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# Migration Skill Corridors

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<http://link4skills.eu>



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## Concept Paper on

# Migration Skill Corridors

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## 1. Introduction

International migration research has generally been dominated by a focus on main destination countries and particularly those in Europe and North America. It has, for long, been inspired by a relatively simplistic push-pull logic that identified push factors like poverty, unemployment, or conflict at the place of origin, and pull factors at destination such as better economic conditions, security, education opportunities and so on. During the last 15 years, however, there has been more attention to the dynamic, bi- and multi-directional character of migration flows. A few preliminary observations are in order here as a framework to place our study of migration corridors in the Link4skills project.

First, it is important to recognise that the same country may simultaneously be an origin, destination and transit country, and that flows may reverse (as they may involve return migration) or may involve onwards migration or also multi-step migration (where the country in question may be the final destination or an intermediate waystation).

Second, research conducted in the last decade has highlighted the importance of bringing together macro-factors (broader social, economic, demographic, political and cultural conditions at origin and destination), with meso-factors (notably what has been called migration infrastructures – involving intermediaries such as employment agencies, education institutions, brokers, money transfer organisations, lawyers, international organisations, civil society organisations – only to name a few; as well as migration management regimes including for instance policies that aim to regulate seasonal or long term migration, international student mobility, circular migration), and the micro-level, notably the decision making of the migrant in the context of their family and household.

Third, there is a need to recognise that migration happens in a fast-changing environment and our analysis of how labour markets and education systems evolve at origin and destination countries – at the two ends of our ‘corridors’ (on which I will elaborate a little further down) – needs to take into account particularly of the rapid and often disruptive technological transformations that are taking place around the world and which affect a number of areas that we are concerned with. We have in mind here specifically: the way in which education and skills are provided and developed; the way in which migrants collect information and make their decisions; the ways in which intermediaries connect with clients/beneficiaries and offer services; the capacity of states to manage migration flows particularly when they desire to build comprehensive skills strategies that include the mobility of talent and labour as one of several complementary strategies.

Fourth, understanding migration and the ways in which migration can be incorporated into skills’ and economic development strategies requires us to consider migrants as active subjects rather than passive recipients of policies. Hence, we need to factor in how migrants react and interact with policy opportunities and constraints, considering that all humans are not rational actors – but act within a set of bounded and emotional not just cognitive rationality. Relevant studies on decision-making have shown how much hope plays a role in decision-making and how much migrants, also, often privilege hopeful uncertainty vs hopeless certainty when they engage in their migration projects.

Fifth, a critical analysis of migration flows today requires a thorough understanding and incorporation of the realities and perspectives of countries that are currently understood mostly as countries of origin, but which are often countries of destination in their own right. The case of Morocco and Ghana are clear examples here as they are involved also in important flows directed towards them. Also, countries like India, the Philippines, and Ukraine are characterised by internal migration and important inequality between the urban and rural regions. Thus, our study of how the different corridors may develop needs to include a critical and in-depth understanding of the context in these countries that cannot be subsumed under the label ‘countries of origin’. Similarly, of course, countries labelled in the project as ‘destination countries’ are also highly diverse in terms of their economic development patterns, skills and education systems as well as policies and narratives on immigration.

Building on these observations, this concept paper is organised as follows. We start by discussing how skills are defined more broadly and specifically in the migration literature and point to the ambiguities and complexities of the notion of skilled and of high-skilled migration. Section two discusses the notion of skills' mismatch, shortage and gap – three notions that are central to the work of the Link4Skills project, analysing how they can be addressed through different strategies of retraining, reskilling or migration. Section three turns to the focus on the interactive relationship between migration and skills introducing the heuristic concept of migration and skill corridors as an approach for analysing how migration may address (at destination) or create (at origin) skill shortages. The notion of corridors aims to focus on the dynamic relationship that exists between countries of origin and destination. It points to the corridor as a place/route of circulation, that may take both directions, while it also allows for studying pre-existing ties and institutional structures that affect the movement. The concluding section brings the different parts of this paper together.

## 2. Defining Skills

### 2.1 The notion of skill in international migration

The term 'skill' is difficult to define. According to OECD (2017), skills include generic cognitive and non-cognitive abilities, as well as technical skills which refer to the abilities specific to particular jobs, occupations, or sectors. Cognitive skills, such as information processing and critical thinking, involve mental abilities that enable individuals to acquire, process, and apply knowledge effectively. In contrast, non-cognitive skills, such as teamwork and self-organization, refer to personal attributes, social abilities, and emotional competencies that influence how individuals interact with others and manage their environment. Technical skills, on the other hand, are used to accomplish specific tasks and are defined as combinations of cognitive and non-cognitive skills (Margolis, 2014).

While the OECD definition is broad and comprehensive seeking to classify the different types of abilities that a person has, from an operational perspective, it is more helpful to make a distinction between 'hard' and 'soft' skills. Hard skills refer to scientific or technical knowledge and competence (Lloyd and Payne 2009) and are typically associated with formal learning and education as they may be associated with the ability to occupy professions such as doctor, aircraft pilot, machine operator, engineer and so on. Soft skills, on the other hand, refer to social and interpersonal skills and related emotional labour. They are important in the performance of a job in particular social contexts (Hurrell et al. 2013) and include emotional and aesthetic labour related to how one looks, behaves, speaks to colleagues or customers, or particular audiences. Grabowska and Jastrzebowska (2022) offer a more nuanced classification distinguishing between four types of skills: mind, soft, maker, and life skills. Mind skills include critical thinking and problem-solving, while soft skills involve communication and cultural intelligence. Maker skills encompass practical competencies like craftsmanship, and life skills refer to resilience and adaptability, all of which are developed through learning-by-doing and social interactions.

Turning to the definition of skills within the context of cross-border mobility, it is important to combine scholarly analysis with intergovernmental classifications. Borrowing from a recent overview offered by Boucher (2020), we reclassify here six categories into four in the interest of simplicity:

- Skill as education (Docquier and Marfouk 2006)
- Skill as occupational classification (Czaika and Parsons 2016a, 2016b)
- Skill as a function of income and occupation (Ruggles et al 2010)
- Skill acquired as on-the-job training and work experience (Becker 1964).

Following the above considerations, skilled migration regimes can be categorised into three types: those that define skills at source – as a function of education; those that define skill as an outcome – working in a qualified occupational category; and those that define skill in relation to the income that it generates (the level of remuneration of the skilled worker). In many cases, migration regimes may combine several

of these elements requiring, for instance, a certain level of income and employment in a given occupational category. Such regimes may also be defined as human capital-driven (those that privilege formal education and language proficiency) vs demand-driven regimes (those that privilege having a skilled job offer). Skilled migration regimes may also privilege sector-specific attributes in their evaluation of skills, that may arise from work experience (e.g. employment in science and technology occupations) or from sector-specific education (e.g. in the health sector).

Most countries adopt a combination of the criteria outlined above (Boucher 2020). Thus, while both the Canadian Express Entry System (a points-based system) and the EU Blue Card Directive require tertiary education, the Canadian system does not require a job offer, even if points can be awarded for that attribute. By contrast in the EU Blue Card regime, while tertiary education is a must, an important role is assigned to the level of remuneration which is to be higher than the average annual gross salary in the given EU country. Nonetheless, several countries have facilitated the income requirements in an effort to attract skilled migrant workers in specific sectors that face shortages such as, for instance, health and care. A similar approach is adopted in the United Kingdom where the points system requires a job offer but facilitates the arrival of migrants for specific sectors that are identified as suffering from significant shortages (Walsh and Sumption 2023).

Recent approaches to skills emphasise the need to go beyond formal qualifications and focus on skills and capabilities in performing a specific type of work instead of job titles or degrees (Deloitte 2022). In other words, the emphasis is moving from a focus on degrees and formal qualifications to competencies and abilities, which may be credentialed or not (OECD, 2024). While this ‘skills-first approach’ (OECD, 2024) may appear as novel, it has been present in the academic literature for nearly 30 years. Reich for instance (1991: 81-83, cit. in Farrer et al 2021: 2238) was distinguishing between problem-solving skills (performed by engineers or technicians), vs problem identifying skills (usually the domain of business analysts or evaluators) vs strategic brokering skills (performed by managers or entrepreneurs). Similar notions can be found in the global cities literature which analysed the role of the internationally mobile creative class (Florida, 2002) that contributes to growth and innovation. Such a ‘creative class’ included artists and intellectuals as well as engineers and scientists (Florida 2002: 8).

## 2.2. A social constructivist approach to skills in migration

In this paper and in the broader Link4Skills project we adopt a constructivist approach to the concept of skill. We acknowledge that skill is not an intrinsic quality that a person possesses. Rather what constitutes a skill depends on the context of its use. It was already in the 1970s that researchers pointed out that class, gender and race affect how workers’ skills were appreciated and remunerated (Braverman 1998, first edition 1974; Moss and Tilly 2001).

The ways in which a given skill is identified, and evaluated and the implications that it has for the person that possesses it depend on the related social and economic structures (notably the labour market, the education system, and where international mobility of the skilled person is involved, the migration system) (Liu Farrer et al 2021: 2239-40, also Rigby and Sanchis 2006).

The constructed nature of skill becomes all the more important in the context of international migration as the individual’s skills will be recognised and evaluated within a different social and economic context, in the destination country. Even though it may seem that tertiary education, or professional qualifications demonstrated through years of professional practice or experience, are objective indicators of skills, their interpretation and recognition at the destination country are highly contingent. They depend on the national systems of classification, national or regional systems of professional regulation, recognition of educational credentials. In addition, such formal skills are mediated by the broader and more volatile notion of ‘soft’ skills that ultimately become the carriers of the ‘hard’ skills (Erel 2010). The social and interpersonal skills, the ability to behave or sound in a certain way, the cultural skills may be equally or even more important than formal education or professional experience (Liu Farrer and Shire 2021; Wright Knox and Constantin 2021). The elusive ‘Canadian experience’ in Canada, which employers are

not allowed to ask about, refers to precisely, those skills and abilities to fit, to do things like ‘we usually do things around here’.

The evaluation of soft skills is not only predicated on ‘homophily’ – notably on liking someone who comes from the same ethnic, cultural or class background (see Liu-Farrer and Shire 2021) – but also on broader structures of national, ethnic and gendered inequalities that shape the recognition of hard skills and the evaluation of the ‘fit’ of one’s soft skills (Bauder 2003; Kofman and Raghuram 2006; Riano and Baghdadi 2007; van Riemsdijk 2013, only to name a few studies in this field). While the effects of race and ethnicity are complex and young white Europeans (notably Germans) may find themselves racialised in the Japanese labour market, pigeonholed into specific labour categories with little prospects of career advancement (Liu-Farrer and Shire), it is more often the case that whiteness and European background translate into privilege in international skilled migration. Migrant skilled workers from South or Southeast Asia may find themselves confined into specific segments of the labour market shaped by post-colonial legacies of ethnic and gendered stereotypes about their skills (Paul 2015; Farrer 2021; Steinberg 1990).

Having said this, it is also important to acknowledge that migration as such plays a role in building skills (Liu Farrer et al 2021: 2245). Such skills may relate to professional experience acquired abroad that may be particularly valued in a given profession (see Farrer 2021 on culinary professions). It may relate to new interpersonal skills gained through exposure to different cultures or through the experience of overcoming challenges, learning and adapting to a new environment or becoming more resilient (Williams and Balaz 2005). It may also relate to human and social capital acquired through the experience of migration as Hagan and co-authors demonstrate in their study of ‘unskilled’ Mexican migrants in the United States (Hagan, Hernandez Leon and Demonsant 2015). Thus when considering the relationship between migration and skill and the construction of skill in cross-border mobility, it is important to see it as a dynamic relationship. Skill is not simply a precursor or a prerequisite or a ‘luggage’ that migrants carry with them, it is also a set of qualities and experiences built through migration and which can also be used upon return to the country of origin (Hagan et al 2015). Migrants often enhance their informal human capital—mind, soft, maker, and life skills—through experiences in foreign contexts. These skills enable migrants to navigate challenges, contribute innovatively, and thrive in diverse environments, underscoring their often underappreciated value to destination and origin societies (Grabowska and Jastrzebowska, 2022).

### 3. Addressing Skill Shortages

#### 3.1 Defining skills’ mismatch, shortage and gap

In the previous section we have defined the notion of skills showing their complexity and discussing how they may be affected by the mobility of people. In this section we turn to consider the notion of skills’ mismatch, skills’ shortage and skills’ gap considering how these can be addressed through a variety of strategies, one of which is international migration.

Skill mismatch occurs when the supply of skills and the demand for skills could be out of synch in either direction - oversupply or undersupply and a skill shortage is a particular type of skill mismatch (Cappelli, 2014). In empirical studies, skill shortage refers to a situation where employers are unable to fill vacant positions because of a lack of qualified candidates (lack of supply in the labour market). This differs from skill gaps considered as a general form of mismatch, where workers are available and all positions in a company may be filled, but some employees lack the proficiency needed to perform their roles to the required standard (Fissuh et al., 2022). However, skill shortages can lead to skill gaps, as employers may hire employees whose skill sets do not fully align with the requirements of the job.

Skill shortages can also be categorized into two types: cyclical and structural. Cyclical skill shortages are temporary and fluctuate with business cycles. During economic upturns, when unemployment rates are low, employers may struggle to fill job vacancies, often responding by raising wages or launching recruitment campaigns to attract workers. In contrast, structural skill shortages are long-term and result



from shifts in the economy, such as significant demographic changes, advancements in technology, and the rapid expansion of emerging industries (Fang, 2009).

Measuring skill shortages is a complex task. One of the most commonly used methods involves employer surveys, which provide direct information on skill shortages. However, these surveys are often subjective and challenging to use for comparative analysis. For instance, while surveys indicated that the United States is experiencing skill shortages, Capelli (2014) argued that there are significant skill mismatches, including an oversupply of skills and a surplus of educated and skilled workers unable to find employment. The external validity of the survey results is also limited, as labour market imbalances may arise from factors such as poor working conditions, ineffective hiring policies, or employers' inability to offer competitive salaries or suitable working conditions, such as location, to attract the necessary rather than actual skill shortages (McGuinness et.al., 2017).

Another approach is wage pressure analysis, where scarce skills are reflected in higher wages, making wage growth by occupation a potential proxy for skill shortages. However, this method can be misleading, as employers might adopt other strategies, such as increasing working hours, to address skill shortages without raising wages. Moreover, demographic shifts, such as the retirement of senior workers with higher wages, can reduce average wages in an occupation and distort wage pressure analysis.

A high job vacancy rate is another indicator that can signal skill shortages. Positions that remain unfilled for extended periods may indicate that employers are struggling to find suitable candidates at the offered wages (Haskel and Martin, 1993). However, analyzing job vacancies is challenging and requires sophisticated data analysis techniques to yield accurate insights. In many empirical studies, limited data availability has led to the use of proxies such as average years of schooling or HDI-related factors. However, recent research has shifted the focus to aspects like the quality of education and underlying abilities, such as creativity and innovation capacity (e.g., Hanushek and Woessmann, 2009; Florida, 2002).

### 3.2 Drivers of skills' shortages

Demographic factors such as an aging population and economic growth are among the primary drivers of skill shortages in a region or a country (Kahlenberg and Spermann, 2012). An aging population reduces the labour supply, coupled with a surge in demand for specific services such as healthcare. For example, Neumark et al. (2013) examined the impact of baby boomers, who constitute 38% of the workforce, retiring on skill levels in the U.S. labour market. Their findings indicate that, over the long term, skill imbalances are likely to worsen, particularly if the demand for skilled workers continues to rise steadily, as more baby boomers retire without being replaced by larger cohorts with significantly higher education levels.

Furthermore, certain states—especially those with a higher proportion of less-educated demographic groups and expected population growth—may face pronounced skill shortages. In fact, a skill shortage may also partly stem from the national education and training system's failure to provide the economy with much-needed skills (Rasool and Botha, 2011).

Additionally, technological advancements alter the skill requirements for certain jobs, further widening skill gaps in the labour market. According to the World Economic Forum (2023), more than 75% of companies plan to adopt big data, cloud computing, and AI features within the next five years, particularly in e-commerce, digital trade, and education and workforce technology. The adoption of AI-related technologies is expected to cause significant market disruption, highlight the need for new skills, and potentially exacerbate the skill shortages problem in the coming years.

Although skill shortages are challenging in many countries, they tend to be more pronounced in certain occupations. Fissuh et al (2022) indicated that larger fractions of employees in jobs that require no postsecondary education as well as employees with vocational report skills gaps and recruitment difficulties, likely because firms are forced to hire less qualified employees when they face challenges

in recruiting fully qualified candidates. It is important to note that while some studies (i.e. Cainarc and Sgobbi, 2012) highlight the prevalence of skill shortages (under-skilling) in various countries, others suggest that over-skilling is a more common issue (e.g., Sutherland, 2012; Mosca and Wright, 2013; Kostas and McGuinness, 2007).

The mismatch between labour supply and demand is particularly significant in science, technology, engineering, and mathematics (STEM) fields, resulting in greater skill shortages in these areas. Countries such as the United States, the United Kingdom, Canada, Germany, and Japan are experiencing shortages of workers with STEM skills, impacting sectors like healthcare, information technology, and engineering. In Europe, almost half of businesses are struggling to recruit people with the STEM skills they need and 45% of STEM employees with a PhD degree are foreign-born in the United States (World Economic Forum, 2024).

According to the C.D. Howe Institute, Canada is facing a significant shortage of employees with digital and STEM skills, which is adversely affecting businesses and economic growth (Mahboubi, 2024). Fissuh et al. (2022) studied the nature of the skills gaps and recruitment difficulties in Canada from the perspective of employers, using Canada's Survey of Employers on Workers' Skills 2021. The results show that businesses in construction and accommodation and food services were more likely to face skills gaps and recruitment difficulties, compared with those in manufacturing. Conversely, businesses in information and culture, and real estate and rental and leasing were less likely to experience difficulties in recruitment, compared with manufacturing. The contributing factors to the skill shortages in STEM fields include rapid technological advancements, a limited supply of graduates entering the STEM workforce, global demand for qualified professionals, and demographic shifts such as the retirement of the baby boomer generation (White and Smith, 2019).

A lack of skilled labour may hamper innovation activities of firms and innovative firms may harm more from skill shortages as they have a higher demand for skilled labour and require more diverse combinations of skills (Toner, 2011). Tang and Wang (2005) found that skill shortages weaken productivity level performance and firm-level profitability particularly for small-sized and medium-sized firms as skilled workers tend to produce more than non-skilled workers. Bennett and McGuinness (2009) also found that both hard-to-fill and unfilled vacancies (shortage in experienced professionals) had reduced output per worker (productivity) levels by between 65% and 75% in affected firms.

In another study, Horbach and Rammer (2021) examined the effects of skills shortage on innovation by using the panel data approach and the annual German Innovation Survey. In their study skills shortage – measured as job openings for different skill levels that could not be filled – on stopping innovation activities while considering the impact of the firm's innovation efforts on the occurrence of skills shortage. The results indicated that a lack of qualified personnel is an important innovation barrier for high productivity firms and skill shortages seem to be strongly related to the cancellation of innovation projects.

Skill shortages at regional scale can also impact negatively on firm productivity. Morris et al. (2019) identified negative spillover effects of skill gaps and skill shortages on related industries and nearby regions. The findings also reveal heterogeneity based on agglomeration levels and industrial sectors. Industries with a knowledge-intensive skill base experience stronger negative effects, likely due to a loss of learning opportunities caused by skill deficiencies. On the other hand, agglomeration effects seem to mitigate the impact of skill deficiencies by facilitating more efficient labour market matching at the local level.

### 3.3 Approaches to address skills' shortages

Employers can respond to perceived labour shortages in various ways, such as increasing wages to attract local workers who are either not in the labour force, unemployed, or employed in other sectors. However, Fang (2009) found no evidence that workplaces increase wages or fringe benefits in response to vacancies and skill shortages, at least in the short term, in Canada likely due to constraints such as



collective bargaining agreements, public policies, or concerns about internal equity. Furthermore, there is no indication that employers raise the proportion of training expenditures per employee in response to shortages.

Investing in training is another commonly used strategy to address skills shortages. However, training programs may not always yield the desired outcomes, as employees who gain more marketable skills through employer-sponsored training might leave the organization for other opportunities or demand higher wages, increasing pressure on their employer. Additionally, starting a training program does not always lead to its completion, as a significant number of individuals undertaking trade training may either be dismissed or choose to leave (Mitchell and Quirk, 2005).

Employers may increase the intensity and extent of job searches to access a wider pool of applicants or replace labour-intensive domestic production with imports. Additionally, they might also adjust production processes to utilize less-skilled local labour or adopt technologies that are less labour-intensive. Advancements in technology reshape the demand for certain skills, resulting in the creation of new jobs and the elimination of existing ones. New technology allows the automation of routine activities and tasks, such as assembly, logistics, or administration, which were traditionally performed by individuals (Colombo et al., 2019). Automation has accelerated enormously with the development of artificial intelligence, and machines are increasingly replacing humans in performing complex tasks and activities, such as medical diagnostics, which are now carried out by computers. The continuous progress in automation, coupled with increased accessibility due to lower costs in recent years, has led employers to adopt AI to address skill shortages. Autonomous vehicles, surgical assistance, chatbots and virtual assistants, and 3D printing in constructions are just a few examples that demonstrate the effectiveness of automation in mitigating these shortages. It is important to note that not all skills can be replaced by automation or AI. Skills such as emotional intelligence, original thinking, and complex decision-making in unpredictable situations are just a few examples that cannot be fully replaced by AI.

Even though alternative options, such as automation, are broadly accessible to employers, not all can effectively address the skill shortages due to technological limitations or high costs. For example, services such as health care or social care cannot be replaced by imports. As a result, employers may prefer to hire skilled immigrant workers when alternative options are not cost-effective (Martin and Ruhs, 2011).

### 3.4 Addressing skills' shortages through migration

Skilled migration has become one of the primary solutions and a popular policy for many countries that have faced labour force shortages and a lack of qualified workers in the labour market over the past few decades. During the 2000s, countries increasingly recognized the crucial role of skilled migrants in enhancing their competitive edge and driving innovation within the knowledge economy, leading to intense global competition to attract skilled workers from around the world (Oishi, 2014).

Studies show that internationally operating businesses are more likely to recruit from abroad. Moreover, shortages in domestic labour markets and the strong demand for skilled workers affect employers' decisions to recruit internationally (i.e. Bossler, 2016). While some countries, such as Sweden, support policy changes that add barriers to immigration, particularly for low-skilled migrants, many others, such as Spain, Germany, and Australia, are focusing on facilitating legal migration through measures like adjusting admission conditions, increasing quotas, and streamlining immigration procedures and processes (International Migration Outlook 2023). Recently, signing bilateral agreements and mobility partnerships with selected target countries has become a popular strategy among several OECD countries, such as Portugal, Germany, and Austria, to actively recruit immigrant workers from India, Morocco, and other countries.

Hiring migrant workers helps reduce skill shortages in various ways. First, it eases job searches by widening the pool of applicants, particularly when shortages are caused by a lack of labour supply in

the market. Second, from an innovation perspective, foreign workers can bring new skills, ideas, and innovations to their organizations. Third, recruiting skilled international workers is cost-effective and enhances competitiveness in the labour market, allowing employers to hire workers at a lower cost (Green, et al., 2020).

Picot and Mehdi (2024) showed that, although recent immigrants and immigrants overall were significantly less likely than Canadian-born individuals to hold middle-skilled technical or trades positions, such as those in construction, recent immigrants were more likely than their Canadian-born counterparts to work in higher-skilled occupations, including engineering and computer and information systems professions.

While studies suggest that increasing skilled immigration, particularly of immigrants educated in STEM fields, has a significant positive impact on the numbers of patents that are created and they can raise innovation (i.e. Peri, 2007; Hunt and Gauthier-Loiselle, 2010); Blit et al. (2018) revealed that skilled (university-educated) immigrants had a surprisingly limited impact on patenting rates compared to both skilled Canadian-born individuals and skilled immigrants in the United States. This outcome is largely attributed to the difficulties STEM-educated Canadian immigrants face in finding employment in STEM fields.

Even though skilled migrants may help alleviate labour shortages, their arrival may present challenges such as integration into the workplace and local community due to limited language proficiency, and socio-cultural factors, as well as ensuring the protection of their work-related rights (Oishi, 2020). Studies indicate that skilled migrants tend to choose their host countries based on economic conditions, political and social factors, and a higher likelihood of integration in the destination country, facilitated by a shared language or culture, known as network effect (i.e. Oishi, 2014 and Aluttis, et al., 2014). Ross et al. (2005) found that low-income, English-speaking countries engaged in bilateral trade with the UK are more likely to experience greater nurse emigration to the UK.

Even though healthcare is one of the main sectors facing skill shortages in many countries, new immigrants often find it challenging to integrate due to strict licensing criteria, the need for additional training, or requalification. Picot and Mehdi (2024) found that new immigrants were less likely to be employed in nursing professions in Canada, partly due to the time required to qualify as professional nurses. Additionally, employers often place less value on qualifications and work experience obtained in non-OECD countries, making it harder for immigrants arriving without jobs to find employment that aligns with their qualifications and experience (Chaloff and Lemaitre, 2009).

Relying on migration to address skill shortages presents additional limitations. Migrants may take up lower-skilled jobs if they arrive after the shortage has been resolved or high-skilled migrants may shift to other sectors with skill shortages that offer higher wages, leading to misallocation. Furthermore, while shortages often occur in remote or regionally dispersed areas, migrants typically prefer to settle in major metropolitan centres (Healy et al., 2012).

#### 4. Analysing the Role of Migration in addressing Skill Shortages: the notion of Migration Corridors

Overall, it is important to distinguish whether a labour market suffers from skill gaps or skill shortages. Skill gaps may relate to a problem in recruitment where some employers may not offer appropriate conditions (including pay, career opportunities, an inclusive workplace, and further learning opportunities) to attract the workers they need. By contrast a skill shortage relates to broader social, demographic and educational issues such as a lack of younger workers, a shortage of skills across the population and an inability of the education and training system to prepare workers for filling those shortages. Immigration can be a solution for addressing both skills' gaps and skills' shortages. In the former case though the potential for displacing local workers or keeping wages down is higher than in the latter, where immigration may be seen as a sustainable strategy for injecting both new demographic cohorts and new skills profiles in a given national economy.

Our discussion above though has shown that bringing into a country people who are highly educated does not automatically lead to a filling of the existing skill shortages as these newcomers may face a misrecognition of their skills and qualifications, discrimination in recruitment and promotion practices, and a lack of soft skills that would allow them to progress in their careers (see section 1 in relation to hard vs soft skills). Indeed a significant part of the skills gap and skills shortage literature has focused on the hard skills that can be demonstrated through educational credentials. Less attention has been paid on the pairing of hard with soft skills that will allow for a skilled immigrant worker to perform to the full of their potential.

Keeping these reflections in mind, we focus here on the concept of migration-skills corridors as a heuristic that will allow us to study the circulation dynamics between different pairs of countries and to analyse how the movement of people affects skills shortages at both origin and destination countries.

#### 4.1 On the concept of migration corridors

The concept of migration corridor is not widely used in migration studies and is more commonly associated with biology and ecology, where it maps the migratory routes of animals (f.e. Bond et al., 2017). In migration studies, however, it serves primarily as a sensitizing concept, applied in diverse and flexible ways. Migration corridors can describe the development of a migratory pathway within a single country (Bredeloup & Pliez 2011), routes spanning multiple countries (Kasperek, 2016; Van Reekum 2017), or irregular migration corridors that emerge in response to restrictive migration policies (İçduygu, 2011).<sup>1</sup> In all cases, the concept relates to institutionalized migration routes, whether formal or informal. Migration skill corridors may involve a specific ground, sea or air route but the emphasis here is in not in the transportation infrastructure but rather on the linkages – the material and symbolic infrastructures – that emerge out of the circulation of people between two countries.

A more specific conceptualization of migration corridors was introduced in the study *Feedback in International Migration* (Bakewell et al., 2016), which also informs the analytical framework of the Link4Skills project. In this framework, migration corridors are treated as analytical frames to observe migration patterns. This perspective offers several advantages: (1) Migration corridors are analytical constructs, they are free from empirical assumptions, making them adaptable to a wide range of migration dynamics. They can represent both low-activity and high-activity migration pathways; (2) Migration corridors are not bound to a single direction. This flexibility allows for the analysis of asymmetrical movements, encompassing settlement, return, or circular migration; (3) Migration corridors often adopt a bi-national focus due to practical reasons, such as the availability of data collected at the national level and the influence of national migration policies.

The corridor approach conceptualizes migration as a two-way interaction between origin and destination countries. It highlights how pre-existing economic, political, and social ties - such as colonial histories, state-led recruitment schemes, or economic interdependencies - facilitate these movements. However, this approach also has limitations. It may inadequately capture the fluid nature of contemporary migration, where new corridors emerge, and older ones evolve or diminish in importance. Like migration systems theories, the corridor approach often assumes pre-existing ties, potentially overlooking the dynamic creation of new migration linkages prompted by new initiatives, as seen in Austria's recruitment of healthcare workers from Indonesia and the Philippines (Hus 2024).

The Link4Skills project aims to capitalize on the strengths of the migration corridor approach while addressing its limitations. It systematically maps and analyses bi-national migration corridors, with a particular focus on the participation of medium- and high-skilled migrants. The project emphasizes

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<sup>1</sup> see also the project 'Corridors of Migration-Infrastructures of Hospitality' led by Martin Bak Jørgensen <https://vbn.aau.dk/en/projects/corridors-of-migration-infrastructures-of-hospitality>. This project investigates how migration corridors are formed and how they shape, enable, or hinder mobilities. Specifically, it analyzes two migration corridors: the Ukraine-Croatia/Poland-Denmark corridor and the North African-Spanish corridor.

skilled migration driven by economic demand in key sectors such as healthcare, STEM fields, and construction. Special attention is given to emerging migration corridors fostered by the European Union's mobility partnerships, national policies, and private sector initiatives. For instance, the Netherlands has experienced rapid growth in migration from India, particularly in ICT and engineering, facilitated by favourable migration policies and private sector efforts. Similarly, Germany has formalized partnerships with Morocco and the Philippines, promoting ethical recruitment in healthcare through initiatives like the Triple Win program. The project also examines the sectoral economic dimensions of migration corridors, highlighting how specific industries shape the demand for skilled migrants. Austria's targeted recruitment of Filipino healthcare professionals and India's leading role in Canada's STEM-related migration exemplify how economic needs drive the formation and characteristics of these migration flows.

The migration corridor concept, as applied in the Link4Skills project, offers a robust framework for understanding and analysing skilled migration. By combining macro-level economic and policy analysis with meso-level institutional factors and micro-level individual decision-making, it enables a comprehensive exploration of the factors driving migration within specific corridors (Snel, Engbersen & Reinold 2024).

#### 4.2 The making of migration skill corridors: established and emerging

The concept of migration corridors is partly rooted in the literature on transnationalism. From a transnational perspective, migration is not a straightforward, linear movement from one country to another. Instead, it often results in enduring practices that connect migrants with individuals and organizations in their countries of origin or within their broader diaspora (Glick-Schiller, Basch & Blanc-Szanton, 1992; Basch, Glick-Schiller & Szanton-Blanc, 1994; Carling, 2008).

Transnational activities can vary significantly in extent and intensity, with scholars distinguishing between degrees of transnationalism, such as 'broad' versus 'narrow,' 'expanded' versus 'core,' and 'weak' versus 'strong' (Itzigsohn et al, 1999; Levitt, 2001; Snel, Engbersen, & Leerkes, 2006; Vertovec, 2009; Ostergaard-Nielsen, 2012). Terms like 'expanded' and 'weak' describe the occasional nature of many migrant practices, such as living and working in two countries, engaging in circular migration, visiting the country of origin, sending remittances, and following news from home. These practices encompass a wide range of cross-border economic, political, and sociocultural activities. Transnational connections are shaped by political and economic actors, contexts, and technological developments, aligning closely with the concept of migration corridors, particularly in the context of labour migration.

Migration corridors can be categorized based on their specific historical origins. Among others, we can distinguish the following types of corridors:

- **(Post-)colonial corridors**  
Migration corridors can arise from (post-)colonial relationships. For instance, major European countries such as France and England maintain historical ties with former colonies, facilitating enduring migration. In the Dutch context, historical connections with Indonesia, Suriname, and the Dutch Antilles are notable examples.
- **(Post-) 'guest workers' corridors**  
Another type of corridor emerged from the labour recruitment policies of European countries like Germany and the Netherlands during the 1960s and 1970s. These policies focused on recruiting low-skilled workers from countries such as Turkey and Morocco. Although formal recruitment ended in the mid-1970s, it led to substantial family migration (initially reunification, later family formation). Today, EU countries (supported by EU policies) and Canada prioritize high-skilled labour migration, creating corridors between countries such as India and destinations like Germany, Austria, and the Netherlands.
- **Corridors after EU enlargement**  
EU expansions in 2004 and 2007 opened new migration corridors by easing access to the European labour market for non-EU countries on the EU's borders. Poland has focused on

attracting migrants from Eastern Partnership member states, including Ukraine, Belarus, Moldova, Georgia, Armenia, and (until 2022) Russia, while excluding Azerbaijan (Kyliushyk, Grabowska & Chról, 2024). These migrants also gain access to other European countries through posted worker schemes.

- **Refugee corridors**

Refugee flows create migration corridors that are often reinforced by family migration, raising questions about integrating refugees' labour potential. This is especially relevant for skilled displaced Ukrainians in Poland and other EU countries. Many work temporarily in low-wage sectors, leading to calls for targeted upskilling programs to help them secure skilled jobs in fields like healthcare, education, and STEM. The situation underscores broader challenges, such as recognizing foreign credentials and creating pathways to sustainable, high-skilled employment.

- **Corridors generated by new legislation, mobility partnerships and private initiatives**

Recent European initiatives include new legislation for attracting (highly) skilled workers, bilateral agreements between specific European countries and third countries, as well as skill mobility partnerships. Germany and Austria are prominent examples. Alongside state-led initiatives, private recruitment agencies and individual companies play an important role in attracting skilled workers. Unlike the labour recruitment programs of the 1960s and 1970s, recent state-led efforts explicitly aim for a 'triple win' approach and the promotion of circular migration. Programs such as Germany's Triple Win initiative and Fair Recruitment Healthcare Germany focus on ensuring ethical, transparent, and fair migration while benefiting destination countries, origin countries, and migrants themselves (Ullman & Schwenken, 2024).

This incomplete classification highlights the distinction between established and emerging migration corridors. Both types play a role in the Link4Skills Project, which focuses on skilled labour migration and not on asylum and family migration.

### 4.3 Migration skill corridors in the Link4Skills Project: A Three Step Approach

The Link4Skills project investigates various established and emerging skill migration corridors between Austria, Canada, Germany, Poland, and the Netherlands on one side, and Ghana, India, Morocco, the Philippines, and Ukraine on the other. The project focuses on how these corridors address skill shortages in three critical economic sectors: STEM (Science, Technology, Engineering, and Mathematics), healthcare, and construction. It examines the extent to which these established and emerging corridors contribute to resolving labour market demands. This analysis distinguishes between sector-specific migration corridors:

- **STEM (Science, Technology, Engineering, Mathematics) Skill Corridors**

These corridors primarily involve the migration of highly skilled professionals. Examples include migration corridors from India to several European countries such as Austria, Germany, and the Netherlands, as well as to Canada. Some of these corridors are well-established, such as India-Canada and India-the Netherlands, while others are emerging in response to growing demand for ICT and engineering talent.

- **Healthcare skill corridors**

These corridors are mainly composed of medium-skilled workers, such as trained nurses, complemented by highly skilled professionals like medical specialists. Notable examples include migration corridors from Morocco, the Philippines, and Indonesia to various EU-countries, addressing critical shortages in caregiving and healthcare services.

- **Construction skill corridors**

These corridors focus on skilled workers, including plumbers, pipe fitters, welders, heavy truck drivers, bricklayers, and roofers. Examples include migration corridors from Eastern Partnership member states (e.g., Ukraine, Moldova, and Georgia) to Poland and other European countries, as well as from Morocco to Germany. These corridors play an essential role in meeting labour demands for construction and infrastructure projects.



An adequate analysis of skill migration corridors requires a three-step approach.

The first step involves a descriptive analysis of the characteristics of skill migration corridors, focusing particularly on: (a) size and timing: whether the corridor is emerging or established; (b) geographical or sectoral specificity: whether the corridor is defined by connections between two countries or by its association with a specific sector. It is important to note that corridors may be conceptualised as all-encompassing – notably the Philippines or India corridor to Canada includes international students, highly skilled professionals, base skilled technicians and their families. Or it may be conceptualised as sector-specific, notably construction workers from Ukraine to Austria and the Netherlands. Country profiles are developed to provide a detailed description of these characteristics and to lay the groundwork for further analysis.

The second step examines the influence of EU and national state initiatives on skill migration corridors. These include new labour migration legislation, bilateral agreements, and mobility partnerships. Germany, for example, has established cooperative relationships with several origin countries, combining training in the country of origin with advanced training in Germany. These programs often originate from the root causes paradigm, aimed at addressing irregular migration through development in origin countries, and from more recent ‘triple win’ initiatives that aim to benefit migrants, origin countries, and destination countries alike (Ullman & Schwenken, 2024). Additionally, the analysis considers private sector initiatives, including those led by individual companies and labour recruitment agencies. They may operate in collaboration with governments to meet specific labour market needs. A preliminary inventory of these initiatives is included in the country profiles and will be supplemented with stakeholder interviews conducted in both origin and destination countries, as well as the results of an online survey on the spatial aspirations of skilled labour migrants in Austria, Canada, Germany, Poland, and the Netherlands.

The third step critically assesses the outcomes, scope, and fairness of these initiatives, evaluating whether they effectively promote fair skill migration flows. This includes examining whether the corridors benefit migrants, destination countries, and origin countries. An evaluation framework will be designed for this purpose.

## 5. Concluding Remarks

The aim of this paper is to introduce and clarify several concepts related to the work of the Link4Skills research project. Starting with some general introductory remarks on the interactive nature of international migration today and on the importance of focusing on the role of the migrant as an active agent, we have also highlighted the need to pay attention to the situations in countries of origin and transit. Following these introductory remarks, the second section offers an overview of definitions of skills in general, and with specific reference to skills in the governance of migration. We pointed out the different proxies used to assess skills and to organize skilled migration categories while also highlighting the racial, ethnic, gendered and class stereotypes embodied in these classifications.

In the third section we focused on the notion of skill shortages, gaps and mismatches – all important issues at the heart of the Link4Skills project work. We have reviewed the different strategies for addressing such gaps including retraining, reskilling and migration, and specifically discussing the interaction between migration, skills and labour market dynamics. Acknowledging the dynamic nature of the relationship between skills, skill shortages and migration, section four introduced the notion of migration and skill corridors as an important analytical and heuristic tool that will guide the empirical work in the Link4Skills project. The notion of a migration and skill corridor builds on a constructivist approach to skills, and on a dynamic view of migration as skill circulation, skill generation or loss. It points to the importance of historical, socio-economic and institutional factors in shaping migration and skill flows between countries and allows for incorporating other factors such as education and training systems, demographic factors, changing migrant preferences and shifting economic and labour market dynamics.



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**Concept Paper of Migration Skill Corridors**  
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