy	0.82**	0.75**	0.92**	0.82**
	(0.11)	(0.10)	(0.11)	(0.11)
Common language dummy	0.95**	0.91**	1.03**	0.81**
	(0.04)	(0.05)	(0.04)	(0.05)
Contiguity dummy	0.86**	0.93**	0.98**	0.91**
	(0.12)	(0.11)	(0.12)	(0.12)
Regional dummies (base : Asia	to ROW)			
Both in Asia dummy	0.95**	0.53	1.05**	0.30
	(0.34)	(0.33)	(0.37)	(0.35)
Importer in Asia dummy	1.04	0.18	2.56**	1.50**
	(0.66)	(0.64)	(0.62)	(0.68)
Both in ROW dummy	-0.57	-1.02**	0.67	0.64
	(0.49)	(0.49)	(0.44)	(0.52)
Rho (sample selection term)	0.05**	0.24**	0.13**	0.04**
Sample size	148,780	148,780	148,780	148,780
Censored observations	40,875	69,288	54,566	51,261
Uncensored observations	107,905	79,492	94,214	97,519

\*\* = significant at 5%, ROW = rest of the world. Robust standard errors in parentheses.

Note: Time-varying country dummies are included but not shown for brevity. Heckman sample selection estimation was used. Data cover 2010–2014 for 173 countries, of which 43 are from Asia. Trade data based on Broad Economic Categories.

Source: ADB calculations using data from United Nations Commodity Trade Database.

noted, however, that there are differences in patterns when the model is estimated separately for the Pacific (excluding Oceania). For instance, consumption goods exports to the rest of Asia is slightly lower but still statistically significant; while intermediate goods trade now becomes insignificant. Meanwhile, the strongest subregions in intrasubregional trade (Central Asia, East Asia, and Southeast Asia) appear to have lesser trade links with Asian peers outside their respective subregions, although this linkage also appears significant for consumption goods. This implies that overall regional trade might be driven by trade in consumption goods, while capital and intermediate goods flows are sustained at the intrasubregional level.

Overall, trade integration has been progressing well subregionally dominated by subregions such as East Asia and Southeast Asia. This leaves further room to improve intersubregional trade in strengthening Asian intraregional trade. Regional trade agreements spanning subregions and intersubregional infrastructure connectivity could help boost trade across subregions. In the meantime, South Asia and the Pacific could enhance trade more within their respective subregions.

#### Figure 14: Intraregional Trade Shares—Asia, EU, North America (%)



EU=European Union (27 members). Note: North America covers the United States, Canada, and Mexico. Intraregional trade shares are calculated as 100  $\cdot$  ( $(X_{ii} + M_{ii})/(X_{iw} + M_{iw})$ ), where  $X_{ii} + M_{ii}$  refers to region i's total intraregional trade and  $X_{iw} + M_{iw}$  refers to region i's total trade with world. Source: ADB calculations using data from *Direction of Trade Statistics*, International Monetary Fund.

#### Figure 15: Intrasubregional Trade Shares—Asia (%)



Note: Intra-subregional trade shares are calculated as 100°(( $X_{u}+M_{u}$ )/( $X_{u}+M_{u}$ )), where  $X_{u}+M_{u}$  refers to region i's total intraregional trade and  $X_{iw}+M_{iw}$  refers to region i's total trade with world.

Source: ADB calculations using data from *Direction of Trade Statistics*, International Monetary Fund.

#### Table 2: Gravity Model Estimation Results—Intra- and Intersubregional Trade

	Central Asia	East Asia	South Asia	Southeast Asia	The Pacific and Oceania				
Intrasubregional trade dummy									
All goods	4.25**	3.34**	0.89**	4.29**	0.75				
Capital goods	3.70**	1.22**	1.66**	2.47**	0.23				
Consumption goods	4.52**	2.48**	1.08**	3.58**	-0.54				
Intermediate goods	3.38**	3.74**	0.61	4.96**	-0.24				
Intersubregional trad	e dummy								
All goods	0.67*	0.59*	3.84**	0.80**	1.70**				
Capital goods	0.02	0.13	0.70	0.41	0.96**				
Consumption goods	0.81*	0.75**	3.51**	0.70*	2.20**				
Intermediate goods	-0.06	-0.08	3.79**	0.42	0.71*				

\*\* = significant at 5%, \* = significant at 10%.

Note: Base category (benchmark) is subregion's trade with countries outside Asia. Heckman sample selection estimation was used. Data cover 2010–2014 for 173 countries, of which, 43 are from Asia. Trade data based on Broad Economic Categories.

Source: ADB calculations using data from United Nations Commodity Trade Database.

## Impact of the PRC's structural transformation

The PRC is moving to a "new normal"—slower yet more sustainable and balanced growth. From 2010 to 2014, GDP growth moderated from 10.6% to 7.3%—as authorities shift away from growth led by exports and investment to one led more by consumption and services. Considerable progress has been made in terms of this rebalancing, with consumption expenditure's share of GDP growth in 2014 reaching 52%, compared with investment (47%) and net exports (1.4%) **(Figure 16a)**. By sector, the share of services in GDP growth (48%) now marginally exceeds industry (46%) **(Figure 16b)**. The slowdown and structural transformation are expected to continue for at least the medium term, given that the 13<sup>th</sup> Five-Year Plan (2016–2020) emphasizes economic rebalancing from heavy industry toward services, with a higher contribution of consumption in growth.

The PRC's economic slowdown and structural transformation will impact the rest of the region significantly, given the economy's weight in intra-Asia trade—which grew dramatically over the past 2 decades **(Figure 17)**. From just over 5% in 1990, Asia's trade with the PRC grew to more than 20% of total trade in 2014. In contrast, Japan's share in Asia's trade declined markedly over the same period in tandem with its outward production expansion through FDI. Others maintain steady shares in total intraregional trade. For both intrasubregional trade in East Asia and intersubregional trade across subregions, the trade linkage with the PRC has become significant.

PRC imports from Asia grew to over \$800 billion in 2011, but have stabilized since—amid the slump in global and Asian trade **(Figure 18)**. Overall, PRC imports from Asia are heavily geared toward intermediate goods, followed by capital goods and finally consumption products. But while intermediate goods imports from Asia have grown minimally

#### Figure 16: Sources of GDP Growth— PRC (% of GDP growth)





Source: ADB calculations using data from Asian Development Outlook April 2015, ADB; and World Development Indicators, World Bank.

#### Figure 17: Asia's Trade Shares, By

**Partner** (% of Asia's total trade)



PRC = People's Republic of China.

Source: ADB calculations using data from *Direction of Trade Statistics*, International Monetary Fund.

## Figure 18: The PRC's Imports from Asia—By Commodity Groups and Asian Subregions



Note: Based on Broad Economic Categories.

Source: ADB calculations using data from United Nations Commodity Trade Database.

by less than 10% since 2010—PRC imports of consumption goods from the region has almost doubled. Subregionally, East Asia's share remains largest for all three categories—though declining over time. Recently, imports of consumption goods from Southeast Asia have surpassed those from East Asia, likely due to declining final goods trade with Japan. Although PRC intermediate goods imports are declining, the relative shares for Central Asia and the Pacific and Oceania have increased—mostly raw materials for PRC manufacturing. Increasing imports from Central Asia since 2008 derive from increased fuel imports from the subregion. In capital goods, however, the PRC imports its heavy machinery largely from the rest of East Asia and Southeast Asia.

The PRC's structural transformation could pose challenges for many Asian economies. Top Asian exporters to the PRC primarily sell raw materials and parts and components **(Figure 19)**. These economies could face severe challenges should the PRC demand for these commodities weaken drastically. Most of them come from East Asia and Oceania, with the rest from Southeast and Central Asia. Exports from East Asia and Southeast Asia are mostly processed intermediate goods, while those from Oceania and Central Asia are raw materials, which are subject to volatile global commodity and oil prices as well. While the PRC's economic transition poses challenges to these economies, its growing consumer market offers opportunities for consumption goods exports and investments in related industries from the region. Among Asian economies, New Zealand had the highest share of consumption



#### Figure 19: Top Asian Exporters to the PRC

Note: Based on Broad Economic Categories.

Source: ADB calculations using data from United Nations Commodity Trade Database.

goods exports to the PRC out of its total exports in 2014, followed by some Pacific developing economies (Fiji, Kiribati, and Vanuatu) and Southeast Asian economies (Viet Nam, Cambodia, and Myanmar). These economies also had the highest increase in consumption goods exports to the PRC over the past 5 years.

## Analyzing regional value chains

Measuring the depth of regional value chains is critical when analyzing trade integration. The build-up and changing patterns of regional value chains in Asia can be traced through the movement of economy market shares and the production weight between low- to high-technology manufactures—the higher-value exports. In 1996, for low-technology products, the PRC, the Republic of Korea, and Thailand ranked highest in terms of market share among the "+3" economies, India, and middle income ASEAN (Indonesia, Malaysia, the Philippines, and Thailand) (Table 3). But by 2014, shares of the Republic of Korea and Thailand fell back with the PRC, India, and Indonesia taking higher shares. For hightechnology products, Japan's share in 1996 was highest at 30%, followed by the Republic of Korea and Malaysia. But by 2014, the PRC was largest with a 43.7% share. For medium-high and medium-low technology products, the +3 economies held the largest market shares throughout the two periods. The Republic of Korea and the PRC, in particular, have been increasing their shares over time.

By export composition, Japan's highest weight was on medium-high technology products throughout the two periods **(Table 4)**. In 1990, the

Table 3: Share in A	Asia's Manufactured	<b>Goods Exports per</b>	Technology Level (%)
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	Hig	h Technol	ogy	y Medium-High Technolog		hnology	Medium-Low Technology			Low Technology		
-	1996	2000	2014	1996	2000	2014	1996	2000	2014	1996	2000	2014
+ 3 Economies												
PRC	5.9	9.4	43.7	6.3	10.1	36.5	10.8	14.9	34.6	21.2	26.3	55.4
Japan	30.0	25.5	7.7	52.8	49.8	23.6	27.6	24.7	11.1	5.4	5.1	2.0
Korea, Rep. of	7.3	10.7	9.4	9.9	9.7	14.4	15.4	16.2	15.1	7.6	6.7	2.4
India	0.4	0.3	1.7	1.1	1.2	3.6	1.9	2.5	9.6	6.0	6.7	9.4
ASEAN-4												
Indonesia	0.9	1.4	0.5	0.9	1.4	1.7	2.6	3.0	1.8	6.1	5.9	5.2
Malaysia	9.4	9.7	4.7	2.2	2.1	2.4	3.5	3.6	4.2	4.5	3.4	3.2
Philippines	2.6	4.5	1.6	0.4	0.6	0.7	0.8	0.8	0.5	1.7	1.5	0.9
Thailand	3.8	3.6	2.7	2.1	3.0	5.2	2.5	3.2	3.6	6.5	5.5	4.3
Rest of Asia	39.8	35.0	28.0	24.3	22.2	11.8	35.1	31.1	19.5	41.0	39.1	17.1
Total Asia	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

PRC = People's Republic of China.

Note: Based on direct R&D intensity measured relative to value-added and gross production statistics. Includes only manufactured goods, classified according to ISIC Rev. 3. High-technology industries include aircraft and spacecraft; pharmaceuticals; office machinery; telecommuncations equipment; and medical and precision instruments. Medium-high technology industries include electrical machinery; motor vehicles; chemicals sans pharmaceuticals; railroad equipment; and other machinery and equipment. Medium-low technology industries include ships and boats; rubber and plastic products; petroleum products; other nonmetallic mineral products; and basic metals. Lowtechnology industries include recycling; wood, pulp, and paper products; food and beverage; and textile products.

Source: ADB calculations using data from STAN Bilateral Trade Database, Organisation for Economic Co-operation and Development (OECD).

#### Table 4: Manufacturing Export Share by Technology Level (% of country's total exports)

	High Technology		Medium-High Technology		Medium-Low Technology			Low Technology				
	1990	2000	2014	1990	2000	2014	1990	2000	2014	1990	2000	2014
+ 3 Economies												
PRC	10.9	22.4	30.6	12.4	19.0	24.4	11.2	13.4	15.8	54.3	41.0	28.0
Japan	29.8	31.7	18.5	50.4	48.8	54.1	12.5	11.5	17.4	5.5	4.2	3.5
Korea, Rep. of	27.1	36.8	27.0	26.1	26.4	39.5	19.1	20.9	28.1	26.4	15.1	4.9
India	4.1	4.7	8.6	11.5	13.5	18.0	8.9	13.2	32.4	58.8	61.0	35.0
ASEAN-4												
Indonesia	1.0	13.2	5.1	3.3	10.3	15.0	11.9	10.8	11.2	35.6	36.6	35.0
Malaysia	31.3	58.5	33.0	6.9	10.1	16.4	8.9	8.2	19.0	24.3	13.4	16.0
Philippines	52.3	70.7	43.6	8.2	7.3	18.9	7.2	4.5	8.5	27.9	14.9	18.1
Thailand	17.2	31.1	19.2	8.5	20.2	35.9	6.2	10.5	16.9	55.8	30.8	22.5

PRC = People's Republic of China.

Note: Starting year for the Republic of Korea is 1994; the PRC, 1992; and the Philippines, 1996. See Table 3 for list of industries belonging to each technological level. Source: ADB calculations using data from STAN Bilateral Trade Database, OECD.

PRC's highest weight was on low-technology products, at 54.3%. By 2014, however, it had moved up the value chain with high-technology products accounting for the highest portion of its exports at 30.6%—followed by medium-high technology products at 24.4%. For India, compared with 1990—when it focused mainly on low-technology exports—the economy gradually switched focus to higher technology products. This is also true for Thailand. The large decline in the PRC and the Republic of Korea's low-technology exports' weight over time was partly replaced by India and Indonesia's sustained production weight.

International production sharing has important implications for global value chains as well as Asian economic integration. Cross-border production networks—trade in parts and components and final

assembly—have strengthened regional interdependence, as seen from increasing intraregional trade shares. With each stage of production now occurring in different economies, intermediate inputs cross borders multiple times, making it difficult to trace any particular economy's value-added to the regional supply chain—if relying on gross trade statistics. The discrepancy between value-added and gross trade (which "double-counts" this back-and-forth intermediate trade) has long been identified.<sup>13</sup> Accounting for this crisscrossing is particularly important for "Factory Asia", and could shed light on the structure of Asia's vertical specialization and integration.

Using the gross exports accounting framework by Wang, Wei, and Zhu (2014), integration in value-added trade was examined by decomposing the gross intraregional exports of 12 Asian economies into its various components.<sup>14</sup> Generally, an economy's exports (to any partner) can be decomposed into four major categories: domestic value-added absorbed abroad (DVA); value-added first exported but eventually returned home (RDV); foreign value-added (FVA); and purely double-counted terms (PDC).<sup>15</sup> While the relatively small number of economies—which comprise the "region" for this exercise—may allow for limited analysis, the economies included are arguably the major drivers of regional trade (in 2014, they accounted for 77% of Asia's intraregional exports).

The different components and their combinations allow us to gauge (i) whether there is significant difference from intraregional measures of gross exports and exports ultimately absorbed abroad, (ii) whether linkages among the 12 has also increased in terms of domestic valueadded, (iii) the structure of the region's value-added trade, and (iv) economies and economy-pairs driving this trend. Three years were examined—2000, 2005, and 2011—for which data from Intercountry Input-Output (IO) tables are available. The available data covers 45 economies and the rest of the world (ROW) as an additional group—40 economies and the ROW were sourced from the World Input-Output Database, while an additional five Asian economies were constructed by ADB.<sup>16</sup>

Between 2000 and 2011, Asia's intraregional gross exports have increased about 3.6 times. And while the DVA accounts for the largest share in Asia's trade (some 70%), the increase between the two periods is mostly accounted for by an increase in PDC (4.4 times), followed by FVA (3.9 times), RDV (3.8 times) and finally DVA (3.4 times). Given the increasing

<sup>15</sup> See footnote 14.

<sup>&</sup>lt;sup>13</sup> R. Koopman, Z. Wang and S-J. Wei. 2014. Tracing Value-added and Double Counting in Gross Exports. American Economic Review. 104 (2). pp.459-494. Also available as NBER Working Paper No. 18579; Z. Wang, S-J Wei, and K. Zhu. 2014. Quantifying International Production Sharing at the Bilateral and Sectoral Levels. NBER Working Paper. No. 19677. Cambridge, MA: National Bureau of Economic Research.

<sup>&</sup>lt;sup>14</sup> The 12 economies are Australia; Bangladesh; the PRC; India; Indonesia; Japan; the Republic of Korea; Malaysia; the Philippines; Thailand; Taipei,China; and Viet Nam.

<sup>&</sup>lt;sup>16</sup> Except for Bangladesh, Malaysia, the Philippines, Thailand and Viet Nam, which were constructed by ADB, the IOs of the rest were sourced from the World Input-Output Database (WIOD). While the WIOD and ADB IO tables have been constructed in a clear conceptual framework on the basis of officially published input-output tables in conjunction with national accounts and international trade statistics, level numbers are likely to remain different from those officially released by the respective economies.

role in Asian trade growth of the PDC component—which occurs from increasing production sharing across borders—this shows Asia's growing linkages in the regional production network.

Consistent with other findings of increasing intraregional shares using gross trade statistics, exports of DVA ultimately absorbed within the region—as a percent of all exported DVA—has likewise increased **(Figure 20)**. This increasing trend is not only in DVA, but in FVA and PDC as well. However, Asian economies' exports of domestic value that returns back via imports have been declining, consistent with the fact that most of DVA is now absorbed abroad.

#### Drivers of regional value chains

To examine the region's forward and backward cross-border production linkages, the portion embedded in intermediate goods (DVAint) is extracted from DVA to calculate the ratio of FVA+DVAint out of total intraregional exports.<sup>17</sup> In 2011, FVA+DVAint accounted for 53.5% of the intraregional trade—relatively stable with 52.2% in 2000. This illustrates the region's strong forward and backward intraregional linkages. Of the 12, the top three are the PRC, Japan, and Australia, followed by the Republic of Korea, Indonesia, and Taipei,China **(Figure 21)**.

Within Asia, the major drivers of the trend for each value-added trade component are gauged by examining share contributions **(Figure 22)**. For example, decomposing intraregional DVA trade shows the PRC accounted for the largest share in 2011. For FVA, the PRC and the Republic of Korea top the list, each accounting for almost a quarter of total intraregional FVA. In other words, almost half of Asian FVA comes from these two economies' exports. In terms of RDV, 85% of intraregional RDV is accounted for by the PRC and Japan. In terms of PDC, the top three slots in 2011 were the PRC, followed by the Republic of Korea and Taipei,China—an order reversed from 2005. Generally, one can see the relative dominance of East Asian economies in various components of regional value-added trade, partly due to the PRC's rise as a major player in intraregional trade over the span of a decade.

This relative dominance of East Asian economies is even more evident if trade links are broken down further into economy pairs. Ranking bilateral trade among the 12 economies by contribution to intraregional trade per component—a total of 132 economy-pairs—intra-East Asian links dominate the top 10 **(Table 5)**. More notably, the cumulative share of the top 10 economy-pairs account for over half of intraregional DVA and FVA trade. The concentration ratio is even higher for PDC and RDV trade, with the top 10 pairs accounting for about 60% and 75% of total intraregional PDC and RDV trade, respectively. Thus, trade by component appears to be dominated by a small number of economy-pair trades, in particular across East Asia, rather than with the rest of Asia.

<sup>17</sup> DVAint refers to DVA in intermediate goods exported by an Asian economy to its Asian neighbors, while FVA in this case refers only to foreign value added from Asian economies that is embedded in one's exports after factoring out the FVA portion from the ROW.

#### Figure 20: Intraregional Trade

**by Components** (% of component's exports to the world)



DVA = domestic value-added; FVA = foreign valueadded; RDV = returned domestic value-added; PDC = pure double counting component. Source: ADB calculations using data from World Input-Output Tables and ADB Input-Output Tables, and methodology from Wang Z., S-J. Wei, and K. Zhu. 2014. Quantifying International Production Sharing at the Bilateral and Sectoral Levels. *NBER Working Paper*. No. 19777. Cambridge, MA: NBER.

#### Figure 21: Intraregional FVA & DVA in Intermediates by Source (as % of intraregional exports)

intraregional exports)



AUS = Australia; BAN = Bangladesh; PRC = People's Republic of China; IND = India; INO = Indonesia; JPN = Japan; KOR = Republic of Korea; MAL = Malaysia; PHI = Philippines; TAP = Taipei, China; THA = Thailand; VIE = Viet Nam.

Note: Viet Nam, the Philippines, and Bangladesh are not labeled in the figure; they comprise the smallest shares, with Viet Nam and the Philippines owning the last two horizontal bars, while the bar of Bangladesh is too small to be seen in the chart.

Source: ADB calculations using data from World Input-Output Tables and ADB Input-Output Tables, and methodology from Z.Wang, S-J. Wei, and K. Zhu. 2014. Quantifying International Production Sharing at the Bilateral and Sectoral Levels. *NBER Working Paper*. No. 19777. Cambridge, MA: NBER.



AUS = Australia; BAN = Bangladesh; PRC = People's Republic of China; IND = India; INO = Indonesia; JPN = Japan; KOR = Republic of Korea; MAL = Malaysia; PHI = Philippines; TAP = Taipei, China; THA = Thailand; VIE = Viet Nam.

DVA = domestic value-added; FVA = foreign value-added; RDV = returned domestic value-added; PDC = pure double counting component.

Source: ADB calculations using data from World Input-Output Tables and ADB Input-Output Tables, and methodology from Z. Wang, S-J. Wei, and K. Zhu. 2014. Quantifying International Production Sharing at the Bilateral and Sectoral Levels. *NBER Working Paper*. No. 19677. Cambridge, MA: NBER.

This pattern, indicating a possible intrasubregional bias, is also worth further examination.

#### **Progress in sector-level value chains**

Intraregional production activities within sectors appear to be changing as well, with shares within industrial exports showing interesting shifts between 2000 and 2011 **(Figure 23)**. For example, intraregional trade within the labor-intensive Asian textile industry, while still increasingly dominated by the PRC—which covers about two-thirds of intraregional exports—shows Bangladesh and Viet Nam emerging as important players; In the meantime, DVA shares of three East Asian economies— Japan; the Republic of Korea; and Taipei,China—have declined 6 to 8 percentage points during this period. With rising production costs in other economies in general, setting up operations—such

#### Table 5: Value-Added Trade—Asian Economy Pair Drivers

DVA Economy-Pairs (as % of Intraregional DVA Trade)						FVA Economy-Pairs (as % of Intraregional FVA Trade)							
	2000		2005		2011	Rank		2000		2005		2011	Rank
JPN-TAP	7.62	JPN-PRC	10.17	JPN-PRC	9.31	1	TAP-PRC	7.81	PRC-JPN	11.13	KOR-PRC	12.48	1
JPN-PRC	7.55	PRC-JPN	8.76	PRC-JPN	8.97	2	MAL-THA	7.79	TAP-PRC	10.07	TAP-PRC	10.01	2
PRC-JPN	7.23	KOR-PRC	5.79	AUS-PRC	6.10	3	KOR-JPN	7.45	KOR-PRC	8.20	PRC-JPN	8.76	3
JPN-KOR	5.87	JPN-TAP	5.10	KOR-PRC	5.81	4	KOR-PRC	6.52	KOR-JPN	4.63	JPN-PRC	6.45	4
TAP-PRC	3.91	TAP-PRC	5.03	PRC-KOR	5.10	5	MAL-JPN	6.48	JPN-PRC	4.62	KOR-JPN	5.29	5
KOR-JPN	3.82	JPN-KOR	4.69	TAP-PRC	4.20	6	TAP-JPN	6.18	MAL-JPN	4.24	PRC-KOR	3.37	6
KOR-PRC	3.68	PRC-KOR	4.05	PRC-IND	3.93	7	PRC-JPN	5.97	THA-JPN	3.67	PRC-AUS	3.33	7
AUS-JPN	3.58	AUS-JPN	2.74	PRC-AUS	3.41	8	THA-JPN	4.62	PRC-KOR	3.58	PRC-IND	3.28	8
JPN-MAL	3.17	JPN-MAL	2.63	AUS-JPN	3.08	9	JPN-PRC	2.94	TAP-JPN	3.12	AUS-PRC	2.33	9
TAP-JPN	3.03	KOR-JPN	2.60	JPN-KOR	2.86	10	INO-JPN	2.30	PRC-AUS	2.42	TAP-JPN	1.86	10
Rest of Asia	50.53	Rest of Asia	48.44	Rest of Asia	47.22		Rest of Asia	41.92	Rest of Asia	44.31	Rest of Asia	42.86	
Тор 10	49.47	Тор 10	51.56	Тор 10	52.78		Тор 10	58.08	Тор 10	55.69	Тор 10	57.14	
RD	V Econo	<b>my-Pairs</b> (as g	% of Intra	aregional RDV	Trade)		PD	C Econo	my-Pairs (as 9	% of Intra	aregional PDC	Trade)	
	2000		2005		2011	Rank		2000		2005		2011	Rank
JPN-TAP	16.10	JPN-PRC	15.73	PRC-KOR	21.48	1	TAP-PRC	7.53	TAP-PRC	15.88	TAP-PRC	14.55	1
JPN-MAL	14.16	PRC-KOR	10.36	PRC-TAP	14.89	2	KOR-PRC	5.89	KOR-PRC	9.23	KOR-PRC	11.94	2
JPN-KOR	11.32	JPN-MAL	10.21	PRC-JPN	11.97	3	KOR-TAP	4.16	PRC-KOR	4.97	PRC-KOR	7.72	3
JPN-PRC	10.86	JPN-TAP	8.86	JPN-PRC	8.40	4	TAP-MAL	3.89	JPN-PRC	4.35	JPN-PRC	5.20	4
JPN-THA	10.49	PRC-TAP	8.57	JPN-TAP	4.22	5	TAP-JPN	3.78	PRC-TAP	3.63	PRC-TAP	4.86	5
PRC-KOR	4.78	JPN-KOR	7.94	PRC-AUS	3.98	6	JPN-TAP	3.75	KOR-TAP	3.27	PRC-JPN	4.45	6
PRC-TAP	4.13	JPN-THA	6.71	JPN-KOR	3.79	7	KOR-JPN	3.72	PRC-JPN	3.24	KOR-JPN	4.08	7
JPN-INO	3.43	PRC-JPN	5.89	PRC-IND	2.92	8	JPN-MAL	3.17	JPN-KOR	2.96	JPN-KOR	3.36	8
PRC-JPN	2.69	KOR-PRC	3.22	PRC-THA	2.52	9	JPN-KOR	3.03	KOR-JPN	2.78	KOR-TAP	3.04	9
THA-MAL	1.64	PRC-MAL	2.50	AUS-PRC	2.45	10	MAL-THA	3.01	JPN-TAP	2.77	JPN-TAP	2.94	10
Rest of Asia	20.42	Rest of Asia	20.01	Rest of Asia	23.36		Rest of Asia	58.05	Rest of Asia	46.90	Rest of Asia	37.84	
Тор 10	79.58	Тор 10	79.99	Тор 10	76.64		Тор 10	41.95	Тор 10	53.10	Тор 10	62.16	

AUS = Australia; PRC = People's Republic of China; IND = India; INO = Indonesia; JPN = Japan; KOR = Republic of Korea; MAL = Malaysia; TAP = Taipei, China; THA = Thailand.

DVA = domestic value added; FVA = foreign value added; RDV = returned domestic value added; PDC = pure double counting component.

Source: ADB calculations using data from World Input-Output Tables and ADB Input-Output Tables, and methodology from Z. Wang, S-J. Wei, and K. Zhu. 2014. Quantifying International Production Sharing at the Bilateral and Sectoral Levels. NBER Working Paper. No. 19777. Cambridge, MA: NBER.

as in Bangladesh and Viet Nam—has been on the rise.<sup>18</sup> The FVA in Bangladesh and Viet Nam exports are also increasing much faster than the rest of their peers (excluding the PRC).

More capital-intensive than textiles, the region's electrical and optical equipment (EOE) industry-including electronics-shows a similar trend in terms of intraregional DVA exports. Leading exporters in 2000 saw their shares decline after a decade, with their later industrializing

<sup>&</sup>lt;sup>18</sup> McKinsey & Company. 2013. The Global Sourcing Map–Balancing Cost, Compliance, and Capacity: McKinsey's Apparel CPO Survey 2013. http://www.mckinsey.com/~/media/mckinsey/dotcom/client\_service/retail/articles/the\_global\_sourcing\_map\_balancing\_cost\_compliance\_and\_capacity.ashx

#### Figure 23: Shares to Intraregional

**DVA Exports** (y-axis = difference in shares, 2011 vs 2000; box numbers = shares as of 2011)



AUS = Australia; BAN = Bangladesh; PRC = People's Republic of China; IND = India; INO = Indonesia; JPN = Japan; KOR = Republic of Korea; MAL = Malaysia; PHI = Philippines; TAP = Taipei,China; THA = Thailand; VIE = Viet Nam; DVA = domestic value added. Source: ADB calculations using data from World Input-Output Tables and ADB Input-Output Tables, and methodology from Z. Wang, S-J. Wei, and K. Zhu. 2014. Quantifying International Production Sharing at the Bilateral and Sectoral Levels.*NBER Working Paper*. No. 19677. Cambridge, MA: NBER.

neighbors gaining ground. This is typical of the Flying Geese paradigm.<sup>19</sup> For example, Japan controlled 44% of intraregional DVA exports in EOE in 2000. A decade later, its share had dropped 18.7 percentage points, while the rest of East Asia gained—the PRC share increased 19.8 percentage points, followed by the Republic of Korea (4.4 percentage points). Interestingly, India has entered the EOE picture (1.4 percentage points). As of 2011, the PRC holds the largest share of the region's intraregional DVA exports of EOE (33%), with Japan remaining second (25%).

The transport equipment manufacturing export sector—another capitalintensive industry—also shows increasing participation of smaller Asian economies. While Japan remains the biggest intraregional exporter of DVA in transport equipment, it has seen its share decrease from 68% in 2000 to 52% in 2011. This could be due to the (re)location of Japanese manufacturing bases in locations such as the PRC, Thailand, and Viet Nam, where the exports can originate. Transport equipment is among the top manufactures receiving Japanese FDI in the region. Before the GFC, it accounted for about 26% of Japan's outward FDI. In the years afterward, transport equipment manufacturing FDI again recovered, accounting for 21%.<sup>20</sup> As of 2011, more Asian economies are increasing their export shares in this sector—led by the PRC, the Republic of Korea, Thailand, and India.

Together with shifts in DVA shares are changing patterns of returned domestic value added (RDV). In EOE intraregional exports, for example, there was a notable drop in Japan's share of the region's RDV over the years. In 2000, it accounted for 78% of the region's total RDV; in 2011, it was barely 20%. It appears that Japan's EOE exports are no longer characterized by parts and components that need to be reimported back to Japan for further processing. This suggests that Japan is likely focusing on the higher-end of the value chain. On the other hand, the PRC now accounts for 73% of the region's RDV. Still, while comprising a big chunk of the region's intraregional exports, PRC electronic exports seem to be dominated by processed manufacturing, characterized by low-technology assembly.<sup>21</sup> Further, most high-technology producers tend to be foreign investors that use the PRC as an export platform.<sup>22</sup>

The RDV shares in intraregional exports of transport equipment has also changed significantly from 2000 to 2011. PRC's RDV climbed from a 3% share to 48% over the span of a decade, suggesting the PRC's increasing role in more capital-intensive production networks. This is also in line with the fact that the PRC now accounts for 28% of the pure double-counting in intraregional exports for transport equipment, up from only 7% in 2000.

- <sup>20</sup> Before GFC refers to 2005–2008, after GFC refers to 2012–2014.
- <sup>21</sup> F. Lin and H.C. Tang. 2013. The People's Republic of China cracks electronic export sophistication: Fact or fallacy? AIEN Blog. 17 Sept. https://aric.adb.org/blog/the-peoples-republic-ofchina-cracks-electronic-export-sophistication-fact-or-fallacy
- <sup>22</sup> C. Qingqing, C.C. Goh, B. Sun, and L.C. Xu. 2011. Market Integration in the People's Republic of China. Asian Development Review. 28 (1). p. 87.

<sup>&</sup>lt;sup>19</sup> K. Akamatsu. 1962. A Historical Pattern of Economic Growth in Developing Countries. *Journal of Developing Economies*. 1 (1). pp. 3-15.

While patterns of DVA and RDV appear to be a toss-up between economies, Malaysia figures prominently when it comes to changes in shares of FVA and PDC components. Malaysia—well-known in the global electronics industry—used to hold the largest share in intraregional FVA in EOE exports in 2000, and second in PDC. However, a decade later it showed the biggest drop in FVA content and in PDC among the 12 economies. This may suggest its Asian neighbors might be using Malaysia less as a hub in the regional electronics production network. By 2011, the PRC had the largest share of FVA (increasing its share 23.4 percentage points) in intraregional EOE exports, while Taipei,China still has the largest PDC share—primarily driven by export links with the PRC. In transport equipment, Malaysia also experienced the biggest drop in FVA share between 2000 and 2011, moving from second in 2000 to fourth in 2011, behind Japan, the PRC, and the Republic of Korea.

Nonetheless, even within these three sectors, intra-East Asian pairs dominate. Within the EOE industry, the top bilateral link in gross exports is between Taipei,China and the PRC; however, a large portion of that is due to back-and-forth trading of intermediate products. However, interesting linkages outside East Asia are also emerging. For textiles, Indonesia has become a strong market for the PRC—the top PRC market among ASEAN and second to Japan as PRC's DVA export market in Asia by 2011. There is also growing intermediate goods trade between the Republic of Korea and Viet Nam in textiles, with the PDC component increasing by a factor of 13 from 2000 to 2011.

### **FDI integration in Asia**

#### **Total FDI inflows to Asia**

Global FDI inflows totaled \$1.2 trillion in 2014, down 16% from \$1.5 trillion in 2013. Despite the decline, inflows to Asia from outside and within the region were up 9% in 2014 from 2013 (\$495 billion), reaching 40% of the global total **(Figure 24)**. Around 80% of Asia's inflows went to East Asia (\$247 billion) and to Southeast Asia (\$133 billion), with multinational corporations (MNCs) providing much of the investment. In recent years, MNCs have become a major force in enhancing regional connectivity in these two subregions—through cross-border investment in infrastructure and production. The PRC and Hong Kong, China took in 94% of East Asia's FDI, while Singapore, Indonesia, Thailand, Malaysia, and Viet Nam absorbed 92% of the FDI going into Southeast Asia.<sup>23</sup>

In 2014, the PRC became the world's largest FDI recipient, attracting \$129 billion (up 4% from 2013), mainly from new FDI in services particularly retail, transport, and finance. Among major investing economies, investment from the Republic of Korea into the PRC rose the highest by 30% in 2014. FDI flows from the European Union (EU)—

<sup>&</sup>lt;sup>23</sup> However, taking into consideration that majority of Hong Kong, China-sourced FDI to the PRC are investments by PRC residents round-tripped through Hong Kong, China, the combined FDI inflows of the PRC and Hong Kong, China drops from \$231.5 billion to \$112.2 billion (from 94% to 45% of East Asia's FDI).



FDI = foreign direct investment, LHS = left-hand scale, RHS = right-hand scale. Note: Asia does not include Bhutan, the Maldives, the Federated States of Micronesia, Myanmar, Nauru, Nepal, Palau, Tajikistan, Turkmenistan, and Tuvalu (FDI outflows) as data unavailable. Source: ADB calculations using data from United Nations Conference on Trade and Development (UNCTAD).

the PRC's largest trading partner—increased slightly; but flows from Japan and the US declined by 39% and 21%, respectively. FDI inflows to Hong Kong, China saw a surge—associated with some large cross-border mergers and acquisitions (M&A)—such as the \$5.7 billion purchase of a 25% stake in A.S. Watson Co. by Singapore's Temasek Holdings, and the \$4.8 billion acquisition of Wing Hang Bank by OCBC Bank (also from Singapore). Investors from the PRC were major players in the M&A market in Hong Kong, China. For example, COFCO acquired a 51% stake in Noble Agri Limited, paying \$4 billion to its parent Novel Group. In terms of greenfield projects, companies from the PRC accounted for about one fifth of all projects recorded by InvestHK in 2014.<sup>24</sup>

Singapore remained the dominant recipient of FDI in Southeast Asia, with its inflows rising by 4% to \$68 billion. Inflows to Indonesia rose 20% to \$23 billion, mostly coming from Singapore, Japan, Malaysia, the Netherlands, and the United Kingdom. Viet Nam saw inflows increase slightly—by 3% in 2014. Viet Nam still enjoys a labor cost advantage over the PRC, but rapidly rising wages have reduced the difference, which may affect relatively small investors in labor-intensive industries. In November this year, the Vietnamese government decided to raise the minimum wage by about 15%.<sup>25</sup>

<sup>&</sup>lt;sup>24</sup> Greenfield FDI relates to investment projects that establish new entities and involve building offices, buildings, plants and factories from scratch. It is considered a kind of working capital. InvestHK is a government department responsible for FDI, supporting overseas businesses to set up and expand in Hong Kong, China.

<sup>&</sup>lt;sup>25</sup> UNCTAD. 2015. World Investment Report 2015. Geneva.

#### **Total FDI outflows from Asia**

Historically, FDI outflows from Asia have been below inflows except for the periods 1984–1992 and recently in 2014 (see Figure 24). In fact, outflows from Asia were up 19% in 2014 (\$512 billion) from 2013 (\$432 billion). Asia is investing abroad more than any other region. According to the UNCTAD World Investment Report 2015, MNCs from Asia became the world's largest investors, accounting for almost one-third of the global total (\$1.4 trillion). FDI outflows from Asia were primarily from East Asia (\$416 billion) and Southeast Asia (\$80 billion) as MNCs expanded foreign operations through greenfield investments and cross-border M&As. Traditional Asian investors come from these two subregions-Japan is the largest, accounting for an average of 31% of Asia's total FDI outflows since 2000, followed by Hong Kong, China (24%) and Singapore (8%). Investment from nontraditional Asian investors also increased in 2014, mostly to advanced economies (Box 3). Investments by MNCs based in Asia increased 29% to \$432 billion in 2014. Around 72% (\$310 billion) were investments coming from Hong Kong, China (\$143 billion), the PRC (\$116 billion), Singapore (\$41 billion), and India (\$10 billion).

## Box 3: Foreign Direct Investment from Emerging, Nontraditional Asian Investors

n 2014, Asia's total FDI outflows reached \$512 billion, a 19% increase from 2013. Investments primarily came from East Asia, particularly Hong Kong, China, as well as from Southeast Asia, particularly Singapore. According to the UNCTAD *World Investment Report 2015,* investments by Asian multinational corporations (MNCs) were the main drivers of growth. In 2014, several emerging Asian investors such as the PRC, Malaysia, Thailand, and India have increased investment particularly to developed economies.

#### People's Republic of China (PRC)

Based on a report by Baker & McKenzie/Rhodium Group, the last 3 years have seen significant interest by PRC investors in the privatization of state-related industries (such as utilities or logistics) in countries including Portugal, Italy, and Spain.<sup>1</sup> In Italy, the PRC has made acquisitions in the energy and industrial equipment totaling \$3.3 billion (targeted companies were CDP Reti acquired by the PRC's State Grid Corporation, and Ansaldo Energua Spa acquired by Shanghai Electric). The Economic Commission for Latin America and

## Major Destination of FDI Flows from Emerging Asian Investors (2014)

Source	Major non-Asia Destinations	\$ million	% of total investor's outbound FDI
PRC	Italy	23,394	28.2
	Peru	1,238	1.5
	US	788	1.0
Malaysia	Italy	441	7.5
	Turkey	423	7.2
	France	110	1.9
Thailand	Italy	1,487	61.7
	Netherlands	57	2.4
	Germany	32	1.3
	US	29	1.2
India	United Kingdom	489	23.9
	US	203	9.9
	Finland	187	9.2

PRC = People's Republic of China, US = United States.

Source: ADB calculations using data from ASEAN Secretariat, OECD, and UNCTAD database.

Continued on next page

Baker & McKenzie. 2015. [The People's Republic of China] investment into Europe hits record high in 2014. Firm News. 11 February. http://www. bakermckenzie.com/news/Chinese-investment-into-Europe-hits-recordhigh-in-2014-02-11-2015

### Box 3 continued

the Caribbean (ECLAC) reported that PRC MNCs participated in some of the biggest acquisitions in Peru, mainly the purchase of the Las Bambas mine for \$7.0 billion.<sup>2</sup>

According to a report of Rhodium Group, PRC firms spent \$3.7 billion on 30 FDI transactions in the US in the fourth quarter of 2014, which includes 18 acquisitions (\$3.4 billion) and 12 greenfield projects \$272 million. Most of the increase in investments went to finance and commercial real estate. The PRC's total annual spending on greenfield investments in the US also reached a new record high of \$1.3 billion in 2014.<sup>3</sup>

#### Thailand

Overseas investments by Thai corporations have grown significantly, overtaking inward FDI. Thai firms are encouraged by the government to expand regionally and in developed markets, through cross-border M&As and greenfield investments. The government recognizes that to overcome domestic resource limitations and expand business, Thai entrepreneurs need to branch out overseas and assists them to do so. Target industries are predominantly labor intensive, such as textiles

- <sup>2</sup> Economic Commission for Latin America and the Caribbean. 2015. Foreign Direct Investment in the Region Fell 16% in 2014 after a Decade of Strong Expansion. CEPAL Press Releases. 27 May. http://www.cepal.org/en/ pressreleases/foreign-direct-investment-region-fell-16-2014-after-decadestrong-expansion
- <sup>3</sup> T. Hanemann and C. Gao. 2015. [The People's Republic of China] FDI in the United States: Q4 and Full Year 2014 Update. *Rhodium Group Research Notes*. http://rhg.com/notes/chinese-fdi-in-the-united-states-q4-and-fullyear-2014-update
- <sup>4</sup> Thailand Board of Investment. 2015. BOI Supports Government Policy to Promote Overseas Investment. http://www.boi.go.th/tir/issue\_content. php?is sueid=119;page=352php?issueid=119;page=352. Accessed 6 November 2015.
- <sup>5</sup> Oxford Business Group. Outbound Investment: Local Corporates Move to Expand in Regional Markets and Further Afield. http://www. oxfordbusinessgroup.com/analysis/outbound-investment-local-corporatesmove-expand-regional-markets-and-further-afield
- <sup>6</sup> UK Trade and Investment. 2015. UKTI Inward Investment Report 2014 to 2015.
   <sup>7</sup> The Economic Times. 2015. India among fastest growing FDI sources for [US]. 29 June.
- <sup>8</sup> *The Economic Times.* 2014. India eyes Finland for tech cooperation to give 'Make in India' a boost. 13 October.

and garments, shoes and leather, agriculture, food preparation, metal processing, auto parts and accessories, construction materials, and real estate development.<sup>4</sup>

Thailand's outbound investments primarily go to Europe—particularly Italy, the Netherlands, and Germany—as well as the US. For instance, ASEAN's largest fully-integrated flat steel-maker Sahaviriya Steel Industries seized on the strong baht and distressed assets in Europe to acquire Europe's second largest steel smelter (UK-based Teesside Cast Products) for \$469 million in 2011. The world's largest canned tuna producer (TUF) acquired the European MW Brands for \$489 million in October 2010. The Central Group—already active in Indonesia and the PRC—purchased Italian department store operator La Rinascente for \$143 million in May 2011 and acquired the 120-year old Illum department store in Denmark in March 2013, with plans to invest \$65.4 million for renovation.<sup>5</sup>

#### India

According to the Inward Investment Report 2014-2015 of UKTI (UK Trade and Industry), India is now the third largest FDI source for the UK after the US and France in number of projects. Key sectors include healthcare, agricultural technology, and food and beverages. Indian Venture Capital Fund Vistaar Group is a key foreign investor in establishing a postproduction studio at MediaCity, Manchester. The fund plans to invest \$12 million this year and \$18 million over the next 5 years.<sup>6</sup>

India is one of the fastest growing FDI sources for the US with investments in aerospace, textile, IT sectors and life sciences. Indian firms employ around 44,000 US workers and export more than \$2 billion worth of goods from the US. Between January 2003 and October 2014, 362 US investment projects were announced by Indian firms.<sup>7</sup>

There are 30 Indian companies, mainly in software and consultancy, operating in Finland. Currently, there are about 400 Indian professionals working for Finnish high-tech companies and Indian software companies like TCS.<sup>8</sup>

#### Figure 25: Intraregional FDI Inflows—Asia



FDI = foreign direct investment, RHS = right-hand scale.

Note: Asia does not include Armenia, Azerbaijan, Bhutan, Brunei Darussalam, Georgia, the Lao People's Democratic Republic, the Maldives, Marshall Islands, Mongolia, Nepal, Sri Lanka, Timor-Leste, Tonga, and Solomon Islands as data unavailable. 2013 and 2014 data were estimated using actual values from previous period.

Source: ADB calculations using data from ASEAN Investment Statistics Database, ASEAN Secretariat; Bilateral FDI Statistics, United Nations Conference on Trade and Development (UNCTAD), and Organisation for Economic Co-operation and Development (OECD).

MNCs from Hong Kong, China made the economy the world's second largest investor after the US. Investment by MNCs in the PRC grew faster than FDI inflows. Overseas acquisitions have become an increasingly important means of international expansion by some financial institutions in the PRC. For instance, through six cross-border M&As during a short period between October 2014 and February 2015, the PRC's Anbang Insurance Group took over New York's Waldorf Astoria Hotel in the US at \$1.95 billion, FIDEA Assurances (cost undisclosed) and Delta Lloyd Bank (\$178 million) in Belgium, Vivant Verzekeringen in the Netherlands (\$171 million), Tong Yang Life in the Republic of Korea (\$1 billion), and a 26-story office tower in New York from Blackstone Group.<sup>26</sup> FDI outflows from India increased fivefold to \$10 billion in 2014, as some large Indian MNCs resumed international expansion.

#### **Asia's intraregional FDI inflows**

Asia's intraregional FDI also increased in 2014—to an estimated \$255 billion from \$230 billion in 2013—and remains 52.6% of Asia's total FDI inflows **(Figure 25)**. FDI inflows in 2014 increased in all subregions except Central Asia. The proactive regional investment cooperation efforts in East and Southeast Asia have contributed to the rise in intraregional FDI inflows. The PRC, Japan, and the Republic of Korea, along with Singapore, Malaysia, and Thailand have been strong sources

<sup>26</sup> UNCTAD. 2015. World Investment Report 2015. Geneva.

of FDI in Southeast Asia. The establishment of the PRC-ASEAN free trade agreement in early 2010 strengthened regional economic cooperation and contributed to FDI flows, particularly from the PRC to Southeast Asia.

#### **Main Destinations of Intraregional FDI**

In East Asia, FDI flows are mostly between Hong Kong, China and the PRC. The majority of Hong Kong, China-sourced FDI to the PRC are investments by PRC residents "round-tripped" through Hong Kong, China—funds from the PRC intermediated as direct investment in Hong Kong, China to tap incentives available to foreign but not domestic investors. Investments from the rest of the world to the PRC are also intermediated through Hong Kong, China, the leading destination of PRC FDI outflows. As of December 2014, 876 PRC companies were listed on the Hong Kong[, China] Stock Exchange (HKSE), representing 60% of total HKSE market capitalization. The increase in FDI inflows to the PRC was driven mainly by an increase in FDI in services, particularly retail, transport and finance, while FDI fell in manufacturing, especially in industries sensitive to rising labor costs.

The bulk of Southeast Asian FDI inflows goes to Indonesia, the Philippines, Cambodia, and the Lao People's Democratic Republic (Lao PDR). An improvement in investment climate may have led to these increased FDI inflows. Based on the World Bank's Doing Business Report 2014, Indonesia has improved its credit information system through a new regulation that set a legal framework for establishing credit bureaus. These significantly improved access to credit. The increase in FDI inflows to Indonesia was driven by increases in key industries-mining; food; transportation and telecommunications; metal, machinery and electronics; and chemical and pharmaceuticals. For the Philippines, its Doing Business score increased to 62.08 in 2014 from 55.95 in 2013 as reforms on construction permits, obtaining credit, and paying taxes were implemented.<sup>27</sup> Better macroeconomic fundamentals and higher credit agency ratings may have also attracted more investments. Cambodia's score increased to 55.05 from 51.07 as access to credit and electricity improved. The Lao PDR has also seen its Doing Business score improveto 49.10 from 48.40—partly due to a reduction in corporate income tax.

In South Asia, most FDI inflows go to India and Pakistan. By sector, India's manufacturing is gaining as policies to revitalize the sector are sustained. For instance, the launch of the "Make in India" initiative in mid-2014 may be bearing fruit. The increase in FDI inflows in Pakistan came from rising PRC flows in services, in particular a large investment made by the [People's Republic of] China Mobile in telecommunications. In addition, Pakistan will benefit significantly from the PRC-Pakistan

<sup>&</sup>lt;sup>27</sup> The Doing Business Report provides objective measures of business regulations and their enforcement across 189 economies. The "Distance to Frontier" score aids in assessing the absolute level of regulatory performance and how it improves over time. This measure shows the distance of each economy to the "frontier," which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005. An economy's distance to the frontier is on a scale from o to 100, with o the lowest and 100 the frontier.

Industrial Corridor and associated PRC investment in infrastructure and manufacturing—in the overall context of "One Belt, One Road" initiative.

In the Pacific and Oceania, most FDI inflows go to Australia and New Zealand. Australia's FDI comes from Japan, the PRC, and Singapore, while the bulk of New Zealand's FDI inflows are from Australia, Singapore, and the PRC. Foreign MNCs in Australia remain in oil and gas projects, including 12 of 13 oil and gas projects at the "committed stage"—a combined value of \$177 billion. In New Zealand, several acquisitions came from Asia; for example, Oji's acquisition of Carter Holt Harvey's pulp and paper operations for \$1.036 billion (Japan), CKI's acquisition of Envirowaste for \$490 million (Hong Kong, China), and Beijing Capital's acquisition of Waste Management from Transpacific Industries (\$950 million).

In Central Asia, the moderate decline in FDI inflows may be attributed to regional conflicts coupled with falling oil prices and international sanctions, which dampened foreign investor confidence. In particular, FDI flows to Kazakhstan declined as a rise in equity investments was offset by a decline in intracompany loans. Geological exploration by foreign investors continued, accounting for more than half of FDI.

#### **Main Sources of Intraregional FDI**

Most intraregional FDI flows come from East Asia **(Figure 26)**. Japan was the top Asian investor in 2014, with 39.6% of Asia's intraregional FDI inflows, up from 38.9% in 2013. Singapore was second, contributing 27.6% (up from 25.3% in 2013) of intraregional FDI in 2014, followed by the PRC (and Hong Kong, China) at 11.2% (down from 13.8% in 2013), the Republic of Korea at 4.9% (down from 5.9%) and Malaysia at 4.0% (up from 2.6%).<sup>28</sup>

Japan's top investment destinations are Australia, Indonesia, and the PRC **(Table 6)**. They primarily go into manufacturing, particularly transportation equipment, chemicals and pharmaceuticals, and electric machinery. For non-manufacturing, investments are mainly in finance and insurance, wholesale and retail, and real estate. <sup>29</sup> Singapore's FDI flows to the region are twice those of ASEAN-4 outward investments combined—and Singapore is strengthening ties with the CLMV economies. Viet Nam is both a major recipient and source of FDI. From the PRC (and Hong Kong, China), FDI goes mostly to Singapore, Australia, and Japan.

#### Figure 26: Top 5 Sources of Intraregional FDI—Asia (\$ billion)



PRC = People's Republic of China, FDI = foreign direct investment.

Note: Asia does not include Bhutan, Georgia, Kiribati, the Maldives, the Federated States of Micronesia, Nauru, Palau, Papua New Guinea, Solomon Islands, Tajikistan, Timor-Leste, Tonga, Turkmenistan, Tuvalu, and Vanuatu as data unavailable.

Source: ADB calculations using data available from ASEAN Investment Statistics Database, ASEAN Secretariat; Bilateral FDI Statistics, United Nations Conference on Trade and Development (UNCTAD); and Organisation for Economic Co-operation and Development (OECD).

<sup>&</sup>lt;sup>28</sup> The PRC and Hong Kong, China were combined as most of Hong Kong, China's investment (almost 98%) goes to the PRC.

<sup>&</sup>lt;sup>29</sup> Bank of Japan. Outward/Inward Direct Investment 2013 CY. Balance of Payments. https:// www.boj.or.jp/en/statistics/br/bop/index.htm/

Asian Investors	Top 3 Destinations in Asia	\$ million	% Share to Economy's Outflows
Japan	Australia	9,460	17.7
	Indonesia	9,394	17.6
	PRC	8,457	15.8
Singapore	Indonesia	12,253	32.9
	PRC	7,252	19.5
	Hong Kong, China	3,244	8.7
PRC (and	Singapore	3,848	25.3
Hong Kong, China)	Australia	3,009	19.8
	Japan	1,134	7.5
Korea, Rep. of	PRC	3,494	53.0
	Indonesia	816	12.4
	Viet Nam	723	11.0
Malaysia	Singapore	2,491	45.8
	Indonesia	896	16.5
	Australia	748	13.7

#### Table 6: Major Destination of FDI from Asia's Top 5 Investors (2014)

PRC = People's Republic of China, FDI = foreign direct investment.

Source: ADB calculations using data from ASEAN Investment Statistics Database, ASEAN Secretariat; Bilateral FDI Statistics, United Nations Conference on Trade and Development (UNCTAD); and Organisation for Economic Co-operation and Development (OECD).

## **Updates on Financial Integration**

Following the 2008/09 GFC, financial flows to and from Asia regained attention from the region's policy makers. The dual-track growth between Asia and advanced economies again drew large foreign capital inflows to the region, boosting financial markets and strengthening financial connectivity. They also underscored the challenges of greater capital flow volatility.

The increased exposure of regional economies—both to each other and outside Asia—increases the possibility of potential spillovers. The taper tantrum of May 2013 is a case in point, where a simple announcement by the US Federal Reserve about the possibility of tapering its quantitative easing program rattled several major Asian markets—even some with relatively strong domestic macrofundamentals. And today, while the forecast rise in US interest rates could raise capital flow volatility, it is not expected to rattle the region's markets as they did in 2013. Markets may have already factored in an eventual increase. Nevertheless, managing potentially volatile capital outflows remains an important issue for the region—especially given rising risk premiums and depreciating currencies.

The composition of capital flows matters for financial stability. Within the four types of capital flows, Asia's cumulative financial flows post-GFC have been largely dominated by FDI—with inflows to the region accounting for more than a third of global FDI flows in 2014 (see "FDI Integration in Asia", p. 21). The rest of the region's cumulative financial inflows—non-FDI flows—are split among equity (24%), debt (17%), and bank lending (17%) **(Figure 27)**. Over time, the FDI share of total inflows has increased as well—from 41% in 2010–2011 to 48% in 2013–2014, but

#### Figure 27: Sources of Financial Flows—Asia (\$ billion, cumulative 2010-2014)



FDI = foreign direct investment, EUA = euro area, ROW = rest of the world, US = United States. Source: ADB calculations using data from ASEAN Secretariat; Bank for International Settlements; *Coordinated Portfolio Investment Survey*, International Monetary Fund (IMF); Organisation for Economic Co-operation and Development (OECD); and United Nations Conference on Trade and Development (UNCTAD).

the increase in share of equities has been more notable—from less than 1% to 36% over the same period.<sup>30</sup> Shares of debt and bank credit, on the other hand, have been declining **(Figure 28a)**.

The picture is slightly different for Asia's capital outflows. While FDI still comprises the bulk of the region's outflows, followed by equity, bank credit outflows (intraregional included) exceed the region's debt outflows. Nonetheless, both bank credit and debt are seeing declining shares as a proportion of the region's total outflows over the last 5 years. FDI and equity shares to total outflows, in contrast, have been increasing over time; the share of FDI has more than doubled from 30% to 67% between 2010–2011 and 2013–2014, while the share of equity increased from 11.3% to 45% **(Figure 28b)**.

However, as a whole, non-FDI flows tend to be larger than the relatively stable FDI. Standard deviation measures show that FDI inflows in Asia as % of GDP—appear to be the most stable flows among the four types, with bank-related flows the most volatile, followed by debt and equity **(Table 7)**.

The recent pattern of financial inflows also show Asian economies are generally more integrated with each other in FDI and bank borrowings, with intraregional inflows in each category accounting for about half the region's total. Geographic proximity, relocation of regional MNCs, and recent initiatives on regional cooperation likely contributed to this trend. In contrast, Asia's equity and debt markets are integrated more with global markets, as inflows are on the whole dominated by nonregional sources. While potential bank outflows appear large, most likely remain within the region, unlike portfolio investments. Sources of inflows

#### Figure 28: Capital Flows—Asia



FDI = foreign direct investment. Uses two-year rolling values.

Source: ADB staff calculations using data from ASEAN Secretariat; Bank for International Settlements; *Coordinated Portfolio Investment Survey*, International Monetary Fund; Organisation for Economic Co-operation and Development; and United Nations Conference on Trade and Development.

<sup>&</sup>lt;sup>30</sup> Using 2-year rolling values.

 Table 7: Capital Flow Volatility—Asia (standard deviation of capital flow levels as % of GDP, 2005Q1-2014Q1)

	FDI	Equity	Debt	Bank
East Asia	0.54	1.59	1.68	2.89
Southeast Asia	0.99	0.88	1.35	4.99
Total Asia	0.60	1.36	1.57	2.38

FDI = foreign direct investment, Bank = bank-related flows.

Note: East Asia includes the People's Republic of China; Hong Kong, China; the Republic of Korea; and Japan. Southeast Asia includes Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam. Asia includes East Asia, Southeast Asia, Australia and New Zealand.

Source: ADB calculations using data from *International Financial Statistics*, International Monetary Fund (IMF); and national sources.

could add potential volatility, given that over half of non-FDI inflows particularly equity and debt—are largely sourced outside the region.

The pace of Asia's financial integration on portfolio investment not simply lags trade integration, but its pace seems to be slowed down by several factors, including information asymmetries and differences in regulatory and institutional quality.<sup>31</sup>

### Portfolio inflows to Asia<sup>32</sup>

#### Equity

Equity inflows to Asia continue to recover since largely having disappeared in 2011, when global market confidence was hit by several external shocks—such as Japan's Tohoku earthquake and the deepening sovereign debt crisis in the euro area **(Figure 29)**.<sup>33</sup> Still equity flows remain 20.1% below the level in 2010. By 2014, equity inflows to the region was \$377 billion, a large part accounted for by inflows from the rest of the world (ROW) with a 45.4% share, followed by the US (27.4%), intraregional inflows (16.1%), and finally the euro area (11.1%). Traditionally, inflows to Asia have been led by the US, followed by the euro area—in 2010, over half of Asia's equity inflows came from the US (55%), with the euro area accounting for 23.0%.

This trend changed notably in 2014, when flows from the ROW overtook combined US and euro area flows. Intraregional equity inflows by end-2014, in contrast, were just barely above its 15.3% share in 2010—even if recovering swiftly after nearly disappearing in 2013—likely due to the taper tantrum then rattling Asian financial markets.

- <sup>32</sup> Only debt, equity and bank credit flows are discussed in this section. Trends in FDI integration can be found in the Updates on Trade and Investment Integration section, p. 21.
- <sup>33</sup> World Bank. 2013. World Development Indicators 2013. Washington.

### Figure 29: Equity Inflows—Asia (\$ billion, by source)



US = United States, ROW = rest of the world. Source: ADB calculations using data from the *Coordinated Portfolio Investment Survey*, International Monetary Fund.

<sup>&</sup>lt;sup>31</sup> N. Ananchotikul, S. Piao, and E. Zoli. 2015. Drivers of Financial Integration—Implications for Asia. IMF Working Papers. WP/15/160. Washington: IMF.

Several economies outside the US and euro area returned to Asia after withdrawing investments in 2013 (for example, Norway, Mauritius, Bahrain, and the Russian Federation), while other economies further increased equity investments (such as Mexico, Chile, and Iceland). Among ROW, economies such as Norway, Mauritius, the UK, and Canada were the region's top investors in 2014. While investors in the US and euro area seem to have taken a more cautious approach to equity exposure, others have more actively expanded their equity portfolios into Asia. However, intraregional equity investments (a typical measure of financial integration) fell to 16.6% after peaking at 18.2% in 2012, indicating they have stalled compared with extra-regional inflows.

Among subregions, East Asia received the largest portion of Asia's total equity inflows globally—of cumulative flows from 2010 to 2014, 76% went to East Asian economies **(Figure 30)**. Even in 2013—during the taper tantrum—total inflows to East Asia from the US and the euro area increased, while all other subregions saw decline in inflows from 2012. East Asia is also the most integrated with the rest of Asia, receiving 76% of Asian equity inflows. Southeast Asia follows both globally and intraregionally, with a 14% and 17% share, respectively; third is South Asia (about 5% of total inflows from the world, and 5% from within the region). However, in 2013–2014, South Asia absorbed 24% of all Asia's inflows globally—against Southeast Asia's 11%—due to increased equity inflows to India, Pakistan, Sri Lanka, and Afghanistan. The relative attractiveness in 2014 of South Asian equity markets—compared with Southeast Asia—appears consistent across all types of investors, whether from within Asia, the US and euro area, or the ROW.

Each Asian subregion's source of equity investments remain largely extra-regional—a significant part come from the US and euro area (Figure 31). From 2010–2014, about 60% of total equity inflows to Central Asia and East Asia came from these economies. In Southeast Asia it was 72%, and it topped 100% for South Asia (as US and euro area equity investments more than offset equity withdrawals from the ROW). East Asia, Southeast Asia, and South Asia likewise rely on Asia as an important source of equity investments. Of the total equity investments entering Southeast Asia over the past 5 years, some 21% originated within Asia, slightly higher than South Asia's 20% and above East Asia's 17%. Central Asia is not too far behind with 10%, while the Pacific and Oceania received only 2% of its total equity inflows from Asia.<sup>34</sup>

Among individual economies, the PRC and India had the largest increase in equity inflows, taking nearly 95% of the equity inflows that accrued to Asia from 2010 to 2014. Overall, top equity destinations in the region in 2014 are in East Asia—the PRC; Japan; and Taipei, China—and Singapore and India. Together, these five economies absorbed 92% of 2014 equity inflows to Asia. Equity inflows account for less than 10% of the nominal GDP of these five Asian economies, and no more than a third of their foreign reserve assets.

#### Figure 30: Equity Inflows to Asia— Asian Subregions (\$ billion, by recipient)





#### Figure 31: Equity Inflows—Asia

(\$ billion, by source, from 2010-2014)



CA = Central Asia, EA = East Asia, SA = South Asia, SEA = Southeast Asia, PA = the Pacific and Oceania, US = United States, ROW = rest of the world. Source: ADB calculations using data from the Coordinated Portfolio Investment Survey, International Monetary Fund.

<sup>&</sup>lt;sup>34</sup> Distinguishing the Pacific and Oceania, the former received 9% of its total equity inflows from the world during the review period. This number is pulled down when combined with Oceania, which receives less than 0.5% of its total equity inflows from Asia, as most of it is sourced from the US, euro area and the rest of the world.

#### Debt



US = United States, ROW = rest of the world. Source: ADB calculations using data from the *Coordinated Portfolio Investment Survey*, International Monetary Fund.

Figure 33: Yields Dispersion and Quantitative Easing (%)



IQR = interquartile range.

Note: Green lines refer to Japan quantitative easing (QE) episodes, while black lines refer to euro area QE episodes.

Source: ADB calculations using data from Bloomberg, US Federal Reserve, European Central Bank and Bank of Japan.

#### Figure 34: Debt Inflows—Asia

(\$ billion, by recipient)



CA = Central Asia, EA = East Asia, SA = South Asia, SEA = Southeast Asia, PA = the Pacific and Oceania. Source: ADB calculations using data from the *Coordinated Portfolio Investment Survey*, International Monetary Fund. Debt inflows to Asia has slowed over the past 5 years; in 2014, they totaled \$140.2 billion, about 59.4% lower than 2010 **(Figure 32)**. Except for the euro area, debt inflows from the US, intraregionally, and from the ROW fell more than 50% compared with 2010. US debt investments to Asia fell the most—down 91% over the 5 years—gradually dwindling beginning 2012—in 2012–2013, the US withdrew more debt than it placed (a net outflow)—and while positive in 2014, accounts for only 4.6% of Asia's total debt inflows, well below the 21.4% in 2010. As the US share of Asia's debt inflows declines, more investments are coming from the euro area, with inflows expanding to 29.6% of the total in 2014 from 5.7% in 2010. In fact, among all debt inflows to the region in 2014, only those from the euro area increased—even doubling its inflows to Asia in 2010.

After a nearly 100% drop in 2013, debt inflows continued to recover in 2014, largely originated from the ROW (43.8%), followed by the euro area (29.6%), intraregional debt inflows (22.0%), and the US (4.6%). ROW debt inflows came primarily from European economies or territories such as Norway, Bermuda, and Switzerland. While there has been a renewed global appetite for Asian debt in 2014, debt inflows from within the region appear to have stalled—sliding slightly to 28.9% in 2014 from 29.3% in 2013.

Ample global liquidity from ultra-loose monetary policies seems to have attracted capital inflows to Asia—particularly as ROW and euro area investors search for higher yields. This likely helped narrow the dispersion of bond yields across the region. The dispersion of 3-month and 10-year government bond yields in Asian bonds—as measured by the min-max range and interquartile range—has declined significantly **(Figure 33)**. This suggests greater interest rate convergence and a narrowing risk perception in the region. However, this trend may not continue if monetary policies begin to tighten.

Like equity inflows, East Asia receives the bulk of the region's total debt inflows—from 2010 to 2014, 53% of the region's debt investment inflows went to East Asian markets, followed by Southeast Asia, with a 24% share (Figure 34). The Pacific and Oceania, where Australia and New Zealand dominate, are more attractive as a debt flow destination than equity; the subregion received 16% of the world's debt inflows to Asia within the 5-year period—and some years beat out Southeast Asia.<sup>35</sup> South Asia, which accounted for less than 10% of Asia's total debt inflows before 2013, saw a surge in inflows in 2014 with a 17% share—almost double its 2010 share. This increase coincided with a decline in East Asia's share from 46% in 2010 to 37% in 2014—and the Pacific (from 25% to 14%). Given different sources of financial inflows, Asian subregions' reliance on US and euro area investors is far more limited in debt markets than equity flows. From 2010 to 2014, debt flows into East Asia and South Asia were sourced mostly from Asia—44% of East Asia's debt and 51% of South Asia's. Debt inflows to other subregions are dominated by extraregional

<sup>&</sup>lt;sup>35</sup> This 16% is driven primarily by Australia and New Zealand (Oceania), which receives 16% of Asia's debt inflows. The Pacific developing member countries (comprising the Pacific), on the other hand, receive only 1% of Asia's total inflows from the world.

markets—47% of Southeast Asia's debt flows are from the US and euro area, compared with 33% from Asia; for the Pacific and Oceania, 53% comes from the ROW (12% from Asia); while Central Asia gets nearly 100% of its debt inflows from the US and euro area **(Figure 35)**.

While East Asian economies are top equity destinations, several Southeast Asian economies have grown as prominent debt inflow destinations in recent years. Of total debt inflows to Asia between 2010 and 2014, Hong Kong, China took 59%, followed by Singapore (16%), the Philippines (15%), and Indonesia (5%). Collectively, the four account for 94% of Asia's total inflows from 2010 to 2014, partly due to their relatively stronger economic positions (such as in the case of the Philippines) and role as financial hubs (Hong Kong, China and Singapore). In 2014, the largest debt investments were made first in Hong Kong, China; followed by India, Japan, Indonesia, and the PRC. Nearly 65% of the region's total debt inflows in 2014 went to these five markets. Debt liabilities of these economies are not more than 2.5% of their respective GDPs and a fifth of their foreign reserve assests.

Together, this means Asia's intraregional inward portfolio shares remain stable, if declining slightly from 21.5% in 2013 to 21.2% in 2014. Investors from the ROW—particularly non-US and euro area economies invested more capital into the region, even as total intraregional portfolio liabilities grew 7.7%, up from 4.7% a year ago.

## Portfolio outflows from Asia

#### Equity

While equity inflows to Asia in the 5 years since 2010 declined, equity outflows have nearly doubled—up 91.6%—to \$616 billion **(Figure 36)**. Equity investments have gone mostly into the euro area and ROW—rather than the US or the region itself. In 2010, the euro area's share of Asia's total equity outflows was 4.0%. It rose to 18.1% in 2014, with the ROW share up from 45.4% in 2010 to 59.4%. Intraregional and US shares have declined. During the 5-year period, Japan accounted for 96.6% of total outflows worldwide, while the Republic of Korea, middle-income ASEAN, and India also contributed.

In 2014, outflows bounced back sharply after a 33.6% decline in 2013 under global financial uncertainty. Asia's equity investments to all destinations, including the region itself increased—except to the US given its renewed interest in Asian equities. As a share of total outflows, more equity investments flowed to the ROW and euro area during the year. Price may have been a factor, as the increase in euro area equity gains in 2014 was accompanied by an increase in its share in Asia's equity portfolio—almost double the US **(Figure 37)**. The large share of investment in ROW economies suggests some Asian economies are tapping nontraditional equity investment destinations.<sup>36</sup> Euro area

#### Figure 35: Debt Inflows—Asian

**Subregions** (\$ million, by source, from 2010–2014)



CA = Central Asia, EA = East Asia, SA = South Asia, SEA = Southeast Asia, PA = the Pacific and Oceania, US = United States, ROW = rest of the world. Source: ADB calculations using data from the *Coordinated Portfolio Investment Survey*, International Monetary Fund.



(\$ billion, by destination)



US = United States, ROW = rest of the world. Source: ADB calculations using data from the *Coordinated Portfolio Investment Survey*, International Monetary Fund.

#### Figure 37: Equity Prices vs. Equity Flows from Asia



EUA = euro area, US = United States. Note:  $\Delta$ Share scaled up by 10 points for presentation purposes. Share refers to share to total Asian outstanding investments. Equity gains are y-o-y changes in the stock market indexes (Jan 2012 = 100). EUA uses the MSCI European Monetary Union Index for Europe, the Dow Jones Industrial Average for the US, and the MSCI Emerging Asia index for Asia. Source: ADB calculations using data from Bloomberg.

<sup>&</sup>lt;sup>36</sup> The sudden jump in the ROW share for 2014 was due to the jump in the share of Cayman Islands—from 23.7% to 51.3%—in Asia's total investments to the world. Australia, Japan, and Singapore are the primary Asian investors in the territory. The Cayman Islands stock exchange has more than \$123 billion in market capitalization.

#### Figure 38: Equity Outflows by Asia—Asian Subregions



CA = Central Asia, EA = East Asia, SA = South Asia, SEA = Southeast Asia, PA = Pacific and Oceania. Source: ADB calculations using data from the *Coordinated Portfolio Investment Survey*, International Monetary Fund.

#### Figure 39: Equity Outflows—Asia

(\$ billion, by destination, from 2010-2014)



CA = Central Asia, EA = East Asia, SA = South Asia, SEA = Southeast Asia, PA = Pacific and Oceania, US = United States, ROW = rest of the world. Source: ADB calculations using data from the *Coordinated Portfolio Investment Survey*, International Monetary Fund.



Figure 40: Debt Outflows—Asia



economies such as Luxembourg and Ireland have become preferred destinations for Asian investment, while the PRC and India in the region are also markets of choice. In 2014, the largest equity investor was Japan, accounting for 78% of Asia's total investments globally, followed by Hong Kong, China (8%); Australia (5%); and Singapore (4%).

Among subregions, East Asia is the most active equity investor. From 2010 to 2014, 66% of total Asian equity outflows came from East Asia, followed by Southeast Asia (20%) and the Pacific and Oceania (13%) **(Figure 38)**. At the other end is South Asia, with a lower share of Asia's equity outflows than Central Asia. Since 2010, intraregional equity outflows have equally moved to East Asia and Southeast Asia. Intraregional equity investments recovered in 2014, after the 2013 taper tantrum made Asian investors more cautious—intraregional equity investments fell 97.2% year-on-year in 2013. Still, in 2014 Southeast Asian equity investments within the region were subdued, against aggressive outflows from East Asia. During the year, 93% of intraregional equity flows came from East Asia.

By destination, most subregions generally place more equity investments in the ROW economies, except for Central Asia and Southeast Asia, where investors mostly look to the US and euro area **(Figure 39)**. In South Asia, for example, 84.5% of equity outflows go to ROW economies, as it appears to withdraw equity investments from Asia. East Asia and the Pacific and Oceania, on the other hand, have about 50% of equity outflows in ROW economies. By contrast, Central Asia invests nearly 70% of its equity portfolio in the US and euro area, with Southeast Asia investing 41%. Consistent across subregions, however, is the aversion to Asian markets. Southeast Asia has the highest intraregional share—38.7%. Low equity investment intraregionally could be due to fundamentals or rigidities across markets.

#### Debt

Debt outflows of Asia are less significant than equity outflows. Of all portfolio flows over the last 5 years, Asia's debt outflows contracted the most. In 2014, Asian economies withdrew \$422 billion in debt investments globally after investing \$540 billion in 2010—a 178% drop **(Figure 40)**. Over the 5-year period, the largest decline in outflows was in the euro area economies and the ROW. Asian and US debt markets fared relatively better. Intraregional debt investments have been sustained by a steady increase in issuance—with relatively higher bond yields. Active initiatives that promote local currency bond market development have helped.

The largest debt investors between 2010 and 2014 were the Republic of Korea, accounting for 56% of the region's increase in debt investments, followed by New Zealand (23%), Thailand (16%), and the Philippines (5%). Other Asian economies decreased in debt outflows over the period, with Japan and Hong Kong, China showing the largest drop between 2010 and 2014. By destination, debt outflows to some euro area economies increased markedly between 2010 and 2014, but this was likely due to low base effects—debt outflows in 2010 were largely negative. Meanwhile, debt outflows to Hong Kong, China; the Philippines; Singapore; and Taipei,China increased significantly over the period. Intraregional debt outflows remained positive during the year, but were down 38.1% yearon-year. In 2014, the largest debt outflows came from Singapore, the Republic of Korea, Australia and New Zealand—a combined 85% of the region's debt outflows during the period.

Speculation over changes in US monetary policy—starting in 2013—likely influenced Asian investment decisions, and could shift further in the short-term. In 2014, Asian debt investors turned increasingly toward the US, which absorbed about 60% of Asian debt placements during the year, as investors shied away from the ROW and euro area. This trend could continue as bond investors who take advantage of expected higher yields of US securities and their safe haven status. Widening US-EU differentials for 10-year government bond yields have also accompanied the increasing US debt shares in Asia **(Figure 41)**.

East Asia generally dominates debt outflows among the five subregions, followed by Southeast Asia, and the Pacific and Oceania **(Figure 42)**. East Asia had 69% of cumulative intraregional debt outflows during the 5-year period. With the larger debt withdrawals (than placements) of East Asian economies in 2014 (mostly through Hong Kong, China), Southeast Asia took a larger share of intraregional debt outflows during the year (75%), followed by the Pacific and Oceania (22%), Central Asia (2%), and East Asia (1%).<sup>37</sup>

By destination, East Asia's intraregional debt outflows from 2010 to 2014 were above its debt investments outside the region—East Asia invested only in Asia, while withdrawing debt investments elsewhere **(Figure 43)**. Southeast Asia's flows during the 5-year period were 37% for the US and the euro area, 35.5% for Asia, and 27.4% for ROW. South Asia, on the other hand, invested 27.7% of its outflows within the region (though about half of its investments to the ROW[53.9%]). The Pacific and Oceania debt outflow composition is similar to South Asia's—investing more to the ROW (51.9%), followed by 30.8% for the US and euro area combined, and a 17.2% intraregional share. For Central Asia, the US and euro area accounted for 68.1% of the subregion's total outflows, while Asia and the ROW equally share the rest.

In sum, Asia's intraregional outward portfolio shares continue to increase—albeit marginally—from 18.7% in 2013 to 19.5% in 2014 (Figure 44). However, as investors increase investments in equity outside the region more than within the region—the equity's share in Asia's total intraregional portfolio is plateauing (Figure 45).

As a percentage of total debt, intraregional debt holdings rose from 15.9% to 18.7%, as Asian investors reduced exposure to European and non-US debt securities. However, they held more extra-regional equities in 2014, dropping intraregional equity holdings' share to total equity holdings to 20.5% from 23.1%. Yet, intraregional equities grew 10.8%, while debt grew a slower 4.9%.

#### Figure 41: US-euro Area Yield Differential and US Debt Share out of Asian Holdings



LHS = left-hand side, RHS = right-hand side, US = United States.

Note: Yield differential is equal to US yield less euro area yield. Uses 10-year government bond yields (Jan 2012 = 100). Differential scaled up by 20 points for presentation purposes only.

Source: ADB calculations using data from Bloomberg.

#### Figure 42: Debt Outflows—Asia

(\$ billion, by source)



CA = Central Asia, EA = East Asia, SA = South Asia, SEA = Southeast Asia, PA = the Pacific and Oceania. Source: ADB calculations using data from

the Coordinated Portfolio Investment Survey, International Monetary Fund.

#### Figure 43: Debt Outflows—Asia

(\$ billion, by destination, from 2010-2014)



CA = Central Asia, EA = East Asia, SA = South Asia, SEA = Southeast Asia, PA = the Pacific and Oceania, US = United States, ROW = rest of the world. Source: ADB calculations using data from the *Coordinated Portfolio Investment Survey*, International Monetary Fund.

<sup>&</sup>lt;sup>37</sup> In 2014, Hong Kong, China's "negative outflows" were largest for the PRC, Australia, Malaysia, and the Republic of Korea.

#### Figure 44: Outward Portfolio

**Investments** (% share)



Note: The data refer to reporter economy's crossborder holdings of portfolio securities owned by the partner economy as a share of the reporter economy's total cross-border portfolio securities holdings. The data do not include reporting economy's holdings of securities issued by domestic issuers. Reporting economies classified under Asia include Australia; Bangladesh, Hong Kong, China; India; Indonesia; Japan; Kazakhstan; the Republic of Korea; Malaysia; Mongolia; New Zealand; Pakistan; the Philippines; Singapore; Thailand; and Vanuatu. Partner economies classified under Asia include all ADB regional member economies.

Source: ADB calculations using data from Coordinated Portfolio Investment Survey, International Monetary Fund.

#### Figure 45: Intraregional Portfolio Composition—Asia (% share to total portfolio)



Coordinated Portfolio Investment Survey, International Monetary Fund.

#### Figure 46: Bank Credit Inflows—Asia



US = United States, ROW = rest of the world. Source: ADB calculations using data from the *Coordinated Portfolio Investment Survey*, International Monetary Fund.

## **Bank Credit Flows**

Like portfolio inflows in general, bank credit inflows to Asia is below what it was 5 years ago; from \$508 billion in 2010 to \$69 billion in 2014, a decline of 86.4% **(Figure 46)**. The decrease is broad-based by source, except for the euro area, which increased its credit flows between 2010 and 2014 by 100%. However, this was largely due to the negative base in 2010, and euro area bank credit inflows only account for 3.2% of total 2014 credit inflows. The largest decline in credit inflows came from banks from the ROW, followed by the US, and then Asia.<sup>38</sup> Further, banks from the ROW are no longer a major source of credit inflows for the region. In 2010, these banks supplied about a 52% share. But beginning 2013, ROW banks began to retrench (negative inflows), with only minimal new lending—if any—to Asia. Instead, intraregional and US credit flows dominate, each accounting for 48% of the 2014 total (in 2010, Asia held a 24% share, with the US at 27% of the total inflows).

In 2014, cross-border bank credit inflows slowed year-on-year as well **(Figure 47)**. From about \$88 billion in 2013, they fell to \$69 billion, contracting 21.5% y-o-y. Intraregional bank credit dropped more than 60% y-o-y, and with euro area credit growth still negative, much of the 2013 bank credit inflows from the euro area nearly dried up in 2014. In contrast, US flows resumed in 2014.

Bank credit flows from Europe between 2010 and 2014 came primarily from France, the Netherlands, Ireland, Austria, and Belgium—76% of European credit inflows. Most went to Japan (81%), followed by though rather far off—New Zealand (8%). In 2014, however, the largest recipients of euro area credit was the PRC (53.6% of the total); Japan (21.6%); Indonesia (10.1%); and Taipei,China (6.6%). An IMF review of the euro area in July pointed out that high nonperforming loans (NPLs) in some European banks were eroding profitability and discouraging new lending.<sup>39</sup> In the meantime, bank credit inflows from the euro area were just 1% when compared to these economies' GDP and 2.5% of foreign reserves.

East Asia drew the largest share of credit from the US, which returned as largest source of overseas credit for the region in 2014, accounting for 90% of US credit inflows in 2014.<sup>40</sup> India was also a prime destination for US bank credit. Still, the size of US bank credit relative to their nominal GDP remains relatively small at no more than 2%. While the direct impact of a US interest rate hike on the region's economies through the external bank credit channel could be minimal, widening interest rate differentials and depreciating local currencies could add to debt servicing costs, in particular for corporate borrowers.

Intraregionally, the role of Japanese and Australian banks has been increasing as a credit source for the rest of Asia. The two increased

<sup>40</sup> East Asia includes the PRC; Hong Kong, China; Japan; the Republic of Korea; and Taipei, China.

<sup>&</sup>lt;sup>38</sup> Reporting countries under ROW include Chile, Canada, and other European economies not included in the euro area (Sweden, Switzerland, Turkey, The United Kingdom).

<sup>&</sup>lt;sup>39</sup> IMF. 2015. Euro Area Policies: 2015 Article IV Consultation. https://www.imf.org/external/pubs/ft/ser/2015/ crl204.pdf

lending to Asia to \$98.5 billion in 2014—a combined 24.2% share of the region's total foreign bank borrowings, and 32% of Asia's total borrowing for the year. Much of these credit flows went to East Asia (54%), followed by Southeast Asia (30%), then India (10%).

Asian credit outflows, on the other hand, declined between 2010 and 2014, down 93.3% over the period.<sup>41</sup> The decline, while broad-based with Asian banks reducing new lending to all major destinations—was largest for the ROW, then the US **(Figure 48)**. After y-o-y increases in 2011 and 2012, credit outflows from Asian banks—though positive slowed in terms of growth in the following years. Shrinking credit outflows to the ROW and the euro area continued, while credit outflows to the US rose in 2014.

Asian credit outflows used to focus on the region and the US. Prior to 2013, the US share of Asian credit outflows had always been higher than those received by Asian economies. By 2013 the trend had reversed; for example, in 2013, 69.5% of Asian credit outflows were absorbed intraregionally (from 25.4% in 2012), while the US only received 2.6% (from 28.6%). While credit outflows to the US rose again in 2014, the size remained just half the size of intraregional credit flows. Between 2010 and 2014, the economies with the largest increases in borrowings from the region were Malaysia, Japan, Indonesia and the Marshall Islands.

## **Updates on Movement of People**

People in Asia keep moving and their numbers keep growing, with significant dynamic patterns across subregions. Their movement contributes to economic connectivity in addition to trade and capital flows. Movement growth, however, remains relatively slow—as economy level restrictions remain.

Movement occurs through tourism and labor migration—with most economies in Asia simultaneously both sources and destinations. Demographics and income disparities across economies and subregions continue to drive mobility. Tourism flows mainly come from higher income economies or subregions, while labor migration is the reverse. Remittance inflows—mostly from labor migrants—and tourism receipts remain important.

## **Remittance Inflows and Tourism Receipts**

In 2014, Asia received the largest share of global remittances, accounting for 46.1% (\$269 billion) of the total (\$583 billion). India, the PRC, and the Philippines were the top three recipients in the region—together accounting for \$163 billion (or 64%) of Asia's 2014 total **(Figure 49)**. As a percentage of GDP, Tajikistan, Nepal, and the Kyrgyz Republic topped

#### <sup>41</sup> Asian credit outflows are from Australia, India, Japan, and the Republic of Korea (starting 2013). Data is sourced from the Bank for International Settlements Statistics (Table 9D).

#### Figure 47: Foreign Bank Lending

**Flows to Asia** (\$ billion, 4-quarter moving average)



AUS = Australia, EUA = euro area, JPN = Japan, UK = United Kingdom, US = United States. Source: ADB calculations using data from Bank for International Settlements (Table 9D). Data accessed in May 2015.

#### Figure 48: Bank Credit Outflows—

Asia (\$ billion, by destination)



US = United States, ROW = rest of the world. Source: ADB calculations using data from the *Coordinated Portfolio Investment Survey*, International Monetary Fund.

#### Figure 49: Top 10 Remittance Recipient Economies—Asia

(based on net inflows, 2014)



PRC = People's Republic of China. Source: ADB calculations using Annual Remittances Data, World Bank; and World Economic Outlook April 2015 Database, International Monetary Fund. the list with 41.9%, 29.9% and 29.4%, respectively. Remittances contribute significantly to economies in Central Asia, South Asia, and the Pacific. Remittances to Asia mainly come from within Asia (29.4%), Middle East (28.2%) and North America (24.2%) in 2014.<sup>42</sup> South Asia received 53.6% (\$62.2 billion) of its remittances inflows from the Middle East. Central Asia received 78.5% (\$14.1 billion) from the Russian Federation and the Pacific received 53.3% (\$334 million) from Australia and New Zealand. But the high dependency on the remittances also adds vulnerability to external shocks.<sup>43</sup> The growth of remittance inflows is expected to moderate sharply in 2015 due to the protracted global recovery; but is expected to recover in 2016 as prospects improve in advanced economies.

Since 2012, tourism receipts surpassed remittances in Asia, except for South Asia and Central Asia **(Figure 50)**. They rose from \$181 billion in 2009 to \$288 billion in 2013, equivalent to 1.4% of Asia's GDP. In the Pacific, tourism receipts account for as much as 3.4% of GDP—the largest among subregions. The share of tourism receipts to GDP of the Pacific is 7.4% when Papua New Guinea is excluded.

Remittances and tourism receipts are stabilizing flows to the region. Remittance inflows to Asia have increased steadily since the 1990s (Figure 51). Despite the 1997/98 AFC and 2008/09 GFC, remittances remained stable, especially compared with portfolio investments (debt and equity) and FDI. However, economies with high reliance on remittances for income also tend to experience higher volatility of remittance inflows. These economies should continue to pursue industrialization and economic diversification to make their economies more resilient and provide more job opportunities domestically.

One challenge in increasing remittances to Asian economies is high remittance costs. According to the Remittance Prices Worldwide database, the global average cost of sending \$200 in the second quarter of 2015 was 7.7% **(Table 8)**. However, remittance costs have been declining over time, and targeted to be 3% by 2030—which would translate into global savings of over \$20 billion annually for migrants



Figure 50: Remittances and Tourism Receipts (2013)

CA = Central Asia, EA = East Asia, SA = South Asia, SEA = Southeast Asia, PA = The Pacific, OC = Oceania. Source: ADB calculations using Annual Remittances Data, World Bank; and *World Economic Outlook April 2015 Database*, International Monetary Fund, and World Tourism Organization Data.

<sup>42</sup> Based on data from Annual Remittances Data, World Bank.

<sup>43</sup> World Bank. 2015. *Remittances Prices Worldwide*. No. 14. Washington.

and their families. The PRC is the most expensive economy among the G20 to transfer money, with an average cost of 10.4%, while South Asia is the least costly with an average 5.7%. Improvements in technology are helping lower costs. The introduction of online and mobile money transfer systems in developing economies offers far more cost-effective ways of sending money.

## **Trends in Tourism**

Total tourist arrivals in Asia has increased by more than 15%—from around 274 million in 2010 to almost 316 million in 2013. Most tourists went to East Asia—184 million or 74.8% of the total **(Figure 52)**. Southeast Asia came second (96.5 million), followed by Central Asia (15.7 million). Since 2010, Central Asia had the fastest growth, with tourist arrivals doubling in 2013. Arrivals were up 33% in Southeast Asia and 4.5% in East Asia. Tourist arrivals in the Pacific declined slightly since 2010 by 1.9%. More than 77% (246 million) of the total tourist arrivals in Asia came from within the region, 6.2% (19.6 million) from the EU, and 4% (12.7 million) from North America **(Figure 53)**.

Asian tourists traveling within and outside the region reached 317 million in 2013, up from 257 million in 2010 or a 23.3% increase. While most Asian tourists travel within the region, there have been significant increases of Asian tourists travelling outside the region, particularly to Latin America (up 44% since 2010), the EU (up 39%), and North America (up 18%). By origin, the top three subregions were East Asia with 61% of the total (or 193 million), Southeast Asia at 19.7% (62.4 million) and Central Asia at 8.5% (26.8 million). But the number of Asian tourists coming from Central Asia increased most since 2010 (76.3%).

Trends in intraregional and intrasubregional tourism vary by subregion. Southeast Asia had the highest share of intra-Asia tourism—93% (58.3 million) of the subregion's 62.4 million total in 2013. Southeast Asia also had the fastest growing intrasubregional tourism (Figure 54). In 2000, Southeast Asian tourists traveling within Southeast Asia totaled 14.8 million, which almost tripled to 44.3 million in 2013. East Asian tourists traveling within East Asia grew 67% to 130 million from 78 million. Tourist travel between Hong Kong, China and the PRC comprises the majority of East Asia's 193 million outbound tourists in 2013, with 76.9 million tourists from Hong Kong, China heading to the PRC, and 17.1 million from the PRC to Hong Kong, China. Japan and the Republic of Korea are the top two destinations of tourists from the PRC. From January-September 2015, for example, 3.8 million tourists from the PRC and 2.9 million from the Republic of Korea travelled to Japan, partly boosted by weak Japanese yen.<sup>44</sup> During the PRC's National Day holiday week in October 2015, 400,000 tourists travelled from the PRC to Japan.

In Southeast Asia, the top five destinations in 2013 were Malaysia (25.7 million), Thailand (25.5 million), Singapore (15.4 million), Indonesia (8.4 million) and Viet Nam (7.4 million). Recently, however,

<sup>44</sup> Japan Tourism Marketing Co. Tourism Statistics. http://www.tourism.jp/en/

#### Figure 51: Financial Inflows to Asia



FDI = foreign direct investment.

Note: Portfolio investments (equity plus debt securities).

Source: ADB calculations using data from Annual Remittances Data, World Bank; World Development Indicators and IMF Balance of Payments data from CEIC.

#### **Table 8: Average Cost of Sending**

**Remittances** (%, based on benchmark \$200 worth of remittance)

Region	Q1 2015	Q2 2015
East Asia and the Pacific	8.1	8.1
Europe and Central Asia	6.1	6.0
Latin America and Caribbean	6.1	6.8
Middle-East and North Africa	8.4	8.2
South Asia	6.0	5.7
Sub-Saharan Africa	10.2	9.7
Global Average	7.7	7.7

Note: Country grouping based on World Bank

definition.

Source: World Bank. 2015. *Remittances Prices Worldwide*. Issue No. 14. June. Washington.

#### Figure 52: Tourist Inflows—Asia

(million, by destination)



Source: ADB calculations using data from World Tourism Organization. Figure 53: Tourist Arrivals—Asia

(million, by origin)



EU = European Union (27 members). Source: ADB calculations using data from World Tourism Organization.





ROW = rest of the world. Note: Rendered in Cytoscape 3.2.1 Source: ADB calculations using data from World Tourism Organization.

transboundary haze caused by Indonesian forest fires has affected tourism in these economies—especially Indonesia, Singapore and Malaysia. According to the Association of Singapore Attractions, preliminary estimates suggest the number of visitors dropped around 5%-10%, which could translate into a 0.1%-0.4% decline in Singapore's GDP.<sup>45</sup>

## **Trends in Migration**

Generally, the number of outbound tourists from Asia exceeds the number of migrants with significantly varying trends. In 2013, 317 million tourists travelled from Asia compared with a 79.5 million total migrant stock. Within subregions, outbound tourism exceeds migration except in South Asia and the Pacific **(Figure 55)**. In 2013, for instance, East Asia's

<sup>&</sup>lt;sup>45</sup> According to Chua Hak Bin, economist at Bank of America Merill Lynch, as written in T. Kikuchi. 2015. *Southeast Asia Fighting through the Haze*. Nikkei Asian Review. 3 November.

outbound tourism far exceeded migration (193 million tourists against 13.7 million migrants). In South Asia and the Pacific, however, migration exceeds outbound tourism.<sup>46</sup>

Asian migrants increased from 55.5 million in 2000 to 76 million in 2010 and 79.5 million in 2013.<sup>47</sup> In 2013, Asia accounted for almost 35% of global migrants with 19 million in Europe, 16 million in North America, and 3 million in Oceania.<sup>48</sup> Asian migration is mostly temporary, except to destinations such as the US, Australia, and Canada.<sup>49</sup>

South Asia accounts for the largest pool of migrants from Asia **(Figure 56)**. In 2013, it contributed 35.1 million, or 44% of the total. And they are growing quickly—43% above the 24.2 million in 2000. South Asian intra-subregional migration fell from 11.3 million in 2000 to 10.5 million in 2013. The prospect of increased earnings drives migration from South Asia, especially job opportunities for low-skilled workers in Gulf Cooperation Council members.<sup>50</sup> Migration from South Asia to Southeast Asia has also grown, increasing almost 2.5 times from 500,000 in 2000 to 1.2 million in 2013.

Income and demographic dynamics drive labor migration. Economies with low incomes and young populations (high ratios of 20-34 years old to total population) are generally migrant sources—such as India, Bangladesh, and Afghanistan **(Figure 57)**. Those with high incomes and ageing populations (low shares of working-age population) are mostly recipients—such as Australia, New Zealand, and Japan. Major

## Figure 55: Outflows of Migration and Tourism—Asia (2013)



Source: ADB calculations using data from *Trends in International Migrant Stock*, United Nations Department of Economics and Social Affairs; and World Tourism Organization.



ROW = rest of the world.

Note: Rendered in Cytoscape 3.2.1.

Source: ADB calculations using data from Trends in International Migrant Stock, United Nations Department of Economic and Social Affairs.

- <sup>46</sup> According to the Pacific Opportunities: Leveraging on Asia's Growth, majority of migrants from the Pacific are in Australia and New Zealand (about 66% of migrants from Samoa, 74% from Cook Islands, 59% from Fiji) while citizens of other Pacific economies have more limited opportunities to work outside their home economy. See ADB. 2015. Pacific Opportunities: Leveraging Asia's Growth. Manila.
- <sup>47</sup> An increase of 43% for Asia and 28% for non-Asia since 2000.
- <sup>48</sup> Asian Development Bank Institute, International Labor Organization and Organisation for Economic Co-operation and Development. 2015. Building Human Capital through Labor Migration in Asia. Japan.
- <sup>49</sup> Working as foreigners and leaving the country when the contract is finished. Contracts range from a few months to several years.
- <sup>50</sup> United Nations Economic and Social Commission for Asia and the Pacific. 2013. Interregional Report on Labor Migration and Social Protection. Technical Paper No. 2.

## Figure 57: Outbound Migration, Income, and Working Age Population



AFG = Afghanistan; AUS = Australia; BAN = Bangladesh; BHU = Bhutan; BRU = Brunei Darussalam; CAM = Cambodia; CAN = Canada; PRC = People's Republic of China; HKG =Hong Kong, China; IND = India; INO Indonesia; JPN = Japan; KAZ = Kazakhstan; KOR = Republic of Korea; LAO = Lao PDR; MAL = Malaysia; MON = Mongolia; MYA = Myanmar; NEP = Nepal; NZL = New Zealand; PAK = Pakistan; PHI = Philippines; RUS = Russian Federation; SAU = Saudi Arabia; SIN = Singapore; SRI = Sri Lanka; THA = Thailand; UAE = United Arab Emirates; US = United States.

Notes:

- (i) Size of bubble corresponds to the number of outbound migrants in 2013.
- Blue bubbles indicate receiving economies (outbound migration is less than inbound).
- (iii) Green bubbles indicate source economies (outbound migration is greater than inbound).
- (iv) GDP per capita (current \$) in 2013; horizontal line in the middle is the middle-income line based on World Bank classification.

Source: ADB calculations using data from Trends in International Migrant Stock; United Nations Department of Economic and Social Affairs; and World Development Indicators; World Bank. destinations outside Asia include North America (the US and Canada), the Russian Federation, and Saudi Arabia.

Southeast Asia was second in number of Asian migrants, with 18.8 million in 2013. Intra-ASEAN migration has more than doubled—from 3.3 million in 2000 to 6.5 million in 2013—as ASEAN economic integration deepens and relatively common traditions and languages shared, help reduce migration barriers **(Figure 58)**.<sup>51</sup> While the Mutual Recognition Arrangement of the ASEAN Economic Community for managing labor migration is confined to high-skilled occupations, they account for a very small share of total employment.<sup>52</sup> Rather, intra-ASEAN migration involves mostly low- and medium-skilled workers—and this growing trend will likely continue in the future.

The movement of intra-ASEAN migrant workers is concentrated in a few corridors: (i) from Cambodia, the Lao PDR, and Myanmar to Thailand; (ii) from Indonesia to Malaysia; and (iii) from Malaysia to Singapore. Migration from Viet Nam and Myanmar to Malaysia has also increased. The Philippines has the largest labor migrant stock among ASEAN economies, but Filipino migrants going to other ASEAN economies have dropped substantially since 2000. Most now work in the US and Middle East.

There has been a shift in ASEAN migration—following changes in economic dynamics and the temporary or contractual nature of employment **(Figure 59)**. Since 2000, Brunei Darussalam, Malaysia, Singapore, and Thailand have been labor importers, while Cambodia, Indonesia, the Philippines, and Viet Nam have been labor exporters. In 2000, both the Lao PDR and Myanmar were labor importers. But in 2010 and 2013, they became labor exporters.

<sup>&</sup>lt;sup>7</sup> G. Sugiyarto. 2015. Internal and International Migration in Southeast Asia. In I. Coxhead, ed. *Handbook of Southeast Asian Economics*. UK: Routledge.

<sup>&</sup>lt;sup>52</sup> International Labour Organization and Asian Development Bank. 2014. ASEAN Community 2015: Managing Integration for Better Jobs and Shared Prosperity. Bangkok: ILO and ADB.



ROW = rest of the world.

Note: Includes only migration stock greater than 20,000. Rendered in Cytoscape 3.2.1.

Source: ADB calculations using data from *Trends in International Migrant Stock*, United Nations Department of Economic and Social Affairs.

Figure 59: Net Migration—Southeast Asia (million)



BRU = Brunei Darussalam, CAM = Cambodia, INO = Indonesia, LAO = Lao People's Democratic Republic, MAL = Malaysia, MYA = Myanmar, PHI = Philippines, SIN = Singapore, THA = Thailand, VIE = Viet Nam. Note: Net migration refers to total inbound migrants less total outbound migrants. Source: *Trends in International Migrant Stock*, United Nations Department of Economic and Social Affairs.

## **Updates on Trade Policy**

### **Trans-Pacific Partnership concluded**

Considered a platform for closer regional integration in Asia, the Trans-Pacific Partnership (TPP) will set new high standards for trade and investment rules in Asia and around the Pacific rim. The TPP currently has 12 members—representing 37% of global GDP and 28% of world trade. Indonesia, the Philippines, and the Republic of Korea have also expressed interest in joining.<sup>53</sup> TPP negotiations started in March 2010. About 5 years later, on 4 October 2015, ministers of TPP economies announced the conclusion of negotiations.

Following the release of the TPP text on 5 November 2015, the next step is ratification by the respective legislatures of the 12 participating economies. It is generally accepted that this should be done within 2 years. In the case of the US, legislators will have 90 days to study the agreement before Congress votes "yes" or "no"—as President Barack Obama narrowly secured Trade Promotion Authority (TPA) that prevents changes to the agreement itself.

The TPP includes 30 chapters with coverage well beyond traditional FTAs. The TPP covers more comprehensive market access and addresses new and emerging trade and cross-cutting issues compared with its precursor (the Trans-Pacific Strategic Economic Partnership Agreement [TPS-EPA] 2005)—and four other free trade agreements (FTAs) involving TPP members **(Table 9)**. These include those related to development, competitiveness and business facilitation, regulatory coherence, and support for small and medium enterprises (SMEs).

TPP members include developing economies such as Viet Nam, Peru, and Brunei Darussalam. The chapter on development seeks to ensure all TPP members—particularly developing economy members—can obtain full benefits of the TPP and are able to implement commitments. To this end, the development chapter promotes (i) cooperation and capacity building initiatives such as information-sharing and the provision of expertise to help members implement and benefit from the TPP; and (ii) partnerships between public and private sectors, including SMEs, to bring expertise and resources to cooperative ventures with governments in support of development goals.<sup>54</sup>

The competitiveness and business facilitation chapter aims to help the TPP reach its potential to improve the competitiveness of its members and adapt to the ever-increasing competition and complexity inherent in international business. The chapter creates formal mechanisms to review

 <sup>&</sup>lt;sup>53</sup> BBC News. 2015. Joko Widodo says Indonesia will join TPP free trade deal. 27 October.
 *Philippines: Official Gazette.* 2015. PH welcomes new Trans Pacific Partnership agreement.
 19 October; Yonhap News. 2015. [The Republic of] Korea moving toward joining TPP: finance minister. 6 October.

<sup>&</sup>lt;sup>54</sup> Foreign Affairs, Trade and Development Canada. Trans-Pacific Partnership Development, Cooperation & Capacity Building Chapters. http://www.international.gc.ca/tradeagreements-accords-commerciaux/agr-acc/tpp-ptp/understanding-comprendre/20development.aspx?lang=eng

#### **Table 9: Coverage Beyond Goods Trade**

FTA	<b>TPP</b> (Negotiations	Trans-Pacific Strategic	Japan- Australia	US- Singapore	US- [Republic of]	<b>NAFTA</b> (1994)
Coverage	concluded 2015)	<b>EPA</b> (2005)	(2014)	(2004)	<b>Korea</b> (2012)	
Customs Administration and Trade Facilitation	Yes	Yes	Yes	Yes	Yes	Yes
Sanitary and Phyto-sanitary Measures	Yes	Yes	Yes	No	Yes	Yes
Technical Barriers to Trade	Yes	Yes	Yes	Yes	Yes	Yes
Trade Remedies	Yes	Yes	Yes	Yes	Yes	No
Investment	Yes	No	Yes	Yes	Yes	Yes
Services	Yes	Yes	Yes	Yes	Yes	Yes
Financial Services	Yes	No	Yes	Yes	Yes	Yes
Temporary Entry for Business Person	Yes	Yes	Yes	Yes	Yes	Yes
Telecommunications	Yes	No	Yes	Yes	Yes	Yes
Electronic Commerce	Yes	No	Yes	Yes	Yes	No
Government Procurement	Yes	Yes	Yes	Yes	Yes	Yes
Competition Policy	Yes	Yes	Yes	Yes	Yes	Yes
Intellectual Property	Yes	Yes	Yes	Yes	Yes	Yes
Labor	Yes	No	No	Yes	Yes	No
Environment	Yes	No	No	Yes	Yes	No
Cooperation and Capacity Building	Yes	Yes	Yes	No	No	No
Competitiveness and Business Facilitation	Yes	No	No	No	No	No
Development	Yes	No	No	No	No	No
Small and Medium Enterprises	Yes	No	No	No	No	No
Regulatory Coherence	Yes	No	No	No	No	No
Transparency and Anti-corruption	Yes	Yes	Yes	Yes	Yes	Yes
Dispute Settlement	Yes	Yes	Yes	Yes	Yes	Yes

EPA = Economic Partnership Agreement, FTA = Free Trade Agreement, NAFTA = North American Free Trade Agreement, TPP = Trans-Pacific Partnership, US = United States.

Source: ADB staff compilation from official FTA fact sheet (for TPP) and official FTA text (for the rest).

the impact of the TPP on competitiveness with a particular focus on deepening regional supply chains, to assess progress, take advantage of new opportunities, and address any challenges that may emerge once the TPP is in force.<sup>55</sup>

With tariffs down globally, regulatory rules emerge as a major impediment to international trade and gaining access to foreign markets. For instance, regulatory changes without adequate prior notification to foreign companies can severely restrict market opportunities in that country, and can also give unfair advantage to domestic firms. The TPP addresses these trade barriers in its chapter on regulatory coherence to help ensure an open, fair, and predictable regulatory environment for businesses operating in TPP markets—by encouraging regulatory transparency, impartiality, and coordination across governments. To do this, a committee will be created to give TPP countries, businesses,

Office of the United States Trade Representative. Summary of the Trans-Pacific Partnership Agreement. https://ustr.gov/about-us/policy-offices/press-office/press-releases/2015/ october/summarytrans-pacific-partnership

and civil society opportunities to report on implementation, share experiences on best practices, and consider potential areas for cooperation.

Recognizing the importance of ensuring SMEs benefit from the TPP, they are given access to information specifically tailored for their use, simplified process for clearing goods through customs, and development of programs to help SMEs to participate in and integrate effectively into global supply chains.<sup>56</sup>

The TPP encourages capital and labor mobility, protects intellectual property and labor and environmental standards, and promotes competition. It may require some members to enact new laws and implement domestic reforms to align with TPP provisions. Its new rules on economic competition could also impact global trade and the region's production network.

#### **Trade in Goods**

TPP members agree to eliminate and reduce tariffs and nontariff barriers on industrial goods, as well as other restrictive policies on agricultural products. The preferential access provided through the TPP will increase trade between members—which have a combined market of 800 million people. It was also agreed that most industrial goods tariffs will be eliminated immediately, though tariffs on some products will be eliminated over a longer timeframe. In comparison, the US-Singapore FTA, the US-Republic of Korea FTA, and Japan-Australia Economic Partnership Agreement (JAEPA) liberalized more than 80% of tariff lines (average of tariff lines liberalized by FTA partners) immediately upon entry into force.

The TPP has a single rules-of-origin that applies to all members that determines whether a product originates in the TPP region and is thus eligible for preferential benefits—inputs from other TPP members are treated the same way as if produced in its home country in qualifying for preferential benefits. TPP members also set rules to ensure businesses can easily operate across the TPP region—by creating a common TPP-wide system to verify that goods made in TPP countries meet the rules of origin. Importers will be able to claim preferential tariff treatment so long as documentation supports their claim.<sup>57</sup>

#### **Beyond Goods Trade: Services, Investment, and Intellectual Property**

Under the TPP, market access commitments on services and investment provide greater openness and security, enabling businesses to offer services to overseas clients within the TPP region. They should also

<sup>&</sup>lt;sup>56</sup> Foreign Affairs, Trade and Development Canada. Trans-Pacific Partnership Small and Medium-Sized Enterprises Chapter. http://www.international.gc.ca/trade-agreementsaccords-commerciaux/agracc/tpp-ptp/understanding-comprendre/22-SME.aspx?lang=eng

<sup>&</sup>lt;sup>57</sup> Office of the United States Trade Representative. Summary of the Trans-Pacific Partnership Agreement. https://ustr.gov/about-us/policy-offices/press-office/press-releases/2015/ october/summary-transpacific-partnership

provide greater confidence to investors who seek to expand operations or investments in other TPP economies. The TPP Agreement establishes a common set of rules on intellectual property protection and enforcement, which aims to encourage investment in new ideas, support creative and innovative industries, address and prevent piracy and counterfeiting, and promote the dissemination of information, knowledge and technology.

Access to TPP markets has been "locked in" for TPP service providers across a range of sectors. It opens access to TPP markets for professional, business, education, environmental, transportation and distribution services. Service exports among TPP countries will benefit from legal protection that could guarantee market access and nondiscriminatory treatment. Market access provides that no TPP country may impose quantitative restrictions on the supply of services (for example, limiting the number of suppliers or number of transactions); or require a specific type of business entity or joint venture. Local presence is also not prerequisite, meaning no country may require a service supplier from another country to establish an office or be resident in its territory. TPP's Cross-border Trade in Services chapter operates on a "negative-list basis", meaning TPP markets are fully open to services suppliers from other TPP countries unless subject to exceptions. In addition, the TPP will also capture future market reforms in services.<sup>58</sup>

The agreement creates a predictable and secure environment for TPP investors. It provides comprehensive, high-quality, modern investment rules that establish a strong, rules-based framework, including basic investment protection, national treatment; most-favored-nation treatment; "minimum standard of treatment" for investments in accordance with customary international legal principles. It prohibits expropriation that is not for public purposes without due process or compensation, prohibits "performance requirements" such as local content or technology localization requirements, and allows free investment-related fund transfers. These provisions are also covered under NAFTA, US-Singapore FTA, and the US-Republic of Korea FTA. JAEPA only accords postestablishment national treatment, while TPS-EPA has no investment chapter.

The TPP investment chapter also contains an investor-state dispute settlement (ISDS) mechanism, which provides investors access to an independent arbitral tribunal to resolve disputes for breaches of investment rules. NAFTA, the US-Singapore FTA and the US-Republic of Korea FTA also include provisions for an ISDS, while JAEPA has none. The ISDS mechanism for TPP members can only be used on matters related to commitments in investment and financial services.

The TPP also includes an IP chapter that creates a common set of regional IP rules. It harmonizes IP standards among TPP members—covering areas such as patents, trademarks, copyrights, industrial designs, and trade secrets, among others. It thus makes it easier for businesses

<sup>&</sup>lt;sup>58</sup> Office of the United States Trade Representative. Summary of the Trans-Pacific Partnership Agreement. https://ustr.gov/about-us/policy-offices/press-office/press-releases/2015/ october/summary-transpacific-partnership

#### **Table 10: Comparison of Key Intellectual Property Provisions**

FTAs Provisions	TRIPS	<b>TPP</b> (Negotiations concluded 2015)	Trans-Pacific Strategic EPA (2005)	Japan- Australia (2014)	US- Singapore (2004)	US- [Republic of] Korea (2012)	<b>NAFTA</b> (1994)
Copyright							
Term of protection (number of years)	50	70	50	50	70	70	50
Technological protection measures (TPM)	No	Yes	No	Yes	Yes	Yes	No
Data protection (number of years)							
Pharmaceutical drugs	No	5	No	No	5	5	5
Agricultural chemicals	No	10	No	No	10	10	5

EPA = Economic Partnership Agreement, FTA = Free Trade Agreement, NAFTA = North American Free Trade Agreement, TPP = Trans-Pacific Partnership, TRIPS = Trade-Related Aspects of Intellectual Property Rights, US = United States.

Source: ADB staff compilation from official FTA fact sheet (for TPP) and official FTA text (for the rest).

to search, register, and protect IP rights in new markets—an area of particular significance for small businesses.<sup>59</sup>

IP chapters in the five surveyed FTAs have already gone beyond the multilateral IP protection standards established in the World Trade Organization's (WTO) Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement. TPP further raises the bar by incorporating international best practices. It extends copyright term protection to 70 years—similar to the "gold standard" IP provisions of US-Singapore FTA and the US-Republic of Korea FTA. NAFTA, JAEPA and TPS-EPA build on the existing TRIPS commitment of 50-year term protection **(Table 10)**.

While JAEPA, the US-Singapore FTA, and the US-Republic of Korea FTA already have remedies against circumvention of effective technological measures to protect copyrights, the TPP requires members to provide stronger technological protection measures (TPMs)—digital 'locks' that protect copyrights—by introducing a new requirement to provide civil and criminal remedies against people breaking TPMs. It also includes obligations to prevent selling devices and services that enable breaking of TPMs.

On data protection, the TPP is also consistent with the "gold standard" provisions of the US-Singapore FTA and the US-Republic of Korea FTA, which accord 5- and 10-year data protection to new pharmaceutical products and agricultural chemicals, respectively. It also requires 5-year data protection for small molecule pharmaceuticals or biologics. Data protection is key to IP protection as it sets a timeframe that generic manufacturers must wait before they can use data provided by manufacturers of new pharmaceutical products to advance approval of generic versions.

<sup>&</sup>lt;sup>59</sup> New Zealand Ministry of Foreign Affairs and Trade. 2015. Trans-Pacific Partnership Intellectual Property Fact Sheet. http://www.tpp.mfat.govt.nz/assets/docs/TPP\_factsheet\_Intellectual-Property.PDF

Lastly, the TPP includes strong enforcement systems—including civil procedures, provisional measures, border measures, and criminal procedures and penalties for commercial-scale trademark counterfeiting, copyright or related rights piracy, among others.

#### **Likely TPP Impact**

Sizeable income gains are expected to accrue to TPP members mainly from new trade and investment. According to one estimate (Petri, Plummer and Zhai 2014) the TPP would yield annual income of \$285 billion for the 12 TPP members, equivalent to 0.9% of their total GDP.<sup>60</sup> The agreement will enhance investor confidence, increase competition and cooperation and thus lead to faster productivity growth and greater innovation—even perhaps improved political relations.

While the TPP creates new opportunities for trade and investment, there remains the possibility of potential trade and investment diversion, depending on rules-of-origin requirements across sectors, and potential harm to regional and global value chains—as the TPP currently excludes the PRC, the Republic of Korea, and other important members of existing Asian production networks. Nevertheless, overall welfare increase effect will far exceed negative effect. It would have a much larger positive impact if Asia's large trade partners were to join—such as the PRC, the Republic of Korea, and Thailand.

For individual economies, Viet Nam is expected to reap the largest income growth. The US is Viet Nam's biggest trade partner, yet the two countries do not have an FTA. The tariff reductions by the US through the TPP will make Vietnamese exports—in particular exports of laborintensive products—much more competitive than goods from non-TPP members. While Viet Nam is generally seen to benefit from the TPP, its estimated 1,000 state-owned enterprises (SOEs) will be most affected by provisions aimed at levelling the playing field between SOEs and private companies, though reforms are already underway.

For Japan, government estimates from 2013 suggest the TPP could drive up the country by 0.66%, or around  $¥_{3.2}$  trillion, which amounts to a full year's worth of extra growth.<sup>61</sup> Japan's gains will come from increased exports of manufacturing goods such as automobiles and machineries, but will also be due to larger inward foreign investment afforded by the liberalization of Japan's service and other investment sectors.<sup>62</sup>

Australia and New Zealand could gain in exporting agricultural and dairy products. For example, the TPP eliminates tariffs on more than \$4.3 billion of Australia's dutiable exports of agricultural goods. A further \$2.1 billion of Australia's dutiable exports will receive significant

<sup>&</sup>lt;sup>60</sup> P. Petri, M. Plummer, and F. Zhai. 2014. The TPP, [the People's Republic of] China and the FTAAP: The Case For Convergence. In G. Tang and P.A. Petri, eds. New Directions in Asia-Pacific Economic Integration. Honolulu: East-West Center.

<sup>&</sup>lt;sup>61</sup> The Japan Times News. 2013. Abe declares Japan will join TPP free-trade process. 16 March.

<sup>&</sup>lt;sup>62</sup> P. Petri and M. Plummer. 2012. The Trans-Pacific Partnership and Asia-Pacific Integration: Policy Implications. *Peterson Institute for International Economics Policy Brief*. No. PB12-16.

preferential access through new quotas and tariff reductions. <sup>63</sup> The overall impact on New Zealand's economy, once fully implemented, amounts to an annual increase of at least 0.9% of New Zealand's real GDP, or NZ\$2.7 billion, by 2030.<sup>64</sup>

Based on the estimates of Petri, Plummer, and Zhai (2014), the US is expected to reap \$76.6 billion of income gains or 0.4% increase in GDP.<sup>65</sup> Manufacturing will experience a minor drop, while agriculture and mining combined will see little impact. However, services are projected to reap huge welfare gains, offsetting the negative impact on manufacturing.<sup>66</sup> The United States International Trade Commission (US ITC) is expected to deliver its analysis on economic impact of TPP in mid-May 2016.<sup>67</sup>

For Canada, gains from tariff elimination and improved market access for Canadian agriculture under the TPP would be especially significant in Japanese, Malaysian, and Vietnamese markets—markets where Canada faces high tariffs and no prior preferential access.

Although Singapore is already an open economy, the trade pact will still boost trade and investment links between Singapore and key markets in the region and globally, including Latin America. For instance, Singapore firms in some sectors can bid for government contracts in other TPP countries and take larger stakes in foreign firms operating in key sectors abroad. Still, additional benefits to Singapore, which already has 21 FTAs and economic partnership agreements, might be incremental.

TPP members should reap significant gains from increased trade and investment flows. Meanwhile, countries outside the trade deal could incur losses one way or another in terms of both current and new opportunities for trade and investments.

For the Republic of Korea, although it is unlikely to see a significant degree of trade diversion or any marked increase in transaction costs due to its trade agreements with most TPP members—the US, Viet Nam, Malaysia, and other ASEAN members—domestic manufacturers could lose some competitive edge they gained from existing FTAs, particularly with the US. This could encourage manufacturers from the Republic of Korea to move production lines and investments into countries like Viet Nam, a bilateral FTA partner and TPP member.

- 66 Ibid.
- <sup>67</sup> United States International Trade Commission. 2015. USITC begins assessment of the Trans-Pacific Partnership agreement. 17 November. http://www.usitc.gov/press\_room/ news\_release/2015/er1117ll524.htm

<sup>&</sup>lt;sup>63</sup> Australian Government Department of Foreign Affairs and Trade. Trans-Pacific Partnership Outcomes at a Glance. http://dfat.gov.au/trade/agreements/tpp/outcomes-documents/ Pages/outcomes-at-aglance.aspx

<sup>&</sup>lt;sup>64</sup> New Zealand Ministry of Foreign Affairs and Trade. 2015. Economic Modelling on Estimated Effect of TPP on New Zealand Economy. https://www.tpp.mfat.govt.nz/assets/docs/TPP%20 -%20CGE%20Analysis%20of%20Impact%20on%20New%20Zealand,%20explanatory%20 cover%20note.pdf

<sup>&</sup>lt;sup>65</sup> P. Petri, M. Plummer, and F. Zhai. 2014. The TPP, [the People's Republic of] China and the FTAAP: The Case For Convergence. In G. Tang and P.A. Petri, eds. New Directions in Asia-Pacific Economic Integration. Honolulu: East-West Center.

The PRC's nonmembership in TPP also retains the possibility of trade diversion, as the PRC is a net exporter to TPP economies—with exports to these economies accounting for almost 35% of its total exports. The PRC is expected to face direct competition from some TPP members that compete with the PRC's low cost production. This could possibly increase investments in low-cost, labor-intensive products—such as textiles and footwear—to TPP members like Malaysia and Viet Nam.

India's absence from the TPP might not be highly costly. Petri, Plummer, and Zhai (2014) estimate the costs to India would be \$2.7 billion, or 0.1% lower annual income growth. Nevertheless, these costs could be greater than suggested due to the dynamic nature of the TPP as membership increases over time.<sup>68</sup>

If the TPP is ratified and implemented effectively, there is no doubt it will have a significant impact on both members and nonmembers. There are also intangible effects of renewed momentum toward global economic integration. The TPP should revive momentum in other trade talks and will help reshape the regional and global trade architecture. The fact that negotiations have been concluded is expected to pressure other groups to lift their game, such as the ASEAN+6 Regional Comprehensive Economic Partnership (RCEP).

In the longer term, the real impact of the TPP will depend on whether other economies in the Asia-Pacific region—especially large trading nations such as the PRC and the Republic of Korea—seek to join. If the TPP's open accession clause succeeds, then it could become a building block toward a Free Trade Area of the Asia-Pacific (FTAAP), for instance, which brings together the remaining ASEAN, RCEP, and Asia Pacific Economic Cooperation (APEC) members under one umbrella.

## **Recent Trends of Free Trade Agreements**

The number of newly effective FTAs in Asia has been modest. So far, there have been three waves toward trade integration. **Figure 60** shows the historical trend of FTAs that became effective each year, based on WTO notification. The first wave occurred in Europe in the 1960s and 1970s, following the launch of European Community (EC) in 1958 and European Free Trade Association (EFTA) in 1960. This wave did not grow, partly because economies wanted to join the EC rather than set up their own FTAs. The second wave began in the 1990s with the North and South America at the forefront. NAFTA (1995) and South America's Mercado Común del Sur (MERCOSUR)—or southern common market (1991) are examples.

Asia became centerstage during the third wave of FTAs **(Figure 61)**. The PRC and ASEAN agreed to establish an FTA within 10 years at their November 2001 summit, which triggered an avalanche of Asian FTAs, with many economies starting negotiations. Japan and the Republic of Korea began negotiating FTAs with ASEAN and soon after the PRC. It is

#### Figure 60: Number of Newly Effective FTAs—World



FTA = free trade agreement. Source: Regional Trade Agreements Information System (RTA-IS) Database, World Trade Organization.

<sup>&</sup>lt;sup>68</sup> See footnote no. 65.





FTA = free trade agreement.

Note: Includes bilateral and plurilateral FTAs with at least one of ADB's 48 regional members as signatory. 2015 covers January to August. Signed but not yet in effect refers to FTAs where the parties sign the agreement after negotiations have been completed, but the agreement has yet to become effective. Signed and in effect refers to FTAs where provisions become effective, after legislative or executive ratification. Source: Asia Regional Integration Center FTA Database, ADB.

interesting that the domino effect in Asia differed from Europe's in the 1960s-1970s. Asian economies have been proposing their own bilateral FTAs, which led to the proliferation of bilateral agreements. The different type of domino effect between Asia and Europe was partly because Asia did not have a regional FTA with an open accession clause.<sup>69</sup>

Recently, the number of FTAs newly signed yearly has declined **(Figure 62)**. Only around 10 new FTAs were signed yearly between 2012 and 2014. This coincides with more active multilateral negotiations through regional trade talks such as the TPP and RCEP. However, the number of FTAs signed may increase in 2015–2016—a potential fourth wave of FTAs. If the number of FTAs proposed and signed are compared, there is about a 1-2 year lag—the time needed to conclude negotiations.<sup>70</sup> Thus, a 2-year moving average of the number of proposed FTAs with a 1-year lag is a good leading indicator for the number of FTAs signed each year. Using this approach, there is a possibility the number of Asian FTAs will rise again in the near future. At least those signed over the next

<sup>&</sup>lt;sup>69</sup> Asia-Pacific Trade Agreement (APTA) has an accession clause, and in fact the PRC joined in 2005. But APTA is open only for developing members of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).

<sup>&</sup>lt;sup>70</sup> The number of proposals peaked in 2004–2005. But the number of agreements signed peaked in 2006. Likewise, the number of proposals declined in 2008 for a short period—reflected in the decline in signed FTAs in 2009–2010.

#### Figure 62: Number of FTAs Proposed and Signed Each Year—Asia



FTA = free trade agreement.

Note: Includes bilateral and plurilateral FTAs with at least one of ADB's 48 regional members as signatory. 2015 covers January to August. Signed includes FTAs that are (i) signed but not yet in effect and (ii) signed in effect. Proposed includes FTAs that are (i) proposed (i.e. the parties consider an FTA; governments or relevant ministries issue a joint statement on its desirability or establish a joint study group/joint task force to conduct feasibility studies); (ii) framework agreement signed/under negotiation (i.e. the parties, through relevant ministries, negotiate the contents of a framework agreement that serves as a framework for future negotiations); and (iii) under negotiation (i.e. the parties, through relevant ministries, declare the official launch of negotiations, or start the first round of negotiations).

Source: Asia Regional Integration Center FTA Database, ADB.

#### Table 11: List of Recently Proposed FTAs in Asia

2012	2013	2014	2015*
PRC-Colombia	India-Customs Union (of Russian Federation, Belarus, and	ASEAN-Hong Kong, China	EEU-Iran
Philippines-Taipei,China	Kazakhstan)	Indonesia-Peru	India-Iran
Thailand-Canada	Indonesia-Chile	Pakistan-US	Japan-Sri Lanka
Viet Nam-Ukraine	Japan-EU	Peru-India	Philippines-Canada
	Japan-Turkey	Philippines-Australia	Philippines-Chile
	Myanmar-US	Philippines-EU	Philippines-Mexico
	Pakistan-Thailand	Philippines-EFTA	PRC-Maldives
	Pakistan-Republic of Korea	PRC-EU	PRC-Georgia
	PRC-Japan-Republic of Korea	PRC-Sri Lanka	PRC-Israel
	RCEP	New Zealand-EU	Thailand-Jordan
	Thailand-EU	Singapore-Turkey	
	Thailand- Colombia	Taipei,China-India	

\*Until August.

ASEAN=Association of Southeast Asian Nations, PRC=People's Republic of China, EEU=Eurasian Economic Union, EFTA=European Free Trade Association, EU=European Union, FTA = free trade agreement, RCEP= Regional Comprehensive Economic Partnership, US = United States.

Source: Asia Regional Integration Center FTA Database, ADB.

few years will not decline significantly. This is due to the relatively large number of FTAs proposed in 2013 and 2014.

Given recently proposed FTAs (2012–2015), two interesting observations can be made **(Table 11)**. First, the majority of proposals came from economies outside the TPP. These include the PRC (8), the Philippines (9), Thailand (7), India (4), and Pakistan (3). Second, it appears some FTAs are motivated by the launch of the Transatlantic Trade and Investment Partnership (TTIP) negotiations, the proposed mega-

Figure 63: Cumulative Bilateral FDI Before and After Implementation of

FTA (FTAs implemented since 2008)



FDI = foreign direct investment, FTA = free trade agreement.

Note: Points above (below) the 45 degree line show FTAs which have higher (lower) cumulative FDI flows after the implementation of the FTAs compared to the values prior to their implementation. Equal number of years before and after the implementation of FTAs was used.

Source: ADB calculations using data from United Nations Conference on Trade and Development (UNCTAD) and national sources. agreement between Europe and the US. In fact, five of the proposed FTAs are between the European Union (EU) and Asian economies (the PRC, Japan, New Zealand, the Philippines, and Thailand).

A growing number of FTAs in Asia include an investment chapter to facilitate two-way investment flows. Indeed, of the 37 FTAs in effect from 2008 to 2012, 24 FTAs (65%) contain investment clauses that accord varying degrees of investment liberalization and protection in specific sectors. Of these FTAs, 21 have separate investment chapters with six FTAs covering all basic investment liberalization and protection measures. As mentioned, these include national treatment; most-favored-nation treatment; "minimum standard of treatment" for investments in accordance with customary international legal principles; prohibition of expropriation not for public purpose without due process or without compensation; prohibition on "performance requirements" such as local content or technology localization requirements; and free transfer of funds related to an investment.

The impact of FTAs with investment provisions on FDI flows requires more analysis, but a simple scatterplot offers a useful glimpse (Figure 63). Most economies having FTAs with investment provisions saw an increase in FDI flows once implemented.

## Beyond Trade Liberalization: Trade Facilitation and Capacity Building

In general, scholarly and policy discussions on the WTO and FTAs tend to focus on liberalization. There is no doubt that tariff liberalization or market access has been the center of the trade agenda. In contrast, trade facilitation measures that reduce nontariff barriers tend to be overlooked. The assistance for capacity building was off the agenda for a long time. However, the situation is gradually changing, and trade facilitation and capacity building are finally attracting attention from policy makers involved with both the WTO and FTAs.

#### Trade Facilitation and Capacity Building under Asia-Pacific FTAs

Despite low tariffs, trade transactions remained complicated. Thus the focus of Asian FTAs today is not so much tariff reduction but trade facilitation. In fact, recent studies find that FTAs have a positive trade impact on products ineligible for FTA preference, which implies that nontariff items under FTAs—especially trade facilitation—plays an important role.<sup>71</sup> Various trade facilitation items are included in FTAs although those fall under various sections.

Many FTAs in Asia have chapters on technical cooperation where (developed) parties provide tailor-made capacity building assistance

<sup>&</sup>lt;sup>n</sup> For details, see K. Hayakawa, T. Ito and F. Kimura. Forthcoming. Trade Creation Effects of Regional Trade Agreements: Tariff Reduction versus Nontariff Barrier Removal. *Review of Development Economics*.

to their partner, sometimes binding. FTAs signed by Japan and Australia tend to have an exclusive chapter on economic and technical cooperation, including capacity building. Importantly, capacity building is usually included in the trade facilitation provisions under FTAs as well. The importance of capacity building cannot be overemphasized as a direct tangible benefit for developing economies that have FTAs with developed economies.

#### **Trade Facilitation and Capacity Building under WTO TFA**

The WTO's Trade Facilitation Agreement (TFA)—agreed at the Bali WTO ministerial meeting in December 2013—suggests two important things for future WTO negotiations. First, the WTO should go beyond trade liberalization to have a true positive impact on trade. The WTO TFA—despite slow progress on the overall Doha Round negotiations recognizes that trade facilitation measures could benefit all countries involved. A study conducted by the OECD suggests that successful TFA implementation would have a large impact on trade.<sup>72</sup> Still, many TFA provisions are not binding, meaning political will is critical in promoting trade facilitation.<sup>73</sup>

In the forthcoming 10th WTO Minsterial conference in Nairobi, Keyna in December 2015, the ratification and the implementation of the TFA is one of the agenda following the agreement reached at the Bali Meeting in 2013. As of November 2015, 52 economies out of 161 WTO members have ratified the TFA.<sup>74</sup>

Second, trade facilitation and capacity building are closely related under the TFA. Under the TFA, developing economies can decide when to implement commitments and also can ask assistance from other economies—especially advanced economies—to implement the agreement. The direct linkage between implementation of trade facilitation reform and assistance is expected to have trade impact beyond the technical legal discussions. Also, the TFA includes financial assistance along with technical assistance.

## **Progress of Trade Facilitation in Asia<sup>75</sup>**

The broad definition of trade facilitation (TF) covers the overall environment in which trade transactions occur, including infrastructure connectivity, procedures, and trade finance.<sup>76</sup> Developing Asia has

<sup>&</sup>lt;sup>72</sup> E. Moïsé, T. Orliac and P. Minor. 2011. Trade Facilitation Indicators: The Impact on Trade Costs. OECD Trade Policy Working Papers. No. 118. Paris: OECD Publishing.

<sup>&</sup>lt;sup>73</sup> S. Hamanaka. 2014. WTO Agreement on Trade Facilitation: Assessing the Level of Ambition and Likely Impacts. *Global Trade and Customs Journal.* 9 (7/8).

<sup>74</sup> WTO Trade Facilitation Agreement Facility. 2015. List of Ratifications. http://www.tfafacility. org/sites/default/files/ratifications\_list\_1.pdf

<sup>&</sup>lt;sup>75</sup> This section was drawn mainly from ADB. Forthcoming. *Trade Facilitation Progress in Asia: Performance Benchmarking and Policy Implications.* Manila: ADB.

<sup>&</sup>lt;sup>76</sup> For the citation on the narrow and broad World Bank definitions on trade facilitation, see P. Sourdin and R. Pomfret. 2012. *Trade Facilitation: Defining, Measuring, Explaining and Reducing the Cost of International Trade. The* UK: Edward Elgar Publishing Limited. p. 5.

significantly advanced on trade facilitation over the last several decades, both in infrastructure hardware and software. A total of 48,000 kilometers of regional transport corridors along major supply chains have been improved. From 1992 to 2014, developing Asia together with ADB and its partners have mobilized \$38.4 billion for 186 regional transport and trade facilitation investment projects under three subregional programs the Central Asia Regional Economic Cooperation (CAREC), the Greater Mekong Subregion (GMS), and South Asia Subregional Economic Cooperation (SASEC).

ADB's Trade Finance Program (TFP) also helps fill market gaps in developing Asia by providing guarantees and loans to banks to support trade. Backed by ADB's AAA credit rating, the program works with over 200 partner banks to provide companies with the financial support needed for import and export activities. Since 2009, the TFP has supported 6,140 SMEs in 9,118 transactions valued at \$19.97 billion in a wide range of sectors—from commodities and capital goods to medical supplies and consumer goods in the region's most challenging markets.

After the WTO Bali meeting—and the necessary procedural actions taken since—the WTO TFA is moving toward implementation. The World Customs Organization (WCO) immediately took action. It launched the Mercator Programme, which assists economies implement the TFA using WCO instruments and tools—such as the International Convention on the Simplification and Harmonization of Customs Procedures, commonly known as the Revised Kyoto Convention (RKC). The Mercator Programme supports TFA implementation through (i) technical assistance and capacity building, (ii) harmonized implementation based on WCO's global standards, and (iii) effective coordination among all stakeholders.

During the last 5 years, developing Asia has actively implemented customs modernization and trade facilitation reforms. As a result, for example, it has improved its accession level to the RKC by 14 percentage points—from 26% in 2010 to 40% in 2014 **(Figure 64)**. However, while the level of accession among developing Asian economies has improved, it remained below the world average of 50% in 2014. As most of the WTO TFA provisions are implemented though the RKC, RKC accession provides the key foundation for customs modernization and improvement in line with the global trade facilitation agenda.

The OECD trade facilitation indicators (TFIs) are in line with the global trade facilitation agenda—such as the WTO TFA and WCO Mercator Programme and RKC.<sup>77</sup> The TFIs were constructed based on 11 policy areas being negotiated under the auspices of the WTO to estimate the impact of these policies on trade volumes and trade costs. Latest data on the OECD TFI shows Asia performed second best among regions with an average score of 1.27—behind Europe (non-OECD) and Central Asia (1.47), and slightly better than the world average (the average of non-

#### Figure 64: Level of Accession to the Revised Kyoto Convention—Asia and World



Note: Developing Asia refers to ADB's 45 developing regional members.

Source: Koide, H. 2015. Trade Facilitation Progress in Asia: Performance Benchmarking and Policy Implications. Presented at Regional Conference on Time-Release Studies. Tokyo. 6-8 October.

<sup>&</sup>lt;sup>77</sup> See (i) E. Moïsé, T. Orliac and P. Minor. 2011. Trade Facilitation Indicators: The Impact on Trade Costs. OECD Trade Policy Papers. No. 118. Paris: OECD Publishing; and (ii) E. Moïsé and S. Sorescu. 2013. Trade Facilitation Indicators: The Potential Impact of Trade Facilitation on Developing Countries' Trade. OECD Trade Policy Papers. No. 144. Paris: OECD Publishing.

#### Figure 65: Trade Facilitation Performance (2013)



Asia Latin America and the Caribbean
 Middle East and North Africa
 Sub-Saharan Africa
 TFIs dataset average (non OECD countries)

OECD = Organization for Economic Co-operation and Development.

Note: Country groupings are based on OECD definition. Asia consists of Bangladesh, Bhutan, Brunei Darussalam, Cambodia, the PRC, Fiji, India, Indonesia, Malaysia, Mongolia, Nepal, Pakistan, Papua New Guinea, the Philippines, Singapore, Sri Lanka, Thailand, and Viet Nam. Europe (non-OECD) and Central Asia consists of Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Georgia, Kazakhstan, the Kyrgyz Republic, Latvia, Lithuania, FYR Macedonia, Malta, Moldova, Montenegro, Romania, Russian Federation, Serbia, and Ukraine. Advance Ruling - Prior statements by a customs administration to requesting traders concerning the classification, origin, valuation method, and the like, applied to specific goods at the time of importation, as well as the rules and process applied to such statements. Appeal Procedures - Possibility and modalities to appeal administrative decisions by border agencies. Border agency cooperation: External - Cooperation with neighboring and third countries. Border agency cooperation: Internal - Cooperation between/among various border agencies of a country; delegation of border control authority to customs authorities. Fees and Charges - Disciplines on the fees and charges imposed on imports and exports. Formalities: Automation - Electronic exchange of data, automated border procedures, and the use of risk management. Formalities: Documents - Simplification of trade documents, harmonization in accordance with international standards, and acceptance of copies. Formalities: Procedures - Streamlining of border controls, single submission points for all required documentation (single windows), postclearance audits, and authorized economic operator schemes. Governance and Impartiality - Customs structures and functions, accountability, and ethics policy. Information Availability - Publication of trade information, including on the internet; and enquiry points. Involvement of the Trade Community - Consultations with traders. Source: Trade Facilitation Indicators, OECD.

OECD countries, 1.24), Latin America and the Caribbean (1.23), Middle East and North Africa (1.23), and further Sub-Saharan Africa (1.08) (Figure 65).<sup>78</sup> Among the 11 indicators, Asia's performance has been above the world average in terms of involvement of trade community, appeal procedures, and governance and impartiality, while it lags in external border agency cooperation.

For the three Asian subregional programs cited, the OECD TFI shows large disparities on advance rulings and internal border agency cooperation, and to a lesser extent, fees and charges **(Figure 66)**. Overall, the CAREC program performed best with an average score of 1.35, especially on advance rulings and fees and charges. The average score of the GMS and SASEC programs are comparable—1.28 for GMS and 1.25 for SASEC. The performance of each indicator in these regions also shows similar trends, except for internal border agency cooperation for which SASEC performed better than the GMS by a large margin.

<sup>&</sup>lt;sup>78</sup> Following the regional classification by OECD, "Asia" and "Europe (non-OECD) and Central Asia" are used instead of Developing Asia. Each of these regions includes several countries in the subject subregions.

## Figure 66: Trade Facilitation Performance—CAREC, GMS, and SASEC (2013)



CAREC = Central Asia Regional Economic Cooperation, GMS = Greater Mekong Subregion, SASEC = South Asia Subregional Economic Cooperation.

Note: Based on simple average per subregion. CAREC includes Azerbaijan, Kazakhstan, Kyrgyz Republic, Mongolia, Pakistan, and the People's Republic of China (PRC). GMS includes Cambodia, Thailand, the PRC, and Viet Nam. SASEC includes Bangladesh, India, Nepal, and Sri Lanka. Border agency cooperation-external covers the following countries: GMS-Thailand; CAREC-Azerbaijan, Kyrgyz Republic, Mongolia; SASEC-Bangladesh.

Source: Trade Facilitation Indicators. OECD.

Benchmarking and measuring TF progress is gaining importance. However, the results should lead to actual implementation of necessary TF reforms and actions. Asian economies need to carefully select a direct TF impact measurement methodology with the goal of having long-term ownership and sustaining the methodology, while reducing external financial support. A cost-effective and flexible method—such as Time Release Study (TRS) surveys, which can cover a border or corridor—is useful in measuring changes in time required for trade (one of the major outcomes of implementing TF measures). Efforts to sustain the conduct of TF measurement surveys through TRS trainer workshops are important to collect comparable time series data at low cost, considering the limited budgets of both developing Asia governments and development partners.

Periodic, systematic, and cost-effective benchmarking of TF progress will provide useful information for policy makers. For example, the evidencebased OECD method provides a convenient assessment tool as it covers all aspects of the TFA major reform agenda. It also helps identify areas where further improvement is needed—by visualizing assessment results and comparing them with regional or global averages. These diagnoses can be a basis for planning TF policies and programs and filling gaps based on global best practices—bearing in mind the importance of implementing TF measures holistically rather than taking them in isolation.

International trade flows are complicated by requirements of private industries, increased security threats, and trade of illicit goods (prohibited and dangerous goods that could pose hazard to the general public). Hence, the challenge is to facilitate legitimate trade without compromising trade security. Thus, developing Asia should continue to undertake policies and conduct capacity-building programs on both trade facilitation and countering security threats and illicit trade. Coordinated border management among various trade and customsrelated agencies—local and international—is key, given the increasing complexity, volume, and speed of global and regional trade. This way, developing Asia can draw useful insights from the successful interagency work conducted by the Port Control Units under the Container Control Programme of the WCO and the United Nations Office on Drugs and Crime.<sup>79</sup>

## **Trade Remedies**

With the progress of freer trade and free trade policies—such as FTAs and unilateral and mutual trade facilitation measures, statutory, and regulatory trade barriers have eased significantly globally. On the flip side of freer trade lies more frequent trade remedies being projected as legitimate trade policy tools to protect domestic industries and businesses. From a political economy standpoint, while contributing to safeguard domestic business interests against unjust trade behavior of exporters, sometimes vested interests overtake the logic of fair trade. At times, this translates into political lobbying of affected domestic industries and government administrative tactics that serve these vested interests. Nevertheless, the incidence of trade remedies will likely continue to increase without more effective administrative tools at the economy level amid greater international free trade structures. After all, these measures should contribute to restoring fair trade by curbing unfair trade behaviors.

Asia is no exception. A total of 1,294 trade intervention measures have been imposed on Asian economies from January 2010 to May 2014. Among these, 517 have come from Asia itself, while 777 have come from the rest of the world. Both dwarf the number of measures implemented by Asia outside the region.

Of these 1,294 intervention measures, 443 are trade remedial actions—178 of these implemented intraregionally. Anti-dumping, countervailing, and other safeguard measures fall under this category. Ninety percent or 397 are antidumping duties (Figure 67). Looking into cases filed with the WTO over the same period, 65% of the 52 trade remedial measures involve Asia either as a complainant or respondent (Table 12). However, only 8% that targeted Asia have been appealed to the WTO.

The incidence of new trade intervention has grown significantly—a 153% increase in May 2013–May 2014 compared to January–April 2013 **(Figure 68)**. More intraregional trade remedial measures have been triggered recently.

<sup>&</sup>lt;sup>79</sup> For further details, see United Nations Office on Drugs and Crime and World Customs Organization. 2014. Container Control Programme Annual Report 2014. http://www. wcoomd.org/en/topics/enforcement-and-compliance/activities-and-programmes/drugsprogramme/~/media/WCO/Public/Global/PDF/Topics/Enforcement%20and%20Compliance/Activities%20and%20Programmes/Drugs%20and%20Precursor%20Chemicals/CCP/ CCP\_Annual\_Report\_2014-150309\_WEB.ashx





Source: ADB calculations using data from Global Trade Alert.

#### Table 12: Trade Remedial Measures and WTO Cases (Jan 2010-May 2014)

Agreement	World Total	Asia¹ Total	<b>Asia</b> (Complainant) <b>ROW</b> (Respondent)	<b>ROW</b> (Complainant) <b>Asia</b> (Respondent)	<b>Asia</b> (Complainant) <b>Asia</b> (Respondent)
Anti-dumping (Article VI of GATT 1994)					
No. of measures implemented	513	427	233	31	163
No. of cases	23	17	9	6	2
	(4%)	(0.4%)			
Subsidies and Countervailing Measures					
No. of measures implemented	33	28	22	5	1
No. of cases	19	14	6	7	1
	(57%)	(61%)			
Safeguards					
No. of measures implemented	38	30	14	3	13
No. of cases	10	3	3	0	0
	(26%)	(10%)			
Total <sup>2</sup>					
No. of measures implemented	571	478	265	35	178
No. of cases	52	34	18	13	3
	(9%)	(7%)			

ROW = rest of the world, WTO = World Trade Organization.

Asia as implementing/affected region, which is equivalent to global number of trade remedy measures less ROW-ROW (not shown in table).

<sup>2</sup>Some measures are combinations of 2 or 3 agreements.

Source: ADB calculations using data from Global Trade Alert and WTO.



#### Figure 68: Newly Initiated Trade Interventions Measures Involving Asia

ROW = rest of the world.

Note: Legend convention XX on YY means XX = implementing region, and YY = affected region. For example, Asia on Asia in the number of measures imposed by Asian economies on Asian economies. Source: ADB calculations using data from Global Trade Alert.

#### Table 13: Number of Trade Remedial Measures Affecting Asia

(Jan 2010–May 2014, by top affected sectors)

Sector No.	Sector Name	Implemented by ROW	Implemented by Asia	Total
34	Basic chemicals	27	65	92
41	Basic metals	38	31	69
42	Fabricated metal products, except machinery and equipment	39	11	50
36	Rubber and plastics	24	12	36
37	Glass and glass products and other non-glass metallic products	20	12	32

ROW = rest of the world.

Source: ADB calculations using data from Global Trade Alert.

The high frequency of trade remedial measures against Asian economies follows a period when global as well as Asian trade growth has begun to taper, such as in 2012. Research often points to growing trade intervention as one of the underlying sources of tepid international trade growth.<sup>80</sup> Barring any presumptions on potential causality, the high incidence of remedial measures against Asia will not support trade growth. Trade remedial measures on Asia have been implemented mostly on basic chemicals (CPC v2 sector no. 34) at 20% of the total from January 2010 to May 2014 **(Table 13)**. This is particularly true for measures imposed by Asian economies intraregionally. Trade remedial measures from the rest of the world to Asia have mostly been implemented on fabricated metal products, except machinery and equipment (CPC v2. sector no. 42).

<sup>&</sup>lt;sup>80</sup> C. Constantinescu, A. Mattoo, and M. Ruta. 2015. The Global Trade Slowdown: Cyclical or Structural? *IMF Working Papers*. WP/15/6. Washington: IMF.

#### **Figure 69: London Metal Exchange**

**Metals Index** (end-of-period, in thousands)



Note: The London Metal Exchange (LMEX) Index is based on the closing prices of six primary metals: copper, aluminum, lead, tin, zinc and nickel. It has a base value of 1,000 starting in 1984. Source: Bloomberg.

## Figure 70: Share in Global Trade of Basic Chemicals (%)



EU =European Union (27 members), US = United States, RHS = right-hand scale, ROW = rest of the world.

Note: Asia does not include Taipei,China as data unavailable.

Source: ADB calculations using data from United Nations Commodity Trade Database and Global Trade Alert.

## Table 14: Number of Implementers of Trade Remedial Measures—Top Affected Asian Economies (Jan 2010–May 2014)

Economy	Number of implementers from			
	ROW	Asia	Total	
PRC	211	112	323	
Korea, Rep. of	30	47	77	
Taipei,China	25	34	59	

PRC = People's Republic of China, ROW = rest of the world.

Source: ADB calculations using data from Global Trade Alert.

The highest incidence of trade remedial measures on Asian basic metal producers from the rest of the world have followed falling global metal prices since 2012 **(Figure 69)**. **Figure 70** shows how the incidence of trade remedial measures against Asia from ROW and Asia's global trade share in basic chemicals have fared over time.

The PRC has been the most frequent target of trade remedial measures in Asia **(Table 14)**. The sectors hit with the highest number of measures implemented against the PRC; the Republic of Korea; and Taipei,China are basic chemicals and basic metals. The European Commission, Brazil, South Africa, and Turkey are the economies outside the region that have implemented the most number of trade remedial measures, while India, Thailand, Indonesia, and Australia implemented the most number of measures intraregionally.

The Republic of Korea's basic chemicals trade has declined in value from \$61 billion in 2012 to \$30 billion in 2013 and further to \$86 million in 2014. Likewise, its market share (as % of global trade in basic chemicals) also declined—from 8.2% in 2012 to 4.8% in 2013, and to just 0.01% in 2014. In contrast, the PRC's global share in total basic chemicals trade increased from 4.5% in 2012 to 13.6% in 2013 and to 13.9% in 2014, despite having been the target of frequent remedial measures.