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Global skills deficiency: perspectives of skill mobility in Southeast Asian countries

Global skills
deficiency

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Abstract

Purpose – The purpose of this paper is twofold: first, it intends to engage in skill gain–lose debate in the contemporary global skill mobility context; and second, it looks into whether Southeast Asia (SEA) is losing by experiencing skill deficiency due to over outflow of talents.

Design/methodology/approach – Primary data were collected through interviews with policy makers, stakeholder and migrant professionals from Singapore, Malaysia, Thailand, Indonesia and the Philippines.

Findings – The paper comes up with the brain drain dynamics to better understand the trajectory of skill mobility in and from SEA. Within the skill mobility discourse, it is undoubtedly difficult to conclude who are the losers and the gainers in the long run.

Originality/value – This research is based on relatively small sample. However, this offers a fresh insight into the skill deficiency dynamics in Southeast Asia.

Keywords Migration, Southeast Asia, Skill, Skill gap, Skill dynamics

Paper type Research paper

Introduction

Skill shortage has appeared to be a vital problem in many countries in the world. In the labour market, along with skill shortage, skill mismatch has reached a worrying level. Globally, skill shortage is severe in five occupations: ICT, health (doctors, nurses, midwives), science and technology, engineering and mathematics and education. Demographers often point to the fact that fertility decline is a problem for this. Many countries in the world including Europe are rapidly heading towards the high number of ageing population and low number of youths, which would result in overspending in fiscal costs linked to pensions and long-term healthcare. At the same time, for an ageing society, healthcare professionals are high in demand (Islam, 2017). This means fertility decline contributes to, in the long run, the skill shortage and high demand of health professionals. Skill shortage is a condition in the skill market contributed by some countries by producing over-skills, under-skills or irrelevant skills contributing to skill mismatch with the market demand (ILO, 2017). This paper aims to engage in the contemporary global skill mobility discourses on skill gain–lose debate and examines if Southeast Asia (SEA) experiences skill deficiency and loss of skill due to mass outward migration of talents.

The Fourth Industrial Revolution has influenced countries and industries to revisit their strategies for economic competitiveness, which as a result could see changes in the labour market, international migration and labour migration policy. The potential policy implications of the Fourth Industrial Revolution are yet to be fully understood (McKenzie, 2017). An example is that the majority of the organizations in the UK (91 per cent) struggled to find workers with the right skills over the past 12 months, and 3 in 5 senior business



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leaders (61 per cent) think that the skill shortage has worsened over the past years (Edge Foundation, 2018).

Since the advent of the industrial revolution, the concept of “skill” has been reconfigured and as a result, demand for and supply of skills have been on the hinge of uncertainty because the level of demand was uncertain, and the volume and categories of skills needed were immeasurable. The change in industrial revolution leads to a shake up or a shift in economies; therefore, labour market/demand has changed, and in order to overcome this, overhauling of labour supply needs to be done from the education system to training and re-skilling to international migration. This helps fill the voids that this new economy and industry have produced.

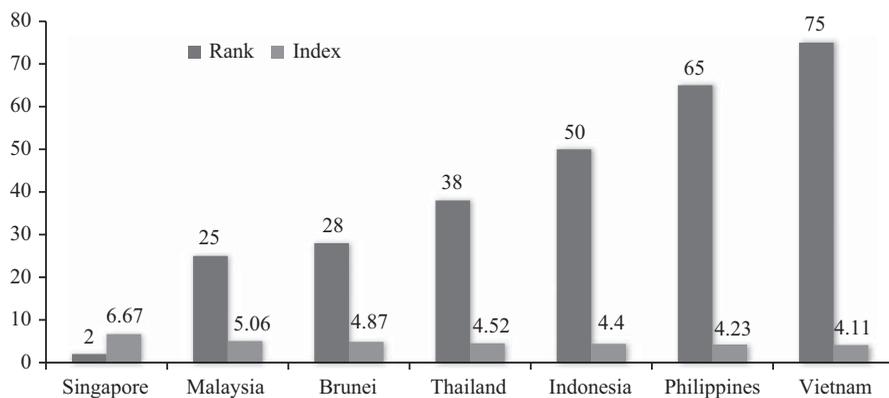
The renewed needs for skills resulted in a recession in many sectors like social services, health and education services (Zimmerman and Woolf, 2014). In this circumstance, some countries in Central Asia, Latin America, Caribbean, South and Southeast and East Asia began to pay attention to the production of need-based skills of global standard. South and East Asia primarily began to supply engineers; SEA became the suppliers of care services while the Caribbean and Latin America provided both kinds of services or labours.

Owing to the growing ageing population and replacement migration[1] (Ullah, 2015), a certain category of migration emerged during the early 1980s, i.e., foreign domestic workers. This category is dominated by females in many South East Asian countries with most of them coming from the Philippines, Indonesia and Thailand. There are about 67.1m domestic workers globally (ILO, 2015), which indicates that the growing needs for personal and household services especially in the high-income economies. Together, the Arab states, North America and Northern, Southern and Western Europe account for about 52 per cent of the global total, and more than 81 per cent of national domestic workers, similarly 73 per cent of all migrant domestic workers are females (ILO, 2015).

There appear some recruitment difficulties and that the level of recruitment difficulty typically varies by sector. Not only the high-skilled professionals are scarce, but also the skilled and low-skilled manual professionals are in shortage in manufacturing, constructions or tourism industries. About 39 per cent of the EU firms were facing difficulties in finding staff with the right skills (CEDEFOP, 2015). For example, in Austria and the Baltic states, right skills were difficult to find in about 60 per cent of their firms, whereas the difficulty level was 25 per cent for Croatia, Cyprus, Greece and Spain (CEDEFOP, 2015, p. 20). The shortage of skilled workers such as welders, die makers, machinists and millwrights in Canada’s industrial sector has been getting worse over the years because of the lack of talents (Efron, 2018). One of the main reasons is that the present workers are ageing and creating a vacuum, as they do not pass this job on to their successors. Three industries, retail having labour shortage of 50,000 jobs, hospitality with 45,900 jobs and construction with 38,000 jobs, should get much more focus as they are experiencing biggest labour shortages (Dangerfield, 2017).

The concept “feminization of migration” has emanated from SEA that proves to be a region of innovation and a powerful laboratory for new initiatives to meet the growing global challenges. Southeast Asia is a home to 642.1m people (as of 2017 (ASEANstats, 2018)) and has seen a rise in intra-ASEAN migration from 1.5 to 6.5m between 1990 and 2013 (Tuccio, 2017), which coupled with a young population – where 60 per cent are below the age of 30, translating into an immense potential in the labour market (Gnanasagar, 2018). Ethnic diversity, economy and the leading role in international migration made SEA one of the most competitive regions in the world.

Brain drain undermines and threatens the global competitiveness (GC). GC is a measure of the relative capacity of countries to provide their citizens with opportunities to prosper. Figure 1 represents the level of competitiveness of different countries in SEA. In many countries, [im]migrants play roles as innovators for boosting their GC (Downie, 2010). There is



Global skills
deficiency

Figure 1.
Global
competitiveness index
(Southeast Asia)

Source: Global Economic Forum (2012–2013)

interdependence between international labour migration and Global Competitiveness Index (GCI) (Kahanec, 2010). The GCI is a wide index defining national competitiveness level on the basis of the main micro- and macro-economical figures taking 12 elements in consideration: institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market conditions, technological readiness, market size, business sophistication and innovation (Latham, 2017; Kahanec and Zimmermann, 2010). The fact is that the first few highly GC countries have high economic growth and these countries are not the main supplier of domestic maids but main “importer” of low-skilled and skilled workers within SEA. They have probably a more open policy to global economy than the other SEA countries with Cambodia, Laos, Myanmar and Vietnam (CLMV) countries just emerging and opening up to globalization. This means that experiences of skill drain or skill gain determine largely whether the country is globally competitive. This means that when citizens find sufficient opportunities to prosper in their own country, they might not tend to migrate.

Today, international migration is an important component of development in many economies. Southeast Asia is no exception. Numerous bodies of research show that migration contributes robustly to the development for both origin and destination countries (Aniceto and Kathrina, 2013) though Skeldon (2004) contends that migration causes and is caused by poverty. The receiving countries can execute their projects and achieve their objectives with the support of the migrants while the countries of origin enjoy the transfer of remittances, knowledge and skills from the migrants (Aniceto and Kathrina, 2013). In most cases, countries of origin suffer from the lack of manpower due to the migration of talented ones.

This paper is divided broadly into three sections. The first section deals with the theoretical issues about skill, mobility and Southeast Asia. The following section does a stalk taking about what is largely unknown about SEA’s skill mobility (stock, direction, volume, history and its significance). The last section deals with the issues of skill deficiencies around the globe and how SEA responds to skill deficiencies.

We argue that though skill migration apparently may sound as a symbiotic or a reciprocal tradeoff, sending end receives remittances and the receiving end gets their work done. We argue that skill mobility, its consequences and impact on both sending and receiving ends remain an understudied area. Hence, what is not known about skill mobility is that the major skill contribution SEA makes to skill deficient countries. This study contributes to the knowledge on skill gain or drain due to mobility (Rahman, 2010; Ullah, 2018; Ullah and Azizuddin, 2018; Jones, 2013; Crossman and Clarke, 2010; Sutton and Rubin, 2004).

Objectives and methods

This paper aims to achieve two objectives: first, to engage in the skill gain-loss debate about the contemporary global skill mobility; and, second, to examine whether SEA is experiencing any skill deficiency due to over outflow of talents.

Apart from the extensive existing literature review, interviews with policy makers and migrant professionals from countries under research were conducted. The countries chosen for the research are Singapore, Malaysia, Thailand, Indonesia and the Philippines whereby their policy makers and some IOM staff were interviewed both over the phone and in person. We identified relevant policy makers from previous acquaintances and by interviewing key informants in the area. These provided us with the names of key players in the field. We undertook some desk research about migration policies to identify the informants. Selection of participants and identification of research teams took place between May and September 2018. Interviews by using an interview guide based on the objectives of the study were used to explore what they think about skill mobility from Southeast Asia in the context of skill deficiency. What policy changes they are planning on making to reskill the potential migrants and returned migrants to respond to the global technology-intensive jobs? Migrants were asked what do they think is their skill best suitable for the job; how best they could use their skill and if they have an opportunity for re-skilling, what area would be their choice to be reskilled. We took detailed notes of the interviews. Conventional content manual analysis (inductive) was used in data analysis. This involved a process of generating a provisional list of codes/themes that were based on the research questions and objectives. The ethical clearance of the research the paper was obtained from the internal review board of ethics of the University of Brunei Darussalam.

Underlying theoretical aspects and SEA

Skills dynamics and implications for host and home country: skill mobility plays an essential role in the development of a country. The level of skill of a migrant determines their status in the job market and their disposable incomes. Skilled migration contributes significantly to the social and economic development of the origin country; however, the potential, negative impacts of migration should not be overlooked with respect to both origins and destinations in the long run (Ullah, 2018).

The current global labour market is characterized by high unemployment rates in some sectors and, at the same time, persistent job vacancies in others (European Commission, 2013) point to the fact that skill shortage and mismatch have been widespread. When high job vacancy rate does not change, the level of unemployment indicates inefficient job and skill match. The equilibrium of demand and supply of skill is a significant issue and merits to be coordinated. The need for international skills has rapidly grown in some Asian nations because of problems of mismatch between the labour supply and demand. For example, Thailand experienced a shortage of skilled labour in a number of sectors because the Thai market lacked skilled labours, both in terms of quantity and quality, to meet the growing demands (Ullah, 2018). In addition, many ASEAN countries became dependent on foreign technologies resulting in the growing import of foreign skilled labour. Singapore and Malaysia, for example, have been relying on migrant workers to increase their skill stock. Currently, there are countries with surplus human resources that can supply labour to the deficit countries. In other words, some countries experience a deficiency of skills while others have a surplus.

Putting SEA into perspective, Figure 2 locates SEA into the skill market. Conceptualization of some terminologies in the domain enables readers to better grasp the position of SEA in the skill market. Brain circulation refers to the transfer of knowledge through expatriate nationals when they return home to establish and maintain social, professional and business relationships with the destination countries (Saxenian, 2005). Brain exchange is about the

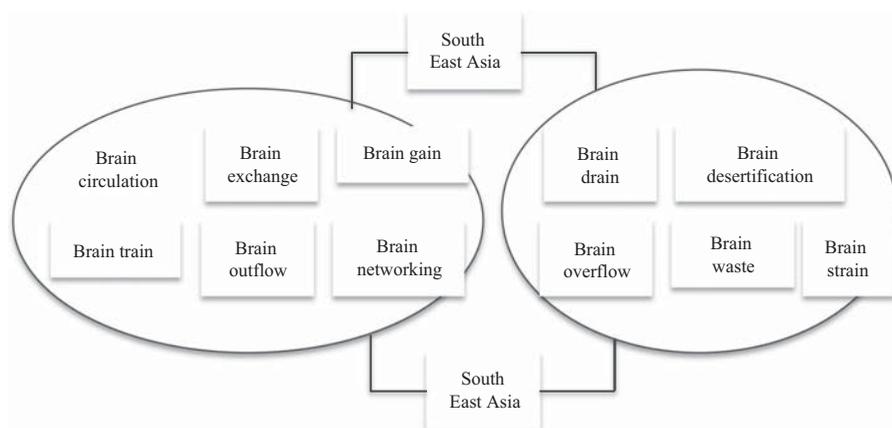


Figure 2.
Brain dynamics

Source: Authors, and adopted from Adekola (2017)

benefit from the specialized experience of expatriate professionals enjoyed by both sending and receiving countries (UNESCO, 2007), while brain gain is the accumulation of specialized human capital for highly skilled migrants in the destination ends (Ciumasu, 2010). Brain networking is a long-term commitment of expatriates to distant collaboration, which can facilitate decisions among the undecided to return home as they fall in and out of the network, and brain outflow is the exodus of underutilized skilled workers in the countries of origin. It is the result of weakness in the demand for skilled labour in the home country. “Brain circulation” and “brain networking” are used interchangeably by some scholars (e.g. Saxenian, 2005). The re-skilling of the labours have experienced obsolete skills due to change in the labour market needs. This results in a circular or even a circuit flow of skills that do not move in a linear pattern where people obtain and then dies with it – there is a room for re-skilling, which countries may initiate.

Brain train refers to the mobility specifically for educational or training purposes, and brain drain is the phenomenon of the emigration of highly qualified and talented professionals from one country to another (Adekola, 2017). Brain waste comes from Bauder’s (2003) study in Vancouver on immigrants from South Asia and the former Yugoslavia, who were forced to work in unregulated jobs or had to switch careers. De-skilling results in a loss to both the countries of origin and destination (Reitz, 2001). Brain overflow is a process in which emigration occurs because of the oversupply or over-education of labour in any given country (Williams and Baláz, 2005; Pellegrino, 2001). Brain strain occurs when there is clear evidence that migration flows have adversely affected the sending economy. Migration flows are regulated to avoid the loss of highly skilled workers when migration governance is at work in certain countries (Lowell and Kmeper, 2004). Brain desertification refers to the highly skilled migrants who do not return and do not sustain any ties with their countries of origin (Adekola, 2017) (Figure 2).

The best way to understand the migration of skilled professionals is through the notion of “brain drain”, which is conceptualized as the loss of the most talented persons who can contribute to the development (Glaser, 1978). However, within the context of the nation-state, this mobility is perceived by some as brain drain, while for others brain gain (Mejia *et al.*, 1979). Thus, [em]igrants are “mirrors of national development, reflecting the migratory pushes of national crises and the pull of the global economy” (Rahman, 2013, p. 127).

Brain drain – a buzz word in migration research – is often explained by nationalist and internationalist models (Johnson, 1968). The first one contended that the world benefits

from the international mobility of human capital as it offers the option for individuals to go along with their own choices (Johnson, 1968) and it also depends on the countries how they appeal for individuals, and the latter is concerned with limiting brain drain for the middle-income countries. This means to say that migrants have to be educated in the spirit of identification with the development of the country as a part of their individual development, so that they are prepared for the international competition for human capital (Rahman, 2013, pp. 127-128).

Skill mismatch is referred to, in policy debates, the vertical mismatch (in terms of over-education, under-education, over-skilling and under-skilling), skill gaps, skill shortages (measured in terms of unfilled and hard-to-fill vacancies), the field of study (horizontal) mismatch and skill obsolescence (European Commissions, 2013). Over-skilling is a condition whereby the workers believe that they possess more skills than the required for current job, and under-skilling describes the situation whereby the workers believe that their current skills do not meet the demands of the job. Horizontal mismatch measures the extent to which workers, typically graduates, are employed in an occupation that is unrelated to their primary field of study. Skill obsolescence refers to the process by which workers' skills become obsolete. Skills become obsolete due to ageing which depreciates certain manual skills, and skill gaps measure the extent to which workers lack the skills necessary for the current job (Allen and De Grip, 2007; Van Loo *et al.*, 2001). The re-skilling of the labours who have experienced obsolescence of skill due to change in the labour market needs could be an important option, resulting in a circular or even a circuit flow of skilled people. Skill does not move in a linear pattern where people obtain and then dies with it – there is room for re-skilling, which certain countries may initiate.

Scholars (such as Meyer *et al.*, 1997; Zweig *et al.*, 2008) have argued that the countries of origin experience a major loss due to the departure of the country's most talented ones, which we refer to as brain drain. However, a major shift in the debates from brain drain in the 1970s to "brain gain" in the 1990s has taken place (Rahman, 2013). Originally, the goal of the developing societies was to trigger a "reverse brain drain", i.e. brain gain whereby the talented citizens would bring back their knowledge and enhance human capital (Zweig *et al.*, 2008). Theoretically, the two main ways of carrying out "brain gain" are the return option and the diaspora option: the return option involves the physical return of the expatriates to their countries of origin and the diaspora option refers to the remote mobilization and association of the expatriates to the development of their origin (Meyer, 2007; Meyer *et al.*, 1997). The "diaspora option" re-conceptualizes the brain drain by identifying it as a form of "brain circulation", through scholarly, business and educational exchanges, where educational migrants staying abroad find ways to participate in the economic development (Rahman, 2013). Thus, scientific collaboration ensues without people in the diaspora uprooting their lives and moving back home (Gaillard and Gaillard, 1997). This diaspora option plays a significant role by turning a potential loss due to brain drain into a significant gain (Meyer and Brown, 1999; Meyer, 2001). This option allows expatriates to contribute to their home country without giving up their overseas situations (Gaillard and Gaillard, 2003). The diaspora option in the form of "diaspora knowledge networks" brings together exceptional individuals and institutions by facilitating the flow of knowledge and financial resources between home and host countries (Salt and Findlay, 1989; Findlay, 1990; Koser and Salt, 1997; Kuznetsov and Sabel, 2006). As a result, these networks help in transforming "brain drain" into "brain gain" (Meyer, 2001).

The skill exchange at some point of history of migration generated a lot of debates about the fact that skill mobility kills jobs of the locals leading to, in many instances, xenophobic actions. The growing number of foreign workers underpinning Singapore's economy as well as the social tension for their presence is evolving. For example, in 2013, locals in Singapore complained about the increase in housing prices and difficulties in landing jobs upon

graduation are due to the high-skilled immigrants. According to Chia (2011), immigrants are viewed as competitors for jobs from being complements as the white-collar locals get retrenched because of them (Chia, 2011).

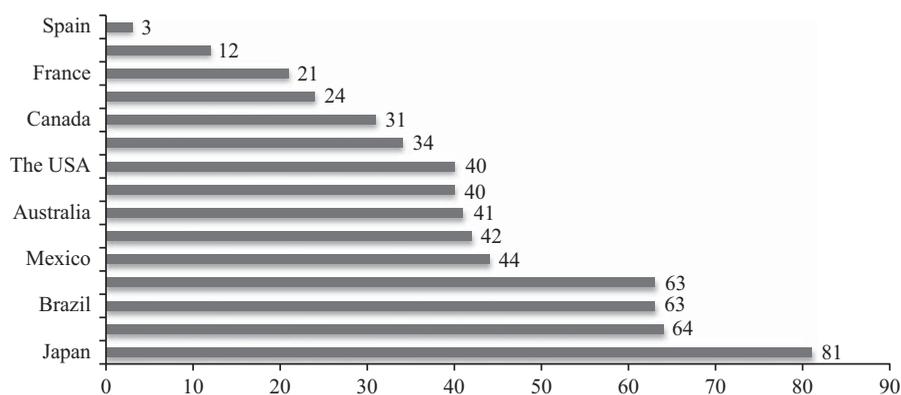
The import of skills or skilled worker remains crucial for getting the economy going for many countries. For example, Japan will need at least 17m skilled workers in the coming decade in order to get their economy going at a pace it was in the last decade. In order to tackle the labour shortage in the manufacturing sector in South Korea, the country intended to accept 56,000 foreign workers on the low-skilled work scheme in 2018 (Hyun-ju, 2017). The demand for foreign workers is high in Hong Kong to ease the rapidly ageing population (Tsang, 2018). The demand for migrant workers in Europe too is growing, as EU workforce will shrink by as much as 50m until 2050. Europe needs around 20m skilled workers in the job market to remain competitive; otherwise, they may suffer an economic stalemate (EU, 2011).

Skill mobility in SEA and beyond

Of the 10m migrants in the region, about 7m originates from the member states of the Association of Southeast Asian Nations (ASEAN), and this intra-regional movement of migrants is expected to increase with closer economic integration under the ASEAN Economic Community (AEC) established in 2015 (IOM, 2017). The AEC aims to turn ASEAN into a regional trading bloc of over 622m people and the world's seventh largest market valued at \$2.6 trillion, and about 4m jobs are expected to be created as a result (ADB, 2015). The AEC is expected to establish a single market and production base creating better economic opportunities for the people of the region by allowing a free flow of skilled labour. This will reduce, if not dismantle, barriers to the movement of capital and goods.

Skill shortage undermines and threatens the competitiveness of a country (Quirk, 2009). Experts suggest that employers need to adapt to any labour market. As employers find that the supply of skills does not meet the market needs, the relevance of the education system is often questioned. In addition, the shortfall of skills in demand in the labour market undermines productivity and challenges the growth ambitions of many economies (Figure 3).

The long-standing hypothesis that migration consists mostly of unskilled and low-skilled workers has been weakened by the argument of Castles and Miller (2009) contends that migration of highly skilled personnel, such as professionals and executives, has increased in the last three decades. There is, however, a counterargument that the highly skilled migration from ASEAN countries may jeopardize the economy of the origin country (Castles and Miller, 2009;



Source: Manpower Group (2018)

Figure 3.
Countries facing the
greatest skill shortage

Ullah, 2018). The developing countries incurred more losses than developed ones as they attract professionals from the developing countries (Glaser, 1978).

There are two paradoxes: rich industrialized countries benefit from the sufficient supply of labour force while the sending countries suffer from the lack of skilled manpower (Glaser, 1978, pp. 2-3). The “brain drain” especially in the developing countries resulted in “the technological and economic gaps” between the developing and the developed countries. Within the brain gain or brain circulation ambivalence, highly skilled migrants have been the key components (Siar, 2014, p. 14). The paradigm shift from brain drain to brain gain appeared in various terms such as knowledge transfer, knowledge exchange and knowledge circulation (Meyer and Brown, 1999; Saxenian, 2002; Siar, 2014; Yong and Rahman, 2013; Rahman *et al.*, 2014).

Some countries in SEA (e.g. Singapore) prefer hiring highly skilled foreigners in certain sectors, whereas many citizens leave the country out of discontent resulting in a process called “bounce migration”. Singapore’s dependence on migrant workers has been due to the demand and supply imbalance. Diversity is necessary to create knowledge, and migration is necessary for creating diversity (Ullah, 2018). However, the large inflow of foreigners into the country, to some, is counterproductive. Hence, the citizens see this as an exclusionary policy as they are the ones who struggle to land jobs according to the talent they possess.

In relation to intra-ASEAN labour mobility, two distinct patterns are identified (Manning and Bhatnagar, 2004): a pattern centres around the Mekong river keeping Thailand as the core and supplying labour from Myanmar, Lao PDR, Cambodia and Vietnam (Pasadilla, 2011), and another pattern where countries such as Singapore, Brunei and Malaysia become the major destinations for Indonesia and Filipino workers. The CLMV countries may be defined as the one marginalized due to their political economy or socialist stance or may be because they were the laggards to join ASEAN (Figure 4).

Intra-ASEAN movement is important for economic sustainability and competitiveness. However, Harkins *et al.* (2017) argue that regular and continuous intra-ASEAN migration often results in positive outcomes as it mostly depends on the effectiveness of the policies implemented. The current trend would suggest that during the past three decades there has been a continuous rise in intra-ASEAN migrants from 20.3 to 34.6 per cent, while the number of inter-ASEAN movements went up (Ullah, 2018). ASEAN countries receive more than half of their migrant workers from other ASEAN member states, for example, Singapore 52.9 per cent; for Malaysia 61.2 per cent; and for Thailand 96.2 per cent (ILO and ADB Institute, 2014; Ullah, 2018). Since 1990, intra-ASEAN movements from Myanmar, Lao PDR and Cambodia have gone up by 40 per cent in terms of their total nationals abroad (Ullah, 2018).

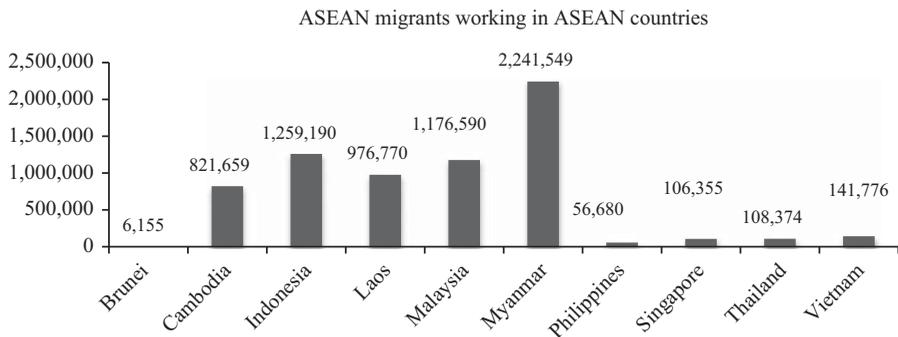


Figure 4.
ASEAN migrants
within ASEAN

Source: UNESCAP (2015)

A positive impact of skill supply is remittances added to the GDP. SEA received about \$63.9bn as remittances in 2016 from skill exchange globally (Leong, 2017). A few ASEAN member states are particularly reliant on inbound remittances for their fiscal budget. The Philippines alone receives the third-highest amount of remittances worldwide after India and China (Rahman, 2010, 2017). In 2014, remittances sent to the country totalled an estimated \$25bn, equivalent to 10 per cent of its GDP. After liberalizing the political system, remittances in Myanmar increased from \$127.1m to \$3.1bn only in three years (Leong, 2017) (Table I).

It has become apparent that five factors affect talent shortages: rapid technological development, shifting demographics, mismatch between talent supply and demand, fast-growing emerging economies and the lack of hard and soft skills. In recent decades, rapid globalization and technological change have been framing the labour market leading to the growing problem of skill shortages around the globe. The scale of this problem varies hugely between countries and it is remarkably high in Asia. For example, Japan, with 81 per cent of its firms facing difficulties to find the “perfect” skills, tops the list followed by India where 64 per cent firms face skill shortages (McCarthy, 2016). The USA ranks 15th with 46 per cent employers facing a severe shortage.

Demographic change in some parts of the world especially developed nations may attract certain skill groups (such as those countries are in need of health and social care, and education) and workers from some certain countries of ASEAN would flow into those countries. A myriad of factors causes intra-ASEAN migration. Is it about time-space continuum or the role of affordable air transport or economic growth in certain countries drawing in labour? According to most of the policy-level respondents, skill mobility is all about demand and supply. The gap between demand and supply creates a skill gap and oversupply of a certain skill may create skill mismatch. Is the mismatch referring to host countries’ local workers inability or the slow pace of adapting to global economic changes and technological progress of the country, therefore, needing to open its doors to other ASEAN countries and even Asian and the west? Can mismatch occur in the receiving countries’ work or labour skill needs vs the types of migrants that come in? This happens over time when the foreign labourers skill become obsolete or outdated, therefore, they either return to their home country or be reskilled.

Since the last couple of decades, across the ASEAN region, the “migration landscape” has changed in terms of volume, direction and skill composition. Most receiving ones planned to cut down the inflow but failed due to the fertility decline and skills mismatch; therefore, the inflow remained constant resulting in the decline of the employment for locals. Most studies suggest that the Philippines and Thailand are doing great in supplying of all

Countries	Year			
	1990	2000	2010	2015
Brunei	73,200	96,296	100,587	102,733
Cambodia	38,375	146,085	81,977	79,963
Indonesia	465,612	292,307	305,416	328,846
Laos	22,866	21,948	21,185	22,244
Malaysia	695,920	1,277,223	2,406,011	2,514,243
Myanmar	133,545	98,011	76,414	73,308
Philippines	154,071	318,095	208,599	211,862
Singapore	727,262	1,351,691	2,164,794	2,543,638
Thailand	528,693	1,257,821	3,224,131	3,913,258
Vietnam	28,118	56,745	61,756	72,793

Source: UNESCAP, Population Division (2015)

Table I.
Growth of
immigration in SEA

categories of skills, while Singapore for skilled ones only. For instance, Filipino health workers such as nurses and doctors prefer moving to Brunei, Ireland, Kuwait, Libya, Qatar, Singapore and the United Arab Emirates (Rahman, 2017), and Singaporean engineers and academics prefer moving to North America, the Pacific and Europe while the Filipino professionals prefer to move over to the Pacific and North America (Ullah, 2018). In the 1970s, the outflow of skilled Filipino migrants became a concern because college-educated and professional workers, mostly the physicians, doctors, nurses, teachers, engineers, scientists and mechanical officers constituted the outflow (Alburo and Abella, 2002; Morella, 2008). The continuous outflow of medical professionals forced 10 per cent of 2,500 hospitals to shut down due to lack of doctors and nurses since 2002 in the Philippines (Purgill, 2010). Like other SEA countries under study, Vietnam, since the late 1970s, has been continuously experiencing out-migration to USSR, Germany, Slovakia and Hungary causing severe human capital loss (Dang *et al.*, 2010).

Indonesians form the largest migrant group in Malaysia, consisting of about 51 per cent, followed by Myanmar 7 per cent; Vietnam 4 per cent; and the Philippines, Thailand and Cambodia about 5 per cent, respectively (Pasadilla, 2011; Ullah, 2018). While migrants constitute one-third of labour force in Malaysia (Ullah, 2010), a considerable number of Malaysians have moved out of the country for opportunities overseas. For instance, in 2013, more than 300,000 highly skilled Malaysians (financial, technical and engineering sectors) lived in the OECD countries and Singapore (Ullah, 2018; Pillai, 2015). In order to offset the outflow of talents, Malaysia has turned on importing talented skills (NEAC, 2010, p. 60). Furthermore, in the last decade Malaysia's return talents programme attracted about 1,000 of its talents back (Malaysiakini, 2010 cited in Ullah, 2018), which represents a process of desertification of talents occurring. Cambodian migrant workers move mainly within ASEAN, in particular to Thailand and Malaysia.

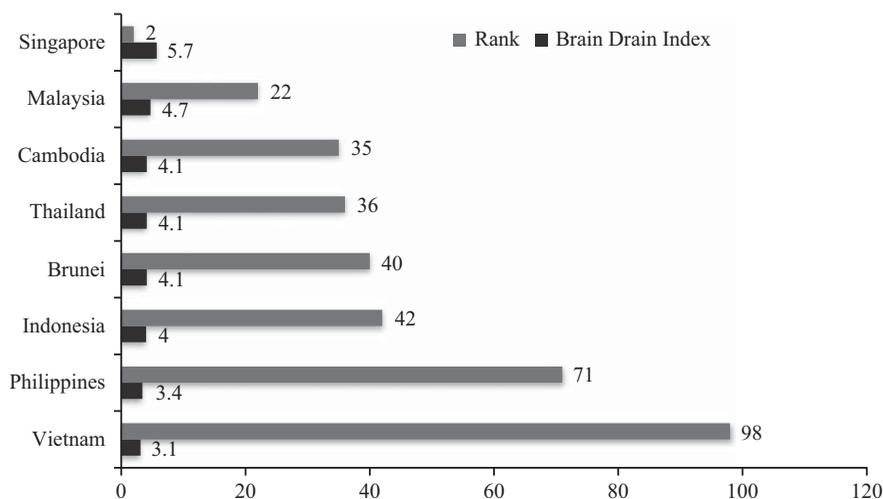
The Intra-ASEAN mobility has been triggered by the enforcement of the AEC that aims to achieve a free flow of skilled labour, goods, services, investment and capital (Ullah, 2018, p. 2). The members signed a mutual recognition arrangement[2] (Zhao *et al.*, 2000; Helliwell, 2006) with a target to create around 14m employments and develop the region with an economic output of up to 7 per cent by 2025 by reducing the trade barriers (Susantono, 2015; Ullah, 2018).

This spur debates whether economic integration encourages economic growth and easy mobility of people. This can, however, turn into a double-edged sword whereby a situation of brain drain from "resource-poor countries" to "brain gain" of "resource-rich ones" could be created (Chia, 2011, p. 214; Chaitrong, 2012). With the declining talents in the SEA, it becomes appropriate to put forward the argument of Ullah (2018), which says that the loss of skilled workers from the ASEAN countries would hinder national growth and their outflow would create a huge skill gap, if not skill empty, as the talents tend to settle abroad.

The brain drain has become a critical issue for many developing regions including ASEAN. The position of the countries in ASEAN in the Brain Drain Value Rank is diverse (Figure 5). The Brain Drain Index is scaled between 1 and 7, where 1 = no, the best and the brightest normally leave to pursue opportunities in other countries, and 7 = yes, there are many opportunities for talented people within the country (GEF, 2012).

Conclusions

Employers in ASEAN and beyond are struggling filling crucial positions because candidates lack essential skills, particularly in professional positions. The skills gap is indeed preventing employers from finding the talent they need. The deficiency of industry-ready skill appears as one of the biggest challenges for the five core member countries of the ASEAN (ASEAN-5), as they strive to realize their economic visions. The extent of the skill challenges varies widely. Differences in their level of development, economic advancement



Source: Global Economic Forum (2012–2013)

Global skills deficiency

Figure 5.
Brain drain index
(South East Asia)

and structure, and growth strategy explain the different skill mix they need, and differences in demographic profile, institutional capacity and workforce characteristics define their abilities and effectiveness in responding to the skill needs.

Some countries focus on importing skills through immigration and some on increasing fertility and some on skill exchange to offset the skill deficiency. Australia, Canada and New Zealand, for example, attract “the best and brightest” immigrants in an increasingly competitive global environment (Hawthorne, 2014). Most researches bear out that the relevance and quality of skill are more important than quantity. Quality and relevance reduce skill gap and skill deficiency, while quantity increases skill mismatch. For example, in 2017 in the Philippines, about 1.2m students graduated from college and vocation courses found it difficult to land jobs because of a growing mismatch between their training and the skills required by most employers (Depasupil, 2017). The same situation exists in the Indonesian labour market despite an increasing supply of skills.

Policy makers in their interviews mentioned that about 10–20 per cent of graduates will face skill irrelevance. In order to better equip the graduates, an overhaul in education system might be necessary however feeding the students overnight might be hard as well. In Singapore, for example, is disruption related to the Fourth Industrial Revolution driven by technology is taking place and this has created a skills gap for both young and experienced workers. As Malaysia and Thailand are seeking to break out of the middle-income trap by moving towards technology and knowledge-intensive industries, they face similar challenges in equipping their workforces with the necessary skills. Indonesia and the Philippines with their growth boosting demographic profile (i.e. about 44 per cent of the population are young under the age of 25) have been trying to join the rank of upper-middle-income countries. Both countries enjoy a strong comparative advantage in low-skill industries in manufacturing and services.

ASEAN is a region of different markets, varying degrees of economic progress and diverse cultures and religions, making it one of the most interesting and competitive regions in the world. They share a number of common skill challenges with varying degrees and hence the ability to respond to the challenges varies too. The inability to meet demands, a lack of a comprehensive skill development roadmap to support economic growth, weakness in technical and vocational education and training, skill challenges arising from intra-regional

labour flows and by disruptive technology are the most common among the ASEAN countries. What this means for us is that if we were to endure pressure from competitive markets and leverage from it, we cannot afford to have any form of skill mismatch, skill gap and skill shortage, or even lag behind the supply of highly skilled talents.

Notes

1. Replacement migration refers to the international migration that a country would need to prevent population decline and population ageing resulting from low fertility and mortality rates.
2. The mutual recognition arrangements (MRA) is a major instrument for skilled labour mobility in ASEAN.

References

- Adekola, S. (2017), "From brain drain to brain train – a transnational case analysis of Nigerian migrant health care workers", Theses and Dissertations (Comprehensive) 1987, Brandford, available at: <http://scholars.wlu.ca/etd/1987> (accessed 16 November 2018).
- Albuero, F. and Abella, D. (2002), *Skilled Labour Migration from Developing Countries: Study on the Philippines*, ILO, Geneva.
- Allen, J. and De Grip, A. (2007), *Skill Obsolescence, Lifelong Learning and Labor Market Participation, Research Centre for Education and the Labour Market (ROA)*, ROA, Maastricht.
- Aniceto, O. Jr and Kathrina, G. (2013), "Managing international labor migration in asean: themes from a six-country study", Philippines Institute for Development Studies Discussion Papers No. 2013-26, Manila, available at: www.eaber.org/node/23422 (accessed 12 October 2018).
- ASEANstats (2018), *ASEAN Statistical Highlights*, ASEANstats, Jakarta, available at: www.aseanstats.org/wp-content/uploads/2018/10/ASEAN_Statistical_Highlights_2018.pdf
- Asian Development Bank (2015), *Achieving Skill Mobility in the ASEAN Economic Community: Challenges, Opportunities, and Policy Implications*, Asian Development Bank, Mandaluyong City.
- Bauder, H. (2003), "'Brain abuse', or the devaluation of immigrant labour in Canada", *Antipode*, Vol. 35 No. 4, pp. 699-717.
- Castles, S. and Miller, M.J. (2009), *Migration in the Asia-Pacific Region*, Migration Information Source, Washington, DC.
- CEDEFOP (2015), "Skill shortages and gaps in European Enterprises: striking a balance between vocational education and training and the labour market", Reference Series No. 102, Publications Office of the European Union, available at: www.cedefop.europa.eu/files/3071_en.pdf (accessed 2 January 2019).
- Chaitrong, W. (2012), "ASEAN integration could see brain drain, Stiglitz warns", *The Nation*, available at: www.nationmultimedia.com/business/Asean-integration-could-see-brain-drain-Stiglitz-w-30183353.html (accessed 11 December 2018).
- Chia, S.Y. (2011), "Free flow of skilled labor in the AEC", in Urata, S. and Okabe, M. (Eds), *Toward a Competitive ASEAN Single Market: Sectoral Analysis. ERIA Research Project Report 2010-03*, ERIA, Jakarta, pp. 205-279.
- Ciumasu, I.M. (2010), "Turning brain drain into brain networking", *Science and Public Policy*, Vol. 37 No. 2, pp. 135-146.
- Crossman, J.E. and Clarke, M. (2010), "International experience and graduate employability: stakeholder perceptions on the connection", *Higher Education*, Vol. 59 No. 5, pp. 599-613.
- Dang, N.A., Tran, T.B., Nguyen, N.Q. and Dao, T.S. (2010), *Development on the Move – Measuring and Optimizing Migration's Economic and Social Impacts in Vietnam*, Global Development Work, New Delhi.

- Dangerfield, K. (2017), "There are 361K job vacancies in Canada – here's where workers are needed", Global News, 12 December, available at: <https://globalnews.ca/news/3911539/job-vacancy-canada-workers-needed/> (accessed 11 November 2018).
- Depasupil, W. (2017), "One million graduates face job-skill mismatch", *Manila Times*, 14 March, available at: www.pressreader.com/philippines/manila-times/20170314/281547995697191 (accessed 18 October 2018).
- Downie, M. (2010), "Immigrants as innovators: boosting Canada's global competitiveness", report, Conference Board of Canada, Ottawa.
- Edge Foundation (2018), *Skills Shortages. Open University Business Barometer*, Edge Foundation, London.
- Efron, S. (2018), "Factories are desperate for skilled workers", *The Globe and Mail*, 5 February, available at: www.theglobeandmail.com/report-on-business/small-business/talent/canadian-factories-say-shortage-of-skilled-workers-is-hurting-growth/article37848454/ (accessed 16 November 2018).
- EU (2011), *Immigration in the EU*, EU, Belgium.
- European Commission (2013), "Skills mismatches and labour mobility", available at: http://ec.europa.eu/europe2020/pdf/themes/27_skills_gaps_and_labour_mobility_02.pdf (accessed 23 October 2018).
- Findlay, A. (1990), "A migration channels approach to the study of high level manpower movements: a theoretical perspective", *International Migration*, Vol. 28 No. 1, pp. 15-23.
- Gaillard, J. and Gaillard, A. (1997), "Introduction: the international mobility of brains – exodus or circulation?", *Science, Technology & Society*, Vol. 2 No. 2, pp. 195-228.
- Gaillard, J. and Gaillard, A. (2003), "Can the scientific diaspora save African science?", available at: www.SciDev.Net/Opinions/index.cfm (accessed 18 February 2008).
- Glaser, W.A. (1978), "The brain drain: emigration and return. Findings of a UNITAR multinational comparative survey of professional personnel of developing countries who study abroad", UNITAR Research Report No. 22, Geneva.
- Global Economic Forum (2012), "Global competitiveness report – 2012–2012", Global Economic Forum, Geneva.
- Gnanasagaran, A. (2018), "Strengthening ASEAN's labour force", *The ASEAN Post*, Kuala Lumpur, 19 January, available at: <https://theaseanpost.com/article/strengthening-aseans-labour-force> (accessed 15 November 2018).
- Harkins, B., Lindgren, D. and Suravoranon, T. (2017), "Risks and rewards: outcomes of labour migration in South-East Asia", available at: www.ilo.org/asia/publications/WCMS_613815/lang-en/index.htm (accessed 29 December 2018).
- Hawthorne, L. (2014), "A comparison of skilled migration policy: Australia, Canada and New Zealand", 16 October, available at: <https://ssrn.com/abstract=2808881> or <http://dx.doi.org/10.2139/ssrn.2808881> (accessed 26 September 2018).
- Helliwell, J. (2006), "Highly skilled workers: build, share, or buy?", SRI Working Paper Series No. 2006 D-13, Ottawa.
- Hyun-jun, O. (2017), "Korea to accept 56,000 foreign workers in 2018", *The Korea Herald*, 22 December, available at: www.koreaherald.com/view.php?ud=20171222000777 (accessed 3 January 2019).
- ILO (2015), "Migrant domestic workers across the world: global and regional estimates", available at: www.ilo.org/wcmsp5/groups/public/-ed_protect/-protrav/-migrant/documents/briefingnote/wcms_490162.pdf (accessed 20 December 2018).
- ILO (2017), "Skill mismatch", available at: www.ilo.org/skills/areas/skills-policies-and-systems/WCMS_551520/lang-en/index.htm
- ILO and ADB Institute (2014), *ASEAN Community 2015: Managing Integration for Better Jobs and Shared Prosperity*, ILO and ADB, Bangkok.
- IOM (2017), "World migration report, 2016", IOM, Geneva.
- Islam, S. (2017), *Skill Demand and Supply in Global Market for Fourth Industrial Revolution*, ILO, Geneva.

- Johnson, H. (1968), "An 'internationalist' model", in Adams, W. (Ed.), *The Brain Drain*, Macmillan, New York, NY, pp. 90-105.
- Jones, E. (2013), "The global reach of universities: leading and engaging academic and support staff in the internationalization of higher education", in Sugden, R., Valania, M. and Wilson, J.R. (Eds), *Leadership and Cooperation in Academia*, Elgard, Cheltenham, pp. 161-183.
- Kahanec, M. and Zimmermann, K.F. (2010), "High-skilled immigration policy in Europe", IZA Discussion Paper No. 5399, Institute for the Study of Labor, Bonn, p. 40.
- Koser, K. and Salt, J. (1997), "The geography of highly skilled international migration", *International Journal of Population Geography*, Vol. 3 No. 4, pp. 285-303.
- Kuznetsov, Y. and Sabel, C. (2006), "International migration of talent, diaspora networks, and development: overview of main issues", in Kuznetsov, Y. (Ed.), *Diaspora Networks and the International Migration of Skills*, World Bank, Washington, DC, pp. 3-19.
- Latham, A. (2017), *How to Calculate a Global Competitiveness Index*, Leaf Group, New York, NY.
- Leong, N. (2017), "Remittances are ripping off migrant workers in ASEAN", Australian National University: East Asia Forum, Canberra.
- Lowell, B.L. and Kmeper, Y.B. (2004), "Transatlantic roundtable on low-skilled migration in the twenty-first century: prospect and policies", *International Migration*, Vol. 42 No. 1, pp. 117-140.
- McCarthy, N. (2016), "The countries facing the greatest skill shortages", Statistica, 20 April, available at: www.statista.com/chart/4690/the-countries-facing-the-greatest-skill-shortages/ (accessed 23 December 2018).
- McKenzie, F. (2017), "The Fourth Industrial Revolution and international migration", Working Paper No. 5, Lowy Institute, Sydney.
- Malaysiakini (2010), *How Many Malaysians Are There in Singapore?*, Leong Sze Hian, Malaysiakini, Kuala Lumpur.
- Manning, C. and Bhatnagar, P. (2004), "Liberalizing and facilitating the movement of individual service providers under AFAS: implications for labour and immigration policies and procedures in ASEAN", REPSF Project 2, No. 004, Jakarta.
- Manpower Group (2018), "Talent shortage survey", available at: <https://go.manpowergroup.com/talent-shortage-2018#thereport> (accessed 4 October 2018).
- Mejia, A., Pizurki, H. and Royston, E. (1979), *Physician and Nurse Migration: Analysis and Policy Implications*, World Health Organization, Geneva, pp. xiii-476.
- Meyer, J.B. (2001), "Network approach versus brain drain: lessons from the diaspora", *International Migration*, Vol. 39 No. 5, pp. 91-110.
- Meyer, J.-B. (2007), "Building sustainability: the new frontier of diaspora knowledge networks", Working Paper No. 35 – Centre on Migration, Citizenship and Development (COMCAD), Bielefeld.
- Meyer, J.B. and Brown, M. (1999), "Scientific diasporas: a new approach to the brain drain", Management of Social Transformations (MOST) Programme, Paris.
- Meyer, J.-B., Charum, J., Bernal, D., Gaillard, J., Granés, J., Leon, J., Montenegro, A., Morales, A., Murcia, C., Narvaez-Berthelemot, N., Parrado, L.S. and Schlemmer, B. (1997), "Turning brain drain into brain gain: the Colombian experience of the diaspora option", *Science, Technology & Society*, Vol. 2 No. 2, pp. 285-315.
- Morella, C. (2008), *Medical Apocalypse*, Asian Pacific Post, Vancouver.
- NEAC (2010), "New economic model for Malaysia Part 1", National Economic Advisory Council Malaysia, Percetakan Nasional Malaysia Berhad, Kuala Lumpur.
- Pasadilla, O.G. (2011), "Social security and labor migration in ASEAN", Asian Development Bank Institute Policy Brief No. 34, Manila.
- Pellegrino, A. (2001), "Trends in Latin American skilled migration: 'Brain drain' or 'Brain exchange'?", *International Migration*, Vol. 39 No. 5, pp. 111-132.

- Pillai, A.K. (2015), "Why our top brains overseas are not returning", 6 November, *Sin Chew Daily*, available at: www.mysinchew.com/node/109833 (accessed 22 September 2018).
- Purgill, J. (2010), "Draining of the Philippines. Brain drain in the Philippines", available at: www.slideshare.net/jenniferpurgill/brain-drain-in-the-philippines-jennifer-purgill-dec-2010 (accessed 19 November 2018).
- Quirk, V. (2009), "21st century solution to skill shortages in Australia", Working Paper No. 09-04 A, Centre of Full Employment and Equity, The University of Newcastle, Newcastle.
- Rahman, M.M. (2010), "Remittance as a social process: the Singapore–Bangladesh remittance corridor", *Asia and Pacific Migration Journal*, Vol. 19 No. 2, pp. 265-294.
- Rahman, M.M. (2017), *International Migration to Singapore: A Process-Oriented Approach to Labour Migration*, Springer, Heidelberg, London and Singapore.
- Rahman, M.M., Yong, T.T. and Ullah, A.A. (Eds) (2014), "Migrant remittances in South Asia: an introduction", *Migrant Remittances in South Asia*, Palgrave Macmillan, London, pp. 1-30.
- Rahman, T. (2013), "From brain drain to brain gain: leveraging the academic diaspora for development in Bangladesh", in Yong, T.T. and Rahman, M.M. (Eds), *Diaspora Engagement and Development in South Asia*, Palgrave Macmillan, London, pp. 124-144.
- Reitz, J. (2001), "Immigrant success in the knowledge economy: institutional changes and the immigrant experience in Canada, 1970–1995", *Journal of Social Issues*, Vol. 57 No. 3, pp. 579-613.
- Salt, J. and Findlay, A. (1989), *The Impact of International Migration on Developing Countries*, OECD Publications, Paris, pp. 159-180.
- Saxenian, A. (2002), "Brain circulation. How high-skill immigration makes everyone better off", *Brookings Review*, Vol. 20 No. 1, pp. 28-31.
- Saxenian, A. (2005), "From brain drain to brain circulation: transnational communities and regional upgrading in India and China", *Studies in Comparative International Development*, Vol. 40 No. 2, pp. 35-61.
- Siar, S. (2014), "Diaspora knowledge transfer as a development strategy for capturing the gains of skilled migration", *Asian and Pacific Migration Journal*, Vol. 23 No. 3, pp. 299-323.
- Skeldon, R. (2004), "China: from exceptional case to global participant", Migration Information Source, Country Profile, available at: www.migrationinformation.org
- Susantono, B. (2015), "Stopping ASEAN's brain drain", *Inquirer*, available at: <http://opinion.inquirer.net/88950/stopping-aseans-brain-drain> (accessed 22 December 2018).
- Sutton, R.C. and Rubin, D.L. (2004), "The GLOSSARI project: initial findings from a system-wide research initiative on study abroad learning outcomes", *Frontiers: The Interdisciplinary Journal of Study Abroad*, Vol. 10, Fall, pp. 65-82.
- Tsang, E. (2018), "Talent list' coming to lure foreign workers to Hong Kong", *South China Morning Post*, 1 March, available at: www.scmp.com/news/hongkong/economy/article/2135130/talent-list-coming-lure-foreign-workers-hong-kong (accessed 9 May 2018).
- Tuccio, M. (2017), "Determinants of intra-ASEAN migration", *Asian Development Review*, Vol. 34 No. 1, pp. 144-166.
- Ullah, A.K.M.A. (2010), *Rationalizing Migration Decisions: Labour Migrants in South and South-East Asia*, 1st ed., Ashgate, Aldershot.
- Ullah, A.K.M.A. (2015), "Replacement migration and governance: foreign domestic workers in Egypt", *Asian Review*, Vol. 28 No. 1, pp. 71-86.
- Ullah, A.K.M.A. (2018), "Skill drain from ASEAN countries: can sending countries afford?", *International Journal of Development Issues*, Vol. 17 No. 2, pp. 205-219.
- Ullah, A.K.M.A. and Azizuddin, M. (2018), "South Asian student migration to Nordic countries: changing initial motivations", *Asian Profile*, Vol. 46 No. 1, pp. 73-87.
- UNESCO (2007), "From brain drain to brain gain", Education Today, UNESCO, Paris, No. 18. October 2006–January 2007.

- UNESCAP (2015), "Asia-Pacific migration report 2015", UNESCAP, Bangkok.
- Van Loo, J., De Grip, A. and De Steur, M. (2001), "Skills obsolescence: causes and cures", *International Journal of Manpower*, Vol. 22 Nos 1/2, pp. 121-138.
- Williams, A.M. and Baláž, V. (2005), "What human capital, which migrants? Returned skilled migration to Slovakia from the UK", *International Migration Review*, Vol. 39 No. 2, pp. 439-468.
- Yong, T.T. and Rahman, M.M. (Eds) (2013), "Introduction: diaspora engagement and development in South Asia", *Diaspora Engagement and Development in South Asia*, Palgrave Macmillan, London, pp. 1-19.
- Zhao, J., Doug, D. and Scott Murray, T. (2000), "Brain drain and brain gain: the migration of knowledge workers from and to Canada", *Education Quarterly Review*, Vol. 6 No. 3, pp. 8-35.
- Zimmerman, E. and Woolf, S.H. (2014), "Understanding the relationship between education and health", discussion paper, Institute of Medicine, Washington, DC.
- Zweig, D., Fung, C.S. and Han, D. (2008), "Redefining the brain drain: China's 'diaspora option'", *Science, Technology and Society*, Vol. 13 No. 1, pp. 1-33.

Further reading

- Castles, S., De Haas, H. and Miller, M.J. (2013), *The Age of Migration: International Population Movements in the Modern World*, McMillan, London.
- DOLAB (2012), "Development and brain drain: a review of Vietnamese labour export and skilled migration", *Migration and Development*, Vol. 3 No. 2, pp. 181-202.
- European Commission (2018), "The 2018 ageing report economic and budgetary projections for the EU member states (2016-2070)", Institutional Paper No. 079, European Commission, Brussels.
- Goldring, L. (2004), "Family and collective remittances to Mexico: a multi-dimensional typology", *Development and Change*, Vol. 35 No. 4, pp. 799-840.
- IOM (2008), "World Migration Report: Oceania", available at: www.iom.int/jahia/webdav/shared/shared/mainsite/media/docs/wmr/regional_overviews/ro_oceania.pdf
- Levitt, P. (1998), "Social remittances: migration driven local-level forms of cultural diffusion", *International Migration Review*, Vol. 32 No. 4, pp. 926-948.
- Levitt, P. (2001), "Transnational migration: taking stock and future directions", *Global Networks*, Vol. 1 No. 3, pp. 195-216.
- Migration News (2013), "Southeast Asia: ASEAN 2015", October, 20; 4, available at: <https://migration.ucdavis.edu/mn/more.php?id=3868>
- Sharif, N. (2018), "Importing talent critical for an innovative society", *China Daily*, 11 May, available at: www.chinadaily.com.cn/hkedition/2018-05/11/content_36179802.htm (accessed 10 July 2018).
- The Strait Times* (2017), "Scandinavia desperately needs more skilled workers", 21 November, available at: www.straitstimes.com/world/europe/scandinavia-desperately-needs-more-skilled-workers (accessed 25 November 2018).
- Ullah, A.K.M.A. and Alkaff, S.N.H. (2018), "Biological remittance among migrant workers: social ramifications in the Philippines and Indonesia", *Journal of Asian and African Studies*, Vol. 53 No. 6, pp. 896-916.
- Yue, C.S. (2011), "Foreign labor in Singapore: trends, policies, impacts, and challenges", PIDS Discussion Paper Series No. 2011-24, Manila.

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