

Chapter 6

Human Capital for Economic Growth and Resilience in the Indo-Pacific

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Chapter 6

Human Capital for Economic Growth and Resilience in the Indo-Pacific

Rashesh Shrestha

1. Introduction

Human capital – which is increasingly becoming the main driver of broad-based economic growth due to technology's transformation of the structure of economic activity – is a key area for international cooperation. As an economic concept, human capital generally refers to the ability of individuals to transform inputs into outputs, which depends on the skills acquired through education, training, health, and job experience. For the Indo-Pacific region to deliver on its vision of working together to alleviate poverty and to elevate the living standards of millions of people, such cooperation is necessary to prepare its workforce. Indeed, human capital development is no longer just an issue to be handled domestically, for only when the majority of workers in the Indo-Pacific has the skills necessary can the region be stable, resilient, and integrated.

The issue of human capital development fits neatly within the vision of the Indo-Pacific as defined in the *Association of Southeast Asian Nations (ASEAN) Outlook on the Indo-Pacific* (ASEAN, 2020). Integration and interconnection amongst countries and areas in the Indian Ocean and Pacific Ocean require investments to build connectivity infrastructure, including physical, institutional, and people-to-people links (ASEAN, 2020: 4). Moreover, such cooperation will help prepare for the Fourth Industrial Revolution by facilitating the sharing of experiences and expertise on ways to benefit from – and address the challenges of – the digital revolution (ASEAN, 2020: 5).

As Indo-Pacific countries pursue this mutual agenda of greater connectivity, it is also essential to prepare its workers – for disruptions due to the locus and mode of economic activity, greater penetration of the digital economy, and transformation of production networks. The threat to underprepared workers from technological change has been growing over the past decade and has especially accelerated after the COVID-19 pandemic. Indo-Pacific countries cannot ignore the need for skills development if they want to maximise the benefits of greater trade and investment flows within the region.

Technology is enhancing economic activity by lowering production costs, improving efficiency, and increasing market access; in general, it is creating new job opportunities. Automation enables firms to be more efficient and thus offer products at a lower price. Likewise, digitalisation has been changing the mode of interactions between consumers and producers, teachers and students, employers and employees, and even citizens with their governments. It is benefitting traditional sectors (e.g. agriculture) and creating new economic activities (e.g. data science). Technology will determine the pattern of investment and supply chain formation amongst all regional groups, including the Indo-Pacific (Kimura, 2017).

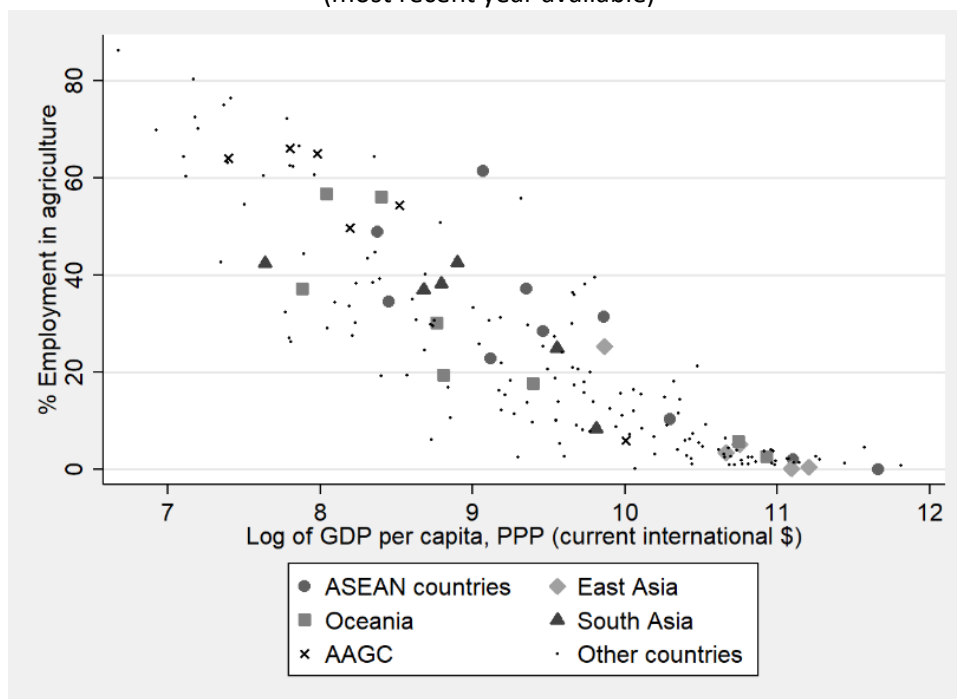
As technology replaces many labour-intensive tasks, workers who can harness and complement digital technology will benefit, while others are at risk of being left behind. The Asian Development Bank (2018) noted that jobs that mainly comprise tasks that can be automated will soon no longer be available for humans. To benefit from technological change, therefore, workers require technical,

cognitive, and non-cognitive skills (World Bank, 2018). This, in turn, requires upgrading existing infrastructure for skills development by investing in the education system, providing training opportunities to reskill and upskill the workforce, reducing labour market rigidity, and revamping social protection.

As the demand for workers who complement digitalisation grows, their wages will also rise faster than those without such skills. In response, individuals will acquire the skills that are in high demand; this increasing supply will check the rise in wages while also enabling more people to benefit from digitalisation. Yet the ability of workers to respond to signals from the market will largely depend on their access to skills development systems. A system must be in place that will enable workers to inculcate highly valued skills in a digitalised world. While some Indo-Pacific countries are well prepared to make this adjustment, others need financial and knowledge support to accelerate this human capital development.

At present, Indo-Pacific countries have different human capital levels. In many, workers are not adequately equipped for the future labour market, and the jobs that they currently perform are at a high risk of automation. As seen in Figure 6.1, the share of agriculture employment is high in many Indo-Pacific countries. Many of these workers will need to find productive employment in modern sectors (including agriculture that is modernised through technology) and be able to harness opportunities to increase their human capital.

Figure 6.1: Agricultural Employment Share and Gross Domestic Product per Capita in the Indo-Pacific
(most recent year available)



AAGC = Asia–Africa Growth Corridor, ASEAN = Association of Southeast Asian Nations, GDP = gross domestic product, PPP = power purchasing parity.

Note: For geographic delineation of Indo-Pacific, see Annex.Ca

Source: Author’s illustration from World Bank data. <https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS>

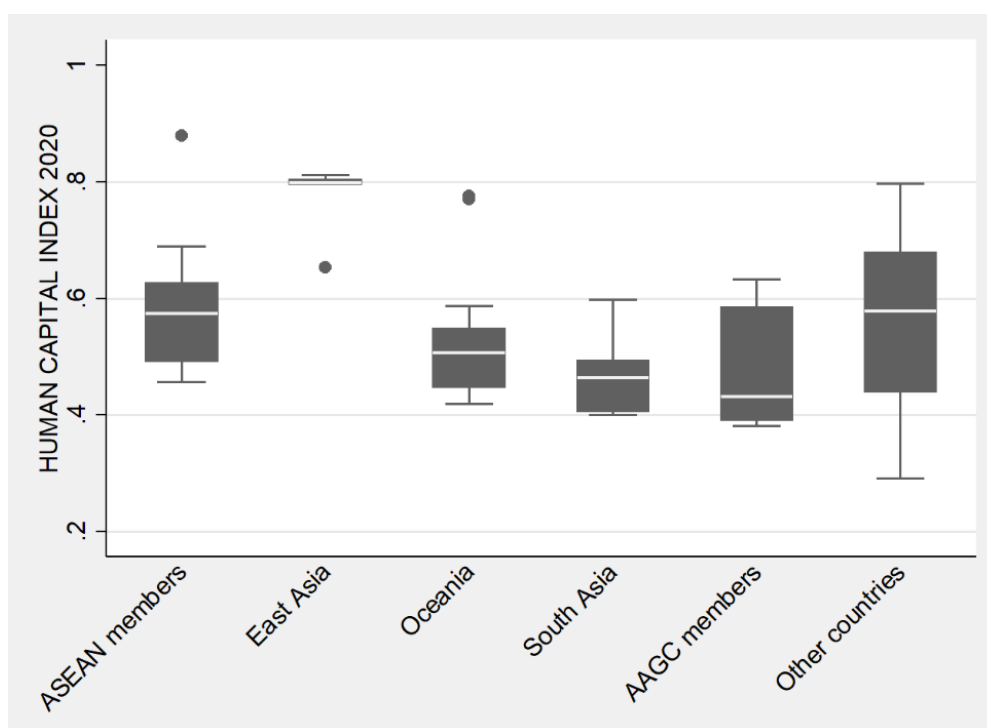
Widespread improvement in living standards occurs when new economic opportunities enable workers to apply their capabilities to higher-productivity jobs, which translate into higher wages. While this process – mostly through the creation of global manufacturing supply chains – has led to the rapid rise of living standards in many countries, modern technology makes such benefits to certain groups of workers less certain. Routine and non-cognitive jobs are under threat of automation. Not only are the machines – guided by artificial intelligence and computational power – more effective in performing these tasks, but also a few of them can produce output equivalent to a large number of workers. The process of structural transformation thus requires developing workers’ abilities to excel in non-routine and cognitive jobs that are least likely to be automated in the near future.

2. Human Capital in the Indo-Pacific

2.1. Overall Human Capital

The level of human capital varies across the Indo-Pacific. Figure 6.2 shows the distribution of human capital in the Indo-Pacific after grouping countries into five categories based on geographic locations; the figure also includes the rest of the world for comparison. East Asia has high levels of human capital in general, as do a few countries in ASEAN and Oceania. The average level of human capital in ASEAN is similar to rest of the world, but those in Oceania, South Asia, and Africa are below average.

Figure 6.2: Human Development Index, 2020



AAGC = Asia–Africa Growth Corridor, ASEAN = Association of Southeast Asian Nations.

Note: For geographic delineation of Indo-Pacific, see Annex. Some countries may not be included due to lack of data.

Source: Author’s illustration from World Bank. Human Capital Project.

<https://www.worldbank.org/en/publication/human-capital>

Another indicator of the level of human capital is the rate of tertiary educational enrolment (Table 6.1). Such enrolment varies widely amongst Indo-Pacific countries, ranging from 1.8% in Papua New Guinea to 114.0% in Australia. On average, East Asia has the highest rate of tertiary enrolment, followed by ASEAN, South Asia, Oceania, and Asia–Africa Growth Corridor (AAGC) members. Much variation exists within these sub-regions themselves, which indicates that Indo-Pacific countries are at different levels of readiness in coping with technological disruptions and structural change.

Table 6.1: Tertiary Gross Enrolment Rates in the Indo-Pacific
(%)

	Minimum	Median	Maximum	Obs
ASEAN Members	13.48	33.76	91.09	10
East Asia	26.83	71.41	113.09	6
Oceania	1.78	19.48	114.19	11
South Asia	10.56	22.22	34.12	6
AAGC members	4.12	8.88	44.26	7
Other countries	0.75	36.58	148.53	158

AAGC = Asia–Africa Growth Corridor, ASEAN = Association of Southeast Asian Nations.

Note: For geographic delineation of Indo-Pacific, see Annex. Some countries may not be included due to lack of data.

Source: Author’s illustration from World Bank. Human Capital Project.

<https://www.worldbank.org/en/publication/human-capital>

Although there have been impressive gains in skills development through education in many developing countries in the Indo-Pacific, the quality of education still lags. Learning crises, normally applied to the education system, can also be applied to the low-quality of skills development opportunities (World Bank, 2017). Years of education do not always not translate into human capital improvement due to the low quality of education. Thus, to prepare workers for the future of work, both the quantity time invested in and quality of the education system need to be upgraded.

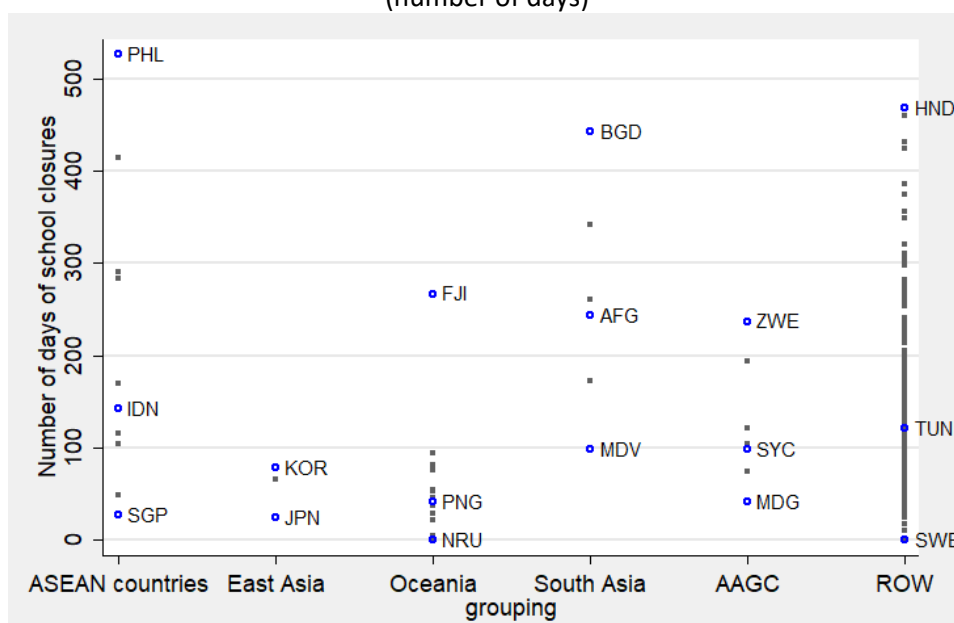
2.2. Impact of the COVID-19 Pandemic

2.2.1. School Closures

The formal education system plays a large role in human capital development. Given that almost everyone today enters the formal schooling system, this system must empower individuals to navigate the future labour market.

Figure 6.3 shows the number of days of school closures in the Indo-Pacific due to the COVID-19 pandemic. Schools closed for over 100 days during the pandemic in many countries and had to resort to online instruction. Due to variation in the digital infrastructure and teachers trained to deliver online learning, the pandemic is likely to have generated learning losses and reduced the human capital of many individuals (Patrinos, Vegas, Carter-Rau, 2022). Dealing with the long-term effects of school closures will require additional investment in education to equip schools and teachers with the ability to provide catch-up learning and to restructure the curriculum to fit the learning needs of students affected.

Figure 6.3: School Closures due to the COVID-19 Pandemic, March 2020–May 2022
(number of days)



AAGC = Asia–Africa Growth Corridor, AFG = Afghanistan, ASEAN = Association of Southeast Asian Nations, AUS = Australia, BDI = Burundi, BGD = Bangladesh, FJI = Fiji, HND = Honduras, JPN = Japan, KOR = Korea, MDG = Madagascar, MDV = Maldives, PHL = Philippines, PNG = Papua New Guinea, ROW = rest of world, SGP = Singapore, SWE = Sweden, SYC = Seychelles, TUN = Tunisia, ZWE = Zimbabwe.

Note: For geographic delineation of Indo-Pacific, see Annex. Some countries may not be included due to lack of data.

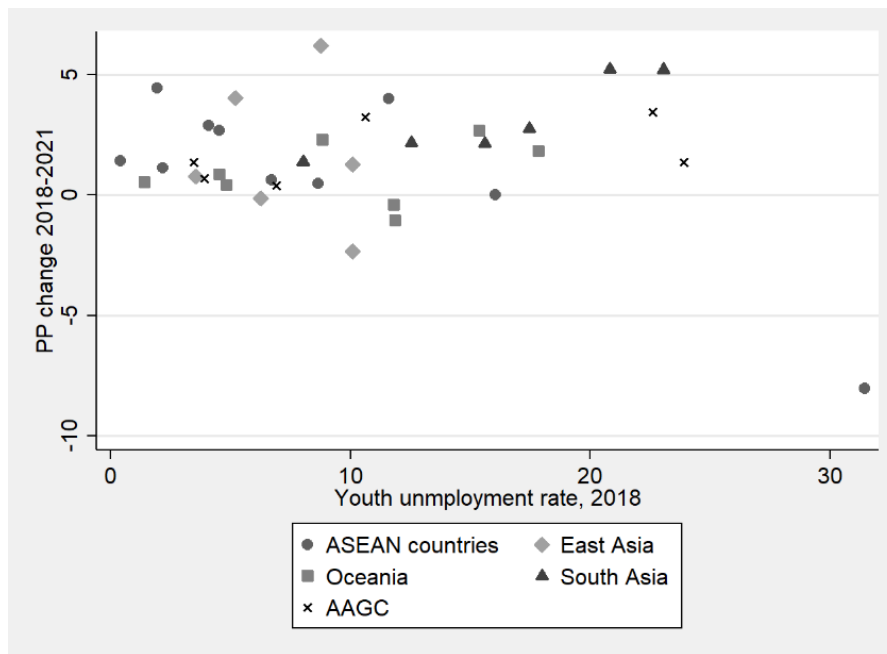
Source: Authors' illustration from United Nations Educational, Scientific, and Cultural Organization (UNESCO) data. <https://covid19.uis.unesco.org/global-monitoring-school-closures-covid19/>.

2.2.2. Rise in Youth Unemployment

A smooth transition from school to the labour market is crucial for successful labour market outcomes, but this transition was also disrupted by the pandemic. Youth unemployment rose from 15.4% to 17.9% between 2018 and 2021 (Figure 6.4). In the Indo-Pacific, youth unemployment varies, ranging from 0.4% in Cambodia to over 31.0% in Brunei Darussalam, with a median value of 8.8% in 2018. Although this figure is better than the global average of 15.0%, in many Indo-Pacific countries, the young do not have adequate opportunities to start their careers on the right footing. The pandemic made the situation worse by lowering opportunities for gainful employment for youth, who bore the brunt of economic contraction. They were the first to lose their jobs and are amongst the last to be rehired.

Unemployment can have a long-term impact due to depreciation of human capital and discouragement from participating in the labour force. It may also bring about other social problems such as crime and political instability. It also represents wasted human capital, particularly when young people are, on average, the most digitally savvy.

Figure 6.4: Change in Youth Unemployment Rate, 2018–2021



AAGC = Asia–Africa Growth Corridor, ASEAN = Association of Southeast Asian Nations.

Source: Author’s illustration from World Bank data. <https://data.worldbank.org/indicator/SL.UEM.1524.ZS>.

Note: For geographic delineation of Indo-Pacific, see Annex I. Some countries may not be included due to lack of data.

2.2.3. Remote Work

Thanks to digitalisation, remote work is now a greater possibility; the pandemic also accelerated this trend. Widespread adoption of such work arrangements has increased flexibility but also raises issues of digital equality. The feasibility of remote work varies greatly across industries and mostly favours white-collar jobs. Even in a developed country like the United States, researchers estimated that only 37% of work can be done remotely. This proportion is much lower in developing countries. Moreover, jobs with remote work possibilities tend to cluster within a firm, which means that the proportion of businesses that can fully operate remotely is even smaller. Since cognitive tasks are more amenable to being performed remotely, educated and high-income workers benefit the most.

Increased remote work also has implications for labour flows across countries. Many countries are changing their policies to offer digital nomad visas. According to one report, as many as 46 countries have implemented or are planning to implement visas for individuals engaged in remote work (Stillman, 2022). These open up new opportunities for workers to live and work in different countries, with mutual benefits for both countries.

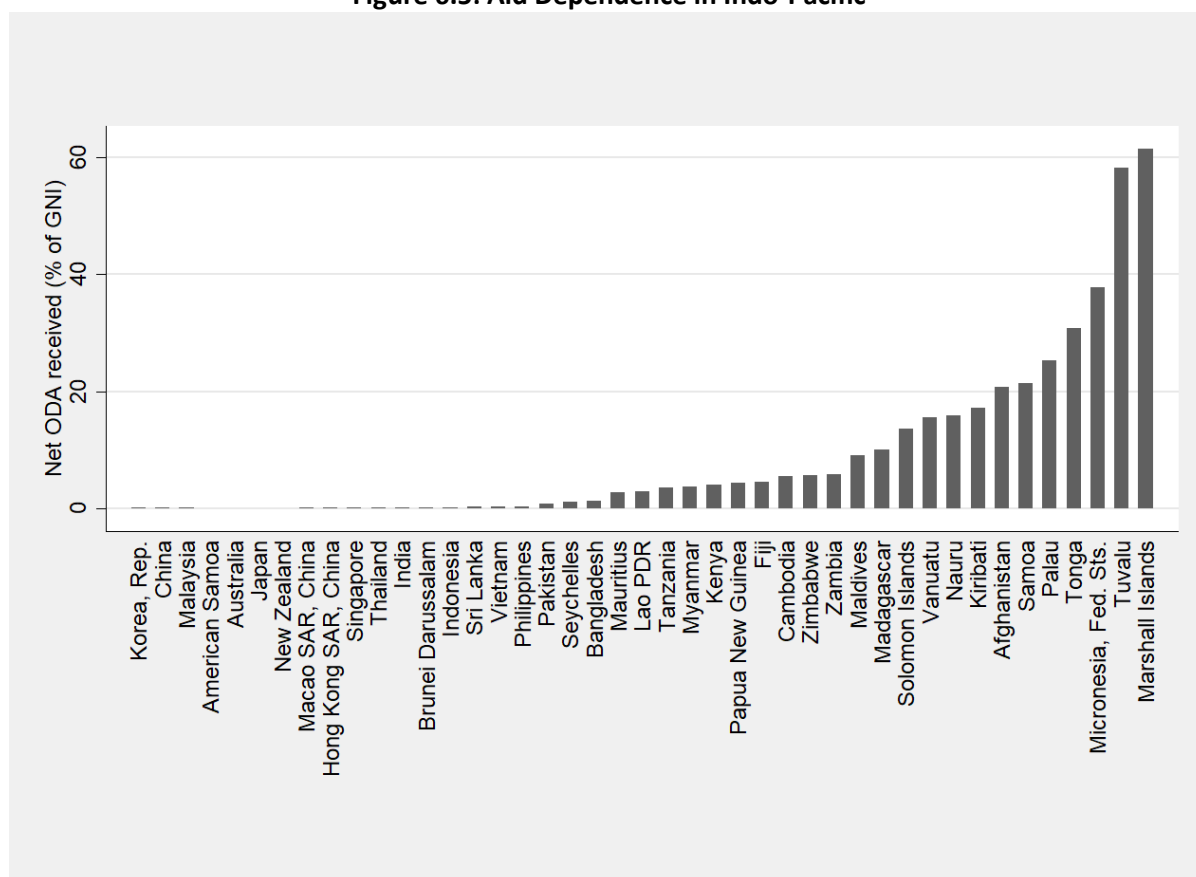
3. Cooperation Areas and Mechanisms

Trade and investment are often the most common mechanisms of cooperation between countries and across regions, with the most advanced trade agreements also incorporating elements of regulatory harmonisation and, increasingly, environmental issues. Although technology-transfer and capacity-building clauses are also commonly found in the text of international agreements between

developed and developing countries, cooperation in human capital development is rarely included. However, with technological changes afoot at almost every aspect of economic activity, countries – especially in the Indo-Pacific – have a vested interest in one another’s level of human capital.

For many developing countries, education budgets are supported by international development aid. For many Indo-Pacific countries, aid still represents a substantial fraction of their national incomes (Figure 6.5). Building human capital in these countries will require investment of large fractions of their budgets in education, vocational training, skills development, and associated programs. While many bilateral and multilateral aid programs have focussed on skills development, greater success may be achieved by pooling resources and coordinating programs.

Figure 6.5: Aid Dependence in Indo-Pacific



Lao PDR = Lao People’s Democratic Republic, ODA = official development assistance.

Note: For geographic delineation of Indo-Pacific, see Annex. Some countries may not be included due to lack of data.

Source: Authors’ illustration from World Bank data. <https://data.worldbank.org/indicator/DT.ODA.ODAT.CD>

3.1. Movement of Workers

Fostering the movement of workers can be another important area of cooperation to generate mutual gain. In the more advanced economies of the Indo-Pacific, aging societies necessitate the injection of young workers, while less-developed countries need capital to improve living standards. Regions with more advanced integration architecture do have cooperation in human resources built in – but with varying degrees of implementation. The European Union is perhaps the most advanced in this regard, with free movement of people and student-exchange programs. ASEAN has developed mechanisms

for the movement of skilled workers through mutual recognition agreements, but these are limited to only a handful of occupations.

The Indo-Pacific region already has some elements of labour mobility through bilateral agreements. In particular, the movement of low- and medium-skilled workers is usually handled through government–government agreements. It is not uncommon for countries in the region to sign bilateral labour agreements, which specify conditions under which one party to the agreement (i.e. ‘source’ country) sends temporary workers to the other party (i.e. ‘host’ country) (Chilton and Posner, 2018). These agreements often contain legal protections for migrants in the host country as well as obligations for the source country. The University of Chicago Law School catalogued as many as 582 bilateral labour agreements between 1945 and 2015, with over half ratified between 1990 and 2015.³⁰

Table 6.2 presents the number of bilateral labour agreements amongst the various sub-regions comprising the Indo-Pacific. Within the Indo-Pacific, six bilateral labour agreements are found in which an East Asian country is the host country and an ASEAN Member is the source country. East Asian countries also have five bilateral labour agreements with South Asian countries. Oceania has as many as 26 bilateral labour agreements but with only 3 countries in East Asia as source countries.

Table 6.2: Bilateral Labour Agreements between Indo-Pacific Countries

		Source Country					
		ASEAN	East Asia	Oceania	South Asia	AAGC	Other Countries
Host Country	ASEAN	10	0	0	3	0	0
	East Asia	6	2	0	5	0	2
	Oceania	0	3	0	0	0	26
	South Asia	0	0	0	0	0	0
	AAGC	0	0	0	0	0	0
	Other Countries	25	9	1	19	1	175

AAGC = Asia–Africa Growth Corridor, ASEAN = Association of Southeast Asian Nations.

Source: Author.

Further opening the labour markets in the Indo-Pacific could accelerate skills development there. One of the greatest incentives to acquire skills is the ability to obtain jobs that will utilise those skills. The prospect of moving to another country encourages many individuals to gain skills that may not be immediately employable domestically but may open up job possibilities elsewhere. This is the essence of ‘brain gain’ that arises due to increased opportunities abroad. Thus, greater skills mobility will not only help reduce the current skills gap but also encourage new skills. Skills and experience can also be gained in more advanced host countries, which can then be applied in the source country upon return – known as ‘brain circulation’.

³⁰ University of Chicago Law School, Bilateral Work Agreements Dataset, <https://www.law.uchicago.edu/bilateral-labor-agreements-dataset> (accessed 20 July 2022).

Making skills more transferable across the Indo-Pacific will lead to efficiency gains. The specificity of a worker's skills is an important concept within labour economics. Workers possess both general skills (i.e. those that can be easily transported across different firms) and specific skills (i.e. that are more efficiently utilized within a specific firm). With piece-meal labour agreements governing the movement of workers across countries, workers usually focus on specific skills. If it were possible, however, to transfer skills more widely across multiple countries, there would be a tendency to gain more general skills.

3.2. Movement of Students

Opportunities to build human capital through educational opportunities vary widely across the Indo-Pacific. As living standards rise, there is an increasing trend of individuals seeking the best possible educational opportunities in more advanced countries. According to some estimates, international students – non-citizens who are pursuing tertiary education in a country – numbered over 5 million in 2017.³¹ This flow is sometimes enabled by scholarships provided by developed countries (e.g. Australia Awards Scholarships or the United States Fulbright Program). The volume of official development assistance flows for scholarships in 2016 stood at \$1,229 million. In fact, Sustainable Development Goal 4 includes a pledge to 'substantially expand globally the number of scholarships available to developing countries ... for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries' (United Nations, 2020). The countries of the Indo-Pacific can support one another by facilitating the flow of international students through scholarships and by reforming immigration laws governing education and employment prospects in host countries.

7. Conclusion

Technology, especially digital technology, makes it three things easier – access to information, connectivity or exchange of information, and computation or processing of large amounts of information – which improves productivity and economic growth. Digital technology offers the opportunity for countries to revitalize their traditional sectors like agriculture and manufacturing and to enhance productivity. It does require workers to be ready to adapt by increasing their skills, however. Indo-Pacific countries can collaborate on this important area by further increasing aid for skills development, fostering labour mobility amongst countries in the region, and increasing the flow of students.

³¹ IOM, 'International Students', Migration Data Portal, <https://www.migrationdataportal.org/themes/international-students> (accessed 28 July 2022).

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