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**SESSION I: HIGHLY SKILLED MIGRATION AND STUDENT MOBILITY BETWEEN ASIA AND EUROPE:
FRAMING THE DISCUSSION**

BACKGROUND NOTE

Summary

The mobility of highly skilled persons and tertiary education students contributes to enhancing the global accumulation and transfer of knowledge and skills, and to foster innovation in knowledge-based economies. This background paper aims at providing an overview of the definition, determinants, implications and trends of highly skilled migration in Asia and Europe, including student mobility.

There is no agreed definition of highly skilled migration or mobility, and the debate concerning its impacts is ongoing. Indeed, its analysis requires to be always contextualized. The dearth of consistent and comparable data, and limited understanding of the qualitative (e.g. social) aspects linked to highly skilled mobility hinder a comprehensive appraisal of the phenomenon.

There are indications that, at the global level, the replacement of retiring workers will occur at a slow pace. Likewise, the mismatch between available skills and new sets of required skills is expected to be significant in the coming decades. Certain European and Asian countries are experiencing demographic and occupational changes that demand greater efforts to upgrade the available skills, and employment creation at a faster pace at all skill levels. European and Asian countries have also sought to better manage and facilitate the mobility of skilled persons to address potential skills imbalances. In the case of Europe, these measures are of recent date and their impacts have yet to be analysed. The harmonization of national and regional frameworks and the adoption of a longer-term perspective in the development of policies addressing labour and skills imbalances seem to be key issues to facilitate the mobility and integration of highly skilled workers and international tertiary education students. In the case of Asian countries, the development of knowledge-intensive sectors, higher educational attainment rates at tertiary level, and the opportunities generated in fast developing economies may drive return and heighten the region’s attractiveness for highly skilled migrants and students from within and outside Asia. As the internationalization of labour markets is increasingly leading countries to draw from the same pools of highly skilled workers, the need to enhance the local education, science and research capacities, and to facilitate the mobility of highly skilled persons and students across borders becomes more evident.

Introduction

Increased human mobility is a key aspect of globalization. Together with the internationalization of scientific and technological innovation, and research and development¹, the flows of skills and knowledge, or human capital², are often perceived as drivers of innovation and growth in the so-called



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knowledge-based economies. Countries generally seek to make the most out of this human capital by investing in education and training; enhancing their research and development and science and technology capacity; and, eventually, attracting talented workers.

Nevertheless, a slow recovery from the global economic crisis worldwide, and electorates' increasing sensitivity to immigration both in Europe and Asia have led to the adoption of more restrictive or selective migration policies in many countries. Precipitated responses adopted in the aftermath of the economic downturn may undermine the capacity of countries to address long-term labour market needs and skills imbalances.

Beyond economic conditions, the mobility of highly skilled workers relates to broader demographic and social adjustments. Demographic and occupational changes, such as the aging of populations or the development of high productivity sectors requiring new or different skills sets, may lead to skills shortages if the required human capital is not available at the local or national level.

The importance of the mobility of skilled workers and tertiary education students relies on their potential contributions in terms of the development, transfer, and dissemination of new knowledge and skills. Their mobility could increase the research and development, as well as the scientific base of knowledge economies, and generate additional benefits such as stimulating entrepreneurship, and contributing to the exchange of highly valued knowledge. Also, it is often assumed that highly skilled migrants have better opportunities to integrate into the receiving society, although in practice this may not always come true. Moreover, skilled workers and students can play an active role in the recovery and restructuring of the sending and receiving economies, and in the accumulation of global knowledge. However, the impacts of highly skilled mobility on development and growth variables are not straightforward as discussed below.

Therefore, this session guides the discussion towards a better understanding of the need for comprehensive approaches facilitating the mobility and integration of highly skilled persons and students. The former could be achieved by building stronger linkages between migration policy and education, science and technology, research and development, private sector development, investment, and labour market and employment policies.

Definitions

There is no comprehensive or consistent definition of “skilled worker” or “highly skilled migration”. Typically, educational attainment, work experience, occupation, positions currently and previously held, and wages serve as indicators of acquired skills (Cerna, 2010; Wickramasekara, 2002; Chaloff and Lemaître, 2009; Skeldon, 2003). Some countries further consider factors that are thought to facilitate the labour market and social integration of highly skilled workers (and the members of their families) as important admission criteria. These “adaptability” criteria may include the existence of a job offer, prior employment or completion of post-secondary education in the destination country, the spouses' or partners' level of education, or the presence of relatives who are citizens or permanent residents in the host country³.

Tertiary-educated workers, professionals, people employed in high-productivity sectors (in science and technology related fields), are often considered skilled workers. Undergraduate, graduate and post-graduate students, academics, and expatriates usually fit in the highly skilled category too). The Organization for Economic Co-operation and Development (OECD) associates highly skilled workers with *human resources in science and technology* (HRST)⁴. The Council of the European Union (hereafter EU), in



the Blue Card Directive, defines highly qualified employment as “the employment of a person who in the Member State concerned, is protected as an employee under national employment law..., irrespective of the legal relationship, for the purpose of exercising genuine and effective work ..., is paid, and, has the required adequate and specific competence, as proven by higher professional qualifications...” (OJ L 155: 21).

Yet, the definition of skilled worker remains problematic. For instance, nurses are sometimes either included or excluded from the highly skilled category, in spite of their specific training, whereas investors and entrepreneurs whose skills are not easily recognizable are often considered skilled persons (Skeldon 2003: 11). There are also disparities between the criteria commonly used to identify highly skilled workers and their labor market outcomes. For example, some highly skilled workers take up jobs for which they are overqualified. In contrast, some persons who hold highly skilled jobs may lack the entry level qualifications required for those positions (Chaloff and Lemaître, 2009: 12).

Regarding the determinants of highly skilled migration, as for other types of migration, better material and social conditions (for highly skilled workers and their families) influence the decision to migrate and the choice of destination. For example, a recent survey carried out in 117 countries among spouses of highly skilled migrants, including intra-corporate transferees (ICTs) found that for 69 per cent of households spouse career or employment opportunities were an important decision to relocate, and 58 per cent of respondents would be unlikely to relocate to a country where it was difficult for a spouse or a partner to get a work permit (Permits Foundation, 2011).

Additionally, structural factors can influence the size, direction and patterns of highly skilled and student mobility. For instance, an increased use of advanced technology and the drive for productivity in receiving societies may generate a demand for skills sets that are not readily available at the local or national level. This, in turn, may encourage the recruitment of foreign talent. In the case of international students, demand may be generated through the marketing of opportunities to study abroad (see Background Paper for Session II). Highly skilled and student mobility are also affected by the quality and availability of research and development infrastructure and financing mechanisms, or by the prestige of certain education institutions and degree programmes. The mobility of skilled persons could further be shaped by regional integration processes, and the internationalization of labour markets, among others.

It is worth mentioning that not all skilled migration is “voluntary”; skilled migrants may also be found among refugees and asylum seekers (OECD 2002: 4). Similarly, highly qualified women have remained relatively “invisible” in the discussions about highly skilled mobility, as early studies on skilled migration focused on male-dominated flows within transnational corporations, and more recent studies that focus on female migrants in low-wage positions (for instance, domestic work) have gained prominence.

The impacts of highly skilled migration and student mobility

In order to assess the implications of highly skilled migration and student mobility, it is necessary to understand the profile of highly skilled workers and students (for instance, their human capital and motivations); the nature of movement (its direction, frequency, pattern –permanent, temporary, circular, “virtual” migration); and how different forms of mobility contribute to concentrating or disseminating knowledge (Ackers 2005). It is also important to distinguish between highly skilled workers and students who move independently, and skilled persons who move within multinational companies (intra-corporate transferees/ICTs). The latter category has traditionally received more attention in academic and policy discussions.



Debate on the impacts of highly skilled migration is ongoing. Because highly skilled workers are thought to possess human capital necessary for the advancement of societies, the costs and benefits of their migration have been scrutinized. The concept of *brain drain* reflects a concern regarding the potential losses in terms of labour power and tax revenue, as well as returns over public investments made in education by sending countries to the benefit of nations receiving highly skilled migrants, although education can be and is also privately financed. It has also been argued that highly skilled emigration may reduce the quality of certain services and the productivity of key sectors for innovation. Some experts maintain that such concerns have to be weighed against the actual employment opportunities that highly skilled persons have in their countries of origin (OECD 2009). The same applies to higher education students regarding their opportunities to get quality education and their employment prospects at home.

The concepts of *brain waste* and *de-skilling* have been associated with the underemployment or underutilisation of skilled persons' human capital. While in 1980s the debate focused on the compensation for the negative impacts of highly skilled migration (e.g. the Bhagwati tax), a more optimistic approach emerged in the 1990s reflected, for example, by the notions of *brain gain* and *brain circulation*. The latter approach admits the multidirectional nature of skills flows, and emphasises the importance of highly skilled migrants' circular patterns of mobility and social capital as contributing to a greater *circulation* and exchange of knowledge. The former occurs not only through return⁵, but may also take other forms such as transnational entrepreneurship⁶, investment, trade in services⁷, or the emergence of knowledge networks. The impacts of skilled (e)migration on investment in education, science and technology, and on the creation of human capital have also been explored, but evidence remains inconclusive (i.e. skilled emigration acting as an incentive to attain higher qualifications in order to improve one's mobility prospects).

Overall, the advantages and disadvantages of highly skilled migration need to be contextualized and weighed against many variables. Some factors that deserve consideration include the training process (the place of training – origin or destination country); the type of tertiary education and research and development financing (e.g. public or private); the labour market outcomes and labour market and education regulation concerning skilled workers and tertiary education students; skills' replacement rates and demographic dynamics; the distribution of the highly skilled workforce in the country of origin (e.g. the attractiveness of specific geographical areas for skilled persons and students); the existence of compensation mechanisms (e.g. enabling environments for foreign investment, entrepreneurship, remittances); the socioeconomic integration of highly skilled workers and students in destination societies, and the potential to improve research and development and science and technology capacity in countries of origin, among other factors. Therefore, simple causal links are insufficient to explain and regulate interrelations between highly skilled migration and development⁸.

Overview of highly skilled migration and student mobility trends in ASEM countries

The global labour force is expected to grow to 3.5 billion by 2030. Nevertheless, as new workers will enter at a slower rate, it will become difficult to replace the higher number of retiring workers (40 per cent of the global expected retirees will be in advanced economies and China; McKinsey 2012). The mismatch between old and new workers' skills and required skills, both in developed and developing economies, is expected to become more significant. Overall, in advanced economies there has been a decline in manufacturing jobs and thus in the demand of medium-skilled labour, and a strong increase in both knowledge-intensive (e.g. in finance, business and other service sectors) and labour-intensive sectors (e.g. construction, retail, domestic service). As the labour market polarises, the already important



income inequalities between low-skilled and highly-skilled workers are further widening. The pace of job-creation at all skills levels has also become a major challenge.

In the absence of efforts to upgrade the skills of the labour force, by 2020, a shortage of 38 to 40 million highly skilled workers (13 per cent of the demand) may arise in advanced economies (16 to 18 million tertiary-educated workers) and China (23 million), despite increases in tertiary educational attainment in the past 20 years. Conversely, advanced and developing economies are expected to have a surplus of low-skilled workers in the coming decades; estimated at 32 to 35 million workers without post-secondary education in advanced economies, and 58 million in developing countries. These workers may have limited employment opportunities (McKinsey 2012).

One major difficulty in projecting trends on student mobility and skilled migration in Europe and Asia, refers to the dearth of comparable, recent and accurate data on migrant population flows and stocks by nationality, skill level, reasons for migration (e.g. employment and study purposes) and occupation. The former suggests that there is a need to improve data collection mechanisms and data sharing on highly skilled migration and student mobility in ASEM partner countries.⁹

In 2010, the stock of foreign population from all non-EU ASEM countries in the EU-27¹⁰ countries was estimated at 2,986,265. The five most important countries of origin were China (670,516), India (602,922), Russian Federation (423,044), Pakistan (357,521), Philippines (266,278), followed by Vietnam (164,975), Australia (114,533), Thailand (105,221) and Japan (87,569).¹¹

While the “circulation” of talent is one aspect of globalisation, traditionally, some high-income countries (Australia, Canada, the United States, and Japan) have concentrated large shares of highly skilled workers, especially from Asia¹². According to available data of 2000 censuses for 19 European countries (see Annex 1), some popular destinations of tertiary educated Asian immigrants from ASEM member countries were the United Kingdom (299,762), France (81,647), the Netherlands (52,790) Italy (18,174), and Sweden (15,410). Among the main Asian sending countries of tertiary educated to Europe were Pakistan (59,670), Indonesia (57,197), China (49,417), Vietnam (41,559), and the Philippines (38,281). The United Kingdom was the most important country of origin of tertiary educated immigrants in Australia (219,323), New Zealand (62,334) and Japan (6,604). Germany (21,157), the Netherlands (15,678), Poland (14,007), Italy (12,583) and Ireland (12,566) were also identified as important sending countries of tertiary educated immigrants in Australia. Overall, the Russian Federation appeared to be the main source country of tertiary educated immigrants to the 19 European countries in the dataset of reference (218,528). The majority of these immigrants were living in Germany (73.5 per cent of the total tertiary educated Russian immigrants residing in the European countries of reference). In addition, the majority of tertiary educated immigrants from non-EU ASEM countries in the United Kingdom came from English-speaking countries (75 per cent from Australia and 90 per cent from New Zealand, respectively). Considering the figures related to immigrants from the Russian Federation, Australia, and New Zealand in the European countries of reference, Greece (15,276), France (9,797), and Italy (7,411) appear as major destinations after Germany and the United Kingdom. Similarly, the highest numbers of Asian immigrants from ASEM countries with upper secondary education and post-secondary non tertiary education were found in the United Kingdom (158,610), France (89,195), the Netherlands (65,845), Italy (31,171) and Sweden (23,005). Some major countries of origin of upper secondary and post-secondary educated immigrants were India (90,778), Vietnam (78,044), Indonesia (71,581), Pakistan (55,889) and China (32,706) (elaborated by IOM based on OECD DIOC dataset; see Annex 1, tables 1 and 2).

Concerning highly skilled workers, in 2011, highly skilled citizens from China (including Hong Kong) (1044), Australia (482), New Zealand (214), Malaysia (179), South Korea (129), received the largest



number of permits for remunerated activities in the United Kingdom. Chinese highly skilled citizens (402) received the largest number of this category of permits in Denmark. Japanese (381) and Chinese (331) highly skilled citizens received largest number of permits for remunerated activities in France; Japanese (358), Chinese (321), Australian (126) and South Korean (125) citizens received the largest number of those permits in the Netherlands (Eurostat, see Annex 2).

Researchers constitute another important group of highly skilled persons. In 2011, France (2,075), the Netherlands (1,616), Sweden (817) issued significant numbers of first permits for researchers. Some important countries of origin of researchers are China, India, Japan and the Russian Federation. A large number of permits for researchers from China (including Hong Kong) were issued in the Netherlands, France, Denmark, and Sweden. (Eurostat, see Annex 3).

International students constitute an important reserve of highly skilled (migrant) labour. Student mobility has been on the rise. The inflows of international students to OECD countries grew by 6 per cent in 2009. There are about 2.6 million international students in OECD countries and the Russian Federation (OECD 2009, 2012). Some European countries (the United Kingdom, France and Germany) are among the preferred global destinations of international students (together with the United States and Australia). The number of international students has also increased in Korea, Spain, and New Zealand. The main fields of study of international students are social sciences, particularly business and law, followed by humanities, arts and education, engineering, science and health (OECD 2012: 36-39). China and India are the largest source countries of international students in OECD countries (together accounted for 25 per cent of the OECD international student population in 2009). In 2011, the number of permits issued for education reasons in the European Union countries was highest in the United Kingdom (247,044), followed by France (64,794), Spain (35,037), Germany (27,568), Italy (30,260), Ireland (15,131) and the Netherlands (10,701) (Eurostat, see Annex 4). In 2009, the United Kingdom, France, and Germany hosted the largest number of international or internationally mobile students from Asia. Among non-EU ASEM countries, Australia is currently the most important recipient country of international or internationally mobile students from Europe (UNESCO, see Annex 5).

Migration data should always be interpreted with caution due to omissions and the paucity of sources. However, it could be argued that the number of highly skilled workers in Europe from ASEM non-EU countries is currently small, contrary to the number of students of Asian origin. The dearth of data hinders the formulation of relevant conclusions regarding the migration of highly skilled European citizens and students to Asian countries.

Nevertheless, skills shortages are expected to be experienced in some European and Asian countries over the next fifteen years, as large retiring cohorts will be replaced by smaller youth cohorts (this is the case already for Denmark, Germany, Italy and Japan; Chaloff and Lemaitre 2009: 13). In Europe the current levels of migration are expected to be below replacement level around 2015, and the emigration of both nationals and foreigners (for example in Spain, Greece, Italy, Portugal and Ireland) is likely to further reshape the labour force (OECD 2012: 32). Europe has put in place an initiative aimed at monitoring and forecasting skills demand and supply.¹³ In Asia, China and Japan (whose populations are aging) are likely to experience a decline in the growth of their labour forces (0.5 annually through 2030), contrary to Bangladesh and Pakistan, whose labour force will grow fast. Together with India, these countries will become major labour exporters in the coming decades. China and India are expected to contribute 57 per cent of the global tertiary-educated workforce by 2030 (McKinsey 2012: 8-9).

Demographic dynamics (for example, aging of populations and low fertility rates) in some countries and labour force adjustments (occupational changes), will pose challenges to meet the demand for new skills



sets in both advanced and developing economies. Not surprisingly, European and Asian countries have shown an increasing interest in better management and facilitation of the mobility of skilled persons.

Key issues and challenges concerning highly skilled migration and student mobility in Europe and Asia

○ ***Europe***

In Europe, there are currently about 10 million fewer jobs than would have been expected without the crisis. However, seven million jobs are expected to be created between 2010 and 2020. Europe is witnessing a shift in sectoral labour demand, and the main areas of future employment growth are projected in services, distribution and transport, as well as healthcare and education. Nearly 40 per cent of the active population is currently employed in knowledge- and skills-intensive jobs (such as managers, professionals and technicians). These jobs will make up more than 42 per cent of total employment by 2020, followed by expansion also in service occupations (retail and distribution, sales, security, catering and caring). As knowledge- and skill-intensive employment sectors expand, and the use of technologies increases, the demand for highly qualified persons is expected to rise by 16 million by 2020. In almost all European countries, the share of the highly qualified labour force will be greater in 2020 (high-level qualifications will rise by 28 million) than in 2010; women are expected to be higher qualified than men (CEDEFOP, 2010). Certainly, the match between skills demand and supply needs to be contextualised and simplistic assumptions should be avoided. However, there are indications that skills shortages are likely to emerge in some areas such as the business and IT sectors, in healthcare, social work, tourism, hospitality and catering, and in the green economy¹⁴.

Migration has usually played a role in the renewing of skills. However, and despite being better educated, in the past decade of the proportion of new immigrants in Europe who entered the most strongly declining occupations (24 per cent of new immigrants) was higher than that in strongly growing occupations (15 per cent; OECD, 2012: 24). The former partly reveals that in some countries lower-skilled migration is prevalent, but also that migrants are more vulnerable to underemployment, and that skills recognition and de-skilling continue to hinder the full use of the potential of highly skilled migrants.

Certainly, immigration is just one among many other possibilities to address labour or skills shortages. Europe has addressed its labour shortages through a mix of measures in various policy areas, including immigration and mobility facilitation. In particular, the EU's labour needs have been tackled in recent years through the intra-EU free movement of persons regime (despite the limitations imposed by transitional arrangements), and recruitment from outside the EU. Although Europe has not traditionally been a preferred destination for Asian migrants (except perhaps for the United Kingdom and the Netherlands), an increase in the migrant inflows from Asia has been observed in Northern Europe (Finland, Sweden), Southern Europe (Portugal, Spain, Italy), and in new EU Member States (the Czech Republic, Cyprus and Poland) (Platonova and Urso 2011). As shown in the section above, Europe currently receives a relatively small number of highly qualified workers from Asia (34.49 per cent of the total first permits issued to nationals from ASEM partner countries for remunerated activities in the EU-27 in 2011, excluding India, which makes up 54.28 per cent of the permits issued to ASEM highly skilled workers), but an important number of students (92.35 per cent of the number of first permits issued for education reasons to nationals from ASEM partner countries in the EU27 in 2011) . Some countries receive relatively large flows of internationally mobile students in tertiary education both from Asian and European countries (see Annex 5). Europe has benefited from access to a global pool of highly skilled workers and students, including from Asia. However, changes in the latter region are likely to alter Asian countries' role as a source of highly skilled labour (OECD 2012).



Most policies targeting non-European highly skilled migrants have been implemented only recently. The EU legislation introducing the EU Blue Card for the highly skilled migrants was to be transposed by the EU Member States by 2011. The impact of this measure on the attractiveness of the EU will become more evident in the future. However, at the moment, the EU Member States do not yet showcase considerable attractiveness for the highly skilled migrants from outside the EU (except, perhaps, for the United Kingdom). Some existing national schemes targeting highly skilled professionals need to be harmonised with the regional and national frameworks (see Background Paper for Session II).

In addition, Europe currently faces a debt crisis and continuing high unemployment¹⁵. As a result, some countries have tightened their immigration regulations and become more selective with regard to the entry and settlement of both lower-skilled and highly skilled migrants¹⁶. This approach poses important challenges in terms of the economic and social integration of migrant workers. Integration policies will remain crucial to help highly skilled (and lower) skilled immigrants overcome the negative impacts of the economic downturn, as well as to avoid discrimination and the rise of anti-immigration sentiments.

○ **Asia**

The Asian region is highly diverse in economic, social and cultural terms. It comprises aging advanced economies (Japan), young advanced economies (South Korea and Singapore), young middle-income countries (Indonesia, Malaysia, the Philippines, Sri Lanka, Thailand, Vietnam), young developing economies (Bangladesh, Pakistan) and the fast growing economies of China and India¹⁷.

Overall, Asian labour migration is characterized by high intraregional mobility (influenced by wide economic disparities among countries). However, labour market needs and interests differ among receiving areas (Japan, Hong Kong, China, Taiwan Province of China, the Republic of Korea, and Singapore), sending areas (Indonesia, the Philippines, Bangladesh Sri Lanka), and those countries considered of origin, transit and destination (India, Malaysia, Pakistan, and Thailand). Specific sub-regional migration corridors can further be identified.¹⁸ The Philippines remains one of the largest high- and low-skilled labour exporters (mainly to Canada, Australia, and the United States, but also to Japan, Europe and the Middle East).

The migration of the highly skilled has been on the rise since the 1990s, especially in response to a growing demand for such workers in the IT and health sector, for example (Asis and Piper 2008: 426-7, see also Cerna 2010), as well as in science, technology, engineering and mathematics (STEM). However, Asia itself is becoming an attractive destination for skilled workers. Some countries (especially fast – growing economies) will be in a position to offer better conditions and retain and attract highly skilled workers and students from within and outside the region (for instance, China, Japan, Korea, and potentially ASEAN countries). Skilled workers who have emigrated may also consider return. (OECD 2009, OECD 2012: 24)

Indeed, migration policy in Asia varies depending on whether the core policy priorities aim towards importing or exporting workers. Highly skilled workers and returnees, however, are generally welcome in most countries (see Background Note for Session II). Concerning student mobility, many Asian countries are among the top countries of origin of international students in Europe (see Annex 5). Conversely, some countries in the region are attractive destinations for Asian and non-Asian students, for example China, Singapore and Malaysia. Western universities have established campuses in these countries. Some countries have set specific objectives concerning international or internationally mobile students¹⁹. Furthermore, Asian populations and residents are better educated than in the past²⁰; therefore, it will be important to increase the pace of job creation for these workers within the region. The OECD notes that “[t]he growing number of science and engineering graduates in Asia suggests that the region could



become a new pole for innovation to compete with OECD countries as a location for high value-added production and employment for the educated..." (OECD 2012: 174).

However, in response to the economic downturn, some countries reduced their intake of highly skilled migration and terminated certain programmes). For example, Japan reduced its trainee intake between 2009 and 2010 (OECD 2012). In Malaysia the potential removal of 800,000 migrant workers was expected by 2010. In Singapore, companies have been urged, in the case of unavoidable lay-offs, to fire migrants first (Cerna 2010: 6-7).

Demographic trends (for instance, China's population is aging; and working-age populations are shrinking in Japan, Korea and Singapore); and the decline of fertility rates below replacement level (in countries such as Thailand and Vietnam; OECD, 2012: 164) are shaping the demand for skills in Asia. Many transnational companies based in Asian countries are drawing from the pools of skilled labour within the region, but also outside Asia; which combined with potential return of skilled professionals will press for the implementation of sound (re)integration schemes. Bilateral labour migration arrangements including Memoranda of Understanding, trade in services and economic integration processes underway are likely to have an impact on labour mobility too. One example is the consolidation of the ASEAN Economic Community (AEC) by 2015. The AEC Blueprint makes explicit reference to the realization of increased mobility of skilled labour as part of the integration objectives (engineers, architects, nurses, doctors, dentists, accountants and surveyors). These developments pose two interrelated challenges: 1) implementing mechanisms that support the mobility of the highly skilled, and 2) overcoming existing difficulties in terms of harmonisation of national and regional frameworks, comparable data collection, the development of mutual recognition agreements (see Background Paper 3) and information sharing.

Conclusions

The increased mobility of highly skilled workers is likely to generate benefits for both countries of origin and destination and contribute to the global stock of knowledge. In the context of the growing internationalisation of the labour markets, countries are likely to draw from the same pools of highly skilled workers. Comprehensive policies to attract highly skilled migrants need to be accompanied with efforts to improve the national education systems and labour markets. A greater commitment to the creation of job-relevant human capital remains crucial to overcome future skills shortages. Raising tertiary education completion rates may not suffice. The quality of education is important. Significant financial, material, and qualitative investments (for example, curriculum reforms, the introduction of new technologies); greater collaboration with the private sector (in activities such as apprenticeships or targeted training programmes); and retraining workers may be necessary to ensure that relevant pools of skills are created. But increasing the pace of job creation is equally important, so that highly skilled workers participate actively in the labour market and use their talent (OECD 2009, McKinsey 2012). The challenges for policy makers will be: a) to look *both at national labour market developments and global opportunities*, and b) to look beyond demographic trends, and examine more carefully educational attainment and occupational changes when formulating policies aimed at capitalizing on domestic and international pools of human capital.



In this context, it would be worth exploring the following issues:

- How to promote the mobility of highly skilled persons (including international students) while simultaneously committing to enhancing the education, science and research local capacity and labour markets?
- How to effectively utilize the human capital embedded in highly skilled nationals and immigrants, including tertiary education students, to strengthen national education, science and research capacities?
- How to effectively address the risks of heightening existing inequalities between highly-skilled and lower-skilled workers at national and international levels, in view of the expected growth of demand in both knowledge-intensive and labour-intensive sectors of the economy?
- How to improve the paucity and comparability of data and data sharing, including adopting clear definitions, on the skills needs of ASEM countries, so as to feed into integrated planning and comprehensive, evidence-based policies?

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Endnotes

¹ This refers to research activities linked to innovation undertaken by a business in order to develop or improve its products, processes and services. The term initially designated the production of new knowledge in scientific and technological fields, but today it applies to the production and improvement of consumer goods as well.

² The notion of human capital, inspired by the work of Gary Becker in the 1960s, refers to the educational qualifications, abilities, skills and competencies that an individual possesses. This concept has been expanded to include interpersonal skills and self-confidence (Wescott et al. 2006: 15).

³ For example, in Canada, *Citizenship and Immigration Canada* <http://www.cic.gc.ca/english/immigrate/skilled/factor-adaptability.asp>

⁴ Following the definition provided by the Canberra Manual, HRST are persons with tertiary education in a science and technology field of study; or, if not formally qualified, employed in an science and technology occupation that requires such qualifications (OECD "International Mobility of the Highly Skilled", Policy Brief, July 2002: 2 www.oecd.org/publications/Pol_brief).

⁵ Return benefits depend upon the nature of return (e.g. occasional, permanent, temporary, "virtual"), returnees' motivations (e.g. employment, retirement, family reasons, etc.), or the opportunities to reintegrate in sectors where returnees can make use of the skills and knowledge acquired abroad. Return schemes put in place in South Korea and Taiwan Province of China in the 1970s, for example, were accompanied by positive growth rates and the active participation of the private sector in attracting skilled persons back to the countries of origin. IOM's Return of Qualified Nationals and MIDA programmes and UNDP's TOTKEN programme are examples of initiatives that facilitate both physical and virtual return and the transfer of skills. Today, advanced technologies facilitate the "virtual" transfer of human capital without the risk of losing the entitlements eventually gained in host countries (see Wickramasekara 2002: 11-12). Cultural, political, geographic and economic factors and family decisions influence return.

⁶ The establishment of high-tech industrial parks facilitated by expatriate scientists in cities such as Bangalore, Bombay, Beijing, Shanghai and Taipei are often cited as examples (Wickramasekara 2002).

⁷ GATS mode 4 favours the temporary movement of certain categories of service providers – i.e. intra-corporate transfers. However, the mobility of independent service providers has been neglected (Wickramasekara 2002: 14)



⁸ Some (imperfect) ways to estimate the impacts of highly skilled migration include the contributions of foreign-born scientists (e.g. Nobel Prizes awarded to professionals based in a foreign country), the number of foreign academic staff; patents involving international co-invention; collaborative research, or the participation of skilled migrants in high-tech ventures (OECD 2002 and 2009).

⁹ Apart from the EU-27 countries (endnote 10) ASEM Members include Australia, Brunei Darussalam, Cambodia, China, India, Indonesia, Japan, the Republic of Korea, Laos, Malaysia, Mongolia, Myanmar, New Zealand, Pakistan, the Philippines, Russia, Singapore, Thailand, and Vietnam.

¹⁰ The EU-27 comprises the following countries: Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

¹¹ *OECD.stat*, Dataset: International Migration Database, Stock of Foreign Population by Nationality, consulted 25 September 2012. No data were available for the year of reference for Belgium, Cyprus, the Czech Republic, Estonia, France, Ireland, Latvia, Luxembourg, Malta, Poland, Portugal and Lithuania.

¹² In 1999-2000, highly skilled workers from Asia in Australia made up 27.8 per cent of all temporary flows. In Canada in 2000, Asian workers contributed 56.4 per cent to the highly skilled foreign population. The same year, in Japan, Asian migrants made up 53.2 per cent of all temporary highly skilled migrants (mainly from China and the Philippines). In the UK, in 2000, the share of Asian highly skilled workers among the highly skilled foreign population was estimated at 29.8 per cent, mainly from India, the Philippines, China and Malaysia (OECD Policy Brief 2002: 3).

¹³ For more information visit: European Centre for Development of Vocational Training (CEDEFOP) <http://www.cedefop.europa.eu/EN/about-cedefop/projects/forecasting-skill-demand-and-supply/index.aspx>

¹⁴ EC-IOM, Recognition of Qualifications and Competences of Third-Country Nationals Challenges and Opportunities Expert Seminar, 19 June 2012, Brussels.

¹⁵ The unemployment rate in the EU-27 was 9.7 per cent in 2011. In July 2012, there were 25 million unemployed persons; the highest unemployment rates were recorded in Spain (25.1 per cent) and Greece (23.1 per cent) in May 2012. Long-term (4.1 per cent in 2011) and youth unemployment (21.4 per cent of persons aged between 15 and 24 in 2011) are major challenges in the EU-27; youngsters seem to be particularly affected by the decline in the growth of medium-skilled jobs. In 2011, (except for Greece and Cyprus) the average unemployment rate was higher among workers with lower secondary education (16.7 per cent) than for those with tertiary education (5.6 per cent) (*Unemployment Statistics*, Eurostat http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Unemployment_statistics)

¹⁶ Measures aimed at reducing the inflow of migrants include reducing the size of quotas and shortage lists, strengthening labour market tests; tightening the conditions for change of status and permit renewal; limiting non-discretionary flows (e.g. family reunification, work permits for spouses); and promoting return (Cerna 2010). Pressure to adopt more immigration restrictions has been observed in Ireland, the Czech Republic and the UK. Germany, the Netherlands, Norway, the United Kingdom, which formerly favoured the entry of investors and entrepreneurs, have also tightened the requirements for their entry and settlement (OECD International Migration Outlook 2012: 106)

¹⁷ As clustered by McKinsey (2012) according to median age, average educational attainment of the working-age population, and GDP per capita.

¹⁸ In the Mekong area, Thailand has become the main destination for migrants from neighbouring countries (Myanmar, Lao PDR, Cambodia and Vietnam). In the Malay region, Singapore, Brunei Darussalam, and Malaysia are major destinations for migrants from Indonesia and the Philippines (Pasadilla 2011). Although no data are available concerning internal highly skilled migration flows in the South Asian Free Trade Area (SAFTA) it is worth mentioning that as in any other free trade area the mobility of labour is an important aspect.

¹⁹ China has set the objective of hosting 500,000 international students by 2020 (OECD 2012: 176). In 2008, the Japanese government announced its plans to increase the number of foreign students in Japan by 300,000 until 2020 (Lee and Kim 2001).

²⁰ Tertiary education rates are 35 per cent in Korea and Japan, and 25 per cent in the Philippines. The proportion of persons aged 25-29 with tertiary education is as high as 71 per cent in Korea and Chinese Taipei, 36 per cent in the Philippines, 28 per cent in Malaysia, 25 per cent in Thailand, 22 per cent in Sri Lanka, and 15 per cent in China (OECD 2012: 166).

