

# FIRING UP REGIONAL BRAIN NETWORKS

THE PROMISE OF BRAIN  
CIRCULATION IN THE ASEAN  
ECONOMIC COMMUNITY



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Jeanne Batalova, Andriy Shymonyak, and Guntur Sugiyarto



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# Abbreviations

ACE	-	ASEAN Confederation of Employers
ADB	-	Asian Development Bank
AEC	-	ASEAN Economic Community
AIMS	-	ASEAN International Mobility for Students
APEC	-	Asia-Pacific Economic Cooperation
AQRF	-	ASEAN Qualifications Reference Framework
ASEAN	-	Association of Southeast Asian Nations
ATP	-	ASEAN TRIANGLE Project
AUN	-	ASEAN University Network
CIA	-	Central Intelligence Agency
CLMV	-	Cambodia, Lao PDR, Myanmar, and Viet Nam
GDP	-	Gross Domestic Product
HDI	-	Human Development Index
ILO	-	International Labour Organization
ISCO	-	International Standard Classification of Occupations
MIA	-	Malaysian Institute of Accountants
MRA	-	Mutual Recognition Arrangement
OAS	-	Organization of American States
OECD	-	Organisation for Economic Co-operation and Development
Lao PDR	-	Lao People's Democratic Republic
POEA	-	Philippine Overseas Employment Administration
RFA	-	Registered Foreign Architects
SEAMEO	-	Southeast Asian Ministers of Education Organization
SNB	-	Singapore Nursing Board
UNDESA	-	United Nations Department of Economic and Social Affairs
UNDP	-	United Nations Development Programme
UNESCO	-	United Nations Educational, Scientific and Cultural Organization
WEF	-	World Economic Forum
WHO	-	World Health Organization
WTTC	-	World Travel and Tourism Council
WVS	-	World Values Survey

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# Executive Summary

To make it easier for skilled workers to move across borders within the Southeast Asia region, between 2005 and 2014 the 10 Member States of the Association of Southeast Asian Nations (ASEAN) signed mutual recognition arrangements (MRAs) for seven professions—accounting, architecture, dentistry, engineering, medicine, nursing, and tourism—and have since begun implementing them. Close to 15 million people in the region are employed in these professions, accounting for about 5% of total employment. Using the application rates for professional recognition and mobility in the European Union as a proxy, approximately 20,920 professionals might apply annually for recognition under the ASEAN MRA system.

The ASEAN goal of encouraging intraregional mobility must be understood in the context of changing population dynamics, rising educational levels and aspirations, and increasingly dynamic—if complex—economic forces. These so-called megaforges are poised to transform the supply, demand, and mobility of skilled professionals across ASEAN:

- **Diverging demographics.** ASEAN represents a demographically diverse region. Some countries, such as Brunei Darussalam, Singapore, and Thailand, are projected to see their labor forces age and decline, resulting in a growing elderly population and a narrowing worker pipeline. By contrast, Cambodia, Indonesia, the Lao People’s Democratic Republic (Lao PDR), and the Philippines might continue to see their labor forces grow over the next couple of decades. Taken together, these complementary pressures are likely to encourage people of working age—including the highly educated—to move within the region.
- **Rising educational levels and aspirations.** The changing skill and education levels of the population in the region will also affect the size and composition of migrant flows. In the past few decades, all ASEAN countries have made large investments in secondary and tertiary education. Larger cohorts of ASEAN citizens with a vocational or college education mean a greater pool of skilled workers who are likely to migrate, given the right incentives. In addition, more students from ASEAN countries are seeking an international education. Unlike in the past, when a lack of education opportunities at home drew many to Organisation for Economic Co-operation and Development (OECD) countries, the educational aspirations of the new generation of students can be met regionally.

- **Continuing economic disparities and opportunities.** Wide variation in economic opportunities in the region has been and will remain the key driving force for migration across the skills continuum. The 2007–2013 Gallup World Poll<sup>1</sup> highlights two important observations about the mobility aspirations of skilled persons worldwide: they are almost twice as likely to intend to emigrate (19%) than those in low-skilled occupations (10%), and they are more likely to have the means to do so. As rapid economic growth increases regional demand for the highly skilled, ASEAN Member States need to commit the necessary capital and policy investments to attracting and retaining ever-larger shares of well-qualified workers in the region.

The convergence of these megatrends represents unique opportunities for human capital development and brain circulation within Southeast Asia. For low-income countries, such as Lao PDR, even a small increase in the absolute number of high-skilled foreigners can raise the number of needed professionals and expand access to critical services. For middle-income countries, such as Malaysia, a greater number of highly skilled workers might propel the nation toward becoming a high-income economy and thus avoid the middle-income trap. Finally, the wealthiest ASEAN countries, Brunei Darussalam and Singapore, would benefit from tapping skilled regional talent to compensate for a declining labor supply and to sustain economic vitality and growth.

The promise of greater brain circulation depends on a proactive regional response to two pressing challenges: brain waste and brain drain.

- **Brain waste is an understudied issue in ASEAN.** More formally known as “skills underutilization,” brain waste typically refers to persons working in jobs for which their education and work experience overqualify them. A classic case of brain waste is an experienced doctor or engineer driving a taxi. This situation represents the worst of public policy outcomes: the human capital that newcomers bring into a country slowly degrades, the destination country fails to harness their skills and talents, and the investments all parties have made are wasted.

While skills underutilization can be observed throughout the developed world, there is a lack of relevant data or studies about it in the ASEAN context. For the most part, the phenomenon has been off the radar of regional policymakers.

- **Brain drain is a source of ongoing concern in ASEAN.** Brain drain, or the emigration of highly educated individuals, has been recognized as a significant obstacle to economic and social development. Specifically, the number of tertiary-educated ASEAN emigrants in OECD countries increased from 1.7 million in 2000 to 2.8 million in 2010–11. The motivation to emigrate to OECD countries remains strong: a powerful base of jobs and support networks makes it likely that skilled emigration from ASEAN to OECD will continue.

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<sup>1</sup> Organisation for Economic Co-operation and Development (OECD), *Connecting with Emigrants: A Global Profile of Diasporas 2015* (Paris: OECD Publishing, 2015), [www.oecd.org/publications/connecting-with-emigrants-9789264239845-en.htm](http://www.oecd.org/publications/connecting-with-emigrants-9789264239845-en.htm).

There are opportunities to compensate for some of the negative effects of such emigration. In a globally connected world, the departure of skilled nationals is neither necessarily permanent nor a net drain, at least in the long run. Many return with new skills, financial and social capital, and access to valuable business and educational networks. Further, successful migrants abroad can “act as social, cultural, and economic ambassadors.”<sup>2</sup> Finally, remittances received from abroad can not only improve the economic fortunes of migrants’ families but also support productive investments.

Despite legitimate concerns about brain waste and brain drain, the prospects of more dynamic brain circulation within the Southeast Asia region, with associated benefits, remain good.

- **The regional brain network is expanding.** Until now, most intra-ASEAN migrants have been low-skilled, temporary, and unauthorized. Today, the share of high-skilled regional migration is on the rise, fueled in large part by university students. Furthermore, a growing share of skilled persons are moving to other ASEAN countries (and not outside the region), including to those with income levels below Brunei Darussalam and Singapore.
- **Brain circulation is encouraged by a number of important developments.** Three such developments are particularly relevant: First, there is growing awareness that foreign professionals play an important role in regional economic growth. Second, the ASEAN educational infrastructure is expanding at rates that support the growth of student mobility in the region. Third, efforts to mutually recognize professional qualifications are beginning to bear fruit.

Against the backdrop of sweeping changes in the scale, composition, and direction of intraregional flows, ASEAN is on the threshold of substantially expanding the regional mobility of the highly skilled. However, progress could stall unless ASEAN Member States fully understand and address a number of challenges at both the regional and national levels.

- **At the regional level, it is essential to improve data collection and make progress on the implementation of signed MRAs.** Lack of consistent, harmonized data across ASEAN countries and across the MRA-covered professions makes it difficult to track and influence skilled mobility and to counter brain drain and brain waste. Models of how to address these data needs and gaps exist in other countries and regions.<sup>3</sup> The international development community could be asked to support an ASEAN-level data-collection effort.

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<sup>2</sup> Demetrios G. Papademetriou, *Rethinking Emigration: Turning Challenges into Opportunities* (Washington, DC: Migration Policy Institute, 2015), [www.migrationpolicy.org/research/rethinking-emigration-turning-challenges-opportunities-transatlantic-council-statement](http://www.migrationpolicy.org/research/rethinking-emigration-turning-challenges-opportunities-transatlantic-council-statement).

<sup>3</sup> The OECD’s annual publication, *International Migration Outlook*, is one such example. See OECD, *International Migration Outlook 2016* (Paris: OECD Publishing, 2016), [http://dx.doi.org/10.1787/migr\\_outlook-2016-en](http://dx.doi.org/10.1787/migr_outlook-2016-en).

To date, implementation of the MRAs has been slowed by many technical and institutional hurdles. While addressing these barriers, ASEAN policymakers would do well to think ahead about the next generation of arrangements covering other occupations the region may need, such as those for teachers and construction professionals.

- ***At the national level, ASEAN Member States must deepen understanding of brain waste and brain drain.*** This can be done by producing better data and involving a diverse range of stakeholders—employers, professional associations, government and regulatory authorities, education institutions, service providers, and the general public—in finding solutions. The reason to do so is both simple and compelling: Given evident changes in the scale, composition, and direction of intraregional flows, all ASEAN Member States will eventually be both origin and destination countries for skilled migrants. Therefore, challenges such as brain waste and brain drain will increasingly be relevant for all countries.

# I. Introduction

Association of Southeast Asian Nations (ASEAN) Member States are in the midst of a historic economic, social, and demographic transformation<sup>4</sup> powered by rising levels of education, a youthful population, more transparent government, ever-stronger social and political institutions, and cross-border migrant flows that have more than tripled since 1990, reaching 9.9 million by 2015.<sup>5</sup> A small but rising number of these migrants are highly skilled.<sup>6</sup> Valued for their education, international experience, and transnational networks, these skilled migrants are being recognized by policymakers, employers, and other stakeholders as key potential contributors to the national and regional economic growth goals at the heart of the recently launched ASEAN Economic Community (AEC).

To capitalize on the human capital the region has been developing, leaders of the ASEAN Member States included the free flow of skilled labor as a core element of the AEC Blueprint, on par with the free flow of services, goods, investment, and capital. In order to promote intraregional skill mobility, the 10 ASEAN countries have agreed to

mutual recognition arrangements (MRAs) for seven professions.<sup>7</sup> Based on a wide range of data sources, this report estimates that workers in these professions account for approximately 5% of the 310.6 million employed persons in ASEAN. In absolute terms, employment in the seven MRA-covered professions totals 14.9 million workers, of which 83% (or 12.5 million) are in the tourism sector (see Figure 1).

In addition to MRAs, the 10 countries also agreed to develop an ASEAN Qualification Reference Framework (AQRF),<sup>8</sup> facilitate the issuing of temporary visas, and encourage the mobility of university students and academic staff by strengthening education-related regional initiatives.<sup>9</sup>

While skill mobility is a core element of the AEC, its realization on the ground has been difficult. This report explores the opportunities and challenges in freeing the flow of skilled labor in the ASEAN region. It aims to offer the most recent evidence and data to help policymakers gain a better picture of trends in the movement of skilled persons and achieve a more nuanced understanding of the forces that are likely to shape skilled mobility in the future.

<sup>4</sup> Asian Development Bank (ADB), *Asia 2050: Realizing the Asian Century* (Manila: ADB, 2011), [www.adb.org/publications/asia-2050-realizing-asian-century](http://www.adb.org/publications/asia-2050-realizing-asian-century).

<sup>5</sup> United Nations Department of Economic and Social Affairs (UNDESA), Population Division, "International Migrant Stock: The 2015 Revision" (United Nations database, POP/DB/MIG/Stock/Rev.2015, accessed 1 May 2016), [www.un.org/en/development/desa/population/migration/data/estimates2/index.shtml](http://www.un.org/en/development/desa/population/migration/data/estimates2/index.shtml).

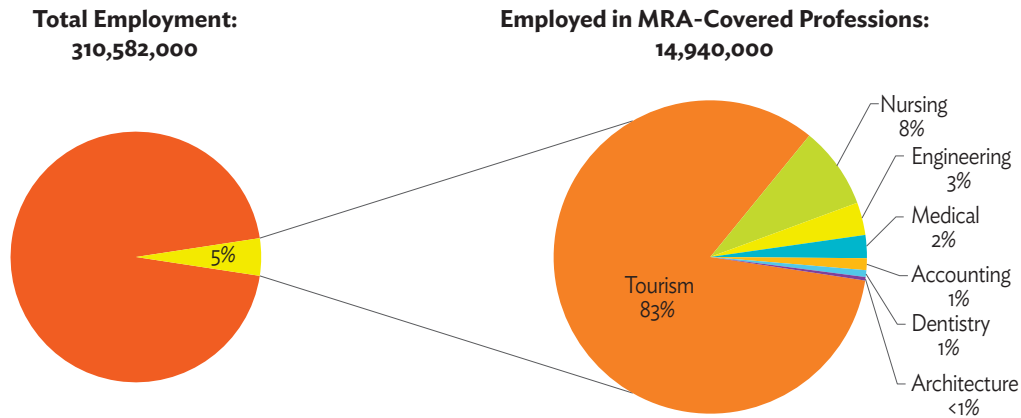
<sup>6</sup> In this report, unless stated otherwise, the terms "highly skilled," "highly educated," and "tertiary educated" are used interchangeably and refer to adults with a tertiary-level education.

<sup>7</sup> Between 2005 and 2014, Association of Southeast Asian Nations (ASEAN) countries signed Mutual Recognition Arrangements (MRAs) for engineering (2005), nursing (2006), architecture (2007), medicine and dentistry (2009), tourism professionals (2012), and accounting (2014). A framework arrangement on MRAs in surveying was also signed in 2007.

<sup>8</sup> The main goal of the ASEAN Qualification Reference Framework (AQRF) is to provide a comprehensive benchmark for current national qualification frameworks and to enable meaningful comparison of qualifications across ASEAN countries.

<sup>9</sup> Ponciano Intal, Jr. et al., *ASEAN Rising: ASEAN and AEC Beyond 2015* (Jakarta: Economic Research Institute for ASEAN and East Asia, 2014), [www.eria.org/publications/key\\_reports/ASEAN-Rising.html](http://www.eria.org/publications/key_reports/ASEAN-Rising.html).

**Figure 1: ASEAN Employment:  
Total and in Mutual Recognition Arrangement-Covered Professions**



ASEAN = Association of Southeast Asian Nations, MRA = Mutual Recognition Arrangement.

Note: Employment by individual profession is shown as a percentage of the 14.9 million employed in the seven MRA-covered professions.

Source: Migration Policy Institute (MPI) estimates, based on various data sources. See Appendix 1 for detailed country-level data and a full source list by profession.

More specifically, the report aims to:

- examine the impact of megatrends on human capital development and mobility, focusing in particular on the roles that labor force, demographic, economic, and social change will play in the short to medium term;
- discuss the challenges of brain drain and brain waste in light of these trends;
- explore the prospects of greater brain circulation in the region, specifically the scale, composition, and directions of intra-ASEAN flows, with a focus on the highly skilled and on professionals covered under existing MRAs;
- highlight important developments in managing greater brain circulation in the region;
- assess the quality of available data on the highly skilled, and make the case for a more strategic and comprehensive approach to data collection and analysis; and

- outline policy implications and ways forward relevant to efforts to more effectively facilitate brain circulation and reduce brain drain and brain waste, in the short to medium term, both at the regional and national levels.

This report draws on an extensive review of policy and research literature, an analysis of administrative and publicly available data produced by ASEAN governments and international organizations, an analysis of the responses of focus groups convened in the region, and surveys of experts and government officials (see Appendix 2 for more details on the methodological approach and data sources). Given the importance of MRAs in policymakers' overall strategy to boost intra-ASEAN skilled mobility, this report will pay particular attention to gaps in information on the mobility of skilled professionals in the region, particularly those covered by the MRAs.

Divided into seven parts, the report begins, in Section II, with a discussion of the sweeping trends that are transforming the supply and mobility of skilled professionals. Section III discusses the two most critical challenges that accompany skilled mobility—that is, brain drain and brain waste—and Section IV outlines the current state of knowledge on skilled mobility in the region, with a focus on the professions covered by the MRAs.

Section V explores important developments in the effort to support greater brain circulation in the region, before Section VI makes the case for a more strategic approach to data collection and analysis. Section VII concludes by outlining policy implications and ways forward in the effort to more effectively facilitate brain circulation and reduce brain drain and brain waste both at the regional and national level.

### **Box 1: About This Research Project**

This report is one in a series of four produced through a research partnership between the Asian Development Bank (ADB) and the Migration Policy Institute (MPI). The project aims to improve understanding of the barriers to the free movement of professionals within the Association of Southeast Asian Nations (ASEAN) region and to support the development of strategies to overcome these hurdles.

The reports in this series draw on the insights of 387 regional and international experts and practitioners through their participation in focus group discussions, meetings, and surveys. Contributors include ASEAN Member State officials directly responsible for Mutual Recognition Arrangement (MRA) implementation, as well as private-sector employers, academics, training directors, MRA monitoring committee members, and current and former ASEAN Secretariat officials.

ADB and MPI convened 12 days of focus group discussions and meetings between May and September 2015 that were attended by more than 100 regional stakeholders. See the Appendixes of this report for more on the methodology of the study and for a complete list of stakeholders involved.



# II. Human Capital Development and Mobility: The Impact of Megatrends

The 10 ASEAN countries represent a continuum of economic and social development. Brunei Darussalam and Singapore are the most developed; Cambodia, the Lao People's Democratic Republic (Lao PDR), Myanmar, and Viet Nam (CLMV) are the least developed; and Indonesia, Malaysia, Thailand, and the Philippines fall in between. Each, in turn, is differently affected by the dynamic megatrends at work in the region. This section examines the demographic, labor force, economic, and social changes that affect the supply and mobility of skilled workers. These important trends will then be revisited later, in a discussion of how they are related to brain drain and brain waste in ASEAN countries and how they are driving the growth and diversification of migrant flows in the region.

## A. Demographic Trends: Reduced Fertility and Increased Life Expectancy

Population change remains a key driving force of economic growth and social development. Country-by-country differences aside, all ASEAN countries have experienced a powerful demographic transformation since the 1970s.<sup>10</sup> Two forces are reshaping the age structure of the region's population today: reduced fertility and increased life expectancy.

The size of the ASEAN population has almost tripled, from 228 million in 1970 to 622 million in 2014. This growth has been driven by Indonesia, the Philippines,

and Viet Nam. However, the annual growth rate of the ASEAN population in 2014 (1.2%) was just about half of what it was in 1970 (2.2%).<sup>11</sup> In fact, all ASEAN Member States are experiencing fertility declines. In 2013, the total fertility rate (i.e., the average number of children a woman would potentially have) in the three most populous ASEAN countries was as follows: 2.4 in Indonesia, 3.1 in the Philippines, and 1.8 in Viet Nam—roughly half of their respective rates in 1970. Fertility rates in Singapore, Thailand, and Viet Nam are much lower than the replacement fertility rate<sup>12</sup> of 2.1 children per woman, while the rate in Brunei Darussalam and Myanmar (2.0) barely approaches it.<sup>13</sup>

While fewer children are being born today than a few decades ago, people live longer as a result of improved living standards and better access to health care. Life expectancy has thus increased, though again with significant variation across the region—ranging from high in Singapore (83 years); to mid-level in Malaysia, Thailand, and Viet Nam (73–74 years); to low in Lao PDR (66 years).<sup>14</sup>

These demographic changes carry significant implications for ASEAN country labor forces. While the populations of all Member States are aging, internal demographic dynamics differ. The region can be divided into two groups, based on differences in labor force supply and demand projections.

<sup>10</sup> Graeme Hugo, "Emerging Demographic Trends in Asia and the Pacific: The Implications for International Migration," in *Talent, Competitiveness, and Migration*, eds. Bertelsmann Stiftung and the Migration Policy Institute (MPI) (Gütersloh, Germany and Washington, DC: Verlag Bertelsmann Stiftung and MPI, 2009).

<sup>11</sup> ASEAN, "Selected Basic ASEAN Indicators" (dataset, ASEAN Secretariat, August 2015), [www.asean.org/storage/2015/09/selected\\_key\\_indicators/table1\\_as\\_of\\_Aug\\_2015.xls](http://www.asean.org/storage/2015/09/selected_key_indicators/table1_as_of_Aug_2015.xls)

<sup>12</sup> Refers to the level of fertility at which a population replaces itself from one generation to the next. The impact of migration is not factored in.

<sup>13</sup> ASEAN, *Statistical Yearbook 2014* (Jakarta: ASEAN Secretariat, 2015), [www.asean.org/storage/images/2015/July/ASEAN-Yearbook/July%202015%20-%20ASEAN%20Statistical%20Yearbook%202014.pdf](http://www.asean.org/storage/images/2015/July/ASEAN-Yearbook/July%202015%20-%20ASEAN%20Statistical%20Yearbook%202014.pdf)

<sup>14</sup> Ibid.



Cambodia, Indonesia, and the Philippines represent the first group. In these countries, the rapid shift from high to low fertility has generated what demographers call a youth bulge, a large cohort of adults aged 15–24. For instance, about 40% of Indonesia’s population is under the age of 25, and just 14% is 55 or older.<sup>15</sup> Cambodia, Myanmar, and the Philippines also have largely youthful populations with relatively small shares of elderly. As the youth bulge moves through the working-age pipeline, it will contribute to domestic economic growth, especially if adequate human capital development policies are in place.

The second country cluster includes Brunei Darussalam, Singapore, and Thailand. These countries have begun experiencing a classic demographic double squeeze: an aging population with longer life expectancy, coupled with low fertility rates, squeezes the supply of the working-age population from both ends. For example, in Singapore just 30% of the population is under age 25, and 20% of the population is 55 or older. Brunei Darussalam and Thailand have similar demographics.<sup>16</sup> As a result, these three countries already face labor shortages. They will need to bolster labor productivity by constantly improving the skill levels of their domestic labor force through lifelong education and training. An increasingly robust health-care infrastructure is also needed. But even these factors may not be enough to compensate for a shrinking labor force, leaving it necessary to tap into intraregional and international talent.

Importantly, these demographic trends will become even more pronounced in the future. According to the medium-level fertility scenarios developed by the United Nations Department of Economic and

Social Affairs (UNDESA),<sup>17</sup> Thailand and Singapore will experience negative working-age population growth between 2015 and 2035 (–12% and –2%, respectively). Other Member States will see positive, albeit slower growth in their working-age populations, ranging from about 10% in Viet Nam to about 45% in Lao PDR. UNDESA also projects that the populations of Cambodia, Indonesia, Lao PDR, and the Philippines will expand across all age groups for decades to come.

These differing demographic and labor force trends place varying pressures on ASEAN countries. Sustained population growth in Cambodia, Indonesia, Lao PDR, and the Philippines will continue to expand already large labor forces. Brunei Darussalam, Singapore, and Thailand experience a counterpressure—increasing labor demand that outpaces domestic supply. Taken together, these dynamics must be addressed at the regional level for a sustainable and regionally beneficial solution. Inevitably, a regional solution will entail the greater mobility of workers across the skills spectrum, including the highly educated.<sup>18</sup>

## B. Educational Trends: Rising Levels of Education

Educational attainment in the region has been increasing over the past few decades, with all countries making great strides in growing the number of nationals who attend, and complete, secondary and tertiary education.<sup>19</sup>

As shown in Table 1, college enrollment more than tripled in the region, from 4.6 million in 1990 to 15.3 million in 2011. The largest proportional

<sup>15</sup> Central Intelligence Agency (CIA), “Indonesia,” in *The World Factbook* (Washington, DC: CIA, 2016), [www.cia.gov/library/publications/resources/the-world-factbook/geos/id.html](http://www.cia.gov/library/publications/resources/the-world-factbook/geos/id.html)

<sup>16</sup> CIA, “Singapore,” in *The World Factbook* (Washington, DC: CIA, 2016), [www.cia.gov/library/publications/resources/the-world-factbook/geos/sn.html](http://www.cia.gov/library/publications/resources/the-world-factbook/geos/sn.html); International Labour Organization (ILO) and ADB, *ASEAN Community 2015: Managing Integration for Better Jobs and Shared Prosperity* (Bangkok: ILO and ADB, 2014), 101, [www.adb.org/sites/default/files/publication/42818/asean-community-2015-managing-integration.pdf](http://www.adb.org/sites/default/files/publication/42818/asean-community-2015-managing-integration.pdf)

<sup>17</sup> ILO, *Analytical Report on the International Labour Migration Statistics Database in ASEAN: Improving Data Collection for Evidence-Based Policy-Making* (Bangkok: ILO, 2015), 50, [www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-bangkok/documents/publication/wcms\\_431613.pdf](http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-bangkok/documents/publication/wcms_431613.pdf)

<sup>18</sup> Michele Bruni, “Labor Market and Demographic Scenarios for ASEAN Countries (2010–35): Education, Skill Development, Manpower Needs, Migration Flows, and Economic Growth” (DEMB working paper series, no. 6, University of Modena, Modena, Italy, 2013), [http://merlino.unimo.it/campusone/web\\_dep/wpdemb/0006.pdf](http://merlino.unimo.it/campusone/web_dep/wpdemb/0006.pdf).

<sup>19</sup> ILO, “Key Indicators of the Labour Market 2015: Educational Attainment and Illiteracy,” accessed 19 February 2016, [www.ilo.org/global/statistics-and-databases/WCMS\\_424979/lang--en/index.htm](http://www.ilo.org/global/statistics-and-databases/WCMS_424979/lang--en/index.htm)

**Table 1: Enrollment in Tertiary Education, 1990 versus 2011**

	1990	2011	Change: 1990 to 2011	
			Number	% Change
Brunei Darussalam	–	6,626	–	–
Cambodia	5,479	223,222	217,743	3,974.1
Indonesia	1,515,689	5,364,301	3,848,612	253.9
Lao People's Democratic Republic	4,730	125,323	120,593	2,549.5
Malaysia	121,412	1,036,354	914,942	753.6
Myanmar	220,174	659,510	439,336	199.5
Philippines	1,516,315	2,951,195	1,434,880	94.6
Singapore	55,672	236,891	181,219	325.5
Thailand	952,012	2,497,323	1,545,311	162.3
Viet Nam	185,788	2,229,494	2,043,706	1,100.0
<b>ASEAN</b>	<b>4,577,271</b>	<b>15,323,613</b>	<b>10,746,342</b>	<b>234.8</b>

ASEAN = Association of Southeast Asian Nations.

Source: MPI tabulations of World Bank, "Education Statistics," accessed 1 March 2016,

<http://databank.worldbank.org/data/reports.aspx?source=education-statistics---all-indicators>.

increases were in Cambodia, Lao PDR, and Viet Nam, while the largest absolute gains were in Indonesia, the Philippines, Thailand, and Viet Nam. The expansion of higher education has also prompted an increase in the share of adults with completed tertiary education across ASEAN between 1980 and 2010 (with the exception of the Philippines) (see Table 2).

Likewise, between 1980 and 2010, the share of adults who had completed secondary schooling nearly doubled in Brunei Darussalam, Myanmar, the Philippines, and Viet Nam; roughly tripled in

Cambodia, Malaysia, and Singapore; and increased fourfold in Indonesia, Lao PDR, and Thailand (see Table 2).

However, significant differences in the levels of educational attainment persist. While close to 30% of adult Singaporeans have a college degree, fewer than 5% of adults in Cambodia, Indonesia, Lao PDR, and Viet Nam do. Despite such differences, and with the exception of the Philippines, the share of the ASEAN population with a completed tertiary education increased over the past 30 years, and this

**Table 2: Share of Adults with Completed Secondary and Tertiary Education, 1980 versus 2010**

	% of Population Age 15+ with Completed Secondary Schooling		% of Population Age 15+ with Completed Tertiary Schooling	
	1980	2010	1980	2010
Brunei Darussalam	16.9	30.7	3.7	6.5
Cambodia	1.3	4.5	0.1	1.3
Indonesia	5.2	22.1	0.3	3.7
Lao People's Democratic Republic	1.6	6.0	1.2	3.3
Malaysia	15.4	39.8	0.9	5.8
Myanmar	5.6	9.5	0.7	5.2
Philippines	13.1	23.8	8.2	5.5
Singapore	9.8	30.0	2.4	29.7
Thailand	4.2	19.0	2.8	10.5
Viet Nam	12.2	19.4	0.5	3.3

Source: MPI tabulations of World Bank, "Education Statistics."

trend is likely to continue. Table 3 lists the number of graduates in eight of the 10 ASEAN Member States. Significantly, large, if uneven, proportions of these students are graduating with engineering and health-related degrees—fields of study that correspond to MRA-covered professions. In particular, large numbers of students graduate with engineering, construction, and manufacturing degrees in Indonesia and Viet Nam, and with health and welfare degrees in Indonesia and Malaysia.

**Table 3: Annual Number of Graduates: Total and with Degrees in Select Professional Sectors**

	Annual Graduates	Engineering, Construction, Manufacturing	Health and Welfare
Cambodia	32,177	990	998
Indonesia	867,822	140,169	49,921
Lao PDR	31,496	2,455	777
Malaysia	261,819	55,952	30,451
Myanmar	295,941	11,399	3,905
Philippines	469,654	-	-
Thailand	443,648	-	-
Viet Nam	417,436	100,390	16,466

Lao PDR = Lao People's Democratic Republic.

Notes: Data are from the latest year, which may vary by country. Data for Singapore and Brunei Darussalam were unavailable.

Source: World Economic Forum (WEF), *The Human Capital Report 2015* (Geneva, Switzerland: WEF, 2015),

[www3.weforum.org/docs/WEF\\_Human\\_Capital\\_Report\\_2015.pdf](http://www3.weforum.org/docs/WEF_Human_Capital_Report_2015.pdf).

The skills and education that current and prospective workers bring to a labor market are fundamental to economic growth and competitiveness.<sup>20</sup> They also, in large part, decide the skill and educational levels of future generations. One way to qualify the educational attainment and skills of the working-age population (or the “labor force quality”) is to look at the types of occupations in which workers are employed. International Labour Organization (ILO) data allow for a look at three groups—high-, medium-, and low-skilled occupations—

as categorized in the International Standard Classification of Occupations (ISCO).<sup>21</sup>

The skill composition of the labor force differs enormously across ASEAN countries. As Table 4 shows, Singapore clearly stands out: more than half of its workforce is employed in high-skilled occupations (managers, technicians, and associated professionals). The second group includes Brunei Darussalam, Malaysia, and the Philippines, where between one-quarter and one-third of the labor force is employed in high-skilled occupations. In the remaining countries, the share of workers in high-skilled occupations is small (less than 15%).

It is important to note that these skill shares both reflect and shape each country's economy.

**Table 4: Skill Levels as Share of Total Labor Force, by Country**

	High (%)	Medium (%)	Low (%)
Singapore (2013)	52.7	36.7	7.3
Brunei Darussalam (2011)	32.2	46.6	21.2
Malaysia (2014)	25.2	62.1	12.7
Philippines (2013)	23.7	43.7	32.5
Thailand (2014)	14.2	75.1	10.7
Viet Nam (2013)	10.0	48.9	41.1
Lao PDR (2010)	7.6	83.6	8.8
Indonesia (2014)	7.1	85.9	7.0
Cambodia (2013)	4.9	89.2	5.9

Lao PDR = Lao People's Democratic Republic.

Notes: Data for Myanmar were unavailable. Years refer to the year of the most recently available data.

Sources: International Labor Organization (ILO), *Analytical Report on the International Labour Migration Statistics Database in ASEAN: Improving Data Collection for Evidence-Based Policy-Making* (Bangkok: ILO, 2015), 50, [www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-bangkok/documents/publication/wcms\\_431613.pdf](http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-bangkok/documents/publication/wcms_431613.pdf); Data for Singapore are from ILO, “Key Indicators of the Labour Market 2015: Employment by Occupation Dataset,” accessed 13 July 2016, [http://www.ilo.org/global/statistics-and-databases/WCMS\\_424979/lang--en/index.htm](http://www.ilo.org/global/statistics-and-databases/WCMS_424979/lang--en/index.htm).

<sup>20</sup> Demetrios G. Papademetriou and Annette Heuser, “Council Statement: Responding Competitively to the New Mobility of the 21st Century,” in *Talent, Competitiveness, and Migration*, eds. Bertelsmann Stiftung and MPI (Gütersloh, Germany and Washington, DC: Verlag Bertelsmann Stiftung and MPI, 2009).

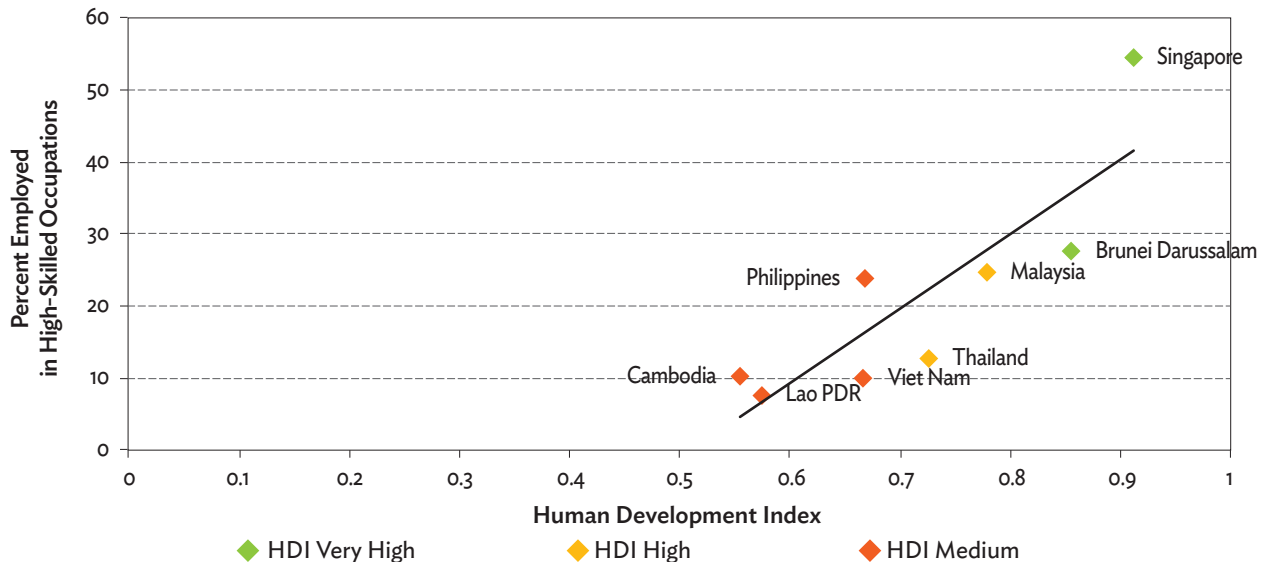
<sup>21</sup> According to the International Standard Classification of Occupations (ISCO) grouping, high-skill occupations include managers, professionals, and technicians and associated professionals; middle-skill occupations include clerical support, service and sales, skilled agricultural and fishery, and crafts and trades workers as well as plant and machine operators and assemblers; and low-skill occupations include a broad range of elementary occupations. For more information, see ILO, “Resolution Concerning Updating the International Standard Classification of Occupations,” 6 November 2007, <http://www.ilo.org/public/english/bureau/stat/isco/docs/resol08.pdf>.

Singapore has a knowledge-based economy that requires high-skilled labor. In contrast, the agricultural sector accounts for more than 50% of the Cambodian economy, hence, most of its workers are in medium- and low-skilled occupations.<sup>22</sup> Figure 2 highlights the importance of skills by showing a strong, positive relationship between skills and country development as measured by the United Nations Human Development Index (HDI).<sup>23</sup>

Regardless of their present national level of education or economic and social development, all

ASEAN governments are aware of the importance of human capital in promoting and sustaining economic growth and competitiveness.<sup>24</sup> This understanding, in turn, fuels the region's push for increasing levels of educational attainment. Malaysian policymakers, for example, recognize that inadequate educational attainment and skill shortages are serious barriers to the country's strategic vision to become a high-income nation by 2020.<sup>25</sup> As Box 2 explains, Malaysia has made considerable progress in addressing skills shortages in health care by expanding the number of medical and nursing schools.

**Figure 2: Percentage of Workers Employed in High-Skilled Occupations and Human Development Index, by Country**



HDI = Human Development Index.

Notes: Data on the share of high-skilled occupations in Indonesia and Myanmar were unavailable.

Sources: ILO, *Analytical Report*; United Nations Development Program (UNDP), *Human Development Report 2015* (New York: United Nations, 2015), [http://hdr.undp.org/sites/default/files/2015\\_human\\_development\\_report\\_1.pdf](http://hdr.undp.org/sites/default/files/2015_human_development_report_1.pdf)

<sup>22</sup> The most recently available data on the agricultural sector are from 2012.

<sup>23</sup> The Human Development Index (HDI), developed by the United Nations Development Program (UNDP), reflects a combination of average achievement in key dimensions of human development: a long and healthy life, educational levels, and a decent standard of living. According to UNDP, "The health dimension is assessed by life expectancy at birth, the education dimension is measured by mean years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering age. The standard of living dimension is measured by gross national income per capita." See UNDP, "Human Development Index," accessed 28 September 2016, <http://hdr.undp.org/en/content/human-development-index-hdi>

<sup>24</sup> Yongyuth Chalamwong, "Labor and Skills Shortage in ASEAN" (presentation, Capacity Building on Labor Market Information, Chonburi, Thailand, 6 June 2014).

<sup>25</sup> OECD, *Southeast Asian Economic Outlook 2013 with Perspectives on China and India: Narrowing Development Gap* (Paris: OECD Publishing, 2013), [www.oecd.org/dev/asia-pacific/Pocket%20Edition%20SAEO2013.pdf](http://www.oecd.org/dev/asia-pacific/Pocket%20Edition%20SAEO2013.pdf).

### Box 2: Malaysia—A Growing Supply of Domestic Health-Care Professionals

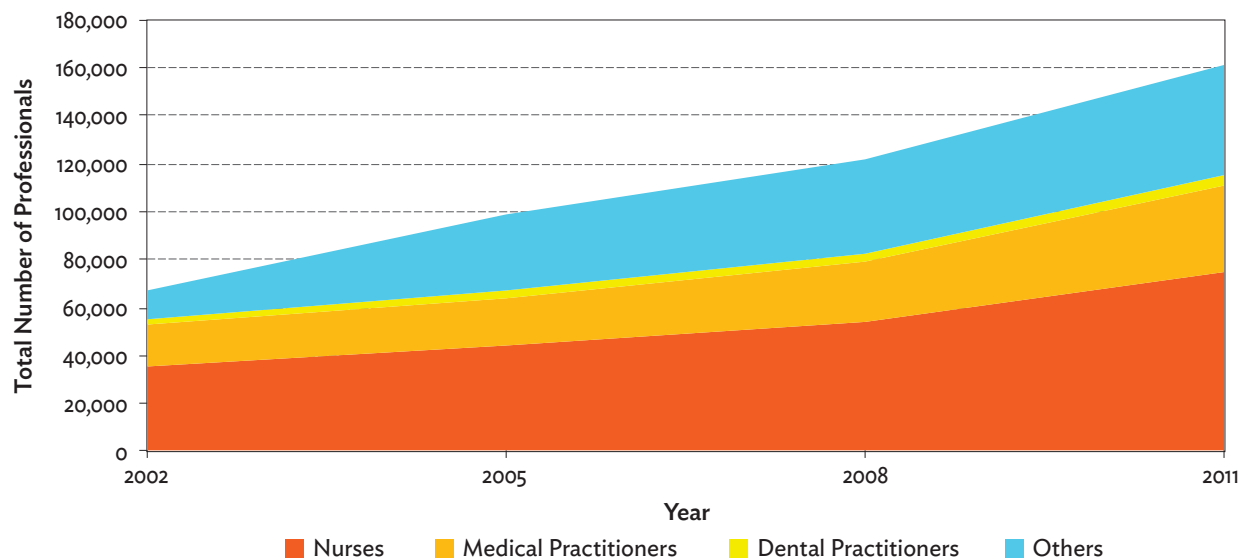
Malaysia has long relied on foreign doctors from India and Eastern Europe to fill gaps in health-care delivery. More recently, however, the government supported a rapid expansion in the number of medical and nursing schools. Hawthorne reported that by 2014, in addition to the 10 public medical schools in the country, 30 private medical schools had opened and 20 more were seeking medical accreditation. This has greatly expanded the domestic supply of health-care professionals, including in the three occupations covered by ASEAN MRAs.

As shown in Figure 3, between 2002 and 2011, the number of medical doctors roughly doubled from 17,400 to 36,600, and so did the number of nurses (35,300 to 74,800) and dentists (2,300 to 4,250). This rapid increase contributed to the expansion of medical services for the country's growing population. By 2011, there were 12.6 medical practitioners per 10,000 people compared to 7.1 in 2002; similarly, the ratio for nurses increased from 14.4 in 2002 to 25.8 in 2011.

The rapid increase of domestic health-care graduates was accompanied by some challenges, such as a shortage of clinical training sites and teaching staff, and wide variation in the quality of the education received by new graduates. These and other factors prompted a government moratorium on new programs.

Sources: Lesleyanne Hawthorne, "Overview and Critical Issues," in *Policy Briefs on the Circular Migration of Health Professionals*, ed. Graziano Battistella (Bangkok: ILO, 2015), [http://staging.ilo.org/public/libdoc/ilo/2014/114B09\\_225\\_engl.pdf](http://staging.ilo.org/public/libdoc/ilo/2014/114B09_225_engl.pdf).

**Figure 3: Number of Health-Care Professionals in Malaysia, by Profession, 2002–2011**



Source: MPI tabulations of data from World Health Organization (WHO), *Human Resources for Health Country Profiles: Malaysia* (Manila: WHO, 2014), [www.wpro.who.int/hrh/documents/publications/wpr\\_hrh\\_country\\_profiles\\_malaysia/en/](http://www.wpro.who.int/hrh/documents/publications/wpr_hrh_country_profiles_malaysia/en/).

## C. Economic Trends: Huge Wage Disparity

Wage disparity in the region is significant relative to other parts of the world.<sup>26</sup> Extensive international

research on migration drivers demonstrates that large differences in wage rates between countries are among the most salient reasons for migration.<sup>27</sup> (Average monthly wages reflect both the structure of an economy and the skill level of the labor force.)

<sup>26</sup> Guntur Sugiyarto, "Internal and International Migration in Southeast Asia," in *Routledge Handbook of Southeast Asian Economics*, ed. Ian Coxhead (Routledge: New York, 2015).

<sup>27</sup> Bertelsmann Stiftung and MPI, eds., *Talent, Competitiveness, and Migration* (Gütersloh, Germany and Washington, DC: Verlag Bertelsmann Stiftung and MPI, 2009).



Comparing wages within ASEAN, Member States can be categorized into three groups. Brunei Darussalam and Singapore have wages comparable to those in Organisation for Economic Co-operation and Development (OECD) countries (the average monthly wage in Singapore is \$3,694).<sup>28</sup> A second group consists of Malaysia (\$651 per month), Thailand (\$391), and the Philippines (\$215). In the third group—Cambodia, Indonesia, Lao PDR, and Viet Nam—monthly wages hover around the mid-to-high \$100s.<sup>29</sup>

The role of economic differentials in encouraging emigration can be seen among high- and low-skilled migrants alike. Average monthly wages in most ASEAN Member States are much lower than in favored OECD destinations. According to a survey conducted by Talent Corporation, a government agency created in part to promote dialogue with the Malaysian diaspora, better professional opportunities and higher salaries were the top reasons skilled Malaysians emigrated to OECD countries.<sup>30</sup> In another survey, skilled temporary workers moving from Southeast Asia to Australia cited better job opportunities (97%), international experience (91%), and higher salaries (89%) as their top three reasons for emigrating.<sup>31</sup> Moreover, the survey data show that better job opportunities and higher salaries were far more important for Southeast Asians than for migrants from People's Republic of China, India, South Africa, and other countries. However, while economic considerations are key, lifestyle and environmental factors also affect migration decisions, particularly those of the highly skilled who have both the opportunity and the means to emigrate.<sup>32</sup>

## D. Social Trends: Limited Openness to Foreigners

As the pace of skilled mobility picks up in ASEAN, one of the most important factors to keep in mind is countries' openness, or lack thereof, to foreigners. Communities' commitment to openness affects both the willingness of decisionmakers to adopt policies that allow for immigration as well as migrants' desire to move to a specific country or region.

The World Values Survey (WVS), though limited in scope,<sup>33</sup> indicates that while policy initiatives may attempt to promote mobility, general publics in most—but not all—ASEAN countries are not always welcoming and open to immigrants. For instance, the WVS asked respondents who they would prefer not to have as neighbors, and listed immigrants/foreign workers among the options.<sup>34</sup> Close to 60% of respondents in Malaysia and Thailand and more than one-third in Indonesia, Singapore, and Viet Nam selected immigrants/foreign workers as less-desired neighbors,<sup>35</sup> compared to only 14% of respondents in the Philippines.<sup>36</sup> The survey also asked respondents to agree or disagree with the following statement: “When jobs are scarce, employers should give priority to people of this country over immigrants.” In the six participating countries, more than 60% of respondents agreed with the statement, ranging from 62% in Thailand, to 80% in the Philippines, and 90% in Malaysia.<sup>37</sup>

<sup>28</sup> Information on average wages for Brunei Darussalam is not available. Dollars used throughout the report are USD.

<sup>29</sup> This figure is based on 2010 ILO estimates. Wages for Myanmar are not available, though Myanmar's economic development is usually grouped with that of Cambodia, Lao PDR, and Viet Nam. While Indonesian wages are low, it is considered to be an emerging economy and more dynamic than other countries with the same average monthly wages.

<sup>30</sup> World Bank, *Improving the Effectiveness of the TalentCorp's Initiatives: Assessment of Returning Expert Programme and Residence Pass—Talent* (Washington, DC: World Bank, 2015), <http://talentcorpbucket.s3-website-ap-southeast-1.amazonaws.com/assets/contentms/img/template/editor/Report-Talent-Corp-Final-June-23.pdf>.

<sup>31</sup> Siew-Ean Khoo et al., “A Global Labor Market: Factors Motivating the Sponsorship and Temporary Migration of Skilled Workers to Australia,” *International Migration Review* 41, no. 2 (2007): 480–510.

<sup>32</sup> Demetrios G. Papademetriou, Will Somerville, and Hiroyuki Tanaka, “Talent in the 21st Century Economy,” in *Talent, Competitiveness, and Migration*, eds. Bertelsmann Stiftung and MPI (Gütersloh, Germany and Washington, DC: Verlag Bertelsmann Stiftung and MPI, 2009).

<sup>33</sup> World Values Survey (WVS) data are available for only four ASEAN Member States in the most recent round (Round 6, 2010–14) and another two in the previous round (Round 5, 2006–10).

<sup>34</sup> The question specifically asks: “On this list are various groups of people. Could you please mention any that you would not like to have as neighbors?” Individuals are to select from the list, with immigrants/foreign workers being one option. Percentages are based on whether respondents select a given option.

<sup>35</sup> WVS, “WVS Wave 6 (2010–2014): Thailand 2013,” accessed 13 July 2016, [www.worldvaluessurvey.org/WVSDocumentationWV6.jsp](http://www.worldvaluessurvey.org/WVSDocumentationWV6.jsp).

<sup>36</sup> WVS, “WVS Wave 6 (2010–2014): Philippines 2012,” accessed 13 July 2016, [www.worldvaluessurvey.org/WVSDocumentationWV6.jsp](http://www.worldvaluessurvey.org/WVSDocumentationWV6.jsp).

<sup>37</sup> WVS, “WVS Wave 6 (2010–2014): Malaysia 2011,” accessed 13 July 2016, [www.worldvaluessurvey.org/WVSDocumentationWV6.jsp](http://www.worldvaluessurvey.org/WVSDocumentationWV6.jsp).

It has to be noted that the survey questionnaire did not differentiate between attitudes toward highly and less educated immigrants; it is possible that the latter are the primary target of negative public opinion. In any case, governments need to proactively engage the public and other key stakeholders on this matter and make the case for accepting foreign workers across skill levels if they hope to promote regional circulation.

### **E. Megatrends and Their Implications for Human Capital Development and Skills Circulation**

On the whole, the convergence of sweeping trends—demographic, educational, economic, and social—presents opportunities for greater human capital development and skills circulation within ASEAN.

For one, the young are most responsive to migration opportunities. Outward migration

will not only continue to serve as an important mechanism for lowering youth unemployment but also for skill building and circulation. Tourism professionals, covered by one of the ASEAN MRAs, epitomize this opportunity. As an industry, tourism is key for Cambodia, Indonesia, Lao PDR, and Viet Nam.<sup>38</sup> If trained in a common ASEAN-level curriculum, it would be much easier for tourism professionals to move between ASEAN countries and, in the process, not only avoid un- and underemployment at home but also gain valuable international work experience.

Regional and domestic labor forces are interlinked. Rising educational attainment across a region helps grow the number and share of skilled and mid-skilled workers in a given country. This, in turn, means that a greater number of people might move within the region, given the right incentives and supporting mechanisms, such as well-implemented MRAs.

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<sup>38</sup> ADB, *Asian Development Outlook 2015: Financing Asia's Future Growth* (Manila: ADB, 2015), [www.adb.org/sites/default/files/publication/154508/ado-2015.pdf](http://www.adb.org/sites/default/files/publication/154508/ado-2015.pdf).

# III. Two Pressing Challenges Facing ASEAN: Brain Waste and Brain Drain

Disparities in economic growth and social development coupled with other megatrends, such as uneven demographic trajectories and rising levels of educational attainment, mean that brain circulation is not just a political whim but will also be an integral part of the AEC moving forward.<sup>39</sup> Accomplishing this will depend on a proactive regional approach to tackling two critical challenges: brain waste and brain drain.

## A. Brain Waste: A “Sleeper” Issue in ASEAN

Brain waste refers to the poor transfer and ineffective use of immigrants’ formal and informal qualifications.<sup>40</sup> Due to major data gaps, brain waste is largely an understudied “sleeper” issue that has not been on the radar for policymakers. Also referred to as skill underutilization, brain waste occurs when tertiary-educated migrants are either unemployed or are working in jobs that are below their qualifications. The effects of skill underutilization are pernicious. The human capital that newcomers bring with them slowly degrades and the investments made by both the country of origin and the migrants themselves are wasted. A qualified teacher from the Philippines working as a domestic worker in Singapore or a highly trained engineer from Thailand working as a construction worker in the United States are telling examples of skill underutilization.

Brain waste comes with significant economic and social costs for both individual professionals and the communities in which they live, and is therefore worth monitoring. A forthcoming Migration Policy Institute (MPI) report estimates that approximately 2 million highly educated immigrants in the United States are underemployed. The cost of this underemployment to these immigrants, their families, and the national economy is estimated at US \$40 billion annually.<sup>41</sup>

### 1. Brain Waste in the OECD

OECD data permit examination of the extent of brain waste among ASEAN tertiary-educated migrants in OECD countries. Figure 4 shows that 36% of all skilled migrants in OECD countries are overqualified relative to the jobs they hold; this share is much higher for those from Thailand (52%), the Philippines (47%), and Lao PDR (45%). In contrast, migrants from Malaysia and Singapore were the least likely to be overqualified (22% and 21%, respectively), even when compared with OECD native-born college graduates (28%).

### 2. Brain Waste within ASEAN

Without adequate data, it is extremely difficult to assess fully either the extent or underlying causes of brain waste within ASEAN. Anecdotal evidence from the focus group discussions organized to inform this report, meanwhile, indicates its existence. For example, engineers from Myanmar work as assistant engineers or site supervisors in Singapore and Thailand because they do not want to or cannot pass local license exams. Similarly, medical doctors who

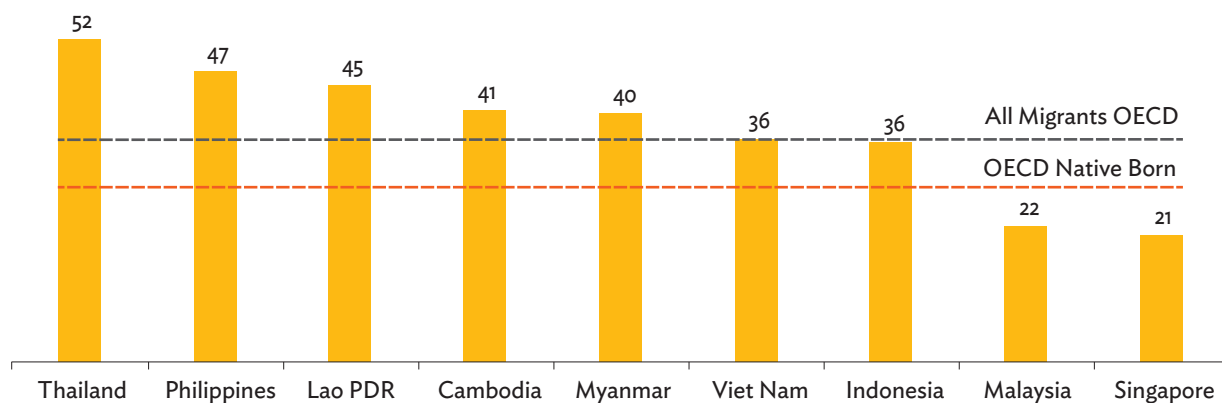
<sup>39</sup> Bruni, “Labor Market and Demographic Scenarios for ASEAN Countries.”

<sup>40</sup> Madeleine Sumption, *Tackling Brain Waste: Strategies to Improve the Recognition of Immigrants’ Foreign Qualifications* (Washington, DC: MPI, 2013), [www.migrationpolicy.org/research/tackling-brain-waste-strategies-improve-recognition-immigrants%E2%80%99-foreign-qualifications](http://www.migrationpolicy.org/research/tackling-brain-waste-strategies-improve-recognition-immigrants%E2%80%99-foreign-qualifications); Aaditya Mattoo and Deepak Mishra, “Foreign Professionals in the United States: Regulatory Impediments to Trade,” *Journal of International Economic Law* 12, no. 2 (2009): 435–56.

<sup>41</sup> Jeanne Batalova, Michael Fix, and James Bachmeier, *Untapped Talent: The Costs of Brain Waste among Highly Skilled Immigrants in the United States* (Washington, DC: MPI, forthcoming).



**Figure 4: Overqualification Rates of Tertiary-Educated Persons in Organisation for Economic Co-operation and Development, by Nativity and Country of Origin, 2010–11 (%)**



Lao PDR = Lao People's Democratic Republic, OECD = Organisation for Economic Co-operation and Development.  
 Source: MPI tabulations of data from OECD, *Connecting with Emigrants: A Global Profile of Diasporas 2015* (Paris: OECD Publishing, 2015), [www.oecd.org/publications/connecting-with-emigrants-9789264239845-en.htm](http://www.oecd.org/publications/connecting-with-emigrants-9789264239845-en.htm).

cannot pass a local license exam may work as medical interpreters and provide other social support services to hospital patients who speak the same language.

In fact, ASEAN may experience the worst of public policy outcomes: While sending countries lose talent, receiving countries and foreign professionals fail to fully benefit from mobility. While it is to be hoped that the MRAs will help cut the significant losses associated with underemployment, their implementation has hit many obstacles.<sup>42</sup>

### 3. Main Reasons for the Underutilization of Migrant Skills

The economic contributions of foreign workers depend on whether they can put their formal and informal qualifications (such as education, skills, languages, and professional experience) to good use in a new labor market. Research identifies a number of critical obstacles—at the individual, labor market, and systemic levels—that limit fair gainful employment and weaken economic mobility prospects for skilled migrant workers.<sup>43</sup>

At the individual level, obstacles include foreign workers' limited proficiency in local languages and lack of familiarity with workplace culture; prior local work experience, which is highly valued by employers; access to local professional networks; and education and professional experience expected in the host economy.

Labor market level barriers include employers' limited capacity to assess the qualifications and work eligibility of foreign workers. This is especially the case for small and medium enterprises that—unlike large international corporations—do not have dedicated human resource personnel and have little knowledge about foreign qualifications. Additional barriers include discrimination by employers based on race and cultural differences, foreign-sounding names, and foreign accents.

Finally, systemic issues include lack of transparency regarding the requirements, steps, and time needed to recognize foreign qualifications; limited opportunities to bridge the gaps between migrants' foreign qualifications and domestic requirements in a timely and financially affordable way; and finally, lack of coordination and sometimes interest on the part of key stakeholders (employers, professional associations, educational institutions, and governments) in reducing these barriers.

<sup>42</sup> See Mendoza and Sugiyarto, *The Long Road Ahead: Status Report on the Implementation of the ASEAN Mutual Recognition Arrangements on Professional Services* (Manila: ADB, forthcoming).

<sup>43</sup> Sumption, *Tackling Brain Waste*; Lesleyanne Hawthorne, *Recognizing Foreign Qualifications: Emerging Global Trends* (Washington, DC: MPI, 2013), [www.migrationpolicy.org/research/recognizing-foreign-qualifications-emerging-global-trends](http://www.migrationpolicy.org/research/recognizing-foreign-qualifications-emerging-global-trends); Linda Rabben, *Credential Recognition in the United States for Foreign Professionals* (Washington, DC: MPI, 2013), [www.migrationpolicy.org/research/credential-recognition-united-states-foreign-professionals](http://www.migrationpolicy.org/research/credential-recognition-united-states-foreign-professionals).

It is crucial to note that brain waste is particularly challenging because it afflicts not only migrant workers but also the homegrown labor force. In some countries with fast-growing working-age populations, many native-born workers are unable to find well-paid jobs that match their education levels. This, in addition to other factors, spurs emigration and contributes to brain drain. Thus, while brain waste reflects demographic and structural issues, brain drain, discussed in the next section, is a symptom of these larger forces.

## B. Brain Drain: Varying Degrees of Magnitude and Intensity across ASEAN

Almost all countries experience brain drain.<sup>44</sup> This loss of human capital in the fields of medicine, science, engineering, management, and education can be a major obstacle to economic and social development.<sup>45</sup> People with higher levels of human capital have more opportunities and means to cross borders. The Gallup World Poll 2007–13 indicates that persons employed in professional occupations were nearly twice as likely to emigrate (19%) than those in low-skilled occupations (10%).<sup>46</sup>

Brain drain can be measured by magnitude, that is, the absolute number of highly educated people who emigrate. It can also be measured as a ratio of skilled

citizens residing abroad relative to the total skilled population trained in the origin country (that is, the emigration rate of the highly skilled).

### 1. Brain Drain in the OECD

High-income OECD countries have been and remain the primary destinations for highly educated people from many parts of the world, including from ASEAN. Recent OECD data show that the number of tertiary-educated immigrants from the region residing in OECD countries increased from 1.7 million in 2000 to 2.8 million in 2010–2011, or by 66% (see Table 5).

**Table 5: Tertiary-Educated Migrants in OECD Countries by Country of Origin, 2000–2001 and 2010–2011**

Origin	2000–2001	2010–2011	% Change: 2000 to 2010–2011
<b>Total</b>	<b>18,097,377</b>	<b>31,133,150</b>	<b>72.0</b>
<b>From ASEAN</b>	<b>1,679,453</b>	<b>2,791,727</b>	<b>66.2</b>
Brunei Darussalam	3,358	5,854	74.3
Cambodia	36,456	52,552	44.2
Indonesia	117,035	153,884	31.5
Lao PDR	37,469	52,035	38.9
Malaysia	101,998	169,471	66.2
Myanmar	25,170	42,090	67.2
Philippines	889,072	1,545,164	73.8
Singapore	46,327	74,658	61.2
Thailand	74,427	156,920	110.8
Viet Nam	348,141	539,099	54.9

ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic, OECD = Organisation for Economic Co-operation and Development.

Note: Data refer to people ages 15 and older.

Source: MPI tabulations of data from OECD, *Connecting with Emigrants*.

The number of highly educated migrants from several ASEAN countries residing in OECD countries also grew greatly within the decade: the number of Thai migrants more than doubled, and the number from Brunei Darussalam and the Philippines grew by about 74%. Of the 2.8 million tertiary-educated persons from the ASEAN region residing in OECD countries in 2010–2011, more than 1.5 million were from the Philippines.

<sup>44</sup> Historically, the emigration of highly educated and skilled people has been viewed as harmful to countries' economic development and social progress. The term "brain drain" was originally coined by the British Royal Society to describe the departure of British scientists to the United States in the 1950s. The influential work of Jagdish N. Bhagwati in the 1970s, among others, shifted the attention to the impact of brain drain on developing countries. Policy ideas to stem, or at least compensate for, the adverse effects of brain drain included imposing a supplementary tax on the incomes of skilled immigrants in developed countries, punitive measures against recruiting agencies, and quotas on the departure of skilled persons. For a review of the theoretical and empirical literature on brain drain, see Pierpaolo Giannoccolo, "The Brain Drain: A Survey of the Literature" (working paper no. 2006-03-02, Social Science Research Network, 7 April 2009), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1374329](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1374329). Over time, however, policy and development literature has evolved to recognize that the reasons for skilled migration are complex and the consequences are not always negative. See Box 3 of this report for further discussion.

<sup>45</sup> Tito Boeri et al, eds., *Brain Drain and Brain Gain: The Global Competition to Attract High-Skilled Migrants* (Oxford, UK: Oxford University Press, 2012); Stephen Castles and Mark J. Miller, "Migration in the Asia-Pacific Region," *Migration Information Source*, 10 July 2009, [www.migrationpolicy.org/article/migration-asia-pacific-region](http://www.migrationpolicy.org/article/migration-asia-pacific-region).

<sup>46</sup> OECD, *Connecting with Emigrants*.

A close observation of these numbers reveals two trends worth highlighting. First, more than half of the highly educated ASEAN nationals residing in OECD countries arrived within the last decade, suggesting that the draw of OECD countries remains strong. These post-2000 migrants act as a powerful base for job networks and support for future skilled migrants.

Second, compared with the total migrant population in OECD countries, ASEAN migrants are more likely to be highly educated. In 2010–2011, just 30% of all migrants residing in OECD countries had a tertiary education (see Figure 5). In contrast, more than 50% of Filipinos, Malaysians, and Singaporeans in OECD countries were highly educated. Furthermore, the tertiary-educated share among ASEAN migrants residing in OECD countries increased significantly between 2000–2001 and 2010–2011 (with the exception of those from Myanmar).<sup>47</sup>

In terms of population size, more than 31 million highly educated migrants resided in OECD countries in 2010–11. Collectively, they represented 5% of all

tertiary-educated persons in the world. Table 6 lists the emigration rates of the highly educated from ASEAN to OECD countries.

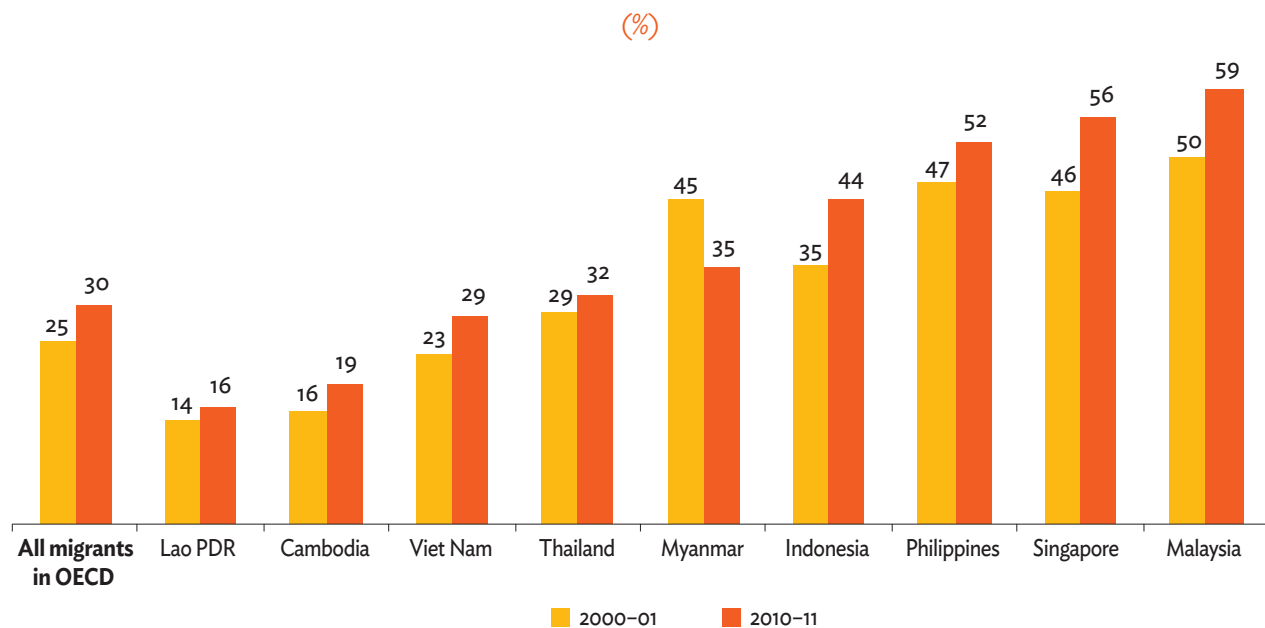
**Table 6: Emigration Rates of Highly Educated ASEAN Nationals to OECD Countries, 2000–01 and 2010–11**

Origin	2000–2001 (%)	2010–2011 (%)
Brunei Darussalam	–	–
Cambodia	52.7	14.7
Indonesia	3.6	2.6
Lao PDR	25.3	15.0
Malaysia	6.3	5.2
Myanmar	1.5	1.5
Philippines	6.8	8.1
Singapore	9.9	9.5
Thailand	2.8	2.7
Viet Nam	18.3	10.6

ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic, OECD = Organisation for Economic Co-operation and Development.

Source: MPI tabulations of data from OECD, *Connecting with Emigrants*.

**Figure 5: Share of Highly Educated among Total ASEAN Migrants in OECD Countries, 2000–2001 and 2010–2011**



Lao PDR = Lao People's Democratic Republic, OECD = Organisation for Economic Co-operation and Development.

Source: MPI tabulations of data from OECD, *Connecting with Emigrants*.

<sup>47</sup> No data were available for Brunei Darussalam.

Brain drain to OECD countries appears to affect some ASEAN countries more than others. The emigration rate of highly educated persons from Cambodia and Lao PDR to OECD countries (about 15% each) was three times higher than the OECD global average (5%). Close to 10% of tertiary-educated adults from the Philippines, Singapore, and Viet Nam resided in OECD countries. By contrast, less than 3% of the highly educated populations of Indonesia, Myanmar, and Thailand resided in OECD countries.

Between 2000–2001 and 2010–2011, the emigration rate of the highly educated remained rather stable for six of the 10 ASEAN countries: Indonesia, Malaysia, Myanmar, the Philippines, Singapore, and Thailand. In contrast, the rate for Lao PDR declined from 25% to 15% and for Viet Nam from 18% to about 11%. It dropped sharply for Cambodia from 53% to 15% within the decade. It is not clear whether these trends reflect a decisive shift away from emigration to OECD countries. What is clearer is that the rapidly rising educational attainment within ASEAN is likely mitigating the effect of continuous highly skilled emigration.

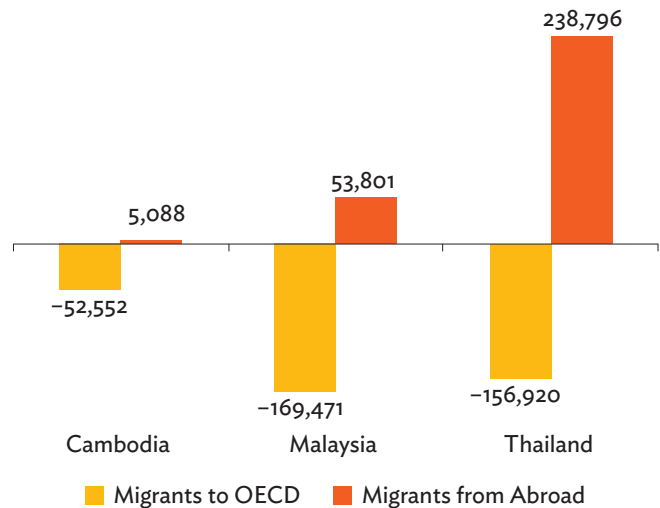
One way to examine brain drain is to compare the number of highly educated emigrants with the number of skilled immigrants. Figure 6 examines these trends for three ASEAN countries with available data. It compares the size of highly educated migrants from Cambodia, Malaysia, and Thailand in OECD countries and the number of tertiary-educated immigrants in these three countries.

Both Cambodia and Malaysia experienced a greater outflow of skilled individuals than they received, a net loss of 47,000 and 116,000 people, respectively. In contrast, Thailand had a net gain of about 82,000. More information is clearly needed to better understand whether the new arrivals' human capital matches the skills and education of those who left.

## 2. Brain Drain to Non-OECD Destinations

The estimates of brain drain presented above are for ASEAN nationals residing in only OECD countries and are therefore likely to be conservative. Highly skilled ASEAN nationals also find employment in

**Figure 6: Highly Educated Emigrants from Cambodia, Malaysia, and Thailand in OECD Countries versus Highly Educated Immigrants Residing in These Three Countries, 2010–2011**



OECD = Organisation for Economic Co-operation and Development.  
Source: MPI tabulations of data from OECD, *Connecting with Emigrants*.

non-OECD destinations. The Gulf countries are among the main destinations for architects from Lao PDR and Myanmar, nurses from Malaysia and the Philippines, and engineers from the Philippines and Viet Nam. Dentists from Singapore work in India and People's Republic of China, and Vietnamese dentists work in Angola.<sup>48</sup>

Because most of these professionals hold temporary contracts, they are presumably of lesser concern than those who go to OECD countries. However, the situation is not straightforward. A case in point is a government-arranged temporary work migration scheme in the Philippines. Like Malaysia, the Philippines greatly expanded opportunities for its population to obtain post-secondary and university-level education. Unlike in Malaysia, Filipino government efforts to promote the postsecondary and university-level education of its population were driven, at least in part, by the goal of exporting high-skilled workers. Today, 1.8 million Filipinos

<sup>48</sup> MPI analysis of the ADB–MPI data questionnaires conducted to inform this research. (Question #46: To which countries are members of MRA-covered professions more likely to emigrate for either temporary work or permanent stay?)

work overseas on temporary contracts in more than 190 countries.<sup>49</sup> While the amount of remittances sent by these workers is high (\$27 billion in 2014), the government-sponsored emigration has had a negative side effect: it has contributed to domestic labor shortages, particularly in skilled occupations such as nursing, engineering, and aviation, prompting Mendoza to describe the current situation as one of human capital “shortages amid surplus.”<sup>50</sup>

Research also finds that while some professionals may move to the country of their final destination directly, many will pursue a step-migration strategy.<sup>51</sup> For instance, a typical trajectory for many health-care professionals from the Philippines involves relocating to Israel first on a fixed-term contract, then to Canada, and eventually to the United States for permanent residence. These examples highlight the need to understand and track the entire migration arc, not just the departure to OECD countries.

### 3. Reasons for Leaving: Work and Educational Opportunities in OECD Countries

Research findings confirm that while skilled professionals from the ASEAN region leave for OECD countries for various reasons, the common thread is that they seek opportunities not available at home. Migrants respond to other countries’ higher wages and better working conditions, prospects for

professional development and continuous education, and opportunities to work with other skilled persons in talent clusters. As one Indonesian focus group participant put it: “In ASEAN there is a sense that we have similar levels of technology and expertise, we can’t learn much from each other; that’s why we go to the developed countries for learning and invite them to come here.”<sup>52</sup>

Others are attracted by the possibility of gaining permanent residence in high-income countries such as Australia, Canada, the United States, and, more recently, several Member States of the European Union.

Many ASEAN nationals leave for OECD countries to pursue higher education. This preference for earning a degree in the West reflects, at least in part, the state of higher education and training in ASEAN. Only Singapore and Malaysia place in the top 50 of the higher education and training portion of the World Economic Forum (WEF) Global Competitiveness Index.<sup>53</sup> The top three destinations for students from ASEAN are Australia, the United States, and the United Kingdom: of 227,000 students, roughly one in four study in Australia, one in five in the United States, and one in seven in the United Kingdom. The rest pursue higher education in Japan, Egypt, and other countries. As discussed later in this report, students who study abroad often remain in the countries where they obtain their education, taking advantage of language skills, degrees, and labor market information relevant to their host country.

<sup>49</sup> Dovelyn Rannveig Mendoza, *Shortage amid Surplus: Emigration and Human Capital Development in the Philippines* (Bangkok and Washington, DC: International Organization for Migration and MPI, 2015), [https://publications.iom.int/system/files/pdf/mpi\\_15.pdf](https://publications.iom.int/system/files/pdf/mpi_15.pdf).

<sup>50</sup> *Ibid.*, 1.

<sup>51</sup> Lesleayne Hawthorne, *International Health Workforce Mobility and Its Implications in the Western Pacific Region* (Manila: World Health Organization, West Pacific Regional Office, forthcoming).

<sup>52</sup> Participant comment during a focus group discussion organized by ADB and MPI, Bali, 26 September 2015.

<sup>53</sup> World Economic Forum (WEF), “Global Competitiveness Index,” accessed 25 February 2016, <http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/>.



### Box 3: Brain Drain: Is It Always a Problem?

Governments that see many of their highly educated citizens emigrating are generally concerned about the loss of human capital. But is this actually a problem? On the one hand, as Frédéric Docquier puts it, “There are many more losers than winners among developing countries” when it comes to brain drain. Although economists have yet to develop methodologies to estimate the monetary costs of brain drain (which has been a challenge in the field due to lack of data and the sheer complexity of the issue), the loss of valuable human capital represents unrealized returns on a country’s investments in education and training. It also thins the country’s knowledge base and reduces access to needed services such as health care, education, and technology development.

On the other hand, as more recent research shows, highly skilled emigration has benefits. For one, in a more globally connected world, this emigration is not always permanent. When returning home, migrants often bring along new skills, financial and social capital, and access to valuable networks, thus creating positive feedback effects. They also inspire others to pursue more education in the hope that they too might emigrate. Since not all newly trained professionals will leave the country, the domestic pool of highly skilled talent expands. Moreover, emigration eases temporary pressures on the labor market when the supply of labor outstrips available opportunities. Finally, as evidenced worldwide, migrants’ remittances not only improve their families’ economic fortunes but also support productive investments.

The nature of migration is changing. Using Australian data on migration, Hugo, Wall, and Young demonstrate that there is a significant circular migration of skilled people between Australia and the ASEAN countries (although about three times as many people move from ASEAN to Australia as those in the other direction). While many ASEAN nationals come to Australia as international students or skilled temporary workers, returnees from Australia also tend to be skilled. Of those who return permanently from Australia (mostly to fast-growing Singapore and Malaysia), close to 40% are professionals and 20% managers. The lack of detailed data in other traditional destinations for ASEAN migrants makes it difficult to draw parallels with the ASEAN-Australian case. That said, skills circulation is on the rise worldwide, aided by advancements in communications technology, the lower cost of international travel, and global employment opportunities.

Available data and research make it clear that ASEAN has an opportunity to capitalize on these developments. The substantial diaspora of ASEAN nationals in predominantly high-income countries represents a unique resource that can be engaged to promote international trade, initiate foreign capital flows, and facilitate educational exchanges and technology transfers. Put to good use, this resource will contribute to the expansion of opportunities in ASEAN.

Against this backdrop, the changing demographics and rising levels of education across the region expand the pool of young, educated, and mobile professionals eager to take advantage of the economic and educational opportunities in the ASEAN region, leading to greater skills circulation.

Sources: Frédéric Docquier, “The Brain Drain from Developing Countries,” *IZA World of Labor* (May 2014): 6, <http://wol.iza.org/articles/brain-drain-from-developing-countries/long>; Tito Boeri et al., eds., *Brain Drain and Brain Gain: The Global Competition to Attract High-Skilled Migrants* (Oxford, UK: Oxford University Press, 2012); Adam Tyson, “The Brain Drain Cycle in Malaysia: Re-Thinking Migration, Diaspora and Talent,” *Malaysian Journal of Economic Studies* 48, no. 2 (2011): 85–92; Satish Chand and Michael Clemens, “Skilled Emigration and Skill Creation: A Quasi-Experiment” (working paper no. 152, Center for Global Development, Washington, DC, September 2008), [www.cgdev.org/publication/skilled-emigration-and-skill-creation-quasi-experiment-working-paper-152](http://www.cgdev.org/publication/skilled-emigration-and-skill-creation-quasi-experiment-working-paper-152); Albert Bollard et al., “Remittances and the Brain Drain Revisited: The Microdata Show that More Educated Migrants Remit More,” *World Bank Economic Review* 25, no. 1 (2011): 132–56; Graeme Hugo, Janet Wall, and Margaret Young, *The Southeast Asia-Australia Regional Migration System: Some Insights into the “New Emigration”* (Washington, DC: MPI, 2015), [www.migrationpolicy.org/research/southeast-asia-australia-regional-migration-system-some-insights-new-emigration](http://www.migrationpolicy.org/research/southeast-asia-australia-regional-migration-system-some-insights-new-emigration); Demetrios G. Papademetriou, *Rethinking Emigration: Turning Challenges into Opportunities* (Washington, DC: MPI, 2015), [www.migrationpolicy.org/research/rethinking-emigration-turning-challenges-opportunities-transatlantic-council-statement](http://www.migrationpolicy.org/research/rethinking-emigration-turning-challenges-opportunities-transatlantic-council-statement); Dovelyn Rannveig Agunias and Kathleen Newland, *Developing a Road Map for Engaging Diasporas in Development: A Handbook for Policymakers and Practitioners in Home and Host Countries* (Geneva and Washington, DC: IOM and MPI, 2012), [www.migrationpolicy.org/research/developing-road-map-engaging-diasporas-development-handbook-policymakers-and-practitioners](http://www.migrationpolicy.org/research/developing-road-map-engaging-diasporas-development-handbook-policymakers-and-practitioners).

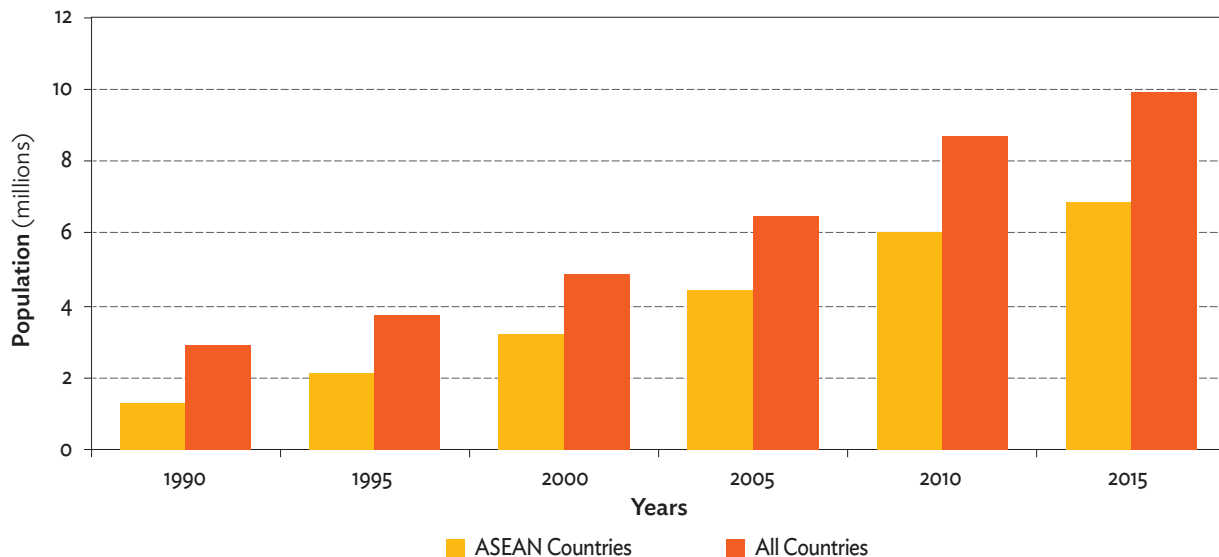
# IV. Brain Circulation in ASEAN Today: Growing and Diversifying Flows

Recent developments suggest that brain circulation is already substantial in Southeast Asia, which means that the prospects for stemming brain drain and reducing brain waste are good. Until recently, mobility within ASEAN was limited to low-skilled, often irregular, and temporary workers. While the demand for less-skilled workers is likely to continue far into the future, three important trends in the scale, composition, and direction of intraregional mobility are pointing toward greater brain circulation.

## A. Scale: Greater Intraregional Flows

First, the number of persons moving within ASEAN has grown significantly in the last 25 years, and this upward trajectory is likely to continue. Cross-border flows in the ASEAN region have more than tripled since 1990, reaching 9.9 million by 2015 (see Figure 7).<sup>54</sup> Approximately 6.9 million persons in 2015 were intraregional migrants, most of whom crossed borders for employment.<sup>55</sup> This population has more than quadrupled since 1990, when it stood at about 1.3 million.

**Figure 7: Migrant Population in ASEAN, by Region of Origin, Various Years**



Source: United Nations Department of Economic and Social Affairs (UNDESA), Population Division, “International Migrant Stock: The 2015 Revision” (United Nations database, POP/DB/MIG/Stock/Rev.2015, accessed 1 May 2016), [www.un.org/en/development/desa/population/migration/data/estimates2/index.shtml](http://www.un.org/en/development/desa/population/migration/data/estimates2/index.shtml).

<sup>54</sup> UNDESA, Population Division, “International Migrant Stock.”

<sup>55</sup> ILO, *Analytical Report*.

While the numbers of both intraregional and other migrants in ASEAN have grown since 1990, reflecting the significance of the region as a migrant destination, intraregional migrants have made up a steadily increasing share of all migrants in ASEAN. In 2015, intraregional migrants composed close to 70% of all migrants in ASEAN, a significant increase from 45% in 1990. This marks a major shift toward greater intraregional flows, and is likely to continue.

Looking beyond the regional level, there are substantial variations in the migrant populations of each ASEAN Member State due to the differing effects of megatrends and government policies at the national level. The largest absolute numbers of migrants reside in Thailand, Malaysia, and Singapore (see Table 7). The migrant share of total population is also particularly high in Singapore (45%). In Brunei Darussalam, although the total number of foreign workers is comparatively small, migrants account for nearly one-quarter of the overall population. The remaining six ASEAN Member States have small migrant populations both in absolute numbers and as shares of the total population.

Since 1990, Thailand, Malaysia, and Singapore have hosted the largest numbers of intraregional migrants (see Table 8). In the past 25 years, meanwhile, the disparity between these three countries and the other seven ASEAN countries has grown exponentially. Of the

**Table 7: Global Migrant Population and Share of the Total Population in ASEAN Countries**

	Migrant Population	Total Population	Migrant Share of Total (%)
Thailand	3,913,258	67,959,000	5.8
Malaysia	2,514,243	30,331,000	8.3
Singapore	2,543,638	5,604,000	45.4
Indonesia	328,846	257,564,000	0.1
Philippines	211,862	100,699,000	0.2
Brunei Darussalam	102,733	423,000	24.3
Cambodia	73,963	15,578,000	0.5
Myanmar	73,308	53,897,000	0.1
Viet Nam	72,793	93,448,000	0.1
Lao PDR	22,244	6,802,000	0.3

ASEAN = Association of Southeast Asian Nations,  
Lao PDR = Lao People's Democratic Republic.  
Source: UNDESA, "International Migrant Stock: The 2015 Revision."

approximately 5.5 million increase in the intra-ASEAN migrant population between 1990 and 2015, Thailand, Malaysia, and Singapore were the destinations of almost 98% of the new migrants. Thailand alone represented 3.5 million of the 5.5 million new migrants—a sixfold increase in 25 years.

**Table 8: Intraregional Migrant Population in ASEAN by Country of Destination, 1990–2015**

	1990	2015	% Change: 1990 to 2015
Brunei Darussalam	59,578	83,832	40.7
Cambodia	31,322	68,106	117.4
Indonesia	14,682	49,930	240.1
Lao PDR	17,931	14,802	-17.5
Malaysia	441,262	1,539,741	248.9
Myanmar	–	–	–
Philippines	34,494	6,499	-81.2
Singapore	219,205	1,321,552	502.9
Thailand	491,071	3,762,393	666.2
Viet Nam	25,476	40,537	59.1
<b>ASEAN</b>	<b>1,335,021</b>	<b>6,887,392</b>	<b>415.9</b>

ASEAN = Association of Southeast Asian Nations,  
Lao PDR = Lao People's Democratic Republic.  
Source: UNDESA, "International Migrant Stock: The 2015 Revision."

This explosion in intraregional migration has been fueled by emigration from Cambodia, Indonesia, Lao PDR, Malaysia, and Myanmar. These five countries are the dominant sources of intraregional migrants, composing 98% of the increase in such migrants since 1990 (see Table 9). In 2015, migrants from these five countries constituted 94% of the approximately 6.9 million intraregional migrants in ASEAN, as well as 65% of the 9.9 million global migrants in the region.<sup>56</sup>

The growth in the number of intraregional migrants in ASEAN over the past 25 years has reenforced a division between sending and receiving countries that was less clear at the end of the 20th century. Low-skilled migrants have accounted for the majority of this growth. However, as the next section discusses, there has been a significant increase in the number of highly skilled migrants moving throughout ASEAN.

<sup>56</sup> MPI tabulation of data from UNDESA, Population Division, "International Migrant Stock."



**Table 9: Intraregional Migration Population in ASEAN by Country of Origin, 1990–2015**

	1990	2015	% Change: 1990 to 2015
Brunei Darussalam	3,340	6,165	84.6
Cambodia	104,579	821,659	685.7
Indonesia	282,693	1,251,764	342.8
Lao PDR	170,494	976,770	472.9
Malaysia	242,415	1,176,428	385.3
Myanmar	235,518	2,242,549	852.2
Philippines	118,563	55,964	-52.8
Singapore	38,407	106,284	176.7
Thailand	58,459	108,229	85.1
Viet Nam	80,553	141,580	75.8
<b>ASEAN</b>	<b>1,335,021</b>	<b>6,887,392</b>	<b>415.9</b>

ASEAN = Association of Southeast Asian Nations,  
Lao PDR = Lao People's Democratic Republic.  
Source: UNDESA, "International Migrant Stock: The 2015 Revision."

## B. Composition: A Rise in High-Skilled Intra-ASEAN Migration

As in the past, approximately 90% of intra-ASEAN migrants are low-skilled,<sup>57</sup> temporary, and unauthorized,<sup>58</sup> filling labor gaps in many low-skilled occupations and industries throughout the region.<sup>59</sup> High-skilled migrants compose an increasing, though still small, proportion of the intraregional migrant population, fueled in part by university students.

The current state of skills mobility is hard to assess: current data collected at the global and regional level provide only limited information on the number and characteristics of professionals (defined either by occupation or educational attainment). To show that high-skilled intra-ASEAN migration is, in fact, increasing, this section looks at three regional indicators: rising education levels, the

increasing numbers of international students, and reemployment in high-skilled occupations.

### 1. Rising Education Levels of Migrants in ASEAN

Available data suggest that while the number of highly educated migrants in the region is growing, it is still fairly small in both absolute and proportional terms.

The educational composition of migrant populations across ASEAN is also far from uniform, reflecting the nature of each country's economy and the resulting labor needs. While fewer than 10% of migrant adults in Cambodia and Malaysia have a tertiary education, 64% of those in the Philippines do (see Figure 8). Although there are no comparable data for other ASEAN countries, it is likely that migrants have high levels of education in Singapore, owing to an immigration policy that prioritizes skills and education.

One notable finding, depicted in Figure 8, is that the share of tertiary-educated migrants in the Philippines (64%), Indonesia (16%), and Cambodia (6%) was about twice as high as among the total population (31%, 8%, and 2%, respectively). In other words, although the size of the migrant populations in the Philippines, Indonesia, and Cambodia are smaller than in Malaysia, they tend to be highly educated.

A recent OECD report<sup>60</sup> provides information on the size and origin countries of tertiary-educated persons in three ASEAN countries: Cambodia, Malaysia, and Thailand (see Table 10). According to data collected by OECD countries,<sup>61</sup> the highly educated migrant population in Thailand grew impressively between 2000–2001 and 2010–2011, increasing more than tenfold. More than half of the 238,796 tertiary-educated foreigners in Thailand were from non-ASEAN countries. As in Thailand, the highly educated migrant population in Cambodia also grew, albeit from a much smaller base; from 2,510 in 2000–2001, it grew to 5,088 in 2010–2011 (by 103%). Meanwhile, the number of tertiary-educated foreigners in Malaysia declined by about 9% during the same period.

<sup>57</sup> Aniceto C. Orbeta Jr., "Enhancing Labor Mobility in ASEAN: Focus on Lower-Skilled Workers" (discussion paper, PIDS Discussion Paper Series No. 2013–17, Philippine Institute for Development Studies, Makati City, February 2013), <http://dirp3.pids.gov.ph/ris/dps/pidsdps1317.pdf>.

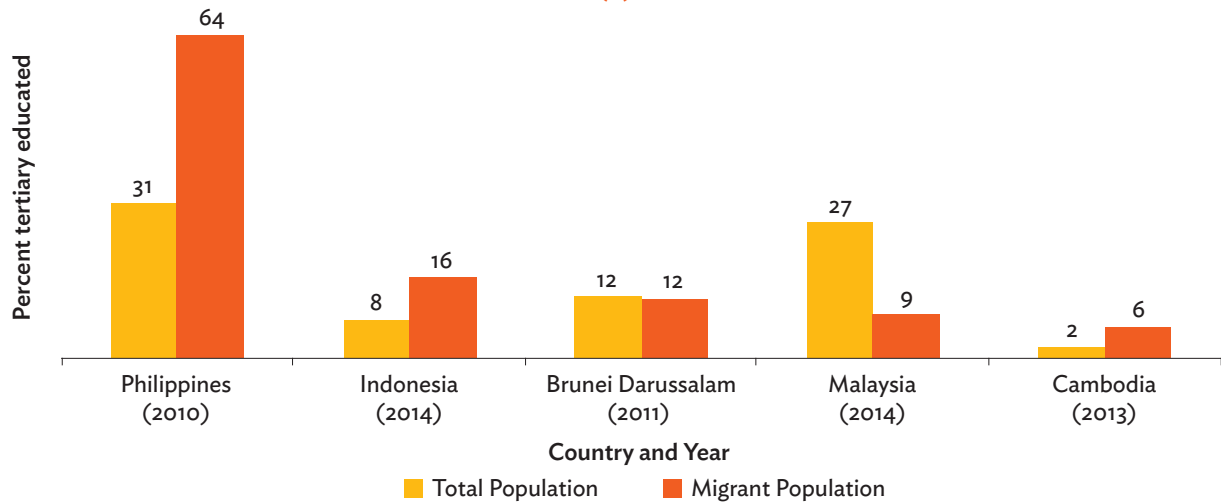
<sup>58</sup> ILO, *Analytical Report*; Philip Martin and Manolo Abella, "Reaping the Economic and Social Benefits of Labour Mobility: ASEAN 2015" (working paper, ILO Asia-Pacific Working Paper Series, International Labour Organization, Bangkok, November 2014), [www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms\\_321003.pdf](http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_321003.pdf).

<sup>59</sup> ILO, *Analytical Report*.

<sup>60</sup> OECD, *Connecting with Emigrants*.

<sup>61</sup> OECD, "Database on Immigrants in OECD and Non-OECD Countries: DIOC," accessed 1 December 2015, [www.oecd.org/els/mig/dioc.htm](http://www.oecd.org/els/mig/dioc.htm).

**Figure 8: Share of Total and Migrant Working-Age Population with Tertiary-Level Education in Select ASEAN Countries**  
(%)



Notes: Working-age population includes persons ages 15 and above. “Tertiary education” includes International Standard Classification of Education (ISCED 2011) group levels 5 (short-cycle tertiary education), 6 (bachelor’s or equivalent level), 7 (master’s or equivalent level), and 8 (doctoral or equivalent level).  
Source: ILO, *Analytical Report*.

**Table 10: Tertiary-Educated Foreigners (ages 15 and older) in Thailand, Malaysia, and Cambodia**

	Thailand	Malaysia	Cambodia
Total 2000–01	20,396	58,800	2,510
Total 2010–11	238,796	53,801	5,088
% change	<b>1,071</b>	<b>-8.5</b>	<b>102.7</b>

Source: MPI tabulations of data from OECD, *Connecting with Emigrants*.

## 2. Employment in High-Skilled Occupations

Another indicator of a shift toward high-skilled migration in ASEAN is employment in high-skilled

occupations. The absolute number of migrants working in high-skilled occupations remains low. However, even this relatively small number is extremely important in meeting labor force gaps in some professions.

Of four ASEAN countries featured in a recent ILO report, only Brunei Darussalam has a relatively large share of migrants employed in high-skilled occupations (18%; see Table 11). The share of migrants in high-skilled occupations is small in Malaysia (about 3%), Thailand (2%), and Cambodia (less than 1%) relative to the total number of migrant workers.

**Table 11: Total Workers and Migrant Workers in High-Skilled Occupations, Latest Year**

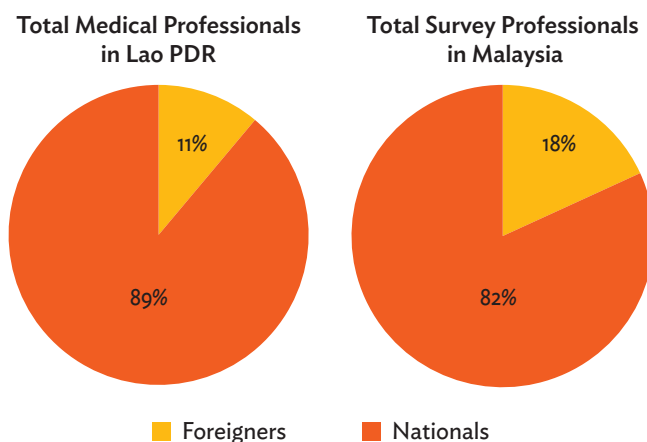
	Total Employed		Employed Migrants			
	Total	In High-Skilled Jobs	Total Migrants	% Migrants of Total Employed	In High-Skilled Jobs	% Migrants in High-Skilled Jobs
Brunei Darussalam (2011)	183,700	59,200	67,700	36.9	10,700	18.1
Cambodia (2013)	8,059,600	396,300	49,200	0.6	2,700	0.7
Malaysia (2014)	13,532,100	3,408,100	1,782,300	13.2	89,700	2.6
Thailand (2014)	38,020,400	5,392,800	1,183,800	3.1	130,300	2.4

Notes: High-skill occupations include managers, technicians, and associated professionals.  
Source: ILO, *Analytical Report*.

The share of foreign professionals in MRA-covered occupations in the professional labor force can be gauged using data shared by regional experts.<sup>62</sup> Unsurprisingly, the shares vary by both country and profession. For instance, foreign professionals in Malaysia accounted for less than 1% among accountants (120 out of 30,300),<sup>63</sup> but 18% among surveyors (2,000 of 11,300) (see Figure 9). In Lao PDR, the field of engineering employed about 1,000 foreigners (who represented 14% of the roughly 7,000 professional engineers). In contrast, the number of foreign medical doctors in Lao PDR was small (200), but accounted for 11% of the country's medical doctors (see Figure 9)—highlighting the fact that even a small number of foreigners can make a difference in some sectors.

A lack of data hampers understanding of the number and shares of foreign professionals in the region. For example, while there are no data for Singapore, it is common knowledge that a significant proportion of migrants work in skilled occupations in the country. It is highly likely that the number of ASEAN foreign professionals working throughout the region is larger than can be estimated at the moment.

**Figure 9: Share of Foreigners among Medical Professionals in Lao PDR and Surveyors in Malaysia**



Lao PDR = Lao People's Democratic Republic.  
Source: Asian Development Bank (ADB)-MPI data questionnaires, Lao PDR and Malaysia, August 2015–February 2016.

<sup>62</sup> These estimates represent workers in MRA occupations in general, not necessarily those who utilized the MRA process.

<sup>63</sup> Malaysian Institute of Accountants (MIA), *Evolving to Lead: Annual Report 2015* (Kuala Lumpur: MIA, 2015), [www.mia.org.my/ar/2015/downloads/MalaysianInstituteofAccountantsAnnualReport2015.pdf](http://www.mia.org.my/ar/2015/downloads/MalaysianInstituteofAccountantsAnnualReport2015.pdf).

### 3. Increasing Numbers of International Students

International students are viewed by governments and employers as a valuable pool of future skilled workers.<sup>64</sup> This is for a number of reasons:<sup>65</sup> their education in the host country is easily recognized by local governments, employers, and professional associations; they are proficient in the local language or languages; and they know how the host country's labor market and society work. As a result, most stakeholders promote and are interested in facilitating the movement of students throughout ASEAN.

The number of foreign students studying at universities globally nearly quadrupled from 1.3 million in 1990 to 4.2 million in 2010,<sup>66</sup> and is projected to rise to 8 million by 2025.<sup>67</sup> Asia has been the top source of foreign students for most OECD countries. In recent years, People's Republic of China, India, Indonesia, Japan, Malaysia, and The Republic of Korea—traditionally the main sending countries—have boosted their own capacity to provide educational and research opportunities for a growing number of international students, particularly from East Asia and the Pacific.<sup>68</sup>

This trend is also evident in ASEAN. While most ASEAN students enroll in domestic public and private institutions for their higher education, a significant number seek educational opportunities abroad. Thailand has the highest growth rate of international students (a fivefold increase from 4,000 in 2005

<sup>64</sup> International students are defined in this report as those who have crossed a national border and moved to another country with the objective of obtaining a tertiary education.

<sup>65</sup> Leslyanne Hawthorne, "Demography, Migration and Demand for International Students," in *Globalisation and Tertiary Education in the Asia-Pacific: The Changing Nature of a Dynamic Market*, eds. Christopher Findlay and William G. Tierney (Singapore: World Scientific Publishing, 2010), 93–119.

<sup>66</sup> Ibid.

<sup>67</sup> Institute of International Education (IIE), "A Quick Look at Global Mobility Trends" (fact sheet, Project Atlas, 2015), [www.iie.org/~media/Files/Services/Website-2015/Project-Atlas-Infographic-2015.pdf?la=en](http://www.iie.org/~media/Files/Services/Website-2015/Project-Atlas-Infographic-2015.pdf?la=en).

<sup>68</sup> United Nations Education, Science, and Cultural Organization (UNESCO), "Global Flow of Tertiary-Level Students," updated 2 March 2016, [www.uis.unesco.org/Education/Pages/international-student-flow-viz.aspx#sthash.1ef2ol8g.dpuf](http://www.uis.unesco.org/Education/Pages/international-student-flow-viz.aspx#sthash.1ef2ol8g.dpuf); JWT Education, *International Student Mobility in East Asia: Executive Summary* (Manchester, UK: The British Council, 2008), [www.britishcouncil.org/sites/default/files/international-student-mobility-in-east-asia.pdf](http://www.britishcouncil.org/sites/default/files/international-student-mobility-in-east-asia.pdf).

to 20,000 in 2012), followed by Indonesia, Brunei Darussalam, Lao PDR, and Malaysia (with numbers that have either doubled or tripled).<sup>69</sup>

Despite this growth, international students still represent less than 1% of the total enrollment in Indonesia, Lao PDR, Myanmar, the Philippines, Thailand, and Viet Nam (see Table 12); and 4% of the total university-level students in Brunei Darussalam and Malaysia. In contrast, approximately one in five college students in Singapore came from another country.<sup>70</sup>

Among ASEAN countries, about 50,000 more students from Viet Nam left the country to study than came from elsewhere to Viet Nam. This is

followed by Indonesia (32,000) and Malaysia (16,000). In the meantime, Singapore received a net inflow of 26,000 students (see Table 12). In addition, due to the limited availability of data on the countries of origin of students leaving for Singapore, the actual net outflows in Indonesia and Malaysia are likely to be higher since both countries send a considerable number of students to Singapore. To prevent permanent loss of young talent, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Singapore, and Viet Nam may require that students and scholars on government scholarships return home for a certain period of time.<sup>71</sup> Brunei Darussalam, for example, requires its students to return for 10 years, and imposes stiff penalties on those who do not.

**Table 12: University-level Students by ASEAN Country, Various Years**

	Total Enrollment <sup>1</sup>	International Students		Number of Own Students Abroad <sup>3</sup>	Net In/Out Flow of Students
		Number <sup>2</sup>	% of Total Enrollment		
Brunei Darussalam	8,797	360	4.0	3,365	-3,011
Cambodia	223,222	-	-	4,221	-
Indonesia	6,423,455	7,235	0.1	39,098	-31,863
Lao PDR	137,092	543	0.2	4,985	-4,668
Malaysia	1,116,733	40,471	3.6	56,260	-15,789
Myanmar	634,306	100	0.0	6,388	-6,288
Philippines	3,317,265	2,665	0.1	11,454	-8,789
Singapore	255,348	48,938	19.2	22,578	26,360
Thailand	2,405,109	20,309	0.8	25,517	-5,208
Viet Nam	2,250,030	2,540	0.2	53,546	-49,938
<b>Total ASEAN<sup>4</sup></b>	<b>16,771,357</b>	<b>123,997</b>	<b>0.7</b>		

ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.

Note: International students are defined here as those who have crossed a national border and moved to another country to obtain tertiary education.

<sup>1</sup> Total enrollment in Cambodia is based on 2011 data and in Myanmar on 2012 data.

<sup>2</sup> Number of international students is based on data from various years: 2014 (Brunei Darussalam, Lao PDR, and Viet Nam); 2013 (Malaysia and Singapore); 2012 (Indonesia, Myanmar, and Thailand); and 2008 (the Philippines).

<sup>3</sup> Number of own students studying abroad shown here does not include international students studying in Cambodia, Indonesia, the Philippines, and Singapore, since these four countries do not report the country of origin of international students.

<sup>4</sup> MPI estimate.

Source: MPI tabulations of data from UNESCO, "Institute for Statistics (UIS) Database: Education," accessed 1 March 2016, <http://data.uis.unesco.org/Index.aspx>.

<sup>69</sup> MPI tabulations of data from UNESCO, "Institute for Statistics (UIS) Database: Education," accessed 1 March 2016, <http://data.uis.unesco.org/Index.aspx>.

<sup>70</sup> Singapore does not report foreign student data by country of origin; hence, the intraregional student mobility between Singapore and other specific ASEAN countries cannot be assessed.

<sup>71</sup> Participant comments during a focus group discussion organized by ADB and MPI, Manila, 3 September 2015; participant comments during the Bali Forum on Skill Mobility in ASEAN, organized by ADB and MPI, Bali, 28-29 September 2015.

## C. Direction: The Emergence of New Destinations for the Highly Skilled in ASEAN

Finally, a significant change in directional trajectory is occurring: more high-skilled migrants are moving not just to OECD destinations, but to other ASEAN countries. At the same time, those who move within the region (migrants and students) move to a broader array of countries, not just to Brunei Darussalam or Singapore.

### 1. Directional Shift among Labor Migrants

Singapore is the traditional destination for highly skilled ASEAN migrants due to its active recruitment of foreign talent.<sup>72</sup> The government collects extensive data on its resident population, including by citizenship and ethnicity, but these data are generally unavailable to nongovernment researchers. Hence, data collected by professional associations in Singapore has been used for this report.

According to Singapore Nursing Board (SNB) annual reports, there were 37,618 nurses and midwives registered with the SNB by the end of 2014, an

increase of 28% from 2010 (see Table 13).<sup>73</sup> Between 2010 and 2014, the share of foreigners increased, with the largest increase among Filipino professionals (from 10% to 15%).

The number of other ASEAN nationals who were nurses and midwives in Singapore also increased: Malaysians tripled from 508 to 1,797 and those from Myanmar doubled from 550 to 1,104. The SNB statistics likely underestimate the total flow of ASEAN nurses and midwives because some ASEAN nationals are permanent residents.

In recent years, however, several changes might be noted. Most relevant to this discussion is that fewer high-skilled migrants are leaving for OECD countries and more are moving across the region, and not only to Singapore. One example is Filipino nurses and engineers. According to Philippine Overseas Employment Administration (POEA) data, the numbers of Filipino nurses and engineers who were placed through government-supported work programs within ASEAN has been on the rise, although the numbers were still small relative to those being placed in the Middle East (see Figure 10).

**Table 13: Citizenship of Nurses and Midwives on the SNB Register, 2010 and 2014**

	2010		2014		% Change: 2010 to 2014
	Number	% of Total	Number	% of Total	
<b>Total</b>	<b>29,340</b>	<b>100.0</b>	<b>37,618</b>	<b>100.0</b>	<b>28.2</b>
Singaporean*	23,482	80.0	26,577	70.6	13.2
Malaysian	508	1.7	1,797	4.8	253.7
Chinese	834	2.8	1,236	3.3	48.2
Filipino	2,951	10.1	5,680	15.1	92.5
Indian	784	2.7	922	2.5	17.6
Myanmar	550	1.9	1,104	2.9	100.7
Other	231	0.8	302	0.8	30.7

SNB = Singapore Nursing Board.

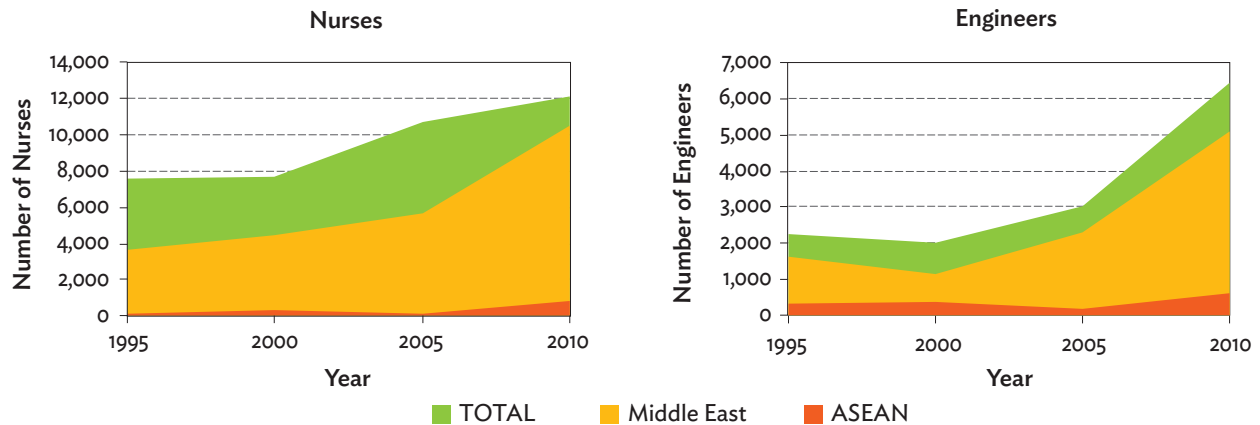
\*Includes permanent residents.

Sources: Singapore Nursing Board (SNB), *Annual Report 2014* (Singapore: SNB, 2014), [www.healthprofessionals.gov.sg/content/dam/hprof/snb/docs/publications/SNB%20Annual%20Report%202014.pdf](http://www.healthprofessionals.gov.sg/content/dam/hprof/snb/docs/publications/SNB%20Annual%20Report%202014.pdf); SNB, *Annual Report 2010* (Singapore: SNB, 2010), [www.healthprofessionals.gov.sg/content/dam/hprof/snb/docs/publications/Annual%20Report%202010\\_1.pdf](http://www.healthprofessionals.gov.sg/content/dam/hprof/snb/docs/publications/Annual%20Report%202010_1.pdf).

<sup>72</sup> Brenda Yeoh and Weiqiang Lin, "Rapid Growth in Singapore's Immigrant Population Brings Policy Challenges," *Migration Information Source*, 3 April 2012, [www.migrationpolicy.org/article/rapid-growth-singapores-immigrant-population-brings-policy-challenges](http://www.migrationpolicy.org/article/rapid-growth-singapores-immigrant-population-brings-policy-challenges).

<sup>73</sup> Singapore Nursing Board (SNB), *Annual Report 2014* (Singapore: SNB, 2014), [www.healthprofessionals.gov.sg/content/dam/hprof/snb/docs/publications/SNB%20Annual%20Report%202014.pdf](http://www.healthprofessionals.gov.sg/content/dam/hprof/snb/docs/publications/SNB%20Annual%20Report%202014.pdf); SNB, *Annual Report 2010* (Singapore: SNB, 2010), [www.healthprofessionals.gov.sg/content/dam/hprof/snb/docs/publications/Annual%20Report%202010\\_1.pdf](http://www.healthprofessionals.gov.sg/content/dam/hprof/snb/docs/publications/Annual%20Report%202010_1.pdf).



**Figure 10: Number of Deployed Filipino Nurses and Engineers, by Destination Region, 1995–2010**

Notes: Working-age population includes persons ages 15 and above. “Tertiary education” includes International Standard Classification of Education (ISCED) levels 3 and above. Source: MPI tabulations of data from Philippine Overseas Employment Administration (POEA), “Overseas Filipino Workers: Deployment Statistics (Various Years),” accessed 1 December 2015, [www.poea.gov.ph/ofwstat/ofwstat.html](http://www.poea.gov.ph/ofwstat/ofwstat.html).

In 2010, 794 Filipino nurses left for ASEAN countries, with almost all moving to Singapore (722) and Brunei Darussalam (63). Similarly, 606 Filipino engineers were deployed, including 261 to Singapore, 176 to Malaysia, and 89 to Indonesia.

Thailand and Viet Nam were two of the top three source countries for foreign engineers and architects in Lao PDR, with Viet Nam also the top country of origin for medical doctors, surveyors, and accountants.

Cambodia, Malaysia, and Thailand have also seen changing flows of high-skilled immigrants.<sup>74</sup> Thailand hosts tertiary-educated immigrants from Cambodia, Lao PDR, and Myanmar (see Table 14), though the combined share of tertiary-educated immigrants from these countries in Thailand was smaller (8%) than the share from the United States alone (10%). Moreover, the number of tertiary-educated immigrants in Thailand is much smaller than the number of low-skilled migrants from these three countries.

In Cambodia, Thai skilled migrants accounted for a sizable share of the total migrant population—nearly 18%. The Philippines accounted for close to 6%, and Malaysia and Viet Nam made up about 8% combined. Altogether, these four ASEAN countries represented 31% of the 5,088 skilled migrants residing in Cambodia.

**Table 14: Tertiary-Educated Foreigners (ages 15 and older) in Thailand, Malaysia, and Cambodia: Top 10 Countries of Origin, 2010–11**

	Thailand	Malaysia	Cambodia
1	United States	India	Thailand
2	Japan	Indonesia	PRC
3	India	Philippines	United States
4	United Kingdom	Singapore	France
5	PRC	Pakistan	Korea, Rep. of
6	Korea, Rep. of	Bangladesh	Philippines
7	Germany	Myanmar	Australia
8	Myanmar	Thailand	United Kingdom
9	Cambodia	Nepal	Viet Nam
10	Lao PDR	Viet Nam	Malaysia

Lao PDR = Lao People’s Democratic Republic, PRC = People’s Republic of China.

Source: MPI tabulations of data from OECD, *Connecting with Emigrants*.

In Malaysia, six of the top 10 sources of tertiary-educated migrants are ASEAN countries, together accounting for 24% of the 54,000 highly educated migrants residing in the country (see Table 14). In contrast to Thailand and Cambodia, however, the number of skilled foreigners in Malaysia declined by about 9% between 2000–2001 and 2010–2011. Further, in Malaysia, Thailand, and Singapore, intra-ASEAN workers are more likely to lack tertiary education than workers from the rest of the world.<sup>75</sup>

<sup>74</sup> OECD, “Database on Immigrants in OECD and Non-OECD Countries.”

<sup>75</sup> Orbeta Jr., “Enhancing Labor Mobility in ASEAN.”

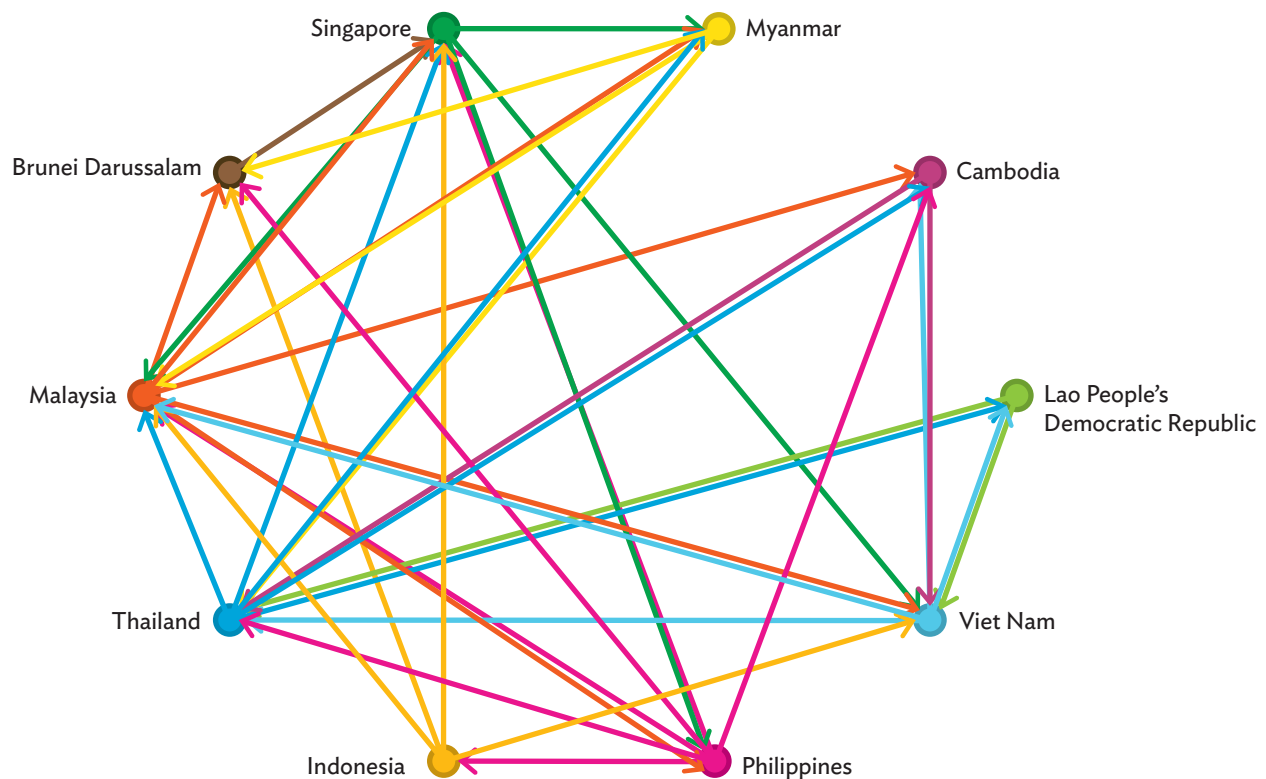
Research and analysis of questionnaires provide further evidence that the movement of the highly skilled in ASEAN has increased in the past few decades and is expected to increase further, largely driven by demand for health care<sup>76</sup> and other professional services. According to government and informal estimates, the number of foreigners has grown across most occupations, in both cities and rural areas. Examples include:

- Filipino health-care professionals and engineers in Singapore and Brunei Darussalam
- English-speaking Filipino teachers working in international schools in Thailand and in the tourism sector in Indonesia
- Myanmar engineers in Brunei Darussalam, Singapore, and Viet Nam, and Myanmar nurses working in refugee camps in Thailand

- Thai engineers working in Cambodia, Lao PDR, and Myanmar in hotel and road construction
- Vietnamese health-care professionals working in Lao PDR and Thailand in clinics that serve their Vietnamese compatriots
- Indonesians working in the oil and gas industry in Brunei Darussalam.

The examples discussed in this section demonstrate and reinforce the emerging trend of intraregional migration in ASEAN. Professionals are moving to different countries within ASEAN, not only to the wealthiest (Brunei Darussalam and Singapore), highlighting the fact that regional migration flows are becoming far more diverse. While a lack of comparable data makes it impossible to quantify the scale or direction of skilled flows in numerical terms, Figure 11 illustrates it qualitatively.

**Figure 11: Regional Brain Network: A Qualitative Portrait of Growing Diversity of Skilled Flows**



Note: The ten countries are arranged along the economic development continuum.  
Source: Authors' analysis of multiple qualitative and quantitative data sources.

<sup>76</sup> Castles and Miller, "Migration in the Asia-Pacific Region."

## 2. Directional Shift among International Students

A similar trend is evident among international students. Although the majority of ASEAN students still leave the region for Western countries (particularly Australia, the United States, and the United Kingdom) and Japan, the number of international students seeking higher education in the ASEAN countries (and Asia more generally) has also been on the rise over the past decade. This is in large part due to Asia's increasingly strong role in the global economy and in international education.<sup>77</sup> Foreign students from Cambodia, Lao PDR, and Myanmar, in particular, were likely to choose other ASEAN countries for their higher education, especially Malaysia, Thailand, and Viet Nam (see Table 15).

ASEAN countries have widely varying patterns of intraregional student mobility. In 2013, ASEAN students accounted for 75% of the 2,500 international students in Viet Nam, 28% of the 20,300 international students in Thailand, and 15% of the 40,500 international students in Malaysia (see Table 16, left panel). However, few international students from Malaysia, Singapore, Thailand, and Viet Nam study in ASEAN countries (under 5% each; see Table 16, right panel).<sup>78</sup>

Among ASEAN countries, Lao PDR stands out. The majority of its 543 international students are from ASEAN, while more than half of students from Lao PDR study in other ASEAN countries. The flows of foreign students within ASEAN seem to reflect established corridors. Rather than making a direct

**Table 15: University-Level Students by ASEAN Country: Top Five Destinations, 2013**

	Number of Own Students Abroad	Country 1	(%)	Country 2	(%)	Country 3	(%)	Country 4	(%)	Country 5	(%)
Brunei Darussalam	3,365	United Kingdom	62.5	Australia	15.6	Malaysia	4.5	Egypt	3.8	Saudi Arabia	2.5
Cambodia	4,221	Thailand	22.6	Australia	14.3	Viet Nam	10.5	France	10.5	United States	8.9
Indonesia	39,098	Australia	24.2	United States	18.8	Malaysia	9.6	Egypt	6.9	Japan	5.7
Lao PDR	4,985	Viet Nam	28.9	Thailand	27.0	Turkey	18.1	Japan	4.4	Australia	3.8
Malaysia	56,260	Australia	27.6	United Kingdom	23.7	United States	11.6	Egypt	8.6	Japan	4.0
Myanmar	6,388	Thailand	23.2	Japan	17.7	United States	14.3	Turkey	13.5	Australia	10.6
Philippines	11,454	United States	26.9	Australia	24.3	United Kingdom	7.2	Saudi Arabia	5.9	Japan	4.3
Singapore	22,578	Australia	40.4	United Kingdom	26.3	United States	19.3	Canada	1.5	New Zealand	1.2
Thailand	25,517	United States	27.4	United Kingdom	23.4	Australia	12.4	Japan	8.4	Egypt	7.6
Viet Nam	53,546	United States	28.8	Australia	23.1	France	10.0	Japan	7.9	United Kingdom	7.6
<b>Total ASEAN</b>	<b>227,412</b>	<b>Australia</b>	<b>23.9</b>	<b>United States</b>	<b>19.8</b>	<b>United Kingdom</b>	<b>14.9</b>	<b>Japan</b>	<b>5.8</b>	<b>Egypt</b>	<b>4.4</b>

ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.

Note: International students are defined here as those who have crossed a national border and moved to another country with the objective of obtaining tertiary education. The table does not include international students studying in Cambodia, Indonesia, the Philippines, and Singapore, since these four countries do not report the country of origin of the international students they host.

Source: MPI tabulations of data from UNESCO, "UIS Database: Education."

<sup>77</sup> JWT Education, "International Student Mobility in East Asia," UNESCO, *The International Mobility of Students in Asia and the Pacific* (Bangkok: UNESCO, 2013), <http://unesdoc.unesco.org/images/0022/002262/226219E.pdf>.

<sup>78</sup> The share of Malaysian students is an underestimate because data on Malaysian students studying in Singapore are not available.



**Table 16: Number and Share of Students from or Studying in ASEAN Countries of Total International Students and Number of Own Students Studying Abroad, 2013**

	International Students*			Own Students Abroad**		
	Total	From Other ASEAN Countries	Share from Other ASEAN Countries (%)	Total	Studying in ASEAN Countries	Share Studying in ASEAN Countries (%)
Brunei Darussalam	360	187	51.9	3,365	150	4.5
Cambodia	–	–	–	4,221	1,441	34.1
Indonesia	7,235	–	–	39,098	4,115	10.5
Lao PDR	543	376	69.2	4,985	2,786	55.9
Malaysia	40,471	5,947	14.7	56,260	241	0.4
Myanmar	100	8	8.0	6,388	1,786	28.0
Philippines	2,665	–	–	11,454	607	5.3
Singapore	48,938	–	–	22,578	180	0.8
Thailand	20,309	5,737	28.2	25,517	744	2.9
Viet Nam	2,540	1,905	75.0	53,546	2,142	4.0

ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.

\* Number of international students for Brunei Darussalam, Indonesia, Myanmar, and Thailand is based on 2012 data; for Lao PDR, and Viet Nam is based on 2014 data; and the Philippines is based on 2008 data.

\*\* Number of "own students abroad" does not include international students studying in Cambodia, Indonesia, the Philippines, and Singapore, since these four countries do not report the country of origin of the international students they host.

Note: International students are defined here as those who have crossed a national border and moved to another country with the objective of obtaining a tertiary education.

Source: MPI tabulations of data from UNESCO, "UIS Database: Education."

jump to Singapore, students from the four CLMV countries typically aim for middle-income countries, specifically Malaysia and Thailand.

A 2012 survey conducted at Burapha University in Thailand provides further insights into high-skilled mobility in several MRA- and framework-covered professional occupations (accounting, doctors, engineering, nursing, and surveying). It explores students' interest in working abroad after graduation and their preferred countries of destination. Out of 665 Thai students, 45% intended to work abroad, and Singapore (68%), Malaysia (20%), and Brunei

Darussalam (14%) were the top choices among ASEAN countries.<sup>79</sup>

Previous studies and available data indicate a connection between students studying abroad and increased high-skilled mobility. Carroll and Powell<sup>80</sup> find that recent graduates who have lived abroad, often for their studies, are more likely to apply for international jobs. Doherty, Dickmann, and Mills<sup>81</sup> explain this tendency as graduates' preference for a certain level of working conditions and lifestyle. International students are poised to play an important role in skills circulation in ASEAN.

<sup>79</sup> Wannapa Luekitinan, "Employability and Job Mobility: Critical Skills for New Graduates in ASEAN," *Global Journal of Business Research* 8, no. 5 (2014): 1–8.

<sup>80</sup> M. Todd Carroll and J. Grady Powell, "The Immediate Returns to Early Career Mobility," *Political Economy* 11 (2002): 1–20, <http://org.elon.edu/ipe/carrolltpowellg2.pdf>.

<sup>81</sup> Noeleen Doherty, Michael Dickmann, and Timothy Mills, "Mobility Attitudes and Behaviours among Young Europeans," *Career Development International* 15, no. 4 (2010): 378–400, <http://dx.doi.org/10.1108/13620431011066259>.

# V. Facilitating Brain Circulation: Three Steps in the Right Direction

**A**SEAN policymakers have taken concrete steps to foster skilled mobility. One such step is the signing of various MRAs to promote the intraregional mobility of professionals. Another is the expansion of educational infrastructure. Underlying both of these is a growing awareness of the important role that foreign professionals play in regional economic growth.

## A. Growing Awareness of the Role and Importance of Foreign Professionals

Regional demand for high-skilled workers could grow by 41%, an increase of 14 million workers, between 2010 and 2025.<sup>82</sup> Across the ASEAN region, various stakeholders are becoming increasingly aware of the importance of foreign professionals in facilitating brain circulation and promoting economic prosperity in the region. In fact, attracting foreign talent has become a priority for many governments, postsecondary education institutions, and private sector stakeholders such as employers and professional associations.

Regional and international employers are interested in the intra-ASEAN movement of professionals as an important element of regional integration and economic growth. The ASEAN Confederation of Employers (ACE) is among the most active voices in this regard. As part of the ASEAN TRIANGLE Project (ATP), ACE participated in national- and regional-level policy meetings throughout the region to discuss labor mobility and the role of employers.<sup>83</sup>

A 2015 WEF report focusing on human capital re-emphasized the importance of skilled workers. Based on a survey of employers around the world, WEF assessed the ease with which they can find skilled employees, and noted considerable variation across ASEAN countries (see Figure 12). Finding skilled employees was easiest in Malaysia—more so than in any other ASEAN country, or even most countries in the world. Of the 124 countries examined by the report, Malaysia ranked fourth. Singapore, Philippines, and Indonesia were placed farther down the list at 20th, 35th, and 37th, respectively, but still occupied the upper fourth of the global rankings. In contrast, Cambodia, Viet Nam, Lao PDR, and Myanmar were in the bottom sixth, with Myanmar ranked second to last.<sup>84</sup> This shows a clear divide among Member States on a point of critical importance to employers in the region.

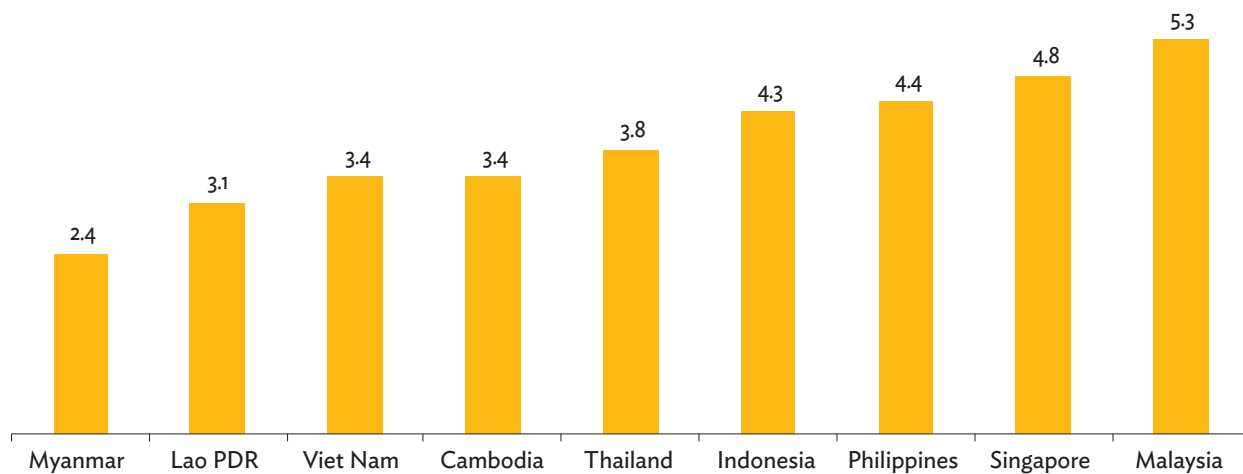
Like regional employers, multinational corporations, which routinely move staff internationally, are keenly aware of the value that foreign workers add to their businesses. According to the *ASEAN Business Outlook Survey 2016*, 48% of U.S. business executives cited labor mobility as a priority to enhance economic regional integration in the future, after nontariff barriers to trade, transparency, and good governance.<sup>85</sup> In Cambodia, 67% of U.S. business executives cited lack of skilled manpower as a top barrier to attracting new investors to the country, tied with high energy costs. Asked to rate their level of satisfaction with

<sup>82</sup> ILO and ADB, *ASEAN Community 2015*.

<sup>83</sup> ILO, *Managing Labour Mobility: Opportunities and Challenges for Employers in the ASEAN Region* (Bangkok: ILO, 2016).

<sup>84</sup> WEF, *The Human Capital Report 2015* (Geneva: WEF, 2015), [www3.weforum.org/docs/WEF\\_Human\\_Capital\\_Report\\_2015.pdf](http://www3.weforum.org/docs/WEF_Human_Capital_Report_2015.pdf).

<sup>85</sup> American Chamber of Commerce in Singapore and U.S. Chamber of Commerce, *ASEAN Business Outlook Survey 2016: The ASEAN Economic Community and Beyond* (Singapore: American Chamber of Commerce in Singapore and U.S. Chamber of Commerce, 2015), [www.amcham.org.sg/wp-content/uploads/2015/08/ABOS\\_16\\_preview.pdf](http://www.amcham.org.sg/wp-content/uploads/2015/08/ABOS_16_preview.pdf).

**Figure 12: Indicator of the Ease of Finding Skilled Employees in ASEAN Countries**

Lao PDR = Lao People's Democratic Republic.

Note: The higher the value, the easier it is to find skilled employees. No data available for Brunei Darussalam.

Source: WEF, *The Human Capital Report 2015*.

the availability of trained personnel in each ASEAN country, the executives expressed dissatisfaction with all countries except the Philippines.

Alongside employers, professional associations are also aware of the role foreign professionals can play in alleviating local labor supply challenges. For instance, the Malaysian Institute of Accountants (MIA) reported that Malaysia had 30,300 accountants (of whom 120 were foreign professionals) serving a population of 30 million as of 2014, compared to 27,000 in Singapore serving a much smaller population of 5 million.<sup>86</sup> The institute considers the overall number of accountants in the country dramatically low and identifies foreign accountants as an important talent pool that will allow Malaysian accounting and auditing firms to meet the demand for finance professionals.<sup>87</sup>

Of all stakeholders, governments are perhaps most aware of the importance of foreign professionals. One strategy for expanding this talent pool is to stimulate the return of high-skilled diaspora members. Following the success of Taipei, China and India in engaging their diasporas, the Malaysian government has reached out to skilled Malaysians and entrepreneurs abroad.<sup>88</sup> The

Singaporean government, meanwhile, used visa and citizenship policies to regulate the flow and type of workers. While the country relies on foreign workers at both the high and low ends of the labor spectrum, since 2000, Singapore has specifically expanded channels through which various groups of foreign professionals and entrepreneurs can explore economic opportunities in the country. The government has also made it easier for skilled foreigners (but not low-skilled ones) to gain permanent residency and citizenship.<sup>89</sup> By building a reputation as an English-speaking country with high educational standards, technological prowess, and a high quality of life, Singapore has been successful in attracting large numbers of international students not only from ASEAN countries but also from People's Republic of China, India, and other countries.<sup>90</sup>

## B. Signing of Mutual Recognition Arrangements

At the regional level, ASEAN policymakers envision MRAs as critical tools for encouraging the mobility of professionals under the AEC and for stemming the

<sup>86</sup> MIA, *Opening Minds, Embracing Change: Annual Report 2014* (Kuala Lumpur: MIA, 2014), [www.mia.org.my/ar/2014/downloads/MalaysianInstituteofAccountantsAnnualReport2014.pdf](http://www.mia.org.my/ar/2014/downloads/MalaysianInstituteofAccountantsAnnualReport2014.pdf).

<sup>87</sup> MIA, *Evolving to Lead*.

<sup>88</sup> World Bank, *Improving the Effectiveness of the TalentCorp's Initiatives*.

<sup>89</sup> Yeoh and Lin, "Rapid Growth in Singapore's Immigrant Population;" Madeleine Sumption, "Visas for Entrepreneurs: How Countries Are Seeking out Immigrant Job Creators," *Migration Information Source*, 13 June 2012, [www.migrationpolicy.org/article/visas-entrepreneurs-how-countries-are-seeking-out-immigrant-job-creators](http://www.migrationpolicy.org/article/visas-entrepreneurs-how-countries-are-seeking-out-immigrant-job-creators).

<sup>90</sup> Yeoh and Lin, "Rapid Growth in Singapore's Immigrant Population."

emigration of highly skilled persons from the region.<sup>91</sup> Between 2005 and 2014, MRAs were signed for seven professions—engineering (2005), nursing (2006), architecture (2007), medicine and dentistry (2009), tourism professionals (2012), and accounting (2014). A framework arrangement for an MRA on professional surveyors was also signed in 2007.

Critically, the implementation of some of these arrangements, including those for health-care professionals, is lagging.<sup>92</sup> Efforts to register professionals with ASEAN-level councils and collect (and report) needed data have not progressed uniformly. One reason is that countries are likely to prioritize those MRAs that cover professions whose growth is aligned with their strategic economic goals.

Engineering is the first profession for which an MRA was signed and implemented. The ASEAN Chartered Professional Engineer Coordinating Committee (ACPECC) has since registered close to 1,500 professional engineers, including 569 who registered on the basis of their license from Indonesia, 230 from Singapore, and 229 from Malaysia (see Table 17). Notably, none of these engineers has since moved to another country under the MRA.

Similarly, all ASEAN countries except Brunei Darussalam and Cambodia have registered at least five ASEAN architects with the ASEAN Architect Council—a total of 301 across the region.<sup>93</sup> In the case of both engineers and architects, Indonesia has registered the most, followed by Singapore. In contrast, a regional secretariat tasked with registering interested tourism professionals and matching them with employers is still in the process of being set up. While the future of MRAs looks promising, several pressing challenges need to be addressed.

**Table 17: Engineers and Architects Listed in ASEAN-Level Registers, by Country**

	Engineers		Architects	
	Number	% of Total	Number	% of Total
<b>Total</b>	<b>1,483</b>	<b>100.0</b>	<b>301</b>	<b>100.0</b>
Brunei Darussalam	2	0.1	1	0.3
Cambodia	-	0.0	-	0.0
Indonesia	569	38.4	90	29.9
Lao PDR	3	0.2	6	2.0
Malaysia	229	15.4	35	11.6
Myanmar	132	8.9	12	4.0
Philippines	119	8.0	53	17.6
Singapore	230	15.5	78	25.9
Thailand	65	4.4	17	5.6
Viet Nam	134	9.0	9	3.0

ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.

Sources: ASEAN Chartered Professional Engineer Coordinating Committee (ACPECC), "Current Registered Engineers on the Database," accessed 1 December 2015, <http://acpecc.net/v2/>; ASEAN Architect Council, "ASEAN Architect Register," accessed 1 December 2015, <http://site.aseanarchitectcouncil.org/main/3000/index.asp?pageid=167531&t=asean-architect-register>.

## 1. Challenges in MRA Implementation

Do MRAs actually promote the mobility of skilled persons? Fukunaga argues that they are constrained by immigration regulations.<sup>94</sup> The "real test of mobility" is whether registration systems, such as that for the Registered Foreign Architects (RFA), are set up and used by prospective workers and employers.<sup>95</sup> The results so far are mixed; for example, only five countries have established rules and procedures to create an RFA registration system.<sup>96</sup>

That said, entry into an ASEAN-level registry is not enough: processing times are long and access to destination-country labor markets is often tightly regulated by domestic laws. The experience of one expert in the engineering field, a Filipino national, is highly instructive: although he was able to register

<sup>91</sup> Bambang Susantono, "Stemming the Flow of ASEAN'S Brain Drain," *The Nation*, 7 October 2015, [www.nationmultimedia.com/opinion/Stemming-the-flow-of-Aseans-brain-drain-30270341.html](http://www.nationmultimedia.com/opinion/Stemming-the-flow-of-Aseans-brain-drain-30270341.html).

<sup>92</sup> Implementation of the ASEAN MRAs is explored in more depth in another report in this series. See Mendoza and Sugiyarto, *The Long Road Ahead*.

<sup>93</sup> Participant comment during the Bali Forum on Skill Mobility in ASEAN, organized by ADB and MPI, Bali, 28–29 September 2015.

<sup>94</sup> Yoshifumi Fukunaga, "Assessing the Progress of ASEAN MRAs on Professional Services" (discussion paper, Economic Research Institute for ASEAN and East Asia [ERIA] Discussion Paper Series, ERIA, Jakarta, March 2015), [www.eria.org/ERIA-DP-2015-21.pdf](http://www.eria.org/ERIA-DP-2015-21.pdf).

<sup>95</sup> Participant comment during a focus group discussion organized by ADB and MPI, Bali, 26 September 2015.

<sup>96</sup> These countries include Brunei Darussalam, Malaysia, the Philippines, Singapore, and Thailand.

with the appropriate professional association in Singapore, he was required to find a Singaporean engineer to work with and to agree that, should the Singaporean engineer want to go to the Philippines for work, they would collaborate. Then, when he sought to practice in Malaysia, he had to submit original copies of all required documents—despite the fact that he had already gone through the vetting process at the regional level. His experiences highlight the challenges that ASEAN engineers typically face in seeking to practice abroad.<sup>97</sup>

Fieldwork and interviews conducted for this study indicate that the intraregional skilled mobility facilitated by MRAs is rather minimal to date. For example, Thai participants in a roundtable discussion on skilled mobility mentioned that 24 Thai engineers and five Thai architects were registered appropriately, but none had moved to work in another ASEAN country.<sup>98</sup>

Responses to Asian Development Bank (ADB)–MPI questionnaires<sup>99</sup> and evidence cited by focus group participants make it clear that multinational companies serve as the main vehicle for the mobility of foreign accountants, engineers, and medical professionals, either through direct employment or intracompany transfers. Direct employment was cited by nearly all national consultants<sup>100</sup> as the main route for migrants who arrive either for temporary employment or for permanent residence. Examples of intracompany transfers include:

- Vietnamese and Chinese clinics that opened in Lao PDR along shared national borders and brought their own doctors and nurses
- Thai engineers who worked in Myanmar building a deep-sea port (the Dawei Port project)
- General managers in high-end (and generally foreign-owned) hotels in Cambodia who are

nearly exclusively from Malaysia, Singapore, and Thailand

- Accountants who work across ASEAN through multinational corporations such as Price WaterhouseCoopers and Deloitte.

There is also some evidence that professionals and other high-skilled people use non-work-related visas to enter destination countries with the goal of obtaining employment. An MPI study found that most high-skilled workers left the Philippines for the United Arab Emirates as tourists.<sup>101</sup> Anecdotal evidence suggests the same pattern for Filipino and other nationals in Singapore.<sup>102</sup> This route allows individuals to bypass government recruitment programs (which are time-consuming and costly) and the need to look for an employer that can sponsor them for an intracompany transfer or other employment visa. ASEAN and non-ASEAN professionals who are sponsored by multinational corporations or use an irregular channel do not need to register or pass national exams to practice and are generally not captured in migration and professional association data. As such, the extent of mobility and the scale of underemployment in the region are hard to assess.

## 2. Looking Ahead

Despite powerful and competing trends—such as attractive options in OECD countries, the use of the intracompany transfer channels in lieu of MRAs, registration glitches, and obstacles to labor market access—there is a broad consensus that MRAs are likely to play a positive role in promoting intraregional skilled mobility in the medium term (5–10 years) and beyond (more than 10 years). For instance, MRAs might promote the mobility of Thai medical professionals in both directions, with Thai doctors (including Thai-trained foreign doctors) moving to private hospitals in Cambodia, Lao PDR, and Myanmar under private hospital networks, and a greater number of doctors from these countries being hired to provide health-care services to migrant communities at the border.<sup>103</sup> Similarly, neuro- and

<sup>97</sup> Participant comment during the Bali Forum on Skill Mobility in ASEAN, organized by ADB and MPI, Bali, 28–29 September 2015.

<sup>98</sup> Participant comments during an ADB–MPI roundtable discussion on “Developing a Country Action Plan to Progress on Skill Mobility in ASEAN under the AEC,” Bali, 29 September 2015.

<sup>99</sup> National consultants were asked to select among 11 possible answers the following question: “Through which of the following visa channels are the foreign nationals in a given occupation most likely to migrate for temporary work/for permanent residence?” The options were direct employment, recruitment agencies, student/scholars, family, government exchanges, refugees, tourists, business visitors/entrepreneurs, undocumented, intracompany transferees, and other.

<sup>100</sup> No data were reported for Indonesia and Thailand.

<sup>101</sup> Mendoza, *Shortage amid Surplus*.

<sup>102</sup> Participant comments during a focus group discussion organized by ADB and MPI, Manila, 3 September 2015.

<sup>103</sup> Participant comment during a focus group discussion organized by ADB and MPI, Manila, 4 September 2015.



cardiothoracic surgeons from Malaysia, the Philippines, and Singapore are expected to work at international private hospitals, while other medical specialists will be invited to do research in public hospitals.

The promise of MRAs is particularly strong in the tourism sector, given its relatively straightforward credential-recognition process, and the growing and immediate demand for tourism professionals. The World Travel and Tourism Council (WTTC) affirms the importance of tourism to the ASEAN region as a whole as well as to individual Member States. The tourism sector accounts for 4% of all jobs in the ASEAN region and about 5% of regional gross domestic product (GDP).<sup>104</sup> The WTTC projects the tourism sector to be critical to the long-term growth of most ASEAN countries. MRAs are likely to open a door for English-speaking tourism professionals from Myanmar and the Philippines<sup>105</sup> to emigrate to Cambodia, Lao PDR, Thailand, and Viet Nam, which all aim to expand their tourism industries as part of strategic economic development plans.

If MRAs are fully implemented for tourism and other professions, there is potential for an increase in mobility. A tentative estimate of how many people might move under the MRA process in ASEAN in a year can be attempted by drawing on MRA experiences worldwide. Arguably, the mutual recognition system in the European Union (EU) is one of the most advanced, given its long history, the powers vested to European institutions, the significant resources allocated to its development and implementation, and its coverage of more than 380 professions. The EU MRAs also cover a large number of countries with diverse languages and differing levels of education and work experience requirements. For these reasons, it is closer to what ASEAN is developing than other MRA systems (e.g., between Australia and New Zealand).

To estimate future mobility in ASEAN, this report uses Eurostat data on the number of persons engaged in all EU professions and European Commission data on how many EU professionals apply annually for

recognition of their qualifications for the purpose of permanent establishment in another EU country.

Table 18 lists the steps used in estimating the number of people in ASEAN who might move under the MRA process. As noted in column A, an average of about 37.8 million professionals were employed in the European Union in the 2010–2014 period. On average, 53,000 applications were made to recognize professional qualifications for the purpose of permanent establishment within the EU Member States (column B), or 0.14% of the total employed professionals (column C).<sup>106</sup> Using the 0.14% annual application average from the European Union and assuming that MRAs are fully implemented in the ASEAN as they are in the European Union, it can be estimated that 20,920 professionals (column D) would apply for recognition under MRAs with the intent to move (i.e., 0.14% of the 14.9 million professionals employed in seven MRA-covered occupations in ASEAN).

Is this number big or small? The 20,920 figure can be interpreted in a number of ways. On the one hand, if 20,920 professionals start moving annually, it would still be far higher than the current number of zero. It bears repeating that even a small absolute number of foreign professionals in high-demand sectors can make it easier to provide critical services, as the example of medical professionals in Lao PDR demonstrates. On the other hand, the estimate reflects first and foremost the outcomes in the European Union. Given that the mobility of persons is a right, professionals are able to cross borders seamlessly, establish themselves, and work in other EU countries. In contrast, the progress of MRA implementation in ASEAN has been slow and has to overcome multiple barriers, such as visa and employment requirements. Considering the depth of MRA implementation in the European Union, even this modest estimate of annual flows in ASEAN may be optimistic, at least in the near term. Alternatively, the estimate may be overly conservative: the EU figures are based on more than 380 professions, and tourism professionals make up a relatively small portion of those who move. In contrast, given ASEAN's large size,

<sup>104</sup> World Travel and Tourism Council (WTTC), "WTTC Data Gateway," accessed 1 July 2016, [www.wttc.org/datagateway/](http://www.wttc.org/datagateway/); WTTC, "Economic Impact Analysis," accessed 1 July 2016, [www.wttc.org/research/economic-research/economic-impact-analysis/](http://www.wttc.org/research/economic-research/economic-impact-analysis/).

<sup>105</sup> Ibid.

<sup>106</sup> To calculate the 0.14%, the ratio of the number of mutual recognition applicants over the total number of professionals in the European Union was taken for every year between 2010 and 2014. Then, the percentage over that time period was averaged to account for variability.



**Table 18: Total Employment in Seven MRA-Covered Professions and Number of Applicants**

	Total Employed in All Professions	Professionals Who Apply for MRAs for the Purpose of Permanent Establishment within the EU		Estimate of Professionals Who May Apply for MRAs in ASEAN (based on the EU experience)
		Number	% of Total Employment	
		A	B	
European Union	37,841,860	53,000	0.14	
ASEAN (7 MRA-covered professions)	14,941,718			20,920

ASEAN = Association of Southeast Asian Nations, EU = European Union, MRA = mutual recognition arrangement.

Note: Data in Column A and B for the European Union represent an average of the 2010–2014 period.

Sources: Eurostat, “Employment by Occupation and Economic Activity (from 2008 onwards, NACE Rev. 2),” updated 13 July 2016, [http://ec.europa.eu/eurostat/web/products-datasets/-/lfsa\\_eisn2](http://ec.europa.eu/eurostat/web/products-datasets/-/lfsa_eisn2); European Commission, “Statistics: Professionals Moving Abroad (Establishment): Regulated Professions Database,” accessed 1 August 2016, [http://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=stat\\_overall&b\\_services=false](http://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=stat_overall&b_services=false). Refers to data on more than 380 professions; Data on total employment in ASEAN are from World Bank, “World Development Indicators,” accessed 13 July 2016, <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>.

high demand for and supply of labor, and relatively successful implementation of the MRAs in tourism, a much larger number of people may move within the region if other barriers are addressed.

The experiences of other regions suggest that policy actions other than MRAs may be as, if not more, important to mobility.<sup>107</sup> A case in point is the increasing extent and policy relevance of international student mobility—the subject of the next section.

### C. Expansion of Education Infrastructure in the Region

The expansion of education infrastructure in ASEAN is a result of two contemporary trends. ASEAN policymakers understand that international students pave the way for high-skilled mobility. The regional impact of this is likely to grow as increasing numbers of Asian students choose to remain in Asia for their university studies. Growing the number of international students from the region is an important way for ASEAN to promote skills circulation. The driving forces behind this expansion are the ASEAN University Network (AUN), the Southeast Asian Ministers of Education Organization (SEAMEO), and the ASEAN Qualifications Recognition Framework (AQR).

AUN is composed of 30 universities that work together to foster the development of the region.<sup>108</sup> Using the ASEAN Credit Transfer System, students are able to study at universities throughout the region and receive credit at their home university. Moreover, ASEAN scholarships help to encourage study abroad within the region. Networks have been established among the universities to promote studies in certain areas, including business and economics, human rights education, health promotion, and social responsibility and sustainability. Perhaps most pertinent to the region is the development of an ASEAN studies course that focuses on the study of ASEAN as “a political institution and as a process through which the peoples and cultures of the region are brought into increasing interaction.”<sup>109</sup> One of the goals of this course (and of AUN more broadly) is to contribute to the development of ASEAN professionals who will be at ease navigating the region.

SEAMEO complements the AUN work by promoting and facilitating the movement of students in

<sup>107</sup> See Dovelyn Rannveig Mendoza, Demetrios G. Papademetriou, Maria Vincenza Desiderio, Brian Salant, Kate Hooper, and Taylor Elwood, *Reinventing Mutual Recognition Arrangements: International Experiences and Key Insights for the ASEAN Region* (Manila: ADB, forthcoming).

<sup>108</sup> ASEAN University Network Secretariat, *2014–2015 AUN Annual Report* (Bangkok: The ASEAN University Network Secretariat, 2015), [www.aunsec.org/pdf/Annual%20Report%202015.pdf](http://www.aunsec.org/pdf/Annual%20Report%202015.pdf).

<sup>109</sup> ASEAN University Network Secretariat, *2011–2012 AUN Annual Report* (Bangkok: The ASEAN University Network Secretariat, 2012), 62, [www.aunsec.org/Section8/8.2.2AnnualReport/AnnualReport20112012.pdf](http://www.aunsec.org/Section8/8.2.2AnnualReport/AnnualReport20112012.pdf).

ASEAN.<sup>110</sup> SEAMEO has 21 specialist centers in all ASEAN countries except Cambodia and Lao PDR, which focus on the advancement of education, science, and culture, and provide training and research programs in five main areas of focus: agriculture and rural development, culture and history, education, tropical biology, and tropical medicine and public health. Since 1965, there have been more than 70,000 participants.<sup>111</sup>

Moreover, SEAMEO has an ASEAN International Mobility for Students (AIMS) program in the following fields: hospitality and tourism, agriculture, language and culture, food science and technology, engineering, and economics. Currently, the overlap between the SEAMEO centers and AIMS- and MRA-covered occupations is limited. In the coming years, SEAMEO intends to add health professions to its program. This is an important infrastructural development that can increase professional mobility in the future as student migration can be a precursor to skilled migration.<sup>112</sup>

Finally, greater coordination under the AQRF is another step in the right direction. Born out of a 2012 multisector working group,<sup>113</sup> AQRF is a regional framework for aligning education and training sectors

across borders,<sup>114</sup> with a focus on qualifications.<sup>115</sup> With this, ASEAN policymakers aim to foster the mobility of both students and workers, improve the quality and effectiveness of qualification systems,<sup>116</sup> and promote nationally and regionally consistent standards and education outcomes, especially in countries that lack a national qualification framework.<sup>117</sup> By 2018, it is intended that the referencing processes will conclude and the system will be fully implemented across the region.

The undertakings of AUN and SEAMEO and the development of the AQRF present opportunities for ASEAN to become both an education and mobility hub, especially as more Asians acquire tertiary degrees. Malaysia and Singapore are already top destinations for international students. To make other countries more attractive, a number of issues need to be addressed, including varied standards and languages, underdeveloped systems, and low standards of living.

Focus group participants predicted a bright future for student intraregional mobility for several reasons. Nearly all countries are investing in their secondary and postsecondary educational systems as part of their strategic development. Their participation in AUN not only develops core competencies and qualifications but also enhances the mobility of students, staff, and researchers.<sup>118</sup> And the AQRF promises to make it easier for the degrees obtained in one Member State to be transferred, recognized, and accepted in another. These and the other positive developments outlined in this report require the ongoing support and attention of policymakers, and—importantly—a regular supply of reliable data.

<sup>110</sup> Southeast Asian Ministers of Education Organization (SEAMEO), “About SEAMEO,” accessed 26 April 2016, [www.seameo.org/SEAMEOWeb2/index.php?option=com\\_content&view=article&id=90&Itemid=518](http://www.seameo.org/SEAMEOWeb2/index.php?option=com_content&view=article&id=90&Itemid=518).

<sup>111</sup> SEAMEO, “SEAMEO Centres,” accessed 26 April 2016, [www.seameo.org/SEAMEOWeb2/index.php?option=com\\_content&view=category&layout=blog&id=98&Itemid=519](http://www.seameo.org/SEAMEOWeb2/index.php?option=com_content&view=category&layout=blog&id=98&Itemid=519).

<sup>112</sup> Sheila V. Siar, “Prospects and Challenges of Brain Gain from ASEAN Integration” (discussion paper no. 2014-39, PIDS Discussion Paper Series, Philippine Institute for Development Studies, Makati City, November 2014), <http://dirp3.pids.gov.ph/webportal/CDN/PUBLICATIONS/pidsdps1439.pdf>.

<sup>113</sup> Megawati Santoso, “ASEAN Qualifications Reference Framework” (presentation at the Southeast Asia Technical and Vocational Education and Training [SEA-TVET]–German Academic Exchange Service [DAAD] workshop “Internationalisation and Harmonisation of TVET in Southeast Asia,” Solo, Indonesia, 10–12 September 2015), [http://seatvet.seameo.org/download/3\\_SEA-TVET-DAAD%20Workshop%2C%20Solo%2C%2010-12%20September%202015/4\\_10%20Sept%3A%20Session%20I%3A%20Panel%20Presentations%20on%20E2%80%9CCurrent%20Policy%20Development%20of%20TVET%20in%20Southeast%20Asia%20for%20Regional%20Integration%2E%80%9D/Current%20Status%20of%20ASEAN%20Qualifications%20Reference%20Framework%20%28AQRF%29%20Development\\_by\\_Dr%20Megawati%20Santoso.pdf](http://seatvet.seameo.org/download/3_SEA-TVET-DAAD%20Workshop%2C%20Solo%2C%2010-12%20September%202015/4_10%20Sept%3A%20Session%20I%3A%20Panel%20Presentations%20on%20E2%80%9CCurrent%20Policy%20Development%20of%20TVET%20in%20Southeast%20Asia%20for%20Regional%20Integration%2E%80%9D/Current%20Status%20of%20ASEAN%20Qualifications%20Reference%20Framework%20%28AQRF%29%20Development_by_Dr%20Megawati%20Santoso.pdf).

<sup>114</sup> Kyi Shwin, “Implementation of ASEAN Qualifications Reference Framework: Myanmar’s Readiness” (presentation, ILO–Yangon meeting, 24 February 2015), [www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-yangon/documents/presentation/wcms\\_355943.pdf](http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-yangon/documents/presentation/wcms_355943.pdf).

<sup>115</sup> Santoso, “ASEAN Qualifications Reference Framework.”

<sup>116</sup> Shwin, “Implementation of ASEAN Qualifications Reference Framework.”

<sup>117</sup> Santoso, “ASEAN Qualifications Reference Framework.”

<sup>118</sup> S. Morshidi, et al., “Research and Collaboration in an Expanding Higher Education Market in the Asia-Pacific: The Experiences of Malaysian Universities,” in *Globalisation and Tertiary Education in the Asia-Pacific: The Changing Nature of a Dynamic Market*, eds. Christopher Findlay and William G. Tierney (Singapore: World Scientific Publishing, 2010), 201–27.

# VI. Data Needs and Priorities for Informed Policymaking

As has been noted several times, accurate, comprehensive, and timely data on skilled professionals in both origin and destination countries in ASEAN are hard to obtain. While data alone cannot provide policymakers with the vision and experience needed to achieve the ambitious goals of skilled mobility, high-quality data are essential for understanding the trends in the region and bringing about the necessary policy changes. They are also needed to gain the support of citizens, employers, professional groups, government officials, and other key stakeholders.<sup>119</sup>

According to the fieldwork conducted to inform this report, both ASEAN countries and international bodies are committed to creating comprehensive, real-time data-collection systems for use in domestic and regional decision-making. This section discusses what national and ASEAN policymakers will need to know to manage skilled mobility and minimize the permanent loss (brain drain) and underutilization (brain waste) of valuable human capital. Several obstacles are identified, and recommendations on how to address them are offered.

**Cast a broad data net to better understand flows of migrant professionals.** The following groups of would-be migrants should be taken into account alongside professionals listed in ASEAN registers.

- **Professionals who move for work through nonemployment channels.** Government data on the number of migrant workers, organized by occupation, capture only those who go through the formal employment system. Meanwhile, many professionals and highly skilled individuals easily bypass this system through irregular channels (e.g., by entering another country as tourists).<sup>120</sup>
- **Professionals who move for work through non-MRA channels.** Focus group participants noted that most professionals move to other ASEAN countries with multinational corporations rather than through MRA channels. Their movements are not captured by either ASEAN registers or professional groups in destination countries.
- **Migrants who make multiple sequential moves.** While some professionals may directly move to their final destination, many will pursue a step-migration strategy. For example, many health-care professionals first start with a temporary employment contract in one destination country before moving on to another.
- **Domestic and foreign graduates qualified in the MRA-covered professions.** This group represents an important pool of potential workers available to work in a given ASEAN country. For instance, the small but growing number of ASEAN students studying medicine and dentistry in Thailand will have a much easier time passing the professional exams (including the language test) after graduation and some may even choose to remain in Thailand. As policymakers at the

<sup>119</sup> Ravichandran Moorthy and Guido Benny, "Is an 'ASEAN Community' Achievable?" *Asian Survey* 52, no. 6 (2012): 1043–66, [www.jstor.org/stable/10.1525/as.2012.52.6.1043](http://www.jstor.org/stable/10.1525/as.2012.52.6.1043); Guntur Sugiyarto and Dovelyn Rannveig Agunias, *A "Freer" Flow of Skilled Labour within ASEAN: Aspirations, Opportunities, and Challenges in 2015 and Beyond* (Bangkok and Washington, DC: IOM and MPI), [www.migrationpolicy.org/research/freer-flow-skilled-labour-within-asean-aspirations-opportunities-and-challenges-2015](http://www.migrationpolicy.org/research/freer-flow-skilled-labour-within-asean-aspirations-opportunities-and-challenges-2015).

<sup>120</sup> Mendoza, *Shortage amid Surplus*.

local and regional level attempt to estimate the occupational supply and demand and to influence the level and direction of the movement of graduates in various MRA professions, better information is essential.

**Track data on brain drain and brain waste.** OECD data on the emigration of highly educated persons from the ASEAN region to OECD destinations seem to support concerns among ASEAN countries about brain drain. ASEAN governments would benefit from a better understanding of why ASEAN professionals choose to emigrate. Relevant data can be collected through regular surveys or, at minimum, at the time of border crossing. The Australian data-collection system provides a good model. All persons entering or leaving Australia are asked a battery of migration-related questions, including on their country of birth and nationality, origin/destination, intended/actual length of residence, and reasons for moving.<sup>121</sup>

Similarly, both Canada and Australia use survey data to identify key risk factors, and use this information to counter brain waste among immigrants. Governments collecting information on the degrees obtained and professions practiced before and after migration are able to assess the extent of mismatch between immigrants' past and present employment.

**Develop data to support decisionmaking.** Collecting data to inform policy is a challenging task for technical, financial, institutional, as well as political reasons, as an example from the Philippines demonstrates. Even with a legal mandate to set up a Shared Government Information System on Migration (1995), the system has not been fully implemented, in part because of lack of funding, but also because of turf wars between government agencies that oversee different aspects of overseas labor migration.<sup>122</sup> Canada, on the other

hand, offers an example of how a country uses its data collection and analysis to make better decisions. A pioneer of the points-based system that prioritizes skilled immigration, Canada has made regular adjustments in the allocation of points to applicants' characteristics (e.g., language skills, degrees, and age) when government and independent research revealed lackluster economic outcomes among a significant number of new arrivals. The current system prioritizes applicants with a job offer.

**Study foreign students' mobility.** The nexus between professional and student mobility also calls for collecting regional-level data on the movement of students after graduation, the rate and timing of their return, the distribution of the costs of higher degree education between the home and host countries, and contributions to the regional community through diaspora effects.

**Tap into existing data-collection efforts outside the migration field.** Governments in the region do not need to build mobility data systems from scratch. For instance, the World Values Survey (WVS) and the Gallup World Poll, two international public opinion surveys, provide a unique avenue for potential data-collection efforts. They already collect data in ASEAN Member States and use region-specific questions, such as respondents' sentiments toward ASEAN as an organization alongside their national government and other groups. Most important, both WVS and Gallup are open to including new questions to supplement existing data. In the short term, adding relevant questions to existing surveys could be the most fruitful way to collect valuable data on high-skilled and MRA-covered mobility in ASEAN (see other international datasets in Table 19).

**Collect data on MRA-covered occupations.** As pointed out earlier, no countries or international organizations have consistent and reliable data detailed enough to identify the mobility of skilled persons in the MRA-covered professions. Data on tourism professionals are particularly limited, as the 32 professions covered by the MRA represent a mix of high-, middle-, and low-skilled occupations.

**Support regional efforts in creating data-collection systems.** Finally, collecting and analyzing large, complex, and real-time data can be extremely

<sup>121</sup> Graeme Hugo, Janet Wall, and Margaret Young, *The Southeast Asia-Australia Regional Migration System: Some Insights into the "New Emigration"* (Washington, DC: MPI, 2015), [www.migrationpolicy.org/research/southeast-asia-australia-regional-migration-system-some-insights-new-emigration](http://www.migrationpolicy.org/research/southeast-asia-australia-regional-migration-system-some-insights-new-emigration).

<sup>122</sup> Maruja Asis, "Towards a Shared Government Information System for Migration: A Possible Dream?" (presentation, National Statistics Conference, Mandaluyong City, Philippines, 1–2 October 2013), [www.nscb.gov.ph/ncs/12thncs/papers/INVITED/IPS-32%20Demographic%20Statistics%20\(Migration\)/IPS-32\\_2%20Towards%20a%20Shared%20Government%20Information%20System%20for%20Migration\\_%20A%20Possible%20Dream.pdf](http://www.nscb.gov.ph/ncs/12thncs/papers/INVITED/IPS-32%20Demographic%20Statistics%20(Migration)/IPS-32_2%20Towards%20a%20Shared%20Government%20Information%20System%20for%20Migration_%20A%20Possible%20Dream.pdf).

challenging for countries that lack technical and methodological expertise. Creating new and modifying existing data systems are costly and time-consuming processes. Many ASEAN countries, and the CLMV four in particular, are likely to benefit from a joint effort in

building these datasets with support from regional and international partners such as ADB. Also, partnerships between countries of origin and destination as well as intraregional efforts could help in the collection of better, and possibly even harmonized, data.

**Table 19: Overview of Regional and International Datasets**

Dataset	Regional			International				
	ILMS	MISA	DIOC-E	World Data Bank	Quality of Governance	World Values Survey	Gallup World Poll	UN International Migrant Stock
Organization	ASEAN Triangle Project	Scalabrini Migration Center	OECD	World Bank	Quality of Government Institute	World Values Survey Association	Gallup	United Nations
Number of Countries Covered	10	5	7	10	10	6	9	10
Latest Years <sup>1</sup>	2013	2007	2000–01 <sup>5</sup>	2000	2011–2013 <sup>8</sup>	2010–2014	2015	2015
Data Type (Stock/Flows)	Both	Both	Stock	Stock	Stock	Stock	Stock	Stock
Micro-Data	–	–	●	●	●	●	●	●
Occupational Groups <sup>2</sup>	●	●	●	–	–	– <sup>9</sup>	– <sup>10</sup>	–
MRA Occupational Groups	–	–	–	–	–	–	–	–
Migration via MRA	–	–	–	–	–	–	–	–
Educational Attainment	●	–	●	●	–	●	–	–
Economic Activity	●	–	–	–	–	–	–	–
Economic Sector	●	–	–	●	–	–	–	–
Brain Drain	–	–	–	●	●	–	–	–
Brain Waste	–	–	–	–	●	–	–	–
Country of Origin	●	● <sup>4</sup>	● <sup>6</sup>	●	●	–	–	●
Nationality	–	–	● <sup>7</sup>	–	–	–	● <sup>11</sup>	–
Country of Destination <sup>3</sup>	●	● <sup>4</sup>	–	●	–	–	–	●

<sup>1</sup> Latest Year refers to the most recent years for which information was available for most covered countries.

<sup>2</sup> ISCO based unless otherwise noted;

<sup>3</sup> Outflows of migrants;

<sup>4</sup> Data only for top five countries are included;

<sup>5</sup> The 2010–11 dataset is forthcoming;

<sup>6</sup> Recorded as “Country of Birth”, but detailed as being used to, “describe immigrant population by detailed country of origin”, Pg. 3 DIOC-E Methodology;

<sup>7</sup> Variable presented as “foreign-born” and defined as either “country of birth” or “nationality” depending on country;

<sup>8</sup> This is cross-sectional data. Time-series is also available for which the unit of analysis is country and year, 1947–2015 for all available, such as Sweden-1947;

<sup>9</sup> Occupational details are provided using scales of 1–10 to judge nature of work, rather than ISCO definitions;

<sup>10</sup> Only asked to provide information about general category of work;

<sup>11</sup> Asked whether individual was born in country of residence at time of survey.

Source: Compilation by the authors.



# VII. Moving Forward toward Skill Mobility: Implications at the Regional and National Levels

Given changing demographics, rising educational attainment, and rapid economic growth, the ASEAN region is poised to see an expansion of both the demand for and supply of skilled migrants willing and able to move. However, whether ASEAN can enter the age of brain circulation—legal, organized, efficient, multidirectional, and beneficial for both sending and receiving countries as well as for skilled migrants themselves—is far from certain. Many challenges remain, including an ongoing pattern of brain “loss” to OECD countries, newly emerging patterns of brain waste within the region, and technical challenges to implementing relevant MRAs. Further, the MRAs may not in themselves be enough to facilitate the goal of high-skilled mobility. This study estimates that only 20,920 professionals of the 14.9 million persons employed in the seven MRA-covered occupations in ASEAN might move through the MRA process in the near future.

While the AEC offers an opportunity to build and share wealth collectively, it also requires coordinated policies between countries to address these challenges. A series of concrete steps at the regional and national levels could be taken now to realize the potential that greater skilled mobility offers.

## A. Regional Level: The Need for Quality Data and Policy Analysis

The many gaps in knowledge on the scale, composition, and direction of high-skilled workers’ movements could be filled through improved data collection and continuous policy-relevant analysis.

## 1. Generating Quality Data on Skilled Mobility in ASEAN

As countries build up and expand their institutional data and analytical capacity, data-collection systems established in other countries and regions for policy-relevant analysis can be used as models. A highly useful publication for policy research is the annual OECD report, *International Migration Outlook* (referred to as SOPEMI). The report is chock-full of the most recent and historical trend data on flows, stocks, origins, and destinations, as well as a broad range of characteristics and outcomes for both migrants and nationals for the OECD overall, the individual Member States, and more recently, select non-OECD countries. Each report provides details on participating countries’ data-collection methods, group inclusions and exclusions, and the changes that take place over time to help data analysts interpret the reported information correctly. OECD also attempts to harmonize the data across its Member States and provides technical assistance for countries revising or building their data systems. Additionally, every year the report covers two or three topical issues that are of particular interest to policymakers.

Modeled on the OECD report, the Organization for American States (OAS) launched a similar publication, *International Migration in the Americas* (referred to as SICREMI). Now in its third edition, it aims to disseminate data that are otherwise hard to obtain and analyze.<sup>123</sup> Though less extensive than the OECD *Outlook*, it describes the magnitude, trends,

<sup>123</sup> Organization of American States (OAS) and OECD, *International Migration in the Americas: Third Report of the Continuous Reporting System on International Migration in the Americas (SICREMI) 2015* (Washington, DC: OAS, 2015), [www.oas.org/docs/publications/SICREMI-2015-ENGLISH.pdf](http://www.oas.org/docs/publications/SICREMI-2015-ENGLISH.pdf).



and characteristics of international migration in the countries of the Americas. SOPEMI and SICREMI offer good models for the ASEAN countries to emulate. And funders of international development would do well to support similar measures. Necessary technical assistance could be coordinated by independent, international research organizations.

## 2. Developing Forward-Looking Policy Regarding MRAs

Parallel to this report, which focuses on trends in the mobility of skilled persons overall and in MRA-covered occupations in particular, the Migration Policy Institute has conducted extensive analyses of the technical and policy challenges that complicate effective MRA implementation<sup>124</sup> as well as an exploration of the best ways to address these challenges for the current MRA-covered professions. One lesson to consider here is the need to think proactively about the next profession or set of professions for which an MRA could be developed.

Research shows that it takes time, more than a decade in some cases, to lay the foundation for, sign, and then implement an MRA. Furthermore, it takes time for professionals and other stakeholders to learn about and start taking advantage of the opportunities that an MRA can offer. There is also a time lag between the initial discussions of an MRA for a given profession and when it starts being a real facilitator of the mobility of the professionals covered. This means that policymakers would need to make their decisions based on projected supply and demand for skills in each occupation 10 to 15 years into the future.

Matching the supply of skilled labor with demand on a regional basis will be critical not only for the success of the ASEAN Confederation of Employers but also for addressing brain drain and brain waste. Teaching is one profession that is likely to benefit from an MRA. As described in Section II, a number

of ASEAN Member States have large populations of children and youth who are in or about to enter primary and secondary schools, an increasing share of whom will pursue some form of postsecondary education. In addition, practically all ASEAN countries have growing expatriate communities as a result of sustained work, family, and humanitarian migration flows. Foreign teachers can thus provide educational services to both the general population and to linguistic minorities.<sup>125</sup>

Construction professionals might also be benefited by an MRA. For most ASEAN countries and for the region overall, tourism represents—and is widely projected to remain—a critical source of domestic employment, and also accounts for a significant share of GDP. As countries invest in their tourism-related infrastructures (e.g., roads, hotels, restaurants, and entertainment centers), the need to promote harmonization of the knowledge, skills, and codes of practice for construction professionals and workforces across ASEAN is likely to increase. Three construction-related professionals—architects, engineers, and surveyors—are already covered by an MRA or a framework arrangement. However, similar to their tourism counterparts, construction workers with mid- and lower-level skills might also benefit from greater mobility opportunities. MRAs could facilitate a standardized curriculum, harmonized professional requirements, and an ASEAN-level certification.

## B. National Level: Addressing Common Challenges to Brain Circulation

A key finding of this report is that despite economic disparities, both relatively advanced countries (such as Singapore) and less developed ones (such as Myanmar and Lao PDR) need skilled foreigners to fill shortages. Put differently, no ASEAN country can be self-sufficient when it comes to talent. Furthermore, and unlike in the past, professionals are moving to a range of countries within ASEAN, not just to the most wealthy. These concurrent trends suggest that ASEAN Member States may increasingly both send and receive skilled persons. To do so efficiently, they will need to address a number of common challenges, such as:

<sup>124</sup> Mendoza and Sugiyarto, *The Long Road Ahead*; Dorelynn Rannveig Mendoza, Maria Vincenza Desiderio, Guntur Sugiyarto, and Brian Salant, *Open Windows, Closed Doors: Mutual Recognition Arrangements on Professional Services in the ASEAN Region* (Manila: ADB, forthcoming).

<sup>125</sup> Sumption, *Tackling Brain Waste*.

- **Tackling brain waste.** Despite the obvious human capital and broader economic implications of brain waste, the underutilization of both domestic and foreign worker skills is an understudied issue across ASEAN countries. Skills underutilization is one of the main reasons many highly educated people emigrate, and understanding the reasons for it is important. Today's immigrants bring with them much greater human capital as well as greater work and education experience than those in the past. If their skills go unrecognized, they may be trapped in the informal market.

Lack of data makes it extremely difficult to assess the extent or costs associated with brain waste, but the phenomenon is unquestionably real. ASEAN is not alone in facing this challenge. One of the lessons to be learned from other countries is that reducing MRA-related barriers is not enough. Australia, Canada, the EU Member States, and to a lesser extent the United States have experimented with various strategies and practical solutions for reducing barriers to human capital transfer. Led by both public and private organizations and agencies, these models have included efforts to help foreign professionals bridge the gaps between their skills and domestic requirements, to simplify qualifications requirements, to provide information and support to newcomers as they navigate the domestic labor market and professional regulations, and to expand access to language training.<sup>126</sup>

- **Monitoring brain drain trends.** A worldwide phenomenon, brain drain has long been on the policy and political agenda of many governments because of its potential to adversely affect a country's development

and economic growth. More recent research suggests, however, that the negative consequences of the emigration of skilled and highly educated persons may be offset by certain positive effects, such as remittances and the transfer of other resources that diasporas often contribute to their home countries. Examples from India, Republic of Korea, and Taipei, China, among many others, show that a skilled diaspora represents a key strategic asset that could respond to the developmental needs of home countries by seeding new businesses, promoting international trade, and facilitating technology transfers.<sup>127</sup> It is essential to not only monitor outflows of skilled people but also understand the main reasons skilled ASEAN nationals choose to emigrate from their countries (or from the region more broadly), the reasons they may choose not to return, and ways to leverage the support of the diaspora for developmental needs.

- **Involving multiple stakeholders in the process.** Reducing barriers to the movement of the highly skilled requires commitment and coordinated efforts from a wide range of stakeholders with possibly competing priorities. These actors include local, regional, and international employers; professional associations; governments and regulatory authorities; educational institutions; service providers; as well as the general public. Though awareness of the presence and importance of foreign professionals is increasing, the general consensus among international and regional experts is that more needs to be done. At this juncture, it is critical to promote the benefits of MRAs in particular and skilled migration in general through public education campaigns and ongoing consultations with key stakeholders.

<sup>126</sup> Anke Schuster, Maria Vincenza Desiderio, and Giuliana Urso, eds., *Recognition of Qualifications and Competences of Migrants* (Belgium: International Organization for Migration, 2013), <https://publications.iom.int/books/recognition-qualifications-and-competences-migrants>.

<sup>127</sup> Papademetriou, *Rethinking Emigration*.

# Appendixes

## Appendix 1. ASEAN Employment in Seven MRA-Covered Professions: Size and Share of Total Employment, Various Years

	Employment in MRA-Covered Professions								Total Employment <sup>e</sup>	Share of 7 Professions in Total Employment (%)
	Accounting <sup>f</sup>	Architecture <sup>f</sup>	Dentistry	Engineering	Medical	Nursing	Tourism <sup>f</sup>	Total 7 Professions		
Brunei Darussalam	56	64	174 <sup>c</sup>	167 <sup>f</sup>	596 <sup>c</sup>	3,323 <sup>c</sup>	4,500	8,880	198,360	4.5
Cambodia	291	368	284 <sup>c</sup>	824 <sup>f</sup>	2,440 <sup>c</sup>	11,454 <sup>c</sup>	1,034,500	1,050,161	8,732,507	12.0
Indonesia	26,782	6,000	24,147 <sup>c</sup>	9,000 <sup>d</sup>	49,853 <sup>c</sup>	338,501 <sup>c</sup>	3,468,500	3,931,374	117,786,355	3.3
Lao PDR	101	255	225 <sup>c</sup>	7,000 <sup>e</sup>	1,160 <sup>c</sup>	5,581 <sup>c</sup>	123,000	137,322	3,385,881	4.1
Malaysia	32,511	1,900	9,995 <sup>b</sup>	11,170 <sup>d</sup>	32,979 <sup>b</sup>	90,199 <sup>b</sup>	574,000	752,754	13,219,276	5.7
Myanmar	630	413	3,355 <sup>c</sup>	50 <sup>d</sup>	29,832 <sup>c</sup>	48,871 <sup>c</sup>	661,000	744,151	29,469,012	2.5
Philippines	19,380	36,000	45,903 <sup>a</sup>	14,250 <sup>d</sup>	93,862 <sup>a</sup>	488,434 <sup>a</sup>	1,264,500	1,962,329	41,357,455	4.7
Singapore	24,774	1,806	2,149 <sup>d</sup>	4,333 <sup>e</sup>	10,339 <sup>d</sup>	30,533 <sup>d</sup>	158,500	232,434	3,054,343	7.6
Thailand	68,777	2,600	17,222 <sup>b</sup>	190,000 <sup>f</sup>	26,244 <sup>b</sup>	138,710 <sup>b</sup>	2,402,500	2,846,053	39,859,396	7.1
Viet Nam	9,800	4,100	811 <sup>c</sup>	267,244 <sup>e</sup>	107,867 <sup>d</sup>	112,029 <sup>d</sup>	2,783,000	3,284,851	53,519,872	6.1
<b>ASEAN</b>	<b>183,102</b>	<b>53,506</b>	<b>104,265</b>	<b>504,038</b>	<b>355,172</b>	<b>1,267,635</b>	<b>12,474,000</b>	<b>14,941,718</b>	<b>310,582,456</b>	<b>4.8</b>

ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic, MRA = mutual recognition arrangement.

Note: Estimates are derived from different data sources and refer to various years: <sup>a</sup>2004, <sup>b</sup>2010, <sup>c</sup>2012, <sup>d</sup>2013, <sup>e</sup>2014, <sup>f</sup>2015, <sup>g</sup>2016.

Sources: Data on dentistry, medical, and nursing (including midwifery) professionals are from World Health Organization, "Global Health Observatory Data Repository," accessed 13 July 2016, <http://apps.who.int/gho/data/node.main.A1443?lang=en>; Data on accountants are from ASEAN Federation of Accountants (AFA), *Annual Report 2015* (Jakarta: AFA, 2016), [www.aseanaccountants.org/files/AFA\\_Annual\\_Report\\_2015.pdf](http://www.aseanaccountants.org/files/AFA_Annual_Report_2015.pdf); Data on architects are from ASEAN Architect Council, "AAC 27 Comparative Matrix—ASEAN Architect Council," accessed 13 July 2016, <http://site.aseanarchitectcouncil.org/main/3000/index.asp?pageid=167608&t=documents>; Data on engineers are from ASEAN, *Handbook on Liberalisation of Professional Services through Mutual Recognition in ASEAN: Engineering Services* (Jakarta: The ASEAN Secretariat, 2015), [www.asean.org/storage/images/2015/september/ASEAN-Handbook-Architecture-Services/FINAL%20ASEAN%20Handbook%2001%20-%20Engineering%20Services.pdf](http://www.asean.org/storage/images/2015/september/ASEAN-Handbook-Architecture-Services/FINAL%20ASEAN%20Handbook%2001%20-%20Engineering%20Services.pdf); Institution of Engineers Indonesia, "Infografis: Komposisi Jumlah Insinyur (ASEAN Composition of Engineers)," accessed 14 February 2016, <http://pii.or.id/infografis-komposisi-jumlah-insinyur-asean>; Pertubuhan Ukur Jurutera & Arkitek, "PUJA (Brunei) Membership List," accessed 13 July 2016, <http://puja-brunei.org/memberships/memberlist/>; Institution of Engineers Singapore, "Member List (June 2016)," accessed 13 July 2016, <http://www.ies.org.sg/wordpressX/ies-members/>; national consultants' responses to ADB-MPI questionnaires; Data on tourism are from World Travel and Tourism Council (WTTTC), "WTTTC Data Gateway," accessed 1 July 2016, [www.wtttc.org/datagateway/](http://www.wtttc.org/datagateway/); WTTTC, "Economic Impact Analysis," accessed 1 July 2016, [www.wtttc.org/research/economic-research-impact-analysis/](http://www.wtttc.org/research/economic-research-impact-analysis/); Total employment data are from World Bank, "World Development Indicators," accessed 13 July 2016, <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>.

## Appendix 2. Research Questions and Methodology

To systematically examine cross-border talent flows within the Association of Southeast Asian Nations, the research and fieldwork that informed this series of reports was organized around four sets of questions:

- What is known and knowable about the movement of postsecondary-educated individuals in general as well as in the occupations covered by mutual recognition arrangements?
  - What are the stocks and flows of ASEAN professionals, including in the MRA occupations? That is, what size are these populations, where are they now, and where do they come from?
  - What are the demographic, educational, labor, and other forces that are likely to affect future flows of skilled persons in ASEAN? What is the potential for migration-related growth in the MRA-covered occupations?
  - What information do policymakers need to have in order to meaningfully estimate the scale, nature, and directions of high-skilled flows, and to address the challenges of skilled mobility such as brain drain and brain waste? What can the ASEAN Member States learn from other countries and regional organizations?
- Questionnaire #1 asked respondents to provide statistics and describe the main trends and developments in the cross-country movements of professionals in each of the MRA occupations drawing from government surveys and publications, professional organizations, regulatory commissions, registers, research surveys, and other sources.
  - Questionnaire #2 asked respondents to provide statistics and describe how the current educational, labor, and migration trends might affect the future mobility and directions of flows of persons studying for or employed in a given occupation.
  - Questionnaire #3 asked respondents to assess the availability and quality of the data on domestic and foreign nationals working or studying in each of the MRA occupations.

An initial literature and data scan on stocks and flows by profession and country of origin and destination revealed a field characterized by lack of information more broadly (e.g., certain data are not collected at all), lack of needed detail on skilled professionals (e.g., information on practicing professionals is not broken down by nativity), and limited data access (e.g., some governments do not authorize data access to nongovernment researchers). Faced with these data challenges, the research team adopted a multipronged approach.

First, they identified and worked closely with data and mobility experts in each ASEAN country, who became valuable resources on government and administrative datasets, helping with data access, data interpretation, and translation (see Appendix 3 for a list of experts involved). They developed, tested, and administered three data questionnaire instruments that were completed by the national consultants:

Second, the Asian Development Bank (ADB) and the Migration Policy Institute (MPI) convened two focus group discussions in Manila (3–4 September 2015) and Bali (26–27 September 2015) with 57 key informants from ASEAN Member States as well as international experts on highly skilled foreign workers that allowed us to probe more deeply into data questions relating to the size, origins, and destinations of skilled professionals and international students; the facilitators and barriers to their movement; the projected demand in occupations under MRAs; and access and quality of available data on skilled persons and students. Altogether, 105 local and international experts were engaged over the course of this study (see Appendix 3 for their names and affiliations).

Third, existing data sources were scanned, especially those collected by international organizations, such as the Organisation for Economic Co-operation and Development (OECD); the International Labour Organization (ILO); the World Bank; the World Health Organization (WHO); the United Nations Educational, Scientific, and Cultural Organization (UNESCO); regional organizations such as the ASEAN TRIANGLE Project (ATP) and the Scalabrini Migration Center; as well as a wide range of estimates made by academic experts from individual ASEAN countries, national statistical agencies, professional groups, and other national entities.

### Appendix 3. List of Participants in Formal Meetings and Individual Interviews

<b>Roundtable of High-Level Experts, Bali, Indonesia, 11–12 May 2015, Convened by Asian Development Bank and Migration Policy Institute</b>	
Abella, Manolo	International Labour Organization MIGRANT Unit
Batalova, Jeanne	Migration Policy Institute
Bedford, Richard	AUT University, Auckland, New Zealand
Chia, Siow Yue	Singapore Institute of International Affairs
Desiderio, Maria Vincenza	Migration Policy Institute
Doutriaux, Yves	Government of France
Fix, Michael	Migration Policy Institute
Govindasamy, Jeevakumar	Talent Corporation Malaysia, Government of Malaysia
Hasan, Rana	Asian Development Bank
Ishikura, Yoko	Hitotsubashi University; World Economic Forum Global Agenda Council on Education and Skills
Majid, Tan Sri Munir	CIMB ASEAN Research Institute and Bank Muamalat Malaysia
Mendoza, Dovelyn Rannveig	Migration Policy Institute
Narjoko, Dionisius	Economic Research Institute for ASEAN and East Asia (ERIA)
Nicolas, Imelda M.	Commission on Filipinos Overseas, Office of the President of the Philippines
Papademetriou, Demetrios G.	Migration Policy Institute
Santoso, Megawati	ASEAN Task Force on the ASEAN Qualifications Reference Framework
Sugiyarto, Guntur	Asian Development Bank
Tambo, Ichiro	Japan International Cooperation Agency Research Institute
Theroux, Eric	Ministry of International and Francophone Relations of Québec, Québec Ministry of International and Francophone Relations
Pereira, Ana Carla	DG Employment, European Commission
Yeoh, Brenda	National University of Singapore

<b>Focus Group Discussion, Manila, Philippines, 3–4 September 2015, Convened by Asian Development Bank and Migration Policy Institute</b>	
Abaquin, Carmencita	Professional Regulatory Board of Nursing, Professional Regulation Commission, Republic of the Philippines
Aldaba, Fernando T.	Department of Economics, Ateneo de Manila University, Republic of the Philippines
Alipio, Arlene	Department of Tourism, Republic of the Philippines
Ang, Alvin	Department of Economics, Ateneo de Manila University, Republic of the Philippines
Baromey, Neth	Royal University of Phnom Penh, Cambodia
Batalova, Jeanne	Migration Policy Institute
Bulaong, Ofelia	Professional Regulation Commission, Republic of the Philippines
Chalamwong, Yongyuth	Thailand Development Research Institute
Chantavanich, Supang	Faculty of Political Science and Director, Asian Research Center for Migration, Chulalongkorn University, Thailand
Chanthavong, Panya	Ministry of Education and Sports, Lao PDR
Dacuycuy, Lawrence	School of Economics, De La Salle University, Republic of the Philippines
Dalalom, Phouthone	Institute of Mass Media, Culture and Tourism, Ministry of Information, Culture and Tourism, Lao PDR
Dethoudom, Somphone	Council of Sciences and Technology, Ministry of Public Works & Transportation, Lao PDR
Hasakool, Ruangsang	Office of the Vocation Education Commission, Thailand
Isaac, Irene	Policies & Planning, Technical Education and Skills Development Authority, Republic of the Philippines
Korwanich, Narumanas	Dental Council of Thailand



**Focus Group Discussion, Manila, Philippines, 3–4 September 2015,  
Convened by Asian Development Bank and Migration Policy Institute**

Kuouch, Somean	National Employment Agency, Cambodia
Leakhena, Sim Chan	National Committee for Tourism Professionals, Ministry of Tourism, Cambodia
Lwin, Kyaw	Ministry of Construction, Myanmar
Mai, Thanh Tong	Viet Nam Association of Accountants & Auditors
Malindog-Uy, Anna	Asian Development Bank, Consultant
Manzala, Teresita	Professional Regulations Commission, Republic of the Philippines
Myint, Win	Ministry of Construction, Myanmar
Navallo, Katrina	Asian Development Bank, Consultant
Nguyen, Ba Ngoc	Institute of Labor Science and Social Affairs, Viet Nam
Nguyen, Bich Luu	Viet Nam Nurse Association
Nguyen, Lan Huong	Ministry of Health, Viet Nam
Nguyen, Thi Thai Lan	University of Labor and Social Affairs, Viet Nam
Ochoa-Moreno, Anabelle	Tourism Industry Board, Republic of the Philippines
Oum, Sothea	Ngee-Ann Adelaide Education Centre, Cambodia
Pham, Ngoc Toan	Institute of Labor Science and Social Affairs, Viet Nam
Phan, Thi Dung	Viet Hue University Hospital
Phousinghoa, Sengxay	National Implementation Unit, Department of Planning and Cooperation, Ministry of Industry and Commerce, Lao PDR
Phuengkamchomb, Atinart	Medical Council of Thailand
Sriwatanawongsa, Adirek	Dental Association of Thailand
Suan, Eric	Asian Development Bank
Ta, Bao Luu	Nhatviet Investment Consulting Co., Viet Nam
Tran, Viet Hung	Ministry of Health, Viet Nam
Tullao Jr., Teresito	De La Salle University Manila, Republic of the Philippines
Waikakul, Saranatra	Faculty of Medicine, Sriraj Hospital-Mahidol University, Thailand
Win, Zaw	Myanmar Knowledge Management Co.
Yorm, Khim	Ministry of Labor and Vocational Training, Cambodia
You, Virak	Department of Higher Education, Ministry of Education, Youth, and Sports, Cambodia

**Focus Group Discussion, Bali, Indonesia, 26–27 September 2015,  
Convened by Asian Development Bank and Migration Policy Institute**

Ananta, Aris	University of Indonesia
Ariyanto, Tetty DS	Inspire Travel and Tourism Learning Centre
Aung, Aye Aye	Asia Mega Link Company Limited
Batalova, Jeanne	Migration Policy Institute
Chan, Chong Kong	Human Capital, PriceWaterhouse Coopers
Desiderio, Maria Vincenza	Migration Policy Institute
Djajadihardja, Yusuf Surachman	Geospatial Information Infrastructure, Badan Informasi Geospasial
Fahmi, Zita Mohd	Malaysian Qualifications Agency, ASEAN Quality Assurance Network Executive Board
Fix, Michael	Migration Policy Institute
Hasan, Chotib	University of Indonesia
Hasan, Isnarti	Ministry of Labor, Indonesia
Htoon, Ye Swe	Border Areas Development Association, Myanmar
Lwin, Kyi	Myanmar Engineering Society
Marhzan, Nurmazilah Dato	Malaysian Institute of Accountants
Mendoza, Dovelyn Rannveig	Migration Policy Institute
Omar, Amir	Economic Planning Unit, Malaysia



**Focus Group Discussion, Bali, Indonesia, 26–27 September 2015,  
Convened by Asian Development Bank and Migration Policy Institute**

Paryono	SEAMO VOCTECH Brunei Regional Centre
Salleh, Adinin Md	Brunei Darussalam National Accreditation Council , Ministry of Education
Salant, Brian	Migration Policy Institute
Santoso, Megawati	ASEAN Task Force on the ASEAN Qualifications Reference Framework
Shahima, Wan Yon	Human Resources Development Fund, Ministry of Human Resources, Malaysia
Suprajaka	Indonesia Geospatial Information Board
Sumaryono	Human Resources and Industry for Special Information, Indonesia
Sugiyarto, Guntur	Asian Development Bank
Thangavelu, Shandre Mugan	University of Adelaide, Centre for International Economic Studies
Tjptoherijanto, Prijono	University of Indonesia
Zakaria, Aminuddin	Malaysia Airlines Berhad

**Bali Forum on Skill Mobility in ASEAN, Bali, Indonesia, 28–29 September 2015,  
Convened by Asian Development Bank and Migration Policy Institute**

Aguirre, Estelita C.	ASEAN Federation of Accountants (AFA)
Aldaba, Fernando T.	Ateneo de Manila University, Philippines
Ananta, Aris	University of Indonesia
Batalova, Jeanne	Migration Policy Institute
Bui, Thuy Anh	Ministry of Industry and Trade, Viet Nam
Chansompheng, Chanthaly	International Financial Institutions Division, Ministry of Planning and Investment, Lao PDR
Chantavanich, Supang	Asian Research Center for Migration (ARCM), Chulalongkorn University
Chanthavong, Panya	Ministry of Education and Sports, Lao PDR
Chen, Lurong	Economic Research Institute for ASEAN and East Asia (ERIA)
Chia, Siow Yue	Singapore Institute of International Affairs
Chong, Wai Kit	Ministry of Tourism and Culture, Malaysia
Conti, Leandro A.	ASEAN Chartered Professional Engineering Coordinating Committee (ACPECC)
Cordero, Rolando	Professional Regulation Commission, Republic of the Philippines
Fahmi, Zita Mohd	Malaysian Qualifications Agency, ASEAN Quality Assurance Network Executive Board
Fix, Michael	Migration Policy Institute
Gagni, Oth	Asian Development Bank
Gajaseni, Nantana	ASEAN University Network
Hawthorne, Lesleyanne	Melbourne School of Population and Global Health, University of Melbourne
Hasan, Rana	Asian Development Bank
Herliza	Directorate General of International Trade Cooperation, Ministry of Trade, Indonesia
Ho, Quang Trung	ASEAN Secretariat
Hongrat, Kanjana	Ministry of Education, Thailand
Htoon, Ye Swe	Border Areas Development Association, Myanmar
Kato, Hiroshi	Japan International Cooperation Agency
Le, Dong Phuong	Institute of Education and Vocational Training, Ministry of Education and Training, Viet Nam
Lin, Kyaw Kyaw	Ministry of Labor Employment and Social Security, Myanmar
Long, Simon	The Economist
Malang, Lyndree	Asian Development Bank, Consultant
Majid, Tan Sri Munir	CIMB ASEAN Research Institute and Chair, Bank Muamalat Malaysia
Mendoza, Dorelyn Rannveig	Migration Policy Institute
Metiranan, Pornpimol	Office of Education Council, Ministry of Education, Thailand
Miao, Mabel	Center for China and Globalization
Navallo, Katrina	Asian Development Bank

**Bali Forum on Skill Mobility in ASEAN, Bali, Indonesia, 28–29 September 2015,  
Convened by Asian Development Bank and Migration Policy Institute**

Nguyen, Thi Thai Lan	University of Labor and Social Affairs, Viet Nam
Nicolas, Imelda M.	Commission on Filipinos Overseas, Office of the President of the Philippines
Noh, Nirwan	Ministry of Tourism and Culture, Malaysia
Ong, Keng Yong	S. Rajaratnam School of International Studies
Oum, Sothea	Economic Research Institute for ASEAN and East Asia
Papademetriou, Demetrios G.	Migration Policy Institute
Paryono	SEAMO VOCTECH Brunei Regional Centre
Perdiguero, Alfredo	Asian Development Bank
Phan, Oun	Risk Management Unit, Directorate General, Ministry of Commerce, Kingdom of Cambodia
Phouinghoa, Sengxay	National Implementation Unit, Department of Planning and Cooperation, Ministry of Industry and Commerce, Lao PDR
Pisoth, Khem	Ministry of Labor and Vocational Training, Kingdom of Cambodia
Pratama, Aucky	ASEAN Federation of Accountants (AFA)
Roostiawati	Ministry of Manpower, Indonesia
Salant, Brian	Migration Policy Institute
Santoso, Megawati	ASEAN Task Force on the ASEAN Qualifications Reference Framework
Sideth, Dy Sam	Ministry of Education, Youth and Sports, Kingdom of Cambodia
Singdala, Inthavone	Skills Development and Employment, Ministry of Labor and Welfare, Lao PDR
Skeldon, Ronald	Sussex Centre for Migration Research, University of Sussex
Sumarna	Ministry of Manpower, Indonesia
Tasaka, Takuro	Embassy of Japan in Indonesia, Ministry of Foreign Affairs, Japan
Thangavelu, Shandre	University of Adelaide, Centre for International Economic Studies
Thol, Nara	Directorate General for International Trade, Ministry of Commerce, Kingdom of Cambodia
Win, Zaw	Department of Education, Ministry of Education, Myanmar
Winters, L. Alan	Department of Economics, University of Sussex; formerly, Department for International Development (DFID), United Kingdom
Yulistyawati, Ika	Directorate of Trade in Services Negotiation, Ministry of Trade, Indonesia

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## Firing Up Regional Brain Networks

### *The Promise of Brain Circulation in the ASEAN Economic Community*

The goal of the Association of Southeast Asian Nations (ASEAN) of encouraging intraregional mobility must be understood in the context of changing population dynamics, rising educational levels and aspirations, and increasingly dynamic—if complex—economic forces. This report explores the forces that are poised to transform the supply, demand, and mobility of skilled professionals across ASEAN, and the unique opportunities their convergence presents for human capital development and brain circulation within Southeast Asia. It draws on the insights of nearly 400 ASEAN and member state officials, private sector employers, training directors, and others who participated in focus group discussions, meetings, and surveys.

## About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to a large share of the world's poor. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

