



ASIAN ECONOMIC INTEGRATION REPORT 2019/2020

DEMOGRAPHIC CHANGE, PRODUCTIVITY,
AND THE ROLE OF TECHNOLOGY

HIGHLIGHTS



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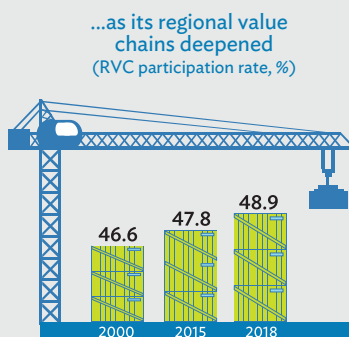
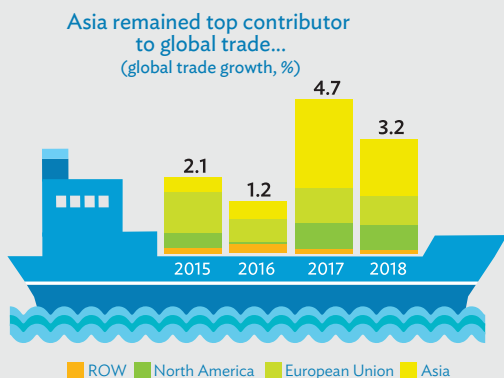
HIGHLIGHTS



Trade and Global Value Chains

- **Asia's trade growth is expected to decelerate further in 2019, amid persistent global trade tensions.** In 2018, Asia's trade (by volume) grew by 4.0%, slower than the 7.3% growth in 2017. This came in tandem with the slowdown in global trade growth from 4.6% to 3.0%. Continued trade tensions and a weakening of global demand pose key downside risks to the region's trade and growth outlook. Ongoing trade frictions between the United States (US) and the People's Republic of China (PRC) since early 2018 are affecting global and regional trade growth. PRC imports from the US declined 31.0% (year-on-year) in the second half of 2018, particularly among the sectors affected by the tariff hikes such as soybeans and other agricultural products. US imports from the PRC fell 12.6% for the first 8 months of 2019. Persistent trade tensions could dampen business confidence and weaken investments globally, casting a shadow over global economic prospects.

Asia's trade performance



ROW = rest of the world, RVC = regional value chain.

Note: The RVC participation rate is the share of gross exports involving production in at least two economies using cross-border production.

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

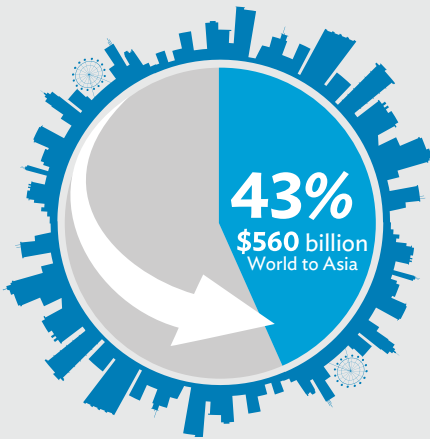
- **Asia's intraregional trade share—measured by value—remained a robust 57.5% in 2018, above the average 56.3% during 2012–2017.** Asia's global value chain (GVC) participation grew further in 2018 following its 2017 rebound, though at a slower pace. Regional production sharing networks across Asia have also deepened and expanded. Spillover effects of international trade tensions will cascade into a broader set of economies, either positive or negative, through the region's supply chains. For example, as supply chain integration boosted trade complementarity, particularly among economies in East Asia and Southeast Asia, a decrease in PRC exports to the US may have negative spillovers to other Asian economies. However, many of these economies also have similarities in their exports. High export competition among these economies suggests potential gains from either substitution or trade redirection. The net effect of higher US tariffs on PRC exports will be based on each economy's trade position in either a substitute or a complementary relationship with the PRC within GVCs. For example, Viet Nam and Taipei, China saw net gains in their exports in electronics and machinery while PRC exports fell. On the other hand, those whose exports complement PRC exports in the regional supply chains will likely experience net losses.

Cross-Border Investment

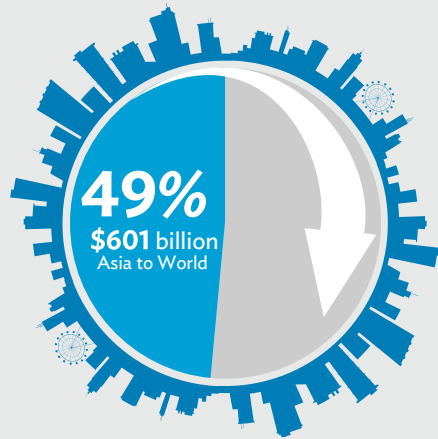
- **Inward foreign direct investment to Asia continues to grow despite a decline in the world's total inward FDI.** Estimates of global inward foreign direct investment (FDI) in 2018 was \$1.3 trillion, a 13.4% contraction from \$1.5 trillion in 2017. In contrast, inward FDI to Asia rose by 6.3% to \$559.7 billion in 2018. Intraregional investment linkages also strengthened in 2018, rising 2.8% from \$262.7 billion in 2017. After a sharp contraction in 2017, intraregional greenfield FDI rebounded in 2018 with manufacturing leading the recovery. FDI in services continued to rise in 2018, with one-third of it intraregional—mainly through mergers and acquisitions—in business, communications, finance, software and information technology, and transportation services. Greenfield FDI into Asia in 2018 was estimated to have created around 900,000 jobs in total, 56.9% from regional projects.
- **Asia's share of the world's total outward FDI rose to 49.4%, its highest thus far.** Over the years, Asia has cemented its status as a major international investor. Japan became the top source of global FDI with \$143 billion invested in 2018, while tax reforms in the US caused a repatriation of its overseas investment and thus a significant drop in its outward FDI. The PRC's outward FDI fell below inward FDI in 2018 after 3 consecutive years of net FDI outflows. This reversal was largely due to the decline in outward FDI to the US and the European Union (EU), while inward FDI held up strongly in sectors such as automobiles, chemicals, semiconductors, and communications. In 2018, greenfield

Asia's inward and outward foreign direct investment

Asia continues to be
an attractive FDI destination



...and formidable source
of global FDI



FDI = foreign direct investment.

Source: ADB calculations using data from United Nations Conference on Trade and Development.

investments from the region were estimated to have generated some 850,000 jobs—36.0% of all jobs created globally—in real estate, textiles, automotive original equipment manufacturing, and electronic components, among others. Around two-thirds of the jobs were created within Asia, with the largest number in the PRC, India, and Viet Nam. Outside the region, the US, the Russian Federation, and the United Kingdom are the top three beneficiaries of Asia's greenfield FDI in terms of job creation.

Financial Integration

- **Outward portfolio debt investment by Asian economies continued to increase in 2018, though at a slower pace compared with 2017. However, outward portfolio equity investment contracted in 2018 after a surge in 2017.** Asia's outward portfolio debt investment increased by \$108.1 billion in 2018 compared with an increase of \$278.2 billion in 2017. Portfolio equity investment contracted by \$293.6 billion in 2018 compared with an increase of \$930.1 billion in 2017. The majority of Asia's portfolio investment remains invested outside the region, resulting in moderate intraregional shares for portfolio debt investment (16.8% for both 2018 and 2017) and portfolio equity investment (18.0% in 2018 from 18.1% in 2017). Despite large fluctuations over time, Asia's non-regional equity investment grew rapidly. Between 2013 and 2018, while the non-regional portfolio debt investment increased by \$253.9 billion, Asian investors increased their non-regional equity investment by \$1.5 trillion.

- In 2018, while inward portfolio debt investment growth slowed, inward equity investment fell amid increasing concerns over Asia's economic prospects associated with rising global trade tensions.** Inward portfolio debt outstanding increased by \$103.7 billion in 2018, driven by modest increases from the US. However, inward equity investment outstanding decreased by \$691.5 billion in 2018 from a year ago. A fall in equity investment from the US accounted for nearly half of the decrease, while the EU accounted for about 36.0%. The decline may partly reflect stock market corrections across developing Asia, due to concerns over the PRC's growth moderation and possible spillovers to other Asian economies. The intraregional share of inward portfolio debt remained around 25.6% in 2018, and that of inward portfolio equity rose to 16.1% in 2018, slightly higher than in 2017.
- Asia's cross-border banking activities continue to rise; foreign bank claims in 2018 reached \$4.7 trillion and foreign bank liabilities hit \$2.5 trillion, both records.** On the liability side, EU bank lending to Asia in 2018 was a major driver behind the increase in foreign bank liabilities. However, Asian bank borrowing from the US has declined since 2015, amid US monetary policy normalization. The volatilities of intraregional cross-border bank claims and liabilities have fallen since the 2008/09 global financial crisis and are lower than those of Asian banks' claims and liabilities to the EU and the US. The volatile nature of cross-border bank claims and liabilities calls for close monitoring of the foreign exposures of Asian banks in case the global liquidity cycle reverses.

Amid Asian equity markets' subdued performance, moderating global growth, and global trade tensions...

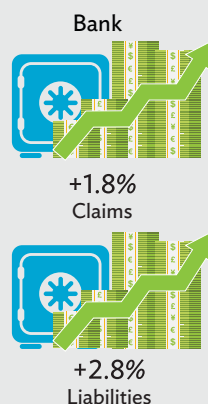
...portfolio debt investment grew moderately,



...and portfolio equity investment contracted,



...but banking activities hit a record high.



Note: Figures refer to year-on-year percentage change in cross-border portfolio investment and cross-border bank holdings data.

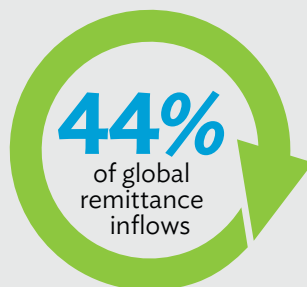
Sources: ADB calculations using data from Bank for International Settlements, and International Monetary Fund. Coordinated Portfolio Investment Survey.

Movement of People

- **Remittance inflows to Asia reached a record \$302.1 billion in 2018, up from \$278.7 billion a year ago.** Improved economic and job market conditions in the US, a rebound in outward remittances from the Middle East, and the economic recovery of the Russian Federation boosted remittances to the region. Higher oil prices and a strengthening of the Russian ruble also appear to have contributed. Except for Central Asia and Oceania, all Asian subregions saw a pickup in remittance inflows. South Asia received around \$132 billion of the region's remittance inflows, followed by East Asia (\$79 billion). India, the PRC, and the Philippines were the top three remittance recipients, accounting for 59.5% of remittances to Asia and 26.3% of global inflows. Remittances remain a vital and relatively stable source of foreign exchange income for many countries in developing Asia, especially the Asian Development Bank's Pacific developing member countries and Central Asian countries—remittances continued to be significant in per capita terms (\$1,776 for Tonga and \$793 for Samoa) and as a proportion of gross domestic product (38% for Tonga and 33% for the Kyrgyz Republic).
- **Tourist arrivals in Asia grew faster than anywhere else in the world with international tourism receipts hitting a record \$368 billion in 2017.** Inbound tourists from both Asia (up by 10.3% from 2016) and non-Asia (up by 8.2%) contributed to the high growth in Asian tourism. Asia attracted 23.4% (310.7 million tourists) of global tourist arrivals in 2017, up from 20.5% (195.4 million) in 2010. Intraregional tourists accounted for nearly 80% of tourists to Asia. The largest number of tourists came from Hong Kong, China and the PRC. Outside Asia, the US and the Russian Federation had the largest number of tourists to the region. The PRC, Japan, and Thailand were the most popular destinations for Asian tourists. Steady income growth across the region

Remittance inflows into Asia

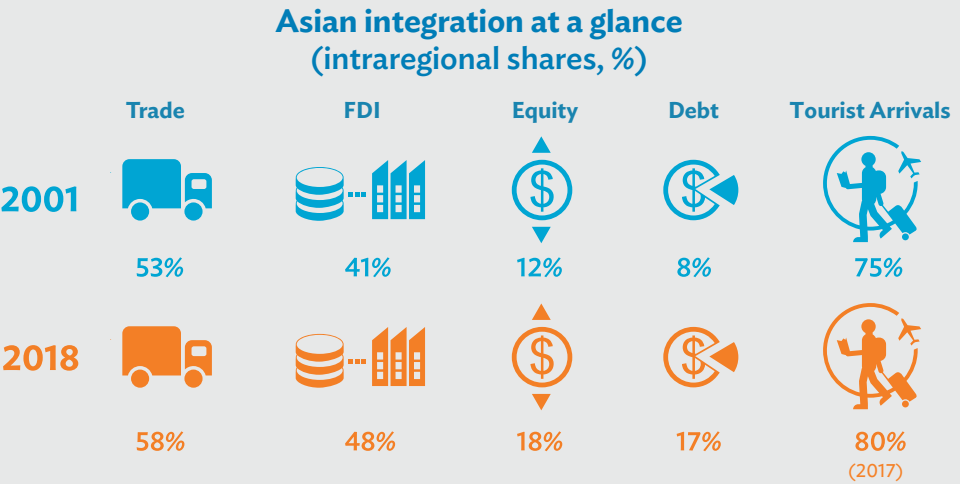
Reached **\$302** billion
in 2018



continues to boost the number of Asian tourists and their travel expenditures. Total expenditures by Asian tourists doubled between 2010 and 2017, led by the PRC, reaching \$495.3 billion in 2017. Each outbound tourist from Asia spent \$1,231 on average in 2017. Asia earned \$1,097 per tourist in 2017 (\$951 for Europe), although tourism receipts per arrival varied widely across subregions and countries. Tourism receipts remain a key source of income for many Pacific developing member countries and Southeast Asian countries, while the region's top three beneficiaries are Thailand (\$62 billion); Australia (\$44 billion); and Hong Kong, China (\$38 billion).

Regional and Global Economic Integration

■ **Regional economic cooperation remains strong in Asia and the Pacific, providing a buffer against any cascading effect of rising global trade tensions.** Latest estimates of the Asia-Pacific Regional Cooperation and Integration Index based on 2017 data show a broadly steady pace of Asian integration. The index declined slightly in 2017, driven by a smaller contribution from the money and finance dimension. This was partly offset by increases in infrastructure and connectivity, the movement of people, and institutional and social integration dimensions. By subregion, East Asia remains the most regionally integrated while Central Asia the least. Relative to other regions globally, Asia came second to the EU in overall integration, but stayed even with the EU in terms of trade and investment integration.



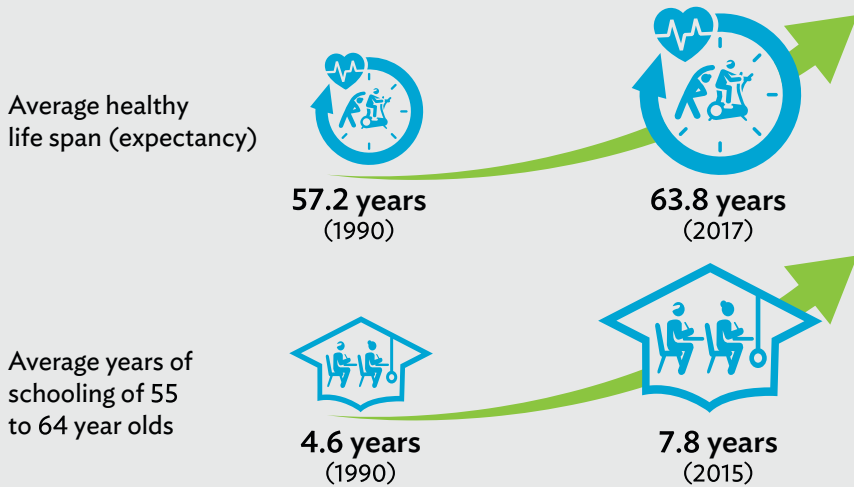
FDI = foreign direct investment (flows data), Equity = equity asset holdings (stock data), Debt = debt asset holdings (stock data).
 Note: Where 2018 data are not available, the latest year for available data is indicated in parentheses.
 Sources: ADB calculations using data from Association of Southeast Asian Nations Secretariat; International Monetary Fund; Organisation for Economic Co-operation and Development; United Nations Conference on Trade and Development; United Nations Department of Economic and Social Affairs, Population Division; United Nations World Tourism Organization; World Bank; and national sources.

- **This report introduces a new measure of global economic integration to complement the Asia-Pacific Regional Cooperation and Integration Index with the region's integration with outside economies.** The Global Economic Integration Index distinguishes the contributions of intraregional and extraregional integration for each economy's integration with the world. Between the two, intraregional integration contributes more to a higher degree of global economic integration than extraregional integration. Analyses also show that while global integration promotes economic growth, it may widen income inequality. Moreover, high-income countries appear to take better advantage of the overall positive effects of globalization, while low-income countries benefit more from intraregional integration.

Demographic Change, Productivity, and the Role of Technology

- **The Asia and Pacific region is facing rapid demographic change, with several countries aging dramatically; but tomorrow's elderly will be different from today's.** The ongoing demographic transition will leave many of the region's economies increasingly dependent on an aging workforce, posing a challenge to sustaining potential growth for both advanced and many developing economies. However, with large improvements in educational attainment across the region, most economies are expected to enjoy a continuous supply of quality human capital even as they age. Older workers are now healthier and more educated than in the past. The average healthy life span (expectancy) increased by nearly 7 years from 57.2 to 63.8 years between 1990 and 2017 for the economies in Asia and the Pacific. The average years of education among 55 to 64 year-olds also increased from 4.6 in 1990 to 7.8 in 2015.
- **The changing workforce age and education profiles open multiple windows of opportunity for the region's economies to gain from the demographic transition.** Aside from the "first" demographic dividend based on contributions from a young and growing population for economic growth, ongoing changes in workforce age and education profile offer opportunities for new demographic dividends, arising from (i) improved human capital (the "second" demographic dividend), and (ii) extended longevity (the "third" or "silver" dividend). Improved health and longevity also encourage a relatively younger segment of older workers (aged 55-64) to stay in or reenter the labor force. Simulation analysis shows that longer life expectancy leads to an increase in productive contributions of older workers. Countries with expanding working age populations have more years to reap from productive cohorts, while making technology and policy adjustments before the workforce share begins to decline.

Older workers in Asia are now healthier and more educated



Sources: GBD 2017 DALYs and HALE Collaborators. 2018. Global, Regional, and National Disability-adjusted Life-years (DALYs) for 359 Diseases and Injuries and Healthy Life Expectancy (HALE) for 195 Countries and Territories, 1990–2017: A Systematic Analysis for the Global Burden of Disease Study 2017. Global Health Metrics. 392 (10159). pp. 1859–1922; and Wittgenstein Centre for Demography and Global Human Capital. Wittgenstein Centre Data Explorer Version 2.0.

- **Technological progress, applying science, and research and development may also help mitigate the downside economic impact of aging.** Historically, an aging workforce was seen as an impediment to an economy's innovative capacity, which is an important engine of economic growth. However, recent studies suggest potentially positive impacts of a maturing and aging workforce on labor force productivity, because aging and a shrinking workforce can induce rapid adoption of labor-saving technologies. Fourth Industrial Revolution technologies may also complement and augment physical labor, raising labor force participation of seniors. There are ways adopting technology can support economic growth by positively affecting the use of enhanced human capital. It categorizes the types of technologies into five broad groups: those that (i) substitute labor and skills; (ii) complement labor and skills; (iii) aid education, skills development, and lifelong learning; (iv) better match workers with jobs and tasks; and (v) extend healthy life and overall life expectancy.
- **While the demographic transition may be irreversible, its economic impact depends on policy and behavioral responses, including ways by which countries adopt and apply technologies.** There are four distinct types of countries in Asia and the Pacific, based on the projected distribution in 2050 of economically active populations in countries by age (fast or slow aging) and education (above or below the median of the share of those with post-secondary education). These are based

on the trajectories of past economic development and education attainment. Also, employment trends across population subsegments per country type can be tracked, identifying varying patterns of the rise and fall of employment across age/education types over time. Together, these group-specific patterns of the demographic transition and education profiles of labor forces help identify appropriate solutions for each country type.

Conclusions and Policy Recommendations

- **Unique labor market opportunities and challenges arise for each country depending on the age and education profile of its population.** There are a specific set of technologies suggested for each of the four country types: Type-1 (fast aging and above median education), Type-2 (fast aging and below median education), Type-3 (slow aging and below median education), and Type-4 (slow aging and above median education). Regardless of an economy's position in terms of population aging and level of post-secondary education penetration, there is an urgent need for rethinking education and skills training policy, combined with mainstreaming lifelong learning. The unprecedented speed of technological progress is rapidly eroding some older worker skills. This calls for strategic reforms to improve learning and training opportunities for older workers. Governments and their agencies should encourage adopting and applying new technologies to facilitate economic adjustments to population aging with supplementary policies that induce behavioral change among workers and employers.
- **Fast aging economies (Type-1 and Type-2) will need to prioritize technology adoption that fosters professional and foundational skills and improves job matching for workers, given the general difficulties faced by older workers in finding jobs.** Technologies that aim to boost health and longevity are also beneficial. In addition, fast aging and above median education countries (Type-1) will need to promote automation to mitigate the challenges of an undersupply of older primary-educated and younger secondary-educated workers. In contrast, fast aging and below median education countries (Type-2) need to prioritize policies that build the base of a high-educated workforce and reskill older primary-educated workers.
- **Slow aging economies (Type-3 and Type-4) will need to prioritize technologies and policies that take advantage of a young and still-expanding workforce—while addressing challenges that impact both older and younger workforces—to meet the future demand for skilled labor.** Slow aging and below

median education countries (Type-3) will grasp the opportunity arising from an expanding supply of younger and older secondary-educated workers. The gains can be maximized by adopting technologies that give them better foundational and professional skills and job matching. But a Type-3 country will face a limited supply of high-educated workers, which requires policies to aid education and lifelong learning. Slow aging and above median education countries (Type-4), on the other hand, can adopt technologies that leverage their younger and older-skilled workforce.

- **Across the region, economies need to consider policies that connect the right technologies to the changing nature of the workforce and bring greater flexibility in labor market participation.** Policy priorities in three areas may be considered. The first set of policies should promote technological adoption, diffusion, and application that can transform work and workspace—to allow greater labor force participation by older workers through subsidies and tax incentives targeting firms and industry-academia consortia. The second area is instituting labor market laws and regulations that meet the diverse and flexible working styles of employees, such as encouraging reform in mid-career employment, work-sharing, and options for gradual retirement. The third set of policies should be directed at reforming social security and tax systems so as not to penalize or disincentivize older workers from participating in the labor force. These policies would range from raising the statutory retirement age to embracing the concept of “pensionable age,” one that allows a flexible and personalized approach to maintaining work–life balance throughout a worker’s life.
- **Developing economies across Asia and the Pacific can benefit from the demographic diversity accompanied by varying demographic trends in the region.** Policies that facilitate the movement of capital, labor, and technology across countries could help alleviate particular challenges facing individual countries at different stages of demographic transition and technological adoption. Outward FDI can help companies from Type-1 (fast aging and high technology adoption) tap the large supply of secondary-educated workers in the other types. Migration can alleviate challenges associated with the lack of primary-educated workers in some countries and the absence of post-secondary-educated workers in others. Technology transfer can speed up the adoption of appropriate technologies for the needs of specific types. To encourage these movements, establishing regional cooperation frameworks and appropriate action plans in these areas would help. Examples include mutual skills recognition and social security agreements that encourage increased labor mobility between countries.

Asian Economic Integration Report 2019/2020

Demographic Change, Productivity, and the Role of Technology—Highlights

The Asian Economic Integration Report is an annual review of economic cooperation and integration that covers the 49 members of ADB in Asia and the Pacific. This publication features highlights from the 2019/2020 report on topics that include trade and global value chains, cross-border investment, financial integration, the movement of people, and regional and global economic integration. It also provides insights from this year's theme chapter on demographic change, productivity, and the role of technology.

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ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 68 members—49 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.



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