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Regional Economic Outlook and Development Challenges

Economic Outlook and Risks

ADB forecasts for developing Asia's economic outlook have improved since the _Asian Economic Integration Report 2017_—economic output is set to grow 6.0% in 2018 from 6.1% in 2017.

Developing Asia's economic growth in 2018 is 0.2 percentage points above the estimate used as a backdrop for last year's Asian Economic Integration Report.[1] Some 26 of the region's 45 developing economies (57.8%) recorded a better-than-expected economic expansion according to the latest forecasts of the Asian Development Bank (ADB) available in the Asian Development Outlook 2018 Update. The People's Republic of China (PRC) is expected to grow 6.6% in 2018, bolstered by strong economic performance in the first half of the year (Table 1.1).

Over the past year, external conditions improved—growth in the euro area has been revised upwards (by 0.2 percentage points) along with the United States (US) (0.4 percentage points). Even as the first quarter 2018 growth in the euro area slowed to 1.6%, it stabilized at 1.5% in the second quarter as labor markets improved, the accommodative monetary policy continued, and fiscal support remained intact. In Japan, growth recovered strongly in the second quarter of 2018, reversing the contraction in the previous quarter. In the US, growth accelerated to 4.2% in the second quarter of 2018 from 2.2% growth in the previous quarter (first half growth reached 3.2%). If this trend continues, the US Federal Reserve may be forced to raise interest rates faster than expected.

Table 1.1: Regional Gross Domestic Product Growth[a] (%, year-on-year)

	2014	2015	2016	2017	Q1 2018	Q2 2018	Forecast[b] 2018	Forecast[b] 2019
Developing Asia[c]	6.3	6.0	5.9	6.1	–	–	6.0	5.8
Central Asia	5.1	3.1	2.7	4.3	–	–	4.1	4.2
East Asia (ex-Japan)	6.6	6.1	6.0	6.3	–	–	6.0	5.7
China, People's Republic of	7.3	6.9	6.7	6.9	6.8	6.7	6.6	6.3
South Asia[d]	6.9	7.4	6.7	6.5	–	–	7.0	7.2
India	7.4	8.2	7.1	6.7	8.2	–	7.3	7.6
Southeast Asia	4.7	4.7	4.7	5.2	–	–	5.1	5.2
The Pacific[e]	9.6	8.1	2.4	2.4	–	–	1.1	3.1
Major Industrialized Economies[f]								
Euro area	1.3	2.1	1.8	2.5	1.6	1.5	2.0	1.9
Japan	0.4	1.4	1.0	1.7	-0.9	3.0	1.1	1.0
United States	2.5	2.9	1.6	2.2	2.2	4.2	2.8	2.4

– = data not available.
[a] Aggregates weighted by gross national income levels (Atlas method, current $) from World Bank, World Development Indicators.
[b] Forecasts based on Asian Development Outlook Update 2018.
[c] Refers to the 45 developing members of the ADB.
[d] Data for Bangladesh, India, and Pakistan are according to their fiscal year. For India, the fiscal year is from April of the specified year through March of the following year. For Bangladesh and Pakistan, the fiscal year is from July of the previous year through June of the specified year.
[e] Excludes Nauru as weights are unavailable.
[f] Quarterly growth rates are based on quarter-on-quarter seasonally adjusted annualized rate.
Sources: ADB (2018); CEIC (accessed September 2018); and World Bank. World Development Indicators. https://data.worldbank.org/products/wdi (accessed September 2018).

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[1] Developing Asia includes the 45 developing member countries of the Asian Development Bank (ADB).

Risks to the Outlook

Risks remain tilted to the downside, primarily due to the escalating trade frictions between the US and the PRC; in addition, elevated debt levels could cause greater financial market volatility as US monetary policy normalizes and interest payments rise.

The threat against open, free trade has begun—posing a clear downside risk to developing Asia's growth forecasts. In August, the US launched tariffs on $50 billion of PRC imports, and the PRC countered in kind. The US also canceled country exemptions from steel and aluminum tariffs, prompting countermeasures from Canada, the European Union, Mexico, and the Russian Federation.

Based on recent ADB estimates, the direct impact from the first set of tariffs had very little net effect on growth, investment, and the external current account balance (ADB 2018). But there is no assurance that a further escalation in protectionist measures will not disrupt global supply chains or curb future business expansion plans. Asia is one of the most open regions worldwide—and closely integrated into the global value chain—so a slowdown in global trade or any global shock to trade and investment could easily harm its economic prospects (Box 1.1).

Box 1.1: Trade Volume Outlook for Developing Asia

World trade growth is expected to slow moderately from 4.7% in 2017 to 4.5% in 2018 as growth eases in some advanced economies—likely to affect exports of emerging and developing economies as well.

Developing Asia's trade is also expected to grow but at a slower pace. Trade volume growth is projected to decline from the 7.6% estimate in 2017 to 5.5% in 2018. In the first 5 months of the year, the region's major economies saw trade volume growth moderating. A key risk to the trade volume projection is the escalating trade friction between the United States and the People's Republic of China (PRC) (ADB 2018).

As in previous years, the PRC will remain the key driver of developing Asia's trade growth, while the four middle-income economies of the Association of Southeast Asian Nations (Indonesia, Malaysia, the Philippines, and Thailand) and the newly industrialized economies (Hong Kong, China; the Republic of Korea; Singapore; and Taipei,China) will also provide a boost. Imports to these economies will be buoyed by robust domestic demand, while exports will benefit from growing intraregional demand.

Trade Volume Growth (%, year-on-year)
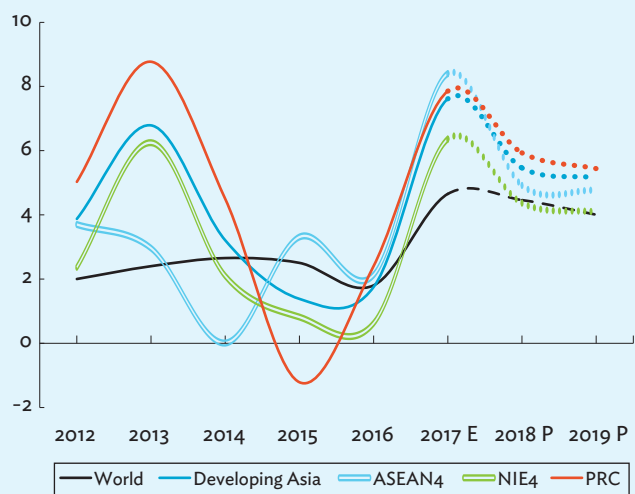
ASEAN = Association of Southeast Asian Nations, E = estimate, GDP = gross domestic product, NIE = newly industrialized economies, P = projected, PRC = People's Republic of China.
Note: ASEAN4 includes Indonesia, Malaysia, the Philippines, and Thailand. NIE4 includes Hong Kong, China; the Republic of Korea; Singapore; and Taipei,China. Trade volume growth projections are calculated using trade volume growth rates of all economies, which were generated using each economy's elasticities-to-real GDP (for imports) and elasticities-to-real GDP of top trading partners (for exports).
Sources: ADB calculations using data from International Monetary Fund. World Economic Outlook April 2018 database. https://www.imf.org/external/pubs/ft/weo/2018/01/weodata/index.aspx (accessed May 2018); International Monetary Fund. Direction of Trade Database. https://www.imf.org/en/Data (accessed August 2018); and World Trade Organization Statistics database. http://stat.wto.org/Home/WSDBHome.aspx (accessed May 2018).

High debt levels can be a destabilizing factor for the financial sector.

Since the 2008/09 global financial crisis, many large developing economies in the region have rapidly accumulated private external debt as a share of gross domestic product (GDP). For example, the PRC's corporate debt rose from 120% of GDP in 2009 to 160% in 2017. The ratio has increased significantly in Thailand; the Republic of Korea; Hong Kong, China; and Singapore. The concern is that these ratios could prove unsustainable should global interest rates rise sharply.

Given this concern and market expectations of further rate rises in the US, many developing Asian currencies weakened relative to the US dollar from early-April 2018 to the end of September. Leading the group is the Indian rupee, which depreciated 11.2% over the period. The PRC yuan fell 9.4%, the Indonesian rupiah 8.4%, Japanese yen 7.4%, and the Malaysian ringgit 7.2%. The Korean won, Taipei,China NT dollar, Singapore dollar, Philippine peso, and Thai baht weakened between 3.8% and 5.0%.

Capital outflows from the region—mostly portfolio investment—have occurred recently.

The regional currency weakness—combined with higher 10-year US Treasury yields—triggered some bouts of capital outflows from emerging markets and the region (Figure 1.1). However, these mostly nonresident portfolio outflows could also be explained by the strong inflows of portfolio investment in 2017—which reached nearly $760 billion (see "Financial Integration", pp. 60–80).

Nonetheless, the decline in portfolio investment flows was far more muted compared with nonresident outflows during the 2013 "taper tantrum" episode. More importantly, nonresident capital outflows were more than offset by stronger inward flows of foreign direct investment and other investments—including bank lending. These inflows contributed to stronger accumulation of international reserves across much of the region, although some economies had foreign exchange reserves decline due to exchange rate volatility.

Still, there has been some market turbulence. For instance, elevated external debt in Argentina and Turkey recently contributed to some financial market turmoil

Figure 1.1: Nonresident Portfolio Capital Inflows—Developing Asia ($ billion)
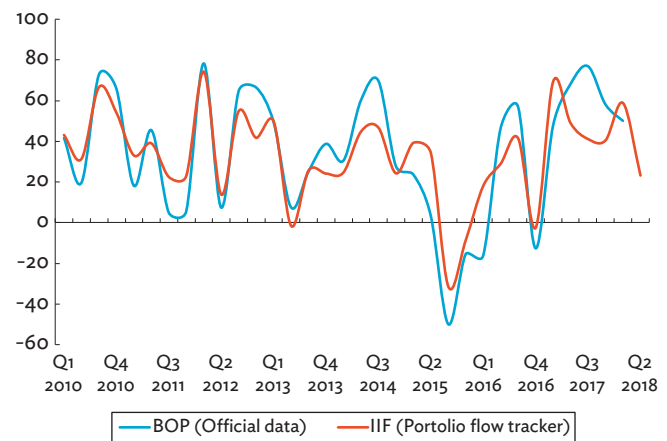
BOP = balance of payments, IIF = Institute of International Finance.
Notes: Portfolio flows are the sum of equity and debt flows. BOP data cover developing Asian economies: Brunei Darussalam; Cambodia; Hong Kong, China; India; Indonesia; the Lao People Democratic Republic; Malaysia; Myanmar; the People's Republic of China; the Philippines; the Republic of Korea; Singapore; Taipei,China; Thailand; and Viet Nam. The IIF data are based on the IIF monthly portfolio flow tracker, which covers India; Indonesia; Malaysia; the People's Republic of China; the Philippines; the Republic of Korea; Taipei,China; Thailand; and Viet Nam.
Sources: ADB calculations using data from CEIC; IIF. Monthly Portfolio Tracker. https://www.iif.com; and International Monetary Fund. International Financial Statistics. https://www.imf.org/en/Data (all accessed August 2018).

and spillover effects—with the Turkish lira losing more than 40% of its value this year as markets reacted to Turkey's high external debt-to-GDP ratio (over 50%), high and rising inflation (15% in July), and the delayed response from the central bank after it failed to raise interest rates to defend the lira. This turbulence could generate spillover shocks to other emerging markets if confidence suffers, and risk perceptions lead investors to extract their investments.

Capital flow volatility has subsided in developing Asia during the US monetary policy normalization—except for portfolio debt flows most affected by rising interest rates in the US.

For most subregions, the volatility of net debt investment flows into developing Asia has increased as US monetary policy normalization tightens global financial conditions since 2016. In contrast, during the same period, the volatility of net capital flows—in equity, foreign direct investment, and financial derivatives—has declined (Table 1.2).

Table 1.2: Capital Flow Volatility—Developing Asia (standard deviation of capital net flow levels as % of GDP)

Region	Portfolio (Debt)				Portfolio (Equity)			
	Pre-GFC Q1 1999– Q3 2007	Post-GFC Q3 2009– Q4 2015	MP Normalization Q1 2016– Q4 2017	**	Pre-GFC Q1 1999– Q3 2007	Post-GFC Q3 2009– Q4 2015	MP Normalization Q1 2016– Q4 2017	**
Central Asia	3.9	4.5	6.1	▲	1.8	1.0	0.4	▼
East Asia ex-Japan	1.5	0.7	0.7	▼	1.7	0.8	0.3	▼
South Asia	0.0	0.8	0.9	▲	0.9	1.0	0.6	▼
Southeast Asia	0.9	0.7	0.6	▼	0.8	0.6	0.5	▼
Developing Asia	**1.0**	**0.5**	**0.7**	▲	**1.0**	**0.7**	**0.3**	▼

Region	FDI				Financial Derivatives and Other Investments[a]			
	Pre-GFC Q1 1999– Q3 2007	Post-GFC Q3 2009– Q4 2015	MP Normalization Q1 2016– Q4 2016	**	Pre-GFC Q1 1999– Q3 2007	Post-GFC Q3 2009– Q4 2015	MP Normalization Q1 2016– Q4 2017	**
Central Asia	4.3	2.7	3.9	▲	4.2	6.6	4.9	▼
East Asia ex-Japan	1.6	0.9	0.8	▼	2.2	2.7	1.6	▼
South Asia	0.3	0.5	0.7	▲	1.7	1.3	1.2	▼
Southeast Asia	1.8	1.2	0.8	▼	3.0	2.5	1.9	▼
Developing Asia	**1.1**	**0.7**	**0.6**	▼	**1.7**	**2.0**	**1.4**	▼

** = refers to the direction of capital flow volatility between post–global financial crisis and post-normalization, ▼ = decrease, ▲ = increase, FDI = foreign direct investment, GDP = gross domestic product, GFC = global financial crisis, MP = monetary policy, SDR = special drawing rights.

a The category "Other Investments" includes (i) other equity; (ii) currency and deposits; (iii) loans (including use of International Monetary Fund credit and loans); (iv) nonlife insurance technical reserves, life insurance and annuities entitlements, pension entitlements, and provisions for calls under standardized guarantees; (v) trade credit and advances; (vi) other accounts receivable/payable; and (vii) SDR allocations (SDR holdings are included in reserve assets).

Notes: Central Asia includes Armenia, Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, and Tajikistan. East Asia (excluding Japan) includes Hong Kong, China; Mongolia; the People's Republic of China; and the Republic of Korea. South Asia includes India and Sri Lanka. Southeast Asia includes Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam. Data for Brunei Darussalam are only until Q4 2016.

Sources: ADB calculation using data from CEIC; and International Monetary Fund. Balance of Payments and International Investment Position Statistics. http://www.imf.org/external/np/sta/bop/bop.htm (both accessed July 2018).

The Financial Stress Index of developing Asia remains unusually low despite recurring economic and financial events, suggesting that investors have become more complacent toward risk.

Since December 2015, when the US Federal Reserve began normalizing its monetary policy—raising policy rates for the first time since June 2006—developing Asia's Financial Stress Index (FSI)—a composite index that measures the degree of financial stress in four major financial sectors and markets including the banking sector, debt, equity, and foreign exchange markets—has remained very low (Figure 1.2) despite a series of economic, financial, and policy events that have significant implications for financial stability. Though

the US Federal Reserve rate hikes in 2017 and 2018 may have contributed to some uptick in the FSI, levels were nowhere near those during the global financial crisis or the 1998/99 Asian financial crisis.

A possible explanation is the wide array of reforms adopted in response to past crises—covering sound macroeconomic fundamentals (budget and foreign reserve management), more flexible exchange rates, stronger financial regulation and supervision, and a stronger regional cooperation framework—which likely contributed to bolstering the region's financial stability and resilience.

Yet, the current low FSI levels may also indicate that investors have become more complacent toward risk—despite looming financial vulnerabilities. Subdued

Figure 1.2: Financial Stress Index—Developing Asia
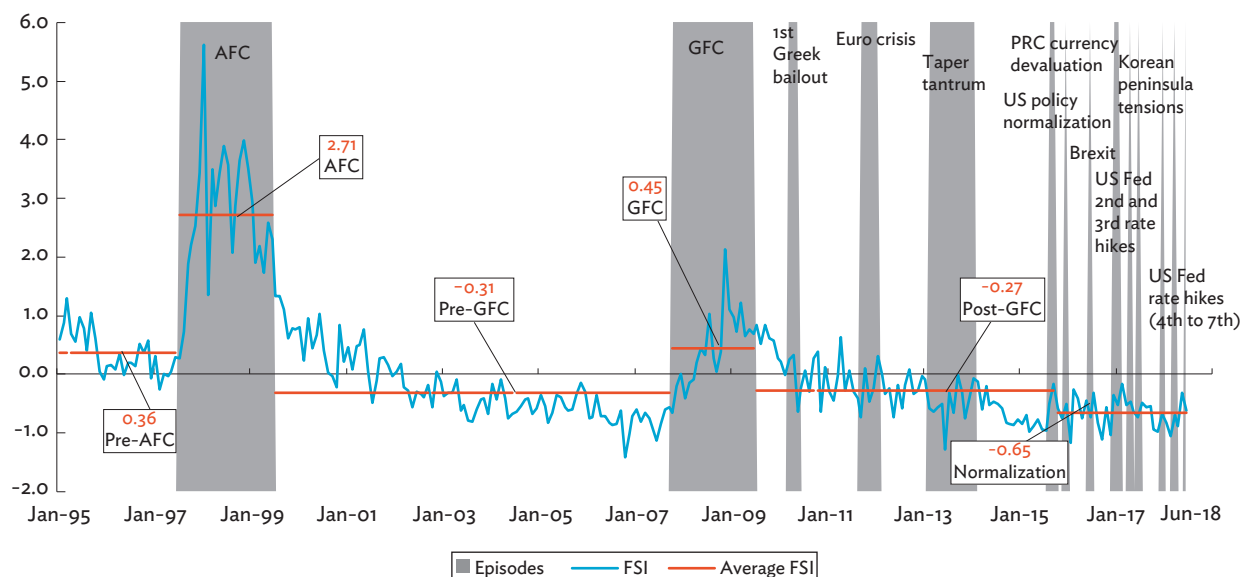
AFC = Asian financial crisis, FSI = Financial Stress Index, GFC = global financial crisis, PRC = People's Republic of China, US = United States, US Fed = United States Federal Reserve System.
Notes:
(i)   Pre-AFC = Jan 1995–Jun 1997, AFC = Jul 1997–Jun 1999, Pre-GFC = Jul 1999–Sep 2007, GFC = Oct 2007–Jun 2009, Post-GFC = Jul 2009–Sep 2015, Normalization = Oct 2015–Jun 2018.
(ii)   Based on principal components analysis on data from four major financial sectors: the banking sector, debt, equity, and foreign exchange markets. Principal components are based from banking sector price index, sovereign yield spreads, stock market volatility, stock price index, and exchange market pressure index.
(iii) Developing Asia includes Hong Kong, China; India; Indonesia; Malaysia; the Philippines; the PRC; the Republic of Korea; Singapore; Thailand; and Viet Nam.
Sources: ADB calculations using data from Bloomberg; CEIC; Haver Analytics (all accessed August 2018); and methodology by Park and Mercado (2014).

market volatility, coupled with a low risk premium, has often led to a buildup of systemic risks. Investor complacency may contribute to a major price correction in financial markets when investors' risk sentiments suddenly shift due to a worsening growth outlook, or an unexpected change in monetary and credit conditions and policies.

Development Challenges: Vulnerabilities to Economic, Environmental, and Social Shocks

Global economic shocks

Greater economic interdependence and integration is contributing to faster transmission of global economic shocks.

Since the global financial crisis, episodes like the 2010 European debt crisis, the 2013 taper tantrum, this year's sell-off of the Turkish lira, and the threat of escalating US–PRC trade tensions, remind everyone—from policy makers to investors—of the downside risks of a highly interconnected global economy. Until now, global financial and business cycles—and policy adjustments in the US—have largely driven capital flows, asset prices,

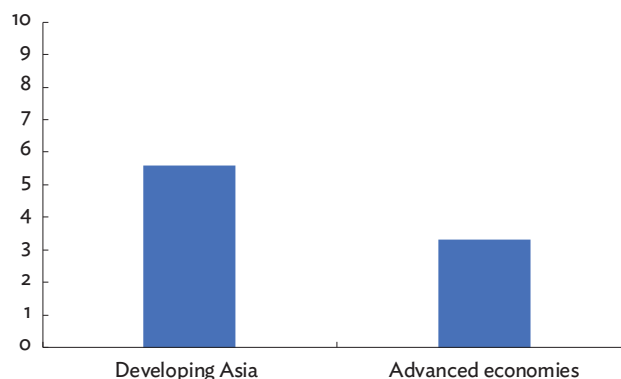**Figure 1.3: Percentage of Economies in Recession** *(%)*
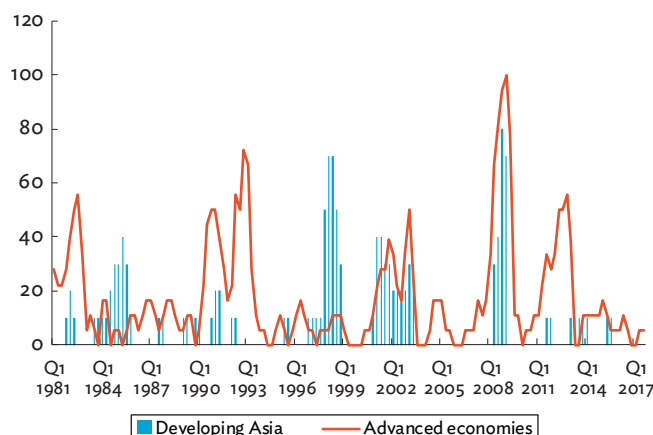
Notes:
(i)   A recession is defined as the time (i.e., number of quarters) between the local peak and local trough as defined in ADB Institute (2009).
(ii) The sample for developing Asia includes Hong Kong, China; India; Indonesia; Malaysia; the People's Republic of China; the Philippines; Singapore; Taipei,China; and Thailand. The sample for advanced economies includes Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States.
Sources: ADB calculations using data from data from Oxford Economics (accessed July 2018); and methodology by ADB Institute (2009).

Figure 1.4: Cumulative Output Loss from Recessions, 1981–2017 *(% of peak real GDP, median)*

GDP = gross domestic product.
Notes:
(i)   A recession is defined as the time (i.e., number of quarters) between the local peak and local trough as defined in ADB Institute (2009).
(ii) The cumulative loss was computed by estimating the median real GDP loss (expressed as % of peak GDP) during the recession periods using quarterly seasonally adjusted real GDP data in $, 2010 prices.
(iii) The sample for developing Asia includes Hong Kong, China; India; Indonesia; Malaysia; the People's Republic of China; the Philippines; Singapore; Taipei,China; and Thailand. The sample for advanced economies includes Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the United States, and the United Kingdom.
Sources: ADB calculations using data from Oxford Economics (accessed July 2018); and methodology by ADB Institute (2009).

and risk premia on a global scale, sometimes harming national economies.

This is evident from the strong correlation—since the Asian financial crisis—between the incidence of developing Asia's recessions with those globally; possibly a consequence of the region's deepening integration with the global economy (Figure 1.3). Generally, developing Asia's recessions do not last very long—their median duration is about 3 quarters. However, the cost of recessions to developing Asia is proportionately larger than those in advanced economies. For instance, the cumulative output losses from recessions in developing Asia have a median of around 5.6% of peak GDP compared with 3.3% for advanced economies (Figure 1.4). This validates the findings of Aghiar and Gopinath (2007), which attributed the large and persistent volatility in emerging markets to their less diversified economic structures and limited ability to tap the international financial system.

Moreover, the median cost of a recession also masks an important fact—that some of developing Asia's recessions have also been both deep and long. For instance, out of the 36 recorded recessions in the region since 1981, 6 episodes lasted more than a year and

entailed cumulative output losses above 24% of peak GDP—about 4 times the median recorded loss.

Often, these long and deep recessions are associated with financial stress and banking crises—a direct offshoot of unfettered capital flows across borders, which fuels excessive global capital market volatility. The increasing pace of globalization, interconnectedness, technological advancements, and geopolitical dynamics could contribute to more frequent and debilitating global economic shocks, which will inevitably trigger economic fallout in the region. In short, today contagion is a given; and building resilience is therefore imperative.

Shocks from natural hazards

Economic costs from the loss of life and damage to property and natural resources caused by natural hazards are rising.

Developing Asia is one of the most disaster-prone regions worldwide—with devastating earthquakes, volcanic eruptions, tsunamis, typhoons, floods, drought, and landslides. Historically, the frequency of disasters

Table 1.3: Number of Disasters and Resultant Deaths, by Type—Developing Asia

Period	All Types		Climatological		Geophysical		Meteorological		Hydrological	
	Number of Disasters	Number of Deaths	Number of Disasters	Number of Deaths	Number of Disasters	Number of Deaths	Number of Disasters	Number of Deaths	Number of Disasters	Number of Deaths
1901–1910	5	20,806	–	–	4	20,566	1	240	–	–
1911–1920	12	844,235	1	500,000	5	193,235	3	51,000	3	100,000
1921–1930	10	3,318,211	1	3,000,000	5	212,211	4	106,000	–	–
1931–1940	24	4,517,576	–	–	9	155,718	10	1,358	5	4,360,500
1941–1950	14	67,931	–	–	5	4,141	5	3,060	4	60,730
1951–1960	58	2,054,809	–	–	11	4,581	32	9,742	15	2,040,486
1961–1970	71	40,683	3	–	13	14,195	41	24,997	14	1,491
1971–1980	143	318,073	10	–	19	283,141	70	4,327	44	30,605
1981–1990	349	37,212	14	1,591	54	5,651	163	16,102	118	13,868
1991–2000	537	64,726	29	2,353	71	6,435	222	22,542	215	33,396
2001–2010	773	245,118	31	156	95	208,556	262	13,920	385	22,486
2011–August 2018	612	39,728	22	35	84	11,736	239	15,878	267	12,079
Total	**2,608**	**11,569,108**	**111**	**3,504,135**	**375**	**1,120,166**	**1,052**	**269,166**	**1,070**	**6,675,641**

– = not available.
Notes: Climatological disasters include drought, forest fires, and land fires. Geophysical disasters consist of ash fall, associated avalanches, earthquakes or other ground movements, landslides, lava flows, rockfalls, and tsunamis. Hydrological disasters include associated avalanches, coastal floods, flash floods, landslides, mudslides, riverine floods, rockfalls, and subsidence. Meteorological disasters include cold waves, convective storms, heat waves, severe winter conditions, and tropical cyclones.
Source: EM-DAT: The Emergency Events Database–Université catholique de Louvain–Centre for Research on the Epidemiology of Disasters, D. Guha-Sapir, Brussels, Belgium. https://www.emdat.be (accessed September 2018).

from natural hazards has been increasing; and the swathe of their impact has been growing (Table 1.3). This trend primarily reflects the exponential increase in the velocity, volume, and intensity of economic development, human interactions, as well as the concentration of human and physical assets in limited geographical spaces—the result of urbanization and agglomeration. In addition, climate change has also caused extreme weather events which sometimes lead to widespread disasters.

Compared with other regions, developing Asia has been more exposed to the impact of disasters.

Over the past 20 years, for example, developing Asia has borne almost one-fifth (17%) of the estimated cost of global natural hazards—equivalent to $29 billion annually. Moreover, while 19.9% of disasters due to natural hazards occur in developing Asia, 31.4% of the people affected live in the region. In general, the distribution of disasters by category is largely dominated by floods and storms (hydrometeorological), which account for over three-quarters of all disasters. Storms and floods have the highest human impact, although mortality from flooding has been decreasing recently.

Natural hazards often cause massive loss of life, destruction of livelihoods, and destruction of tangible community and national assets—which can permanently affect long-term growth prospects.

Natural hazards such as earthquakes, tsunamis, tropical storms, floods, and landslides cause death; harm human lives and livelihoods; and destroy tangible assets such as buildings, property, and other capital assets. The loss of life and associated occupational skills, along with the destruction of school buildings, also disrupts education and diminishes overall human capital. Natural resources such as forests, farms, land, and soil quality are also affected. Together they can reduce the productive capacity of an economy—both short and long term. Furthermore, recurring exposure to natural hazards can also lead to adaptive but unproductive "behavior" by individuals or communities. For example, they may invest less in capital goods for fear of losing them again to another disaster.

Low-income countries or communities are often most affected by natural hazards for several reasons.

First, poorer countries have limited means to restore and rebuild destroyed assets. Second, poorer communities are also often located in hazard-prone areas or communities, have fragile housing or community infrastructure, and have few functioning early warning systems. Third, the poor also suffer disproportionately from loss of economic assets—whether farms, livestock, tools, or equipment. Due to their limited means and access to financial resources, the poor are often unable to replace these income-generating assets—falling into a long-term "poverty trap."

Evidence from the Philippines—Balisacan and Fuwa (2001), and Balisacan and Pernia (2002)—showed that the occurrence of typhoons or disasters are significantly related with increased poverty rates among disaster-affected provinces. The economic consequences of these disasters from natural hazards often span generations: the poor in frequently hit areas may lead to poverty traps, as people and communities in these areas cannot easily bounce back from economic shocks from these natural hazards. Therefore, transformative and social protection policies are needed to make poorer communities more resilient to natural hazards—particularly in keeping their risk assessment strategies current.

Rising inequality

Rising inequality within many Asian economies skews development.

Since the 1990s, inequality—as measured by the Gini coefficient—has been rising in many developing Asian countries. For instance, an ADB (2012) report noted that of 28 countries with comparable data between the 1990s and 2000s, 11—accounting for 82% of developing Asia's population—experienced rising inequality in per capita expenditure or income as measured by the Gini coefficient. Similarly, using household per capita consumption expenditure data, the developing Asia-

wide Gini coefficient rose from 38 in the 1990s to 44 in the 2010s—despite improvement of Gini coefficients in the Philippines, Thailand, Viet Nam, Nepal, and Pakistan. The study further noted that had inequality not widened in the economies where it increased, similar growth in 1990–2010 would have lifted an estimated additional 240 million people out of poverty (or 6.5% of developing Asia's 2010 population).

Governments can play an important role in ensuring greater equality of opportunity.

Governments can contain rising inequality by improving redistributive policies and making growth more inclusive. First, it can ensure that growth is more employment-friendly to increase labor's income share. This can be achieved by strengthening labor market institutions, reducing distortions that discourage the use of labor, and supporting the growth of small and medium-sized enterprises. Second, it can work to reduce spatial inequality by improving subnational connectivity, developing growth centers in lagging regions, and extending transfers to those regions to develop human capital. Third, it can apply efficient fiscal measures to reduce inequality in human capital. This entails the use of targeted transfers rather than general price subsidies, prioritizing human capital and social protection expenditures, and greater and more equitable revenue mobilization.

Given these long-term economic, environmental, and social challenges, it is important that Asia strengthen its regional development strategy to deliver better outcomes across the three dimensions and ensure that growth is more inclusive, with benefits for everyone.

Regional Integration as Development Strategy[2]

Regional integration is a dynamic process where a group of neighboring countries cooperate to achieve common goals for mutual benefit. Depending on the purpose and goal, a multitude of regional integration initiatives have emerged globally; and Asia is no exception. Regional

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[2]   This section draws on two working papers: Park and Claveria (2018a, 2018b).

integration can encompass many different facets—such as promoting trade and investment, developing infrastructure, improving people's mobility, strengthening provision of regional public goods, and providing the legal and institutional basis for international policy cooperation. Often, the dynamic effects of regional integration support economic growth and development, particularly when accompanied by increased market size, exploitation of economies of scale, enhanced competition, increased investment, and technical or technology transfer.

As a result, regional integration has become a useful development strategy for many global and regional institutions. For example, the United Nations recognized regional integration as an important tool to support national efforts in implementing the 2030 Agenda for Sustainable Development.
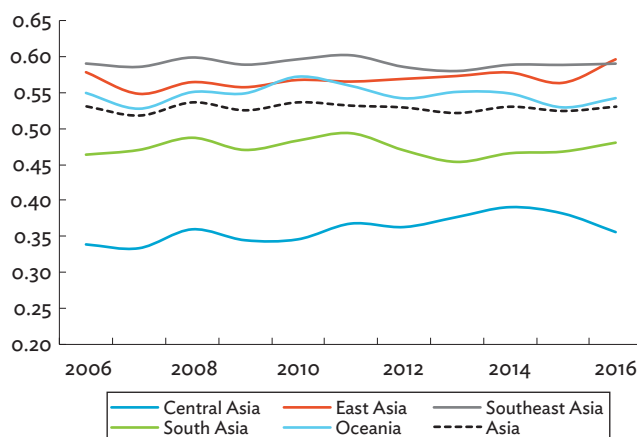
Asia–Pacific Regional Cooperation and Integration Index

The Asia-Pacific Regional Cooperation and Integration Index shows a steady trend of regional integration in Asia and the Pacific, led by East Asia and Southeast Asia.

In 2017, ADB unveiled its Asia-Pacific Regional Cooperation and Integration Index (ARCII)—to gauge the degree of regional cooperation and integration in Asia and the Pacific (ADB 2017).[3] A panel approach is used to extend the ARCII over 2006–2016—to monitor how the index evolved and identify the different drivers of regional integration over time (Park and Claveria 2018a).

The ARCII time series shows modest growth of regional integration in Asia over 2006–2016 (Figure 1.5). Southeast Asia had the highest degree of integration among subregions for the sample period, except in 2016, with an average score of 0.590. East Asia closely followed, scoring higher than Southeast Asia in 2016.

Figure 1.5: Asia-Pacific Regional Cooperation and Integration Index—Asia Subregions

Note: The Index combines 26 indicators categorized into six regional cooperation and integration dimensions: (i) trade and investment, (ii) money and finance, (iii) regional value chains, (iv) infrastructure and connectivity, (v) movement of people, and (vi) institutional and social integration. The overall index cannot be computed for the Pacific due to lack of data in the money and finance dimension.
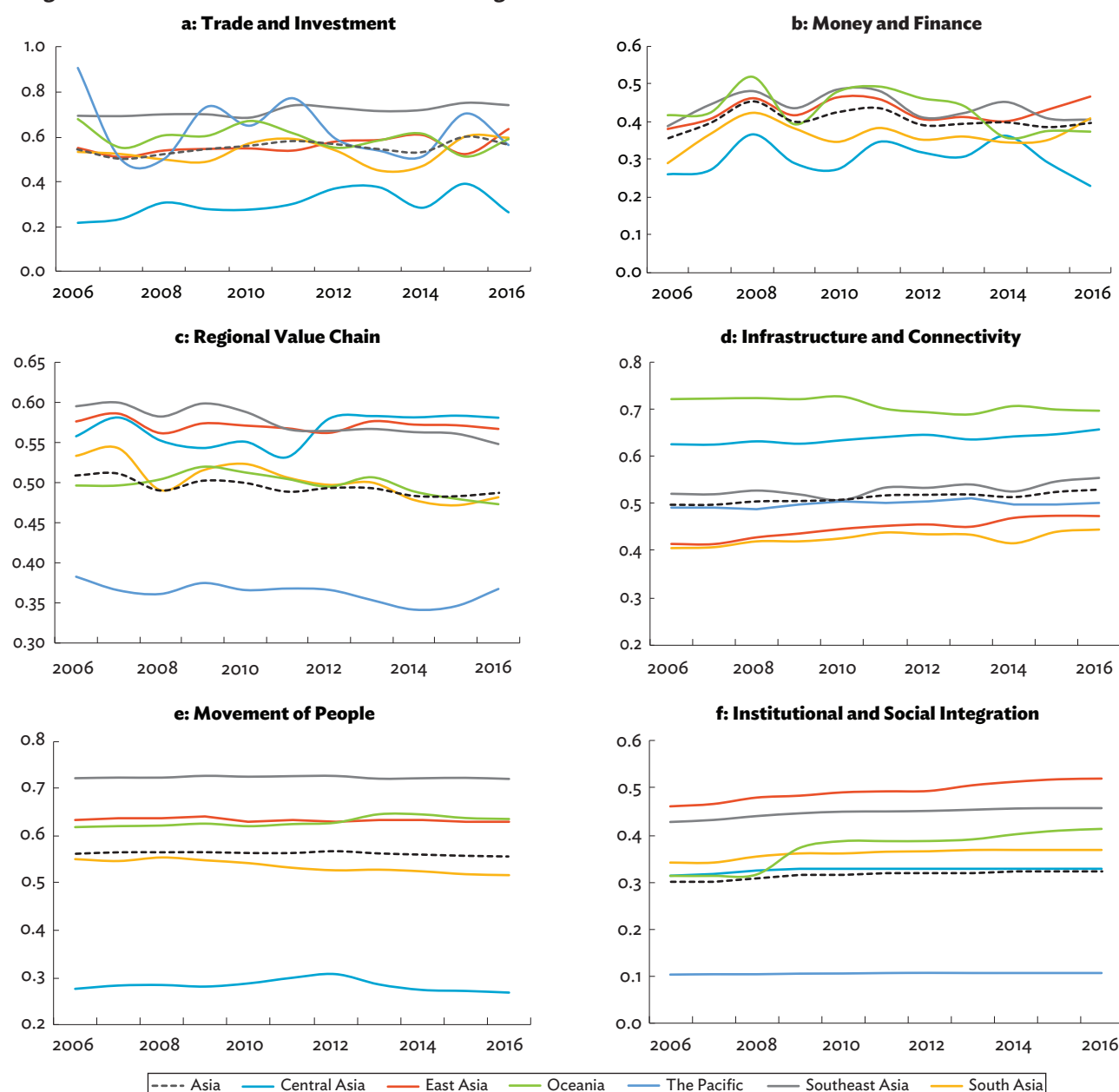Source: Park and Claveria (2018a).

Oceania closely trailed East Asia and even surpassed the latter in 2010. Meanwhile, South Asia and Central Asia scored well below—placing fourth and fifth—throughout the sample period.

Progress in regional integration over time is most volatile in trade and investment and money and finance, while largely stable in regional value chain and the movement of people, among others.

By dimension, the trade and investment index was most volatile, along with money and finance (Figure 1.6). In contrast, the remaining four subindexes—namely, regional value chain, infrastructure and connectivity, movement of people, and institutional and social integration—were relatively stable across all subregions. Southeast Asia scored highest in regional integration for the dimension of trade and investment; movement of people; and regional value chain, which was overtaken by Central Asia in 2012 and East Asia in 2013. East Asia also maintained relatively high degrees of regional

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[3]   The ARCII aims to assess the extent to which each economy is integrated into the region, to identify strengths and weaknesses of multiple regional integration drivers, and to comprehensively and systematically track progress. Given the complex nature of regional integration, the ARCII combines 26 indicators categorized into six regional cooperation and integration dimensions: (i) trade and investment, (ii) money and finance, (iii) regional value chains, (iv) infrastructure and connectivity, (v) movement of people, and (vi) institutional and social integration. It covers the Asia and the Pacific members of the ADB (45 developing member economies plus Australia, Japan, and New Zealand), where data are available.

Figure 1.6: Dimensional Subindexes—Asia Subregions

a: Trade and Investment

b: Money and Finance

c: Regional Value Chain

d: Infrastructure and Connectivity

e: Movement of People

f: Institutional and Social Integration

---- Asia   —— Central Asia   —— East Asia   —— Oceania   —— The Pacific   —— Southeast Asia   —— South Asia

Source: Park and Claveria (2018a).

integration among all subregions, showing modest upward movements in all six dimensions. Oceania led in regional integration for infrastructure and connectivity, although the subregional index comprises Australia and New Zealand only due to lack of data for the Pacific developing member countries. Subregional variations in the movement of people and institutional and social integration were particularly large across the sample period. Regional integration for the movement of people was dominated by Southeast Asia, while particularly weak in Central Asia. East Asia exhibited consistently higher institutional and social integration among other subregions, with the Pacific scoring lowest.

Estimating the Impact of Regional Integration on Economic Growth and Poverty Reduction

Many empirical studies have analyzed the link between regional integration and economic growth.

As a development strategy, regional integration brings economic benefits by promoting greater economies of scale in common markets and production networks, as well as through technology diffusion and knowledge spillovers, often generated by free trade and investment flows. Greater regional integration—by removing barriers to trade, competition, capital, and labor mobility—can improve the overall efficiency with which labor combines with capital to produce output (Baldwin 1989). As a result, regional integration has been adopted as an important, actively pursued development strategy in many developing regions globally—including Asia, Africa, and Latin America and the Caribbean.

Using the ARCII and its six dimensional subindexes—capturing its multidimensional nature—an ADB study investigated how these regional integration dimensions, individually and together, impact economic growth and poverty reduction (Box 1.2).

Regional integration—as measured by the modified ARCII indexes—has a significant and positive effect on economic growth, and a negative impact on poverty.

The study found that the dimensions of regional value chain, movement of people, and institutional and social integration played an important and positive role in shaping the economic growth of the region. Among the dimensions of regional integration—and passing a series of robustness tests—regional value chain continues to show a significant and positive impact on economic growth. Regional integration also appears to provide the greatest opportunity to reduce poverty. Overall, integration and the dimensions of trade and investment, money and finance, and institutional and social integration are significant and robust drivers of poverty reduction. Their impact in curbing poverty is even more pronounced for lower-income countries. Furthermore, the overall degree of regional integration appears to exert more influence on poverty alleviation compared with efforts at individual dimensions promoting regional integration.

However, while regional integration is an important factor for economic growth and development, country-specific institutional and governance factors should not be overlooked. The regression results show that—together with certain dimensions and overall integration—investment in human capital (as measured by secondary education), macroeconomic stability (inflation), and institutional quality (control of corruption index) significantly impact economic growth and poverty reduction.

Box 1.2: Assessing the Impact of the Asia-Pacific Regional Cooperation and Integration Index on Economic Growth and Poverty

Another set of Asia-Pacific Regional Cooperation and Integration Index (ARCII) and its six dimensional subindexes have been estimated using the globally consistent weights and standardization methodology for the regression. Using the modified ARCII, infrastructure and connectivity appear to be the most forceful and stable foundation for regional integration in Asia compared with other regions including the European Union (EU), Latin America and the Caribbean, and Africa. But, over time, trade and investment have strengthened as a major contributor to regional integration, compensating for a modest weakening in movement of people (box figure). In the EU, the contributions of all dimensions are broadly balanced, although money and finance, infrastructure and connectivity, movement of people, and institutional and social integration contribute a bit more than the other two remaining dimensions. Institutional and social integration support regional integration the most in Latin America and the Caribbean, while regional value chain contributes the most to regional integration in Africa.

To assess the impact of ARCII that is extended globally (ARCII') on economic growth and poverty, an unbalanced panel data set for 156 countries for the period 2006–2016 was used to run a growth regression that includes ARCII'

as another explanatory variable, in addition to other macroeconomic control variables. The choice of control variables was guided by economic theory and relevant empirical literature that are often cited as major drivers of economic growth.

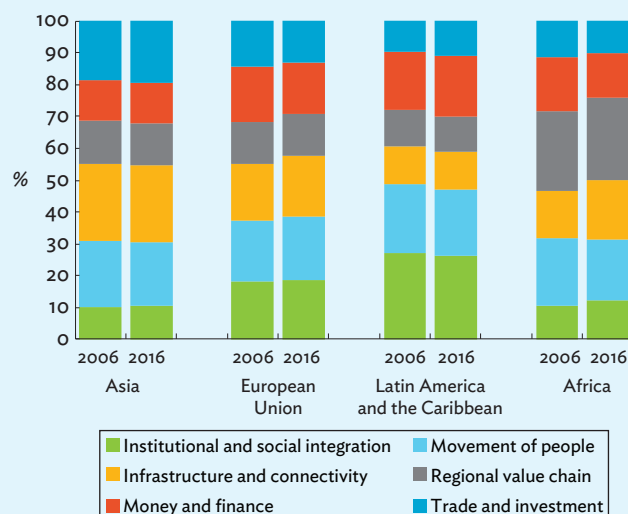The estimation was based on the following growth equation:

$$y_{i,t} = \beta_0 + \beta_1 y_{i,t-1} + \beta_2 X_{i,t} + \beta_3 ARCII'_{i,t} + \mu_i + \varepsilon_{i,t} \quad (1)$$

where $y_{i,t}$ is the logarithm of the dependent variable of interest (growth and poverty) for country i at time t, $y_{i,t-1}$ is the initial level of per capita income, $X_{i,t}$ is a vector of control variables, $ARCII'_{i,t}$ is the modified ARCII, μ_i is the unobserved country-specific effect and $\varepsilon_{i,t}$ is the error term.

For the estimation, a system generalized method of moments (GMM) procedure was adopted. The system GMM employs fixed effects (a dummy for each country) to capture time invariant country heterogeneities. To control for persistence, lagged values of the dependent variable are included as additional independent variables in system GMM estimation.[a] In addition, system GMM addresses the endogeneity of the regressors by instrumenting them with their own lagged values.

Regional value chain, infrastructure and connectivity, and institutional and social integration exert a positive impact on per capita GDP growth.

The baseline model, used control variables such as secondary school enrollment, investment (represented by gross fixed capital formation) as percentage of gross domestic product (GDP), government consumption as percentage of GDP, inflation rate, and control of corruption index. Education and good governance (in accord to theoretical expectations) impact positively on growth as indicated by the significant positive coefficients of secondary school enrollment and control of corruption index. Nevertheless, government spending seems to dent economic growth as shown by the significant negative coefficient of government consumption.

The impact of government consumption is not obvious a priori. As noted by Dreher (2006), a large government sector may induce inefficiencies and crowd out the private

Dimensional Contribution to Regional Integration Index—Asia versus Other Regions

Source: Park and Claveria (2018b).

Continued on next page

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[a] Some dependent variables may also display persistence; for example, income inequality tends to change slowly over time with very minimal within-country variation, reflecting some unobserved state-dependent factors (Coady and Dizioli 2017).

Box 1.2 *continued*

sector, while the provision of efficient infrastructure and proper legal framework by government may enhance growth. The result indicates that the crowding-out effect of government consumption dominates its growth-enhancing impact. This is in line with the negative coefficient of a government consumption measure that eliminated spending on productivity-enhancing sectors such as defense and education (Barro 2003).

However, when the dimensional subindexes enter the growth regressions separately, three dimensions of regional integration showed significant positive impact on economic growth: regional value chain, movement of people, and institutional and social integration (box table 1). Moreover, secondary school enrollment and control of corruption retain their significance in these specifications. On the other hand, the significance of government consumption vanishes when infrastructure and connectivity is included as a separate regressor.

Overall ARCII' index shows a significant and negative impact on poverty.

Based on the baseline specification of the poverty regression, higher income reduces poverty, while greater inequality and increased government consumption are associated with higher

poverty. As indicated in box table 2, the overall ARCII' index yielded a significant and negative coefficient, which indicates that broad-based regional integration could help reduce poverty. The significant positive coefficient of its interaction with the logarithm of GDP per capita implies that the poverty-increasing impact of regional integration tends to be greater at high income levels. Moreover, the dimensions of trade and investment, money and finance, and institutional and social integration and their interactions with real GDP per capita were significant and similarly signed as the overall ARCII' index and its interaction with real GDP per capita. In addition, the greater magnitude (in absolute value) of the coefficient of the overall ARCII' indicates that regional integration efforts would be more effective in reducing poverty when undertaken in an integrated rather than piecemeal fashion.

1: Summary of ARCII-Augmented Growth Regression Results
Dependent variable: Log(Real GDP per Capita)

	Baseline	Baseline with Financial Openness	Baseline with Financial and Trade Openness
Log(Regional value chain)	0.462*	0.871**	0.871**
	(0.254)	(0.371)	(0.419)
Log(Movement of people)	0.167	0.545**	0.525*
	(0.145)	(0.271)	(0.284)
Log(Institutional and social integration)	0.501***	0.467***	0.494***
	(0.139)	(0.136)	(0.170)
With control variables	Yes	Yes	Yes

*** = significant at 1%, ** = significant at 5%, * = significant at 10%. Windmeijer robust standard errors in parentheses.
ARCII = Asia-Pacific Regional Cooperation and Integration Index, GDP = gross domestic product.
Notes: Table indicates summary of results when the dimensional subindexes enter the growth regressions separately.
Source: Park and Claveria (2018b).

2: Summary of ARCII-Augmented Poverty Regression Results
Dependent variable: Log(Poverty Headcount Ratio)

	Baseline	Baseline with Trade Openness
Log(Overall ARCII')	-19.340**	-16.420*
	(7.819)	(8.442)
Log(Overall ARCII') x log(Real GDP per capita)	2.047**	1.734*
	(0.827)	(0.897)
Log(Trade and investment)	-2.106*	-2.237**
	(1.082)	(1.031)
Log(Trade and investment) x log(Real GDP per capita)	0.223*	0.236**
	(0.119)	(0.114)
Log(Money and finance)	-13.940***	-13.370***
	(4.876)	(4.810)
Log(Money and finance) x log(real GDP per capita)	1.440***	1.370***
	(0.502)	(0.497)
Log(Institutional and social integration)	-9.311***	-9.460***
	(2.849)	(2.928)
Log(Institutional and social integration) x log(Real GDP per capita)	1.032***	1.051***
	(0.312)	(0.322)
With control variables	Yes	Yes

*** = significant at 1%, ** = significant at 5%, * = significant at 10%. Windmeijer robust standard errors in parentheses.
ARCII' = Modified Asia-Pacific Regional Cooperation and Integration Index, GDP = gross domestic product.
Notes: Table indicates summary of results when the dimensional subindexes enter the poverty regressions separately.
Source: Park and Claveria (2018b).

Source: Park and Claveria (2018b).

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