

International Tertiary Student Mobility in the ASEAN: Implications on the Labor Market

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Abstract

The ASEAN region has been a major source of internationally mobile tertiary students in the recent decades, with Malaysia and Vietnam making it among the top ten sending countries of international students worldwide in 2014. The region is also a growing market for higher education, with Singapore, Malaysia and to some extent Thailand experiencing significant international-student inbound flows in the past decade. Higher inbound student mobility rates in the region are associated with a number of factors in destination area including the presence of top-ranked higher education institutions, strong international academic linkages and collaboration, higher GDP per capita and strong labor market prospects and favorable immigration policies for skilled workers. Although international student mobility is a likely antecedent to labor migration, an ASEAN member state is not nearly to lose its high skilled human talent to another member state as the massive outflow of both internationally mobile students and highly educated migrants from the region are directed towards the OECD countries. The forging of an ASEAN Economic Community and the increased intra-regional cooperation in higher education are likely to enhance mobility of students and academics within the region, which, if properly managed, can maximize the gains for both the sending and host countries from enhanced brain exchange and circulation.

Keywords: International student mobility, skilled migration, cross-border mobility, brain drain, brain circulation, ASEAN

Introduction

The number of tertiary students studying outside of their home country has grown with increasing speed in the past three decades. From an annual global growth rate of 1.4 percent between 1980 and 1990, internationally mobile tertiary students¹ grew annually by 4.9 percent in the period 1990-2000 and 7.9 percent between 2000 and 2010. This translates to 800,000 international tertiary students in 1980, 1.2 million in 1990, 2 million in 2000, and 3 million in 2010. Asia is the main source of international students in tertiary education, particularly in the rapidly growing economies of China, India and South Korea, where increased household incomes have made overseas education more affordable and where governments have supported overseas education as a capacity building strategy (OECD/World Bank, 2007).

In the past decade, the ASEAN region has become a major source of international students as well as a growing market for international students. The annual growth rate in the number of students from the ASEAN region studying overseas increased from 2.9 percent in the 2000-2005 period and 5.5 percent in the 2005-2012 period. Malaysia and Vietnam occupied the 8th and 10th positions, respectively, among the top sending countries of international mobile tertiary students worldwide in 2014. There is likewise a budding market for international tertiary education in the ASEAN region, particularly in Singapore, Malaysia and to some extent Thailand.

International student mobility has served as a precursor to highly skilled labor migration, with a significant number of international students taking up productive work in the host country after completion of their studies (Di Pietro, 2012; Guellec & Cervantes, 2001; IOM, 2008; Robertson, 2010). The stay rate of international students in the Organization for Economic Cooperation and Development (OECD) countries averaged 25 percent, and of those that decided to stay, about 74 percent did so for work-related reasons (OECD, 2011). The availability of better economic opportunities and higher returns to human capital in the host country are main determinants in the retention of these

high-skilled human talents. Developed countries with relatively liberal immigration policies (e.g., Australia, Canada and New Zealand) were among the more attractive destinations for international students from less developed countries, especially for those who took on overseas education as a strategy for eventually joining in the labor market in the more developed host country. Internationally mobile students are selective of students with a higher taste for and greater adaptability to foreign cultures and labor markets (Parey & Waldinger, 2011). Countries with high immigrant labor prefer international students over imported foreign labor, as the former have received locally accredited and relevant education and have greater knowledge and adaptability to host country's culture and norms (Ziguras & Law, 2006).

This form of skilled migration by international students has raised some concern from origin countries over the adverse consequences of this brain loss. The retention of highly educated international students in the more developed host country represents a diminution of valuable human capital needed for accelerating economic growth of the less developed sending countries (Blomqvist, 1986; Lucas, 1988; Todaro, 1985). It reduces the developing countries' potential to innovate and attract technologically advanced foreign direct investment (Hoffman, 2003; Nedeljkovic, 2014), and prolongs the transition towards more knowledge-intensive and high value-added industrial development.

This paper describes the trend, patterns and determinants of international student mobility in ASEAN member states and examines the implications on skilled migration and the labor market in the region.

Trend and Patterns of International Student Mobility in the ASEAN Region

As earlier mentioned, Malaysia and Vietnam had the largest outbound internationally mobile students studying abroad, numbering more than 50,000 students in 2012 (Table 1). This is followed by Indonesia with about 35,000, and Thailand and Singapore with each having more than 20,000 outbound internationally mobile students for the same year. Tertiary students from Brunei stood out as the most likely in the region to study abroad, with an outbound mobility rate (i.e., the ratio of tertiary students studying abroad to the total number of tertiary

students in their home country) of about 41 percent in 2012, which is way above the global rate of 1.8 percent. Singapore and Malaysia also have very high outbound mobility rates of about 9 percent and 5.3 percent, respectively, as well as Lao PDR at 3.5 percent and Vietnam at 2.4 percent. Tertiary students in the Philippines and Indonesia were the least likely to study abroad, with reported outbound mobility ratio of 0.4 percent and 0.6 percent, respectively.

Table 1. Outbound Internationally Mobile Students and GDP Indicators by Country of Origin, ASEAN Region, 2012

Country of origin	Number of outbound mobile students*	Outbound mobility ratio (%)*	Growth rate in outbound mobile students 2000-2012*	GDP per capita (US\$) 2012*	Real GDP growth rate 2000-2012*
Brunei Darussalam	3,423	41.1	4.4	41126.6	1.5
Cambodia	4,287	1.9	8.6	945.5	7.9
Indonesia	34,999	0.6	0.7	3718.1	5.4
Lao PDR	4,369	3.5	10.8	1408.3	7.3
Malaysia	55,579	5.3	2.7	10429.5	5.5
Myanmar	7,254	1.1	13.4	1414.7	10.6
Philippines	11,210	0.4	6.0	2587.6	4.8
Singapore	21,777	8.9	0.5	54578.2	5.5
Thailand	24,491	1.0	2.1	5479.8	4.4
Vietnam	53,802	2.4	15.9	1755.3	6.2

Sources: GDP growth rate - calculated from Asian Development Bank statistical database. Malaysia's figure refers to the period 2006-2012 and Myanmar's figure for the period 2006-2010; GDP per capita - World Bank statistical database; International student mobility indicators -UNESCO Institute of Statistics (UIS). Table A. International flows of mobile students by country of origin. (2012). *UIS Estimation. Retrieved June 30, 2015 from <http://www.uis.unesco.org/Education/Pages/tertiary-education.aspx>.

As most of the overseas tertiary education is self-financed, countries in the ASEAN region with the highest GDP per capita, such as Singapore, Brunei and Malaysia, also had the highest likelihood to send their tertiary students for overseas education. Singapore's GDP per capita in 2012 was US\$54,578 while that of Brunei and Malaysia were US\$41,127 and US\$10,230, respectively (Table 1). Thailand, which is among the economically better off countries in the ASEAN region (with a GDP

per capita that is more than twice that of the Philippines, thrice that of Vietnam, and about four times that of Lao PDR, Myanmar and Cambodia), also has higher levels of outbound international students.

The largest growth in the number of outbound internationally mobile students in the ASEAN region were observed in the countries with the lowest initial levels of outbound mobile students, such as the Cambodia-Lao PDR-Myanmar-Vietnam (CLMV) countries and the Philippines. The growth rate of outbound internationally mobile students in CLMV countries for the period 2000-2012 averaged 14.6 percent, and that of the Philippines was 6 percent compared to the global rate of growth of 5 percent and the ASEAN's growth rate of 4.3 percent. There appears to be some correlation between a country's growth rates in real GDP and the number outbound internationally mobile students as depicted in the CLMV countries, which posted the highest growth rates in the beginning decade of the 2000s in both the real GDP (i.e., more than 6 percent) and the number of outbound mobile students (i.e., more than 8 percent).

Australia, the United States and the United Kingdom are the most popular destinations of internationally mobile students from the ASEAN region. These countries have a long established record of high enrolments in international students. With a large number of their higher education institutions in the top list of international rankings, and with financial incentives provided to targeted potential international students, they have sustained themselves as the world's premier hubs for higher education. Australia hosted an estimated 56,000 students, the United States about 45,000, and the United Kingdom 30,000 internationally mobile students from the ASEAN region in 2012. About one-third of the internationally mobile students in Australia from the ASEAN region originated from Malaysia, and more than half were from Vietnam, Singapore and Indonesia. Students from Vietnam accounted for about a third of the outbound internationally mobile students from the region to the United States, while close to half originated from Thailand, Indonesia and Malaysia. About 40 percent of the internationally mobile students from the ASEAN region to United Kingdom were from Malaysia, and 43 percent were jointly accounted for by Thailand, Singapore and Vietnam. Japan is the largest Asian receiving country for internationally mobile students from the ASEAN region, and is among the top five destinations

of mobile students in seven ASEAN member states, including Indonesia, Thailand, the Philippines, and the CLMV countries.

Table 2. Top 5 Destination Countries of Outbound International Students, by Country of Origin, 2012

Country of origin	Top 5 destination countries (number of outbound international students in parenthesis)*
Brunei Darussalam	United Kingdom (2257), Australia (579), Malaysia (309), New Zealand (76), United States (67)
Cambodia	Thailand (955), France (602), Viet Nam (530), Australia (462), Japan (333)
Indonesia	Australia (9431), Malaysia (7989), United States (6907), Japan (2213), United Kingdom (1442)
Lao PDR	Viet Nam (2153), Thailand (1344), Japan (246), Australia (180), France (106)
Malaysia	Australia (17001), United Kingdom (12822), United States (6531), Russian Federation (2817), Indonesia (2516)
Myanmar	Russian Federation (1799), Thailand (1481), Japan (1139), United States (782), Australia (641)
Philippines	United States (3094), Australia (2374), United Kingdom (1306), Japan (632), New Zealand (429)
Singapore	Australia (9379), United Kingdom (5253), United States (4363), Malaysia (791), Canada (312)
Thailand	United States (7386), United Kingdom (6098), Australia (3282), Japan (2476), Malaysia (1025)
Vietnam	United States (15083), Australia (11081), France (5642), Japan (4047), United Kingdom (3769)

Source: UNESCO Institute of Statistics (UIS). Table A. International flows of mobile students by country of origin, 2012. *UIS Estimation. Retrieved June 30, 2015 from <http://www.uis.unesco.org/Education/Pages/tertiary-education.aspx>.

Colonial linkages appear to play a significant role as France takes a spot in the top five destination of mobile students in ASEAN member states that were previously under French rule, such as Cambodia, Lao PDR and Vietnam. The United States takes first spot from its former colonies in the ASEAN region—the Philippines and Vietnam. Political affiliations also seem to have some influence in the preference of destination for overseas education, with Vietnam taking a top spot

for internationally mobile students from the other socialist republics of Lao PDR and Cambodia.

Outbound student mobility streams in Brunei, Singapore and Lao PDR are more concentrated to a specific country. Mobility streams that account for more than 46 percent of outbound students include that of Brunei Darussalam going to the United Kingdom (62.1 percent of its total outbound students), Lao PDR to Vietnam (46.9 percent of its total outbound students), and Singapore to Australia (46.4 percent). Major outbound mobility streams involving more than 5,000 students for each stream include those originating from Malaysia and going to Australia, to the United Kingdom and to the United States; from Vietnam going to the United States, to Australia and to France; from Singapore going to Australia; from Thailand going to the United States and to the United Kingdom; and from Indonesia going to Australia, to Malaysia and to the United States.

Table 3. Internationally Mobile Students by Host Country, 2012

Country of origin	Number of inbound mobile students*	Inbound mobility rate (%)*
Brunei Darussalam	354	4.2
Indonesia	7,235	0.1
Lao PDR	588	0.5
Malaysia	63,625	6.1
Myanmar	65	0.0
Philippines	2,665	0.1
Singapore	52,959	21.7
Thailand	20,309	0.8
Vietnam	3,996	0.2

Source: UNESCO Institute of Statistics (UIS). Table B. Internationally mobile students by host country, 2012. *UIS Estimation. No data provided for Cambodia. Retrieved June 30, 2015 from <http://www.uis.unesco.org/Education/Pages/tertiary-education.aspx>.

Singapore and Malaysia have the highest number of inbound international mobile students and inbound mobility rate (i.e., the percent of internationally mobile students to total tertiary enrolment in the country) in the ASEAN region. The more than 50,000 foreign students in Singapore represent almost a quarter of its tertiary student population (Table 3). Malaysia has more than 63,000 internationally

mobile students, which accounted for 6 percent of its tertiary student population, surpassing that of world at 2 percent and that of the ASEAN region estimated at 1 percent. Singapore and Malaysia are the only countries in the ASEAN region that received more internationally mobile students than they sent to study overseas.

Thailand follows Malaysia and Singapore with more than 20,000 internationally mobile students. Indonesia had an estimated 7,235 internationally mobile students in 2012, which comprised a meagre 0.1 percent of its total tertiary student population. Vietnam had almost 4,000 internationally mobile students in 2012, which was higher than that of the Philippines at less than 3,000 inbound mobile students (Table 2). However, an alternative source of data from the Philippines Commission on Higher Education for foreign students indicated a higher number of 7,766 foreign students enrolled in Philippine higher education institutions for Academic Year 2011-2012, of which 28 percent are South Koreans and 27 percent are jointly accounted for by Iranians and Chinese (Appendix 1).

Singapore and Malaysia have established themselves as premier hubs for higher education in Asia, while Thailand is an emerging international study destination particularly in the ASEAN region, hosting mobile students primarily from the CLMV countries. Religious affiliation and cultural affinity appeared to be a significant factor in the attraction of Malaysia as a study destination for internationally mobile students from Indonesia, Brunei Darussalam, Bangladesh, and countries in the Middle East and the Arabian Gulf region (UNESCO, 2013). China, Singapore and Thailand are likewise important sources of international students in Malaysia. Singapore revealed a more diversified composition of foreign students originating from a wider range of countries including China, India, Australia, countries from North America and Europe, apart from the significant portions from the neighboring countries of Indonesia and Malaysia.

Singapore aimed towards becoming a “Global Schoolhouse”, and attracted a number of renowned foreign higher education institutions in the United States, Europe and Australia to set up branch campuses or programs in Singapore or to engage in academic partnerships particularly with publicly funded universities and polytechnics. This strategy attracted paying internationally mobile students especially from the major source

Asian countries of China, South Korea and India, as they can avail of the academic programs of leading foreign education institutions at a lower tuition and living costs than studying in the parent institution. There are a number of prestigious higher education institutions, mostly in business, that have established branch campuses in Singapore, including those from France such as the INSEAD Business School, the ESSEC Business School, the EDHEC Business School, the Grenoble Graduate School of Business and the Sorbonne-Assas International Law School; from Australia, the University of Adelaide, Curtin University; University of Newcastle, James Cook University; from the United States, the University of Nevada, Las Vegas, Baruch College, City University of New York; and from the United Kingdom, the Manchester School of Business. The five publicly funded universities and five polytechnics in Singapore² are engaged in joint academic programs or other forms of collaborations with notable international institutions. The National University of Singapore, for example, has joint degree partnerships with seven engineering schools in France, with American schools (New York University, Brown University, University of North Carolina, the John Hopkins University, Carnegie Mellon University, Georgia Institute of Technology), with British schools (Cambridge University, King's College London), with the Australian National University, and with Japan's Waseda University. Nanyang Technological University, on the other hand, has joint PhD programs with eleven higher educational institutions spanning six countries that include the UK, France, Germany, Israel, Austria and Sweden.

Malaysia also has established strong international partnerships with foreign universities and higher educational institutions, which have improved the quality of education as well as raised the international reputation of Malaysian higher education system (Lane, 2011). Malaysia is host to a number of foreign branch campuses, including Curtin University (Australia), University of Southern Queensland (Australia), Swinburne University of Technology (Australia), Monash University (Australia), University of Wollongong (Australia), Newcastle University Medicine (UK), University of Nottingham (UK), University of Southampton (UK), Heriot-Watt University (UK), University of Reading (UK), Dublin Business School (Ireland), Royal College of Surgeons (Ireland), and Xiamen University (China). Malaysian universities have also engaged partnerships with reputable universities overseas. The University of Malaya, for example, has dual PhD programs with 15

universities in seven countries, namely, the United Kingdom, Australia, France, Belgium, Japan, Taiwan and Iran, while the Universiti Putra Malaysia has dual PhD programs with eight universities in six countries, including the United Kingdom, Australia, Canada, Japan, Thailand and Kazakhstan.

Thailand is becoming a significant presence in the global market for higher education. Although the establishment of foreign educational institutions is highly regulated in Thailand, which restricts foreign providers to joint local equity of 51 percent Thai ownership, there has been a handful of international branch campuses set up in Thailand. These include the Webster University (USA), the Stenden University of Applied Sciences (Netherlands), and the Beijing Language and Cultural University (China). Thailand also offers double degree programs with a number of foreign educational institutions. The Mahidol University College of Management, for example, has dual degree programs with IAE Toulouse School of Management (France) and with Macquarie University (Australia). The Assumption University, for example, has double degree programs with 16 universities from across a number of countries, including the United Kingdom, Australia, France, Germany, the United States, and China. Data from the Office of Higher Education of Thailand indicate the students from China took the lion's share (almost half) of foreign students studying in Thailand in 2009 and 2010, while students from the CMLV countries jointly accounted for about a quarter (Sinlarat, 2013; Yin, Ruangkanjanases & Chen, 2015). Among the reasons for the choice of Chinese students to study in Thailand include the recognition by the Chinese government of its higher education institutions and increased marketability of the overseas education in the labor market (Yin, Ruangkanjanases & Chen, 2015). Thailand signed with China a Memorandum of Understanding on Cooperation in Higher Education in 1999 and an Agreement on Mutual Recognition of Higher Education Diplomas and Degrees in 2007.

Determinants of International Student Mobility

Literature has generally divided the determinants in the locational choice of international study into push and pull factors (Chen, 2007; Gertner, 2011; He & Chen, 2010; Mazzarol & Soutar, 2002; McMahan, 1992). Among the push factors identified in a number of studies

include: a) student's preference to acquire an advanced degree in an internationally renowned university to improve future labor market outcomes in both the domestic and international job markets; b) lack of internationally reputable higher educational institutions in the home country; c) inter-country cultural, socio-economic and political ties; and d) economic and political stability of the country of origin. On the other hand, pull factors include: (a) the large presence of higher education institutions with strong international visibility and prestige; (b) high marketability of overseas education in the home and the international labor markets; (c) the size of the economy of host country; (d) favorable immigration policies and active international student recruitment strategies in host country; (e) the presence of strong international academic collaboration and research partnerships between home and host countries; (f) high availability of information of host country; (g) costs of higher education and living in the host country and the availability of financial and institutional support to foreign students; (h) good governance of higher educational institutions; (i) the peace and order situation and level of international diversity of the host country; and, (j) presence of social network and linkages in the host country.

In the ASEAN region, Singapore and Malaysia, and to some extent Thailand, have capitalized on both the push and the pull factors to become major international education hubs. They have invested in internationalizing their higher education and established strong academic linkages and partnerships with world-renowned higher education institutions. Both Malaysia and Singapore have hosted international branch campuses of prestigious universities from North America and Europe, which increases accessibility to students to such academic programs at a lower cost than when they are taken at the parent institution. These strategies have also facilitated the improvement of the quality, international visibility, and prestige of local higher education institutions, and have attracted more foreign students.

Table 4. ASEAN Universities by QS University Ranking of the Top 200 Asian Universities, 2015

Country	University	Overall Score	Academic Reputation	Employer Reputation
Brunei Darussalam	Universiti Brunei Darussalam	118	151-200	201+
Indonesia	University of Indonesia	79	45	44
	Bandung Institute of Technology	122	42	37
	Universitas Gadjah Mada	137	50	74
	Airlangga University	147	110	120
	Padjadjaran University	161-170	201+	201+
Malaysia	Universiti Malaya	29	29	41
	Universiti Sains Malaysia	49	36	63
	Universiti Kebangsaan Malaysia	56	38	77
	Universiti Teknologi Malaysia	61	60	73
	Universiti Putra Malaysia	66	51	86
	International Islamic University Malaysia	151-160	201+	201+
	Universiti Teknologi Petronas	151-160	201+	201+
	Universiti Utara Malaysia	191-200	201+	201+
Philippines	University of the Philippines	70	48	42
	Ateneo de Manila University	114	72	47
	University of Santo Tomas	143	124	66
	De La Salle University	181-190	201+	201+
Singapore	National University of Singapore	1	2	1
	Nanyang Technological University	4	9	5
Thailand	Mahidol University	44	44	101
	Chulalongkorn University	53	24	40
	Chiang Mai University	99	66	90
	Thammasat University	143	84	79
	Kasetsart University	171-180	201+	201+
	Khon Kaen University	171-180	201+	201+
	King Mongkut's University of Technology Thonburi	171-180	201+	201+
	Prince of Songkla University	191-200	201+	201+
Vietnam	Vietnam National University, Hanoi	191-200	210+	210+

* The QS University Rankings for Asia is based on nine indicators including academic reputation within the international academic community, importance of employability and employment prospects for university graduates, faculty/student ratio, citations per paper, papers per faculty, proportion of international faculty and international students, and proportion of inbound/outbound exchange students. Source: [http://www.topuniversities.com/university-rankings/asia-university-rankings/2015#sorting=rank+region="+country="+faculty="+stars=false+search=](http://www.topuniversities.com/university-rankings/asia-university-rankings/2015#sorting=rank+region=)

The presence of internationally reputable higher education institutions has also attracted inbound international students. The results of the QS University Rankings for Asia for 2014/15 listed two universities in Singapore in the top five universities, namely the National University of Singapore, which clinched the top spot, and the Nanyang Technological University, which placed fourth in the ranking (Table 4). In Malaysia, five universities were among Asia's top 100 universities while the corresponding figure for Thailand was three universities. The Philippines and Indonesia had one university each that made it to the top 100 universities in Asia, although in terms of both academic reputation within the international community and employer reputation, three Indonesian universities and two Philippine universities were ranked among the top 100 universities for Asia.

Brunei Darussalam and the CMLV countries have no university that made it in Asia's top 100 universities, which reflects the relative underdevelopment of their higher education systems, and this serves as a significant push factor for economically better-off households to educate their children overseas. As mentioned earlier, the CMLV countries that are experiencing the most rapid GDP growth in the region also have the highest growth in outbound student mobility. Brunei Darussalam is second to Singapore in terms of the highest GDP per capita in the region, but its outbound mobility ratio of 41 percent is way above the 9 percent for Singapore, whose high quality education system is attracting Singaporeans to take up education locally. According to the Global Competitiveness Index for higher education in 2014, Singapore ranked 4th in the world in terms of quality of education system and 12th in terms of availability of research and training services while the corresponding respective figures for Brunei Darussalam were 32nd and 87th places.

Malaysia follows Singapore with the highest ranking in global competitiveness index in higher education indicators in the ASEAN region, placing 10th in terms of the quality of education system and 13th in availability of research and training (Table 5). Its outstanding education system and the presence of top ranked universities appear to have facilitated the large inflow of more than 60,000 internationally mobile students, making Malaysia the most popular destination in the region for foreign students.

Table 5. Economic and Education Indicators, ASEAN Member Countries

Country	Education indicators 2014 (Rank out of 144 countries)*					
	Tertiary education enrolment (%)	Quality of education system	Quality of math and science education	Quality of management schools	Availability of research and training services	Extent of staff training
Brunei Darussalam	94*	32*	29*	52*	87*	26*
Cambodia	101	101	111	123	104	82
Indonesia	77	32	36	49	50	24
Lao PDR	99	60	83	79	83	45
Malaysia	72	10	16	25	13	4
Myanmar	103	129	129	139	135	138
Philippines	82	29	70	40	49	27
Singapore	10	4	1	6	12	7
Thailand	54	87	87	81	69	67
Vietnam	88	94	82	119	118	85

Source: Schwab (2013, 2014). Brunei Darussalam education indicators refer to its ranking out 148 countries in 2013.

The Philippines and Indonesia have the next highest ranking in the ASEAN region in global competitiveness in higher education, respectively placing 29th and 32nd positions in terms of quality of education system, and taking the 49th and 50th positions in terms of availability of research and training services. However, both Indonesia and the Philippines have the lowest inbound international student mobility rate in the region at 0.1 percent in 2012, further below that of Singapore at 22 percent and Malaysia at 6 percent. The lower GDP per capita and very high youth unemployment rates in both Indonesia (20 percent) and the Philippines (16 percent) may have contributed to their low capacity to attract international mobile students who may see very limited career opportunities in these countries (Table 6).

Table 6. Unemployment Rate, 2012

Country	Unemployment rate	
	Total	Youth
Brunei Darussalam	3.8	11.5
Cambodia	0.2	0.5
Indonesia	6.1	20.3
Lao PDR	1.4	3.3
Malaysia	3.0	10.2
Myanmar	3.3	9.6
Philippines	7.0	16.4
Singapore	2.8	10.4
Thailand	0.7	3.1
Vietnam	1.8	5.0

Source: World Bank statistical database.

ASEAN countries that have quality academic institutions but are experiencing local shortages in skilled labor that are filled in by a significant proportion of immigrant labor are popular destinations for foreign students. Malaysia, Singapore and Thailand have the largest international migrant stock in the region in 2010, numbering about 2 million or more for Malaysia and Singapore and more than 1 million for Thailand (Table 7). Foreign-born populations accounted for almost 40 percent of the total population in Singapore and more than eight percent in Malaysia. International students are perceived as better skilled than imported foreign labor because they have acquired educational credentials that are fully recognized in the host country, are familiar with the language, culture and laws in the host country (Ziguras & Law, 2006), and face improved labor market outcomes (Sweetman & Warman, 2009).

The establishment of the ASEAN Economic Community 2015 which, among other things, strengthens intra-regional collaboration in higher education and learning will facilitate increased mobility of international students within the region. A number of undertakings have been implemented to enhance academic partnerships among ASEAN member states leading toward the establishment of the ASEAN Common Education Area. These include the expansion of the ASEAN

International Mobility Program from the initial three countries of Malaysia, Indonesia and Thailand to the rest of the ASEAN member states, the development of a regional framework for qualifications and quality assurance, and the establishment of the ASEAN University Network (AUN), which promotes academic and research collaboration among its member universities.

Table 7. International Migrant Stock, 2010

Country	International Migrant Stock*, 2010	
	Total (in 000)	% of population
Brunei Darussalam	148.1	37.0
Cambodia	335.8	2.3
Indonesia	122.9	0.1
Lao PDR	18.9	0.3
Malaysia	2357.6	8.3
Myanmar	88.7	0.2
Philippines	435.4	0.5
Singapore	1966.9	38.7
Thailand	1157.3	1.7
Vietnam	69.3	0.1

Source: World Bank statistical database; *number of foreign-born population

In 2014, the ASEAN University Network comprised 29 leading universities from across the ten ASEAN member states, with the participating universities numbering five each from Malaysia, Thailand and Indonesia; three universities each from Singapore, the Philippines, Vietnam and Myanmar; two from Cambodia; and one participating university each from Brunei Darussalam and Lao PDR. (See Appendix 2.) Among the initiatives taken by the AUN include exchange programs among students, researchers and faculty, the adoption of a common academic credit transfer scheme, the development of an information network, and increased research collaboration in identified priority research areas. The development of the ASEAN Credit Transfer System, which enables students to receive recognition of credits in participating universities in the ASEAN region, is expected to lengthen the period

of time students spend for overseas education, and affords greater flexibility and diversity in learning modes and coverage. Extending cooperation in higher education by the ASEAN with Japan, Korea, China, India, Russia and the European Union will augment mobility of students and faculty from the ASEAN region to these countries.

Implications on the Labor Market

Given that international student mobility is a likely antecedent to skilled worker migration with some 25 percent of foreign students eventually taking up employment in the host country (Di Pietro, 2012), there is some concern that increased outbound student mobility in the ASEAN region would affect adversely the development of a knowledge economy necessary to stimulate economic growth for the region. Wide differentials in international student mobility rates may also heighten rather than alleviate economic imbalances in the region. Rosenzweig (2006) indicated that “low skill-priced” countries are losing human capital to “high skill-priced” countries through outsourcing tertiary education as many international students intend to eventually take up jobs in the host country where returns to education are higher (Gribble, 2008).

In the ASEAN region, both the flow of student mobility and labor migration, have been largely towards the higher income OECD countries. For example, 68 percent of Filipino emigrants for the period 1998 to 2004 with tertiary degrees in science and technology migrated to the United States, 27 percent to Canada and Australia, and with the rest of countries accounting for only the 5 percent (Philippine Department of Science and Technology, 2008). In 2012, five of the ten ASEAN member states were among the top 15 Asian countries of migration to OECD countries, including the Philippines, Vietnam, Thailand, Indonesia and Malaysia, and where more than 50 percent of emigrants to OECD countries from Brunei Darussalam, Singapore, Malaysia and the Philippines are highly educated (ADBI, ILO & OECD, 2015).

Intra-regional migration in the ASEAN region comprised less than 30 percent of total migration from Southeast Asia to the world, and it consists largely of unskilled and less skilled migrants who take up non-professional occupations in the host country (Orbeta, 2013).

Examples of major overseas labor movements in the region would be that of Filipino and Indonesian women who worked in domestic care in Singapore and Malaysia; and the male Indonesian contract workers who worked in low paid jobs in the agriculture and construction sectors in Malaysia. About 9 in 10 intra-regional migrants in Southeast Asia in 2007 were unskilled, while the corresponding figure for out-migrants from the region to the rest of the world is almost 6 out of 10 migrants (Table 8).

Table 8. Migration Indicators, 2007

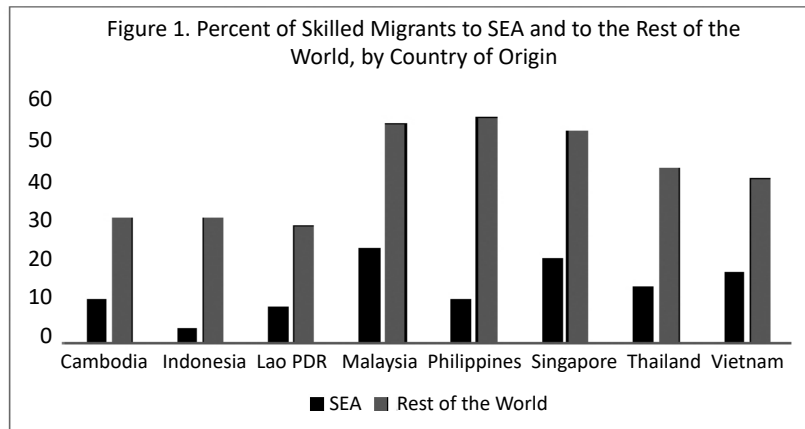
Country	% of out-migrants to SEA*	Total number of out-migrants (000)	Top 2 destination countries in SEA (% to total migrants)	% unskilled migrants to SEA	% unskilled migrants to Rest of World
Cambodia	10.6	179.29	Thailand (9.0), Philippines (0.5)	89.5	69.4
Indonesia	54.3	1,044.80	Malaysia (47.8), Singapore (4.0)	96.2	69.4
Lao PDR	13.7	190.86	Thailand (12.2), Philippines (0.5)	91.4	71.6
Malaysia	74.7	540.49	Singapore (67.9), Other SEA (5.5)	76.8	46.3
Philippines	7.2	1,375.08	Malaysia (5.8), Singapore (0.6)	89.5	44.6
Singapore	31.6	136.07	Malaysia (28.8), Thailand (0.5)	79.2	48.0
Thailand	31.5	371.49	Cambodia(18.0), Malaysia(8.8)	86.3	57.2
Vietnam	10.8	916.26	Cambodia (7.2), Malaysia(0.8)	82.6	59.7
Total SEA	29.8	5,001.04	Malaysia (13.3), Singapore (8.5)	87.1	55.7
Total World	4.7	88,479.53	Malaysia (1.7), Singapore (1.3)	82.7	72.3

*SEA – Southeast Asia, the number of out-migrants to SEA as a percent to total number of out-migrants.

Source: Tables 1 and 2, Orbeta. (2013).

The data indicate that an ASEAN member state is less likely to lose its highly skilled human talent to another ASEAN country than to the rest of the world, most probably to the more developed OECD countries (Figure 1). The proportion of skilled Indonesian migrants to another

ASEAN country in 2007 was only 4 percent, while the corresponding figure of skilled Indonesian migrants to the rest of the world was 23 percent (Figure 1). The greater likelihood of skilled manpower from ASEAN countries to move to countries outside of the region is reflected in all the countries, and is particularly pronounced for the Philippines, Malaysia, Singapore and Thailand. Only 10 percent of Filipino migrant workers in other ASEAN countries in 2007 were skilled while the corresponding figure of skilled Filipino migrant workers to the rest of the world was 55 percent. In Malaysia and Singapore, the proportion of their skilled emigrant workers to the region was 21 to 23 percent compared to 51 to 54 percent to the rest of the world.



The substantial outflow of educated workforce from the ASEAN region to the OECD countries is also borne out by international migration statistics (Table 9). In 2006, the ASEAN region contributed about 3.6 million people in the OECD workforce, of which almost half (48%) were highly educated. The share of the highly educated among the ASEAN-born employed population in the OECD countries was close to 70 percent for Malaysia, about 60 percent for the Philippines and Singapore, and more than 50 percent for Indonesia and Myanmar. Of the total estimated 1.7 million highly educated ASEAN-born population working in OECD countries in 2006, 56 percent were from the Philippines and 21 percent were from Vietnam. The rate of growth of highly educated ASEAN-born workforce in OECD countries averaged at 6.1 percent annually for the period 2000 to 2006, with Thailand recording the highest growth rate

at 8 percent and the Philippines and Lao PDR posting a more than 6 percent growth rate.

Table 9. Indicators of ASEAN Migrant Population in OECD Countries

Country of birth	Emigration rate of tertiary educated to OECD countries, 2000*	Number employed (000) in OECD countries 2005/06**	% highly educated among the employed 2005/06**	Growth rate of highly educated employed foreign born population in OECD countries 2000-2006***
Brunei Darussalam	15.0			
Cambodia	21.5	147.6	25.1	5.4
Indonesia	2.9	149.5	52.6	3.9
Lao PDR	37.2	156.9	25.2	6.3
Malaysia	10.5	151.6	69.0	5.7
Myanmar	3.9	42.8	50.7	4.5
Philippines	13.6	1629.2	57.9	6.5
Singapore	14.5	73.4	59.8	5.7
Thailand	2.2	175.4	40.6	8.0
Vietnam	27.0	1032.1	34.7	5.8

Source: *World Bank statistical database. The stock of emigrants 25+ with at least one year of tertiary education as a proportion of tertiary educated population 25+; **OECD (2012). Country

Notes. *** Author's estimates from OECD (2012) data.

Within the ASEAN region, skilled migration remained low and comprised only 13 percent of total intra-regional migration. The corresponding proportion of skilled migrants from ASEAN countries to the rest of the world is 44 percent. To advance cross-border mobility of skilled workers within the ASEAN region, Mutual Recognition Agreements (MRAs) were forged to harmonize qualification and competency standards and certification procedures. The ASEAN member states have concluded eight MRAs in the following professional services: (a) Engineering Services on 9 December 2005; (b) Nursing Services on 8 December 2006; (c) Architecture on 19 November 2007; (d) Land Surveying on 19 November 2007; (e) Medical Practice on 26 February 2009; (f) Dental Practice on 26 February 2009; (g) Tourism Professionals on 9 November 2012, covering 32 job titles for hotel and travel services in six labor divisions (Annex 1); and (h) Accountancy on 13 November 2014.

Except for Tourism Professionals, all the rest of the seven professional services covered by an MRA in the ASEAN are regulated professions that require registration and license from a regulatory body to practice the profession. A professional service provider in Engineering, Architecture, Land Surveying, Medicine, Dentistry, Nursing and Accountancy who is a national of an ASEAN member state (AMS) is eligible to work in any of the AMS if he/she is certified or licensed to practice his/her profession by the accrediting authorities in the home country that is mutually recognized by the other ASEAN member states. Licensed engineers, architects and accountants in an AMS must first register at the regional level to be eligible to apply as a Registered Foreign Professional to the Professional Regulatory Authority in the host country. Registered Foreign Professional Engineers or Accountants can practice the profession in a host country only in collaboration with a local licensed professional in the same field. This condition is not required for a Registered Foreign Professional Architect who may take independent private practice work in the host country if he has acquired practical and diversified experience of not less than ten (10) years of practice of architecture since graduation, of which five (5) years shall be after licensure/registration.

Skilled migration within the ASEAN region is, however, restricted by national labor and immigration policies. The net immigration countries such as Singapore, Malaysia, Thailand and Brunei Darussalam have actively promoted inflow of talented foreign labor. Both Indonesia and the Philippines are net out-migration areas and are major global suppliers of overseas contract migrant labor, with relatively more restrictive policies on employment of foreign labor. Foreign worker employment policies in the ASEAN region are largely temporary, employer-driven, and preferential toward highly skilled workers, who enjoy more entitlements and are subject to fewer restrictions than the lower skilled migrants in terms of length of stay, labor market tests, hiring quota requirement, the dependency ceiling, and foreign worker levy.

Singapore has the more liberal policies to attract foreign talent. Foreign workers are allowed to work in Singapore if they have a valid work pass, of which there are three main types depending on skill level of the foreign worker. Employers are required to apply for the work pass of the foreign worker and to advertise the application, including job

details, for at least 14 calendar days in the Singapore Jobs Bank before they can hire the best qualified applicant, regardless of nationality. The Employment Pass is issued to foreign professionals, specialists, or managers with a minimum monthly salary of S\$3,300. An S-pass is issued to middle-skilled foreign workers with a university degree or an acceptable diploma, and a minimum monthly salary of S\$2,200. Work permits are issued to less-skilled workers in sectors facing a shortage of Singaporean applicants, such as the construction, marine, manufacturing and services sectors. There are no restrictions to employment of foreign workers eligible for an Employment Pass, and companies are not charged a foreign-worker levy for the high-skilled foreign workers of this type that they employ. Holders of an Employment Pass are eligible to apply for a dependent pass for their spouses and unmarried children below 21 years of age, an entitlement not accorded to other types of foreign workers, who are charged a levy of S\$315-S\$500 for an S-pass and of \$250-\$950 for a work permit. The maximum number of foreign workers with an S-pass that a company can hire is 15-20 percent of a company's total workforce, while that for holders of work permits vary between 10 and 50 percent of the total workforce, depending on the type of industry. Foreign workers without a valid work pass are subject to a fine of between S\$5,000 to S\$30,000 or imprisonment for a maximum of one year or both.

Foreign workers in Malaysia are allowed to work for up to five years, which can be extended up to a maximum of ten years in five sectors, namely, manufacturing, agriculture, plantation, construction, and services. Foreign workers should be between 18 and 45 years of age at the time of application. They are not allowed to marry a local resident or migrant worker in Malaysia, and neither could they bring their family members to live in the host country. The foreign worker levy varies across industry sector, and ranges from RM410 to RM1,850. Employers who employ foreign workers for executive and management positions are required to train Malaysian workers who can eventually replace the foreign worker. Foreign workers can be hired subject to hiring quotas, and only if there are no equally qualified Malaysian worker for the position. Companies can hire a foreign worker for executive and managerial posts with a minimum monthly salary of RM5,000 if the foreign worker possesses the acceptable academic qualifications and length of relevant work experience. Companies need to satisfy the following conditions for eligibility to hire a foreign worker: (a) minimum

paid-up capital of RM250,000 for a fully Malaysian-owned company, RM350,000 for a jointly-owned foreign and Malaysian company, and RM500,000 for a fully foreign-owned company or for operational headquarters, regional development corporations and international procurement centers.

In Thailand, foreigners can engage in productive work if he/she has a work permit issued by the Alien Employment Division of the Labour Department and Social Welfare Ministry. Work permits can be granted to foreigners when there are no qualified and available Thai workers for jobs that generate at least THB18,000 in personal income tax or a monthly income of at least THB50,000 for single persons and at least THB60,000 for married persons. Thailand also sets the criteria for eligibility of companies to hire foreign workers as follows: (a) companies with a fully paid-up registered capital of at least THB2 million or with at least THB5 million in corporate income tax payment are entitled to hire one foreign worker for every registered capital of THB2 million or every THB5 million corporate income tax payment, up to a maximum of 10 foreign workers; (b) companies engaged in export can hire one foreign worker for every THB3 million of revenues in the previous fiscal year, up to a maximum of three foreign workers; and (c) companies can hire one foreign worker for every 50 Thai employees hired and up to a maximum of five foreign employees. A foreigner in Thailand working without a working permit is liable to be fined THB50,000 to THB100,000.

In the Philippines, foreign workers can engage in any profession other than Pharmacy, Radiologic and X-ray Technology, Criminology, Forestry and Law—which are limited exclusively to Filipinos—and only upon being granted an Alien Employment Permit from the Department of Labor (DOLE). The latter shall determine whether the job desired by the foreign worker cannot be supplied by a competent, able and willing Filipino worker at the time of the application. This is done through examination of the government skills registry and the posting of the application for Employment Permit in the DOLE website for 30 days, including job information details and a note that any competent and available person in the Philippines can file an objection to the application. The Philippines excluded certain categories of foreign workers from obtaining an Alien Employment Permit, such as corporate board members with only voting powers, corporate executives, managers

and specialists, and those providing consultancy services with no employers. A foreign worker levy is charged amounting to PHP9,000 for the first year of employment and PHP4,000 for every additional year of employment. Foreign workers without the requisite work permit and their employers are each subject to a fine of PHP10,000 pesos for every year of illegal employment. The maximum period of validity for an Alien Employment permit is three years.

Employers of foreign workers in Indonesia must obtain a work permit with a validity of up to 12 months for short-term assignments, which can be extended up to a maximum of six years. Foreigners are restricted from taking on jobs related to personnel management (e.g., Human Resources Manager, Industrial Relations Manager, Personnel Recruitment Supervisor, etc.). Only highly skilled foreign workers with acceptable academic qualifications and at least five years of relevant work experience are eligible for a long-term work permit. At least ten Indonesian employees are required to be employed for every foreign worker, with the exception of company directors and commissioners, foundation managers and supervisors, those working in impresario services, those employed in jobs that are of “emergency and urgent” nature, and those in temporary employment. Indonesia also requires employers to obtain work permits for non-resident company officers, otherwise they are fined Rp400 million. Indonesia also requires that employers appoint Indonesian working partners of foreign workers, and to educate and train local replacements to foreign labor.

Conclusion

The international mobility of tertiary students from the ASEAN region has increased sharply in the past decades, particularly in the more developed member states and those that have experienced more rapid economic growth rates. Malaysia and Vietnam have both made it to the top ten origin countries of internationally mobile tertiary students, sending more than 50,000 tertiary students to study overseas in 2012, while Indonesia, Thailand and Singapore have each sent more than 20,000 tertiary students to study overseas for the same year. The OECD countries are the major destinations of internationally mobile students from the ASEAN region of which a significant percent eventually participate in the host country’s labor market.

ASEAN member states are more likely to lose their abled manpower to an OECD country than to another member state. The more massive flow of internationally mobile students and skilled migrants from the ASEAN member states to the high-income OECD countries dwarfs the mobility of highly skilled human talents within the ASEAN region. Only 13 percent of the intra-regional migrants in the ASEAN region are skilled, while the corresponding figure of skilled migrants from ASEAN to the rest of the world is 44 percent.

Increased cooperation in higher education within the ASEAN region and the harmonization of standards for degree comparability, including a regional framework for qualification and quality assurance, are likely to increase intra-regional mobility of students, faculty and instructional staff, as well as improve the quality and international visibility of higher educational institutions in the region. This would mitigate the increasing flow of internationally mobile tertiary students from the ASEAN region to OECD countries, and redirect the flow towards the more developed member states within the region. The ASEAN region needs to manage its intra-regional mobility of international tertiary students so as to maximize their positive contributions not only to the individual migrant's welfare, but also to the development of a skilled workforce and the knowledge economy of both the host and origin countries.

Deeper regional cooperation in higher education within the ASEAN can be harnessed to optimize gains towards a more distinguished quality of both educational systems and human talent across its member states. It is important for the region to avoid the possible brain migration effect commonly associated with international mobility of students especially for member states that have difficulty retaining talents. To reverse the potential brain drain that may be associated with increased intra-regional student mobility arising from deepening regional integration, ASEAN member countries should ensure that internationally mobile students originating from other member states whose skilled talent would be critical to the development of the local capacity of their sending country, return to their home country after completion of overseas higher education. This would facilitate the narrowing down of the disparities in the levels of skilled labor force and professionals across the ASEAN member states, and enhance regional production linkages. The ASEAN community can further increase intra-regional convergence in the level

of knowledge-intensive human capital through increased short-term mobility, circulation and exchanges of skilled talent within the region. Brain gain is attained as returning international students transfer technology to their sending countries, even as the strengthening of intra-regional short-term exchanges of skilled manpower augments regional human capital accumulation and furthers economic production linkages, thereby improving the region's and member states' capability for innovation and global competitiveness.

Endnotes

¹ 'Internationally mobile students' refers to students who moved to a foreign country for the purpose of study (UNESCO, 2009). This paper uses the data on internationally mobile students collected by the UNESCO Institute for Statistics, which covers only students at the tertiary education level.

² The publicly funded universities in Singapore are the National University of Singapore, the Nanyang Technological University, the Singapore Management University, the Singapore University of Technology and Design, and the Singapore Institute of Technology, while the five polytechnics include Nanyang Polytechnic, Ngee Ann Polytechnic, Republic Polytechnic, Singapore Polytechnic and Temasek Polytechnic.

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Appendix 1.

Distribution of Foreign Students in Higher Education Institutions (HEIs) in the Philippines by country of nationality, Academic Year 2011/2012

Country of nationality	Number of foreign students enrolled in HEIs	Inbound mobility rate (%)*
Korea	2158	27.8
Iran	1053	13.6
China	1042	13.4
America	590	7.6
India	529	6.8
Indonesia	353	4.6
Nepal	182	2.3
Thailand	140	1.8
Kenya	112	1.4
Vietnam	112	1.4
Taiwan	107	1.4
Japan	99	1.3
Nigeria	90	1.2
Myanmar	88	1.1
Timor-Leste	62	0.8
Malaysia	54	0.7
Sudan	53	0.7
Canada	46	0.6
Pakistan	46	0.6
Others	850	11.0
Total	7,766	100.0

Source: Philippine Commission on Higher Education. Table 1. Distribution of Foreign Students by Nationality, from highest to lowest number of enrolment: AY 2011/12. Retrieved April 12 2015 from <http://www.ched.gov.ph/index.php/higher-education-in-numbers/foreign-students/>.

Appendix 2.

Member Universities of the ASEAN University Network, 2015

Country	University
Brunei Darussalam	Universiti Brunei Darussalam
Cambodia	Royal University of Phnom Penh Royal University of Law and Economics
Indonesia	University of Indonesia Bandung Institute of Technology Universitas Gadjah Mada Airlangga University
Malaysia	Universiti Malaya Universiti Sains Malaysia Universiti Kebangsaan Malaysia Universiti Putra Malaysia Universiti Utara Malaysia
Myanmar	Yangon Institute of Economics University of Yangon University of Mandalay
Philippines	University of the Philippines Ateneo de Manila University De La Salle University
Singapore	National University of Singapore Nanyang Technological University Singapore Management University
Thailand	Mahidol University Chulalongkorn University Chiang Mai University Prince of Songkla University Burapha University
Vietnam	Vietnam National University, Hanoi Vietnam National University, Ho Chi Minh Can Tho University

Appendix 3.

ASEAN MRA for Tourism Professionals (Job Titles)

Hotel Services	Travel Services
<ol style="list-style-type: none"> 1. Front Office Services <ol style="list-style-type: none"> a. Front Office Manager b. Front Office Supervisor c. Receptionist d. Telephone Operator e. Bell Boy 2. Housekeeping Services <ol style="list-style-type: none"> a. Executive Housekeeper b. Laundry Manager c. Laundry Attendant d. Room Attendant e. Public Area Cleaner 3. Food Production Services <ol style="list-style-type: none"> a. Executive Chef b. Demi Chef c. Commis Chef d. Chef de Partie e. Commis Pastry f. Baker g. Butcher 4. Food and Beverage (F&B) Services <ol style="list-style-type: none"> a. F&B Director b. F&B Outlet Manager c. Head Waiter d. Bartender e. Waiter 	<ol style="list-style-type: none"> 1. Travel Agencies <ol style="list-style-type: none"> a. General Manager b. Assistant General Manager c. Senior Travel Consultant d. Travel Consultant 2. Tour Operation <ol style="list-style-type: none"> a. Product Manager b. Sales and Marketing Manager c. Credit Manager d. Ticketing Manager e. Tour Manager