The global competition for talent: Life science and biotech careers, international mobility, and competitiveness

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INTRODUCTION

As highlighted in earlier chapters, globalization is made up of mobility of goods, capital, and people. The human mobility aspect has received the most policy resistance to date. For instance, Sassen (1995) has noted this disparity between the various forms of international mobility and their acceptability to governments, focusing on issues of global economic integration. She explains,

Today we can see in all highly developed countries a combination of drives to create border-free economic spaces and drives for renewed border-control […] Current immigration policy in developed countries is increasingly at odds with other major policy frameworks in the international system and with the growth of global economic integration.

These tensions not only pose questions of selectivity, priorities and mechanisms among states for migration, including skilled migration, but also partially frame the attitudes towards openness to foreigners, in general. Hence, the tensions also influence the migrant’s individual experience and the opportunities afforded to people from other countries and backgrounds. Brown (pp. 26, 28, 29) refers to this outcome as “the myth of the global labor market,” arguing,

The view that workers now have to operate in a global rather than a national market is also a simplification of existing realities for most workers. This is because the global labour market does not operate as a ‘free’ market (Castells 1996; Held et al. 1999). Nationality continues to operate as a vital tool for restricting the competition for jobs by excluding millions of well qualified workers from other parts of the world, such as skilled software engineers from India competing for IT jobs within the European Community or North America (Kobrin 2000). […]

We must avoid conflating the deregulation of world markets with those of how nations are responding to these changing rules of international competition. […]

Contrary to proclamations of the end of the nation state (Ohmae 1995), the economic competitiveness that benefits the many rather than the few will depend on the way national governments respond to competitive pressures from ‘foreign’ countries, companies and workers. In other words, nations must confront new problems that threaten the living

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standards of workers and their families. Globalization has made it more important to have a democratic political voice that serves the ‘national’ interest.

The conflicts named above are central in both the economic as well as in immigration policy choices, as governments try to balance internal concerns for and against labor migration with objectives for advancing economic competitiveness in the global context. While these two factors, global economic participation and a national orientation in terms of welfare and security, have become a necessary and nearly omniscient part of the political-economic landscape, they have been met with varying responses. As discussed in the previous chapters on the paradigm of a “competition for global talent”, there has been a strong increase in skilled migration movements across the world, with the 1990s serving as an important turning point for immigration to be acknowledged across more states as a contributor to economic competitiveness (particularly in the knowledge economy/ science & engineering). However, the economic boom of the 1990s was followed by a deep recession in much of the world and higher rates of unemployment during the economic crisis of the mid-2000s. In this context, immigration was often put on hold and viewed as a barrier to lowering unemployment rates. In the European Union, the policy complexity is compounded as 27 individual member states differ not only in their current policy objectives but also in terms of histories, institutions, and economic structures.

This chapter begins to address some of the structural factors related to skilled labor movements in Europe. It answers the following questions: How have skilled migration policies and other policies facilitating international mobility of students and scientists developed in Europe? What are the main features of these policies within the European Union? It looks at these questions with evidence from three facets: for skilled migration as a whole, as well as European policies for researchers, and at intra-European mobility. The chapter first defines the terms mobility and migration and then outlines a few key aspects of the EU. It then examines the development of common EU policies that impact skilled labor movements across various countries in the EU, particularly the concept of free movement in the EU, and the beginning of EU-level skilled migration and scientific mobility policies. It then highlights and compares various policies and discourse towards cross-border skilled labor movements of several member states in the EU, looking at both connections and disconnects in assumptions between immigration and competitiveness. The next section then looks at studies that review a broader range of policies in the EU that contribute to building the knowledge economy workforce. In taking this approach, this chapter aims more specifically to highlight commonalities and contradictions in approaches to skilled labor movements in much of Europe

**KEY TERMINOLOGY**

In the recent migration literature, a distinction has often been made between ‘migration’ and ‘mobility,’ although there is not one set of agreed definitions. The status of ‘migrant’ can be based on place of birth, by various visa categories, and the term is typically used in the context of cross-border movements. Mobility is often used in two different contexts. The first is based on the intended length of stay. Mobility is usually seen as short-term moves, whether for study or for work. According to the United Nations’ definition, migration is defined by stays of one year or longer, but this definition has not been uniformly applied across places or even across
different forms of migration. For instance, some say international students are not migrants, but instead temporarily mobile individuals. The second context applies specifically to movements within and to various regions, whereby mobility is viewed as moves that are more unrestricted and typically do not require one to have a special visa. This concept has been applied within the European Union as mobility is a right of EU citizens, meaning there should be an unrestricted flow for residence and labor across the various EU countries. Migration policy in the EU is therefore aimed at ‘third-country nationals’ or those with citizenship from countries outside of the EU, and statistics are not always captured for these internal EU movements, as usually no permit is required.

While the distinctions between mobility and migration are important to policy, in this study they are defined loosely. Generally, migration is used to denote stays that require a special visa and with the possibility of lasting more than a year, whereas mobility is for unrestricted movements and shorter stays. However, these terms will often be used interchangeably throughout the chapters in this study. The reason for this is that studies show that individuals often stay longer than expected, on one hand, and may have intentions to move to several countries, on the other. Furthermore, while mobility and migration have different legal frameworks, the social, linguistic and employment concerns of individuals are similar. Understanding the global competition for talent entails identifying both mobility and migration patterns, and must also include the role of nationals in filling crucial job positions.

THE GEOGRAPHY OF THE EUROPEAN UNION AND EFTA

The EU is an evolving political entity, both in terms of its geography and in term of its policy reach. By the end of 2013 (see Figure 5), the EU includes 28 countries, shown in the map in the sections with the lightest shading and Croatia, which joined in July 2013. One of the biggest changes to the EU involves its enlargement in 2004 and 2007, unique both in the number of countries involved as well as the political and economic situation as the majority of these countries had communist systems following World War II and then liberalizing and adopting democracy in the late 1990s. The 2004 EU-enlargement included Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia, while the enlargement in 2007 added Bulgaria and Romania to the EU. The GDP of these countries is often much lower than the other member states, particularly those in Western and Northern Europe, although the economic woes of the Southern European countries of Greece, Portugal and Spain have also resurfaced in the economic crisis.

The European Free Trade Agreement (EFTA) includes the countries of the EU plus three others. These countries include Liechtenstein, Norway, and Iceland, which have selected not to be part of the EU, but are part of the EEA. The countries in the EEA also adopt the four freedoms, allowing economic integration and mobility as discussed in the next section, along with the 27 countries of the EU, but are not bound to other EU policies. According to the EFTA website “In addition, the Agreement covers cooperation in other important areas such as research and development, education, social policy, the environment, consumer protection, tourism and culture, collectively known as ‘flanking and horizontal’ policies. The Agreement guarantees

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equal rights and obligations within the Internal Market for citizens and economic operators in the EEA.11 Switzerland is not part of the EEA, but as will be discussed later, has signed some bilateral agreements with the EU and hence applies some of its frameworks, including k for mobility of researchers.

FIGURE 5 MAP OF THE EUROPEAN UNION, 2013

Source: CIA World Factbook, 2013

RELUCTANT CONVERGENCE? THE INFLUENCE OF POLICIES FROM THE EUROPEAN UNION ON MOBILITY AND MIGRATION

This section will discuss various EU polices with an influence on international mobility. Three different but fundamental platforms of the EU’s adoption of policies to promote mobility are discussed: The principle of free mobility in the EU and Common Market including the level of labor market access afforded to citizens of the EU-accession states, support for the growth of the knowledge economy and its workforce, and finally moves to harmonize immigration policy across the EU and particularly debates surrounding the EU’s ‘Blue Card,’ a proposal for a high-

11 http://www.efta.int/eea/eea-agreement.aspx, Accessed 4 March 205
skilled visa allowing portable work and residence rights across the EU. This section argues that since free mobility, including international mobility of labor, is a crucial component of core EU strategies, many important initiatives fostering international mobility are currently occurring outside the realm of 'immigration' policy per se. Whereas immigration policy largely remains the prerogative of the individual member states and is a topic with much public resistance, policy to support the knowledge economy is a common, more readily accepted EU-wide objective.

Free mobility in the European Union

In order to create the best market efficiencies and security for the area, the premise of the EU is hinged on various ‘freedoms’, which are linked more broadly to ensuring mobility to create a common, or single, market. The EU was therefore formed on the basis of ‘Four Freedoms’: freedom of movement for goods, services, persons, and capital, forming the cornerstone of the European Union’s existence and operation of the common market throughout all of the EU’s territory as well as in the three countries of the EEA.

Despite the centrality of free mobility in the EU’s mission, there are a number of limitations to ‘free mobility’ in Europe. First of all, statistically labor migration across European regions has been low (Benton & Petrovic, 2013). Nonneman (2007) argues that there is ‘immobility of European labor’:

…despite high unemployment in the local area, [the European workforce] is disinclined to resettle in areas with more job opportunities. Less than 0.5 percent of European workers move to a different region every year. This is very little, compared, for example, with the 2.5 percent of Americans who take up residence in a different state every year.

Nonneman further discusses that the limited mobility is due both to varying social provisions, such as welfare, housing, and pensions, as well as to language and cultural barriers among the various EU countries. Overcoming such internal divisions therefore is an important priority in ensuring the longevity and functioning of the EU. One report on mobility (PricewaterhouseCoopers, 2006) found that less than 5% of applications for “senior management, professional and skilled manual positions” in Europe were from individuals from other EU countries (p.10). By comparing results from their surveys conducted among companies in 2001 and 2006, with the results on individual attitudes towards mobility reported by the European Commission’s Eurobarometer survey, the report concludes,

… employers clearly believe that higher levels of mobility will be needed in the future to support the development of their business. Individuals are less persuaded that mobility is a good thing for the labour market and individuals and a significant minority of both companies and individuals consider that mobility is not a good thing for families. There is therefore a perceived mismatch between the expectations of companies and those of individuals in relation to mobility, a gap which still needs to be bridged if the European economy is to move along the road of the Lisbon agenda (p. 13)

Yet, the study also cautions that much information on mobility within Europe has not been contextualized and that there are likely numerous different patterns based on individual goals or
the country the person is from (p. 10). Another factor that is not mentioned, but is crucial to this study, involves linking these to needs and patterns of a specific sector of employment.

Diverging labor market access and rights afforded to citizens of the EU-accession states

Although ‘free mobility’ in the EU is one of the main principles of the alliance, there are still variations across member states. Almost all the ‘old’ EU-15 member states met the idea of new workers in their territories with some resistance after the 2004 and 2007 EU enlargements. The majority of the EU member states responded to the EU-accession of Eastern and Central European countries in 2004 and 2007 by imposing either restrictions on labor market access or welfare rights for citizens of the new member states. The EU allowed for variation in national responses and said that restrictions on the mobility of individuals from the new states could be imposed first for two years, when they should be reassessed, and then could be extended for an additional five years (Gaillard, 2002: 17-18). Doyle, Hughes & Wadensjo (2006) classify the stance taken by the EU-15 members into four groups based on the level of access afforded to citizens of the accession states:

The enlargement debates across Europe resulted in four different regimes being in place in the EU15 Member States. The first regime (Belgium, Finland, France, Germany, Greece, Luxembourg and Spain) gives citizens from the Accession States no more rights than non-EEA nationals. The second regime (Austria, Denmark, Italy, the Netherlands and Portugal) adopts essentially the same rule as the first but opens the labour market to a quota of the Accession State nationals. The third regime (Ireland and the UK) allows unrestricted access to labour markets but restrict access to social benefits. In the fourth regime (Sweden) European Community rules apply. (p. 9)

In summary, only Sweden, the UK and Ireland did not impose work restrictions upon entry on citizens from the new accession states in 2004.

What has been the result of inflows from these twelve new member states for the open economies of Ireland, the UK, and Sweden? A few trends can be identified. First of all, Ireland and the UK received relatively more individuals than Sweden. Trends in the UK seem to indicate that they tend to employed in manual labor (such as construction) or lower skilled service sectors (hospitality sector, for instance), at least initially. A lot of research has shown that many recent university graduates from Central and Eastern Europe took up low to semi-skilled work in the UK (Black, Engbersen, Okólski, & Panţîru, 2010; Glorius et al., 2013). This employment pattern seems to be due in part to the Central and Eastern European individuals initially coming to the UK with plans to only stay short-term. However, caution should be taken in assuming that the employment of individuals from Central and Eastern European (CEE) countries is directed solely towards low-skilled streams. For instance in Ireland, while low to medium-skilled employment may be the predominant, employment in high-skilled sectors is not negligible. For example, the Irish Census showed that 13% of the employment in the Irish software sector was made up of individuals from the EU-10 accession states (Krings, Wickham, Bobek, & Salamońska, 2008, p. 7), a notable amount but much less than the 35.7% share of employment they held in the Irish construction sector in 2007 (European Commission, 2009, June 18, p. 8). Through qualitative
research among scientists in the UK from Bulgaria and Poland in 2005-2006, Guth (2008) concludes that free mobility within the EU had not had much influence on the number of scientists in the UK, but rather they felt that other channels had already existed for their mobility, and administrative procedures had improved.

Beyond identifying the main trends, the impact of the flows after the EU-enlargement on the labor markets in the older member states is difficult to determine; however, recent evidence seems to support an overall positive economic effect. The EU has officially announced that the mobility of individuals from the accession states has had a positive economic impact. According to analyses from the European Commission,

Four years after the EU’s 2004 enlargement and over a year after the accession of Bulgaria and Romania, practically all of the available evidence suggests that the economic impact of recent intra-EU mobility has been positive on balance, and that it has not led to serious disturbances on the labor market, even in those Member States that have seen a relatively large inflow of migrants from new Member States (European Commission 2008: 15).

Yet, as the policy has only been in place for a few years and other EU countries have since further lifted restrictions, the data are likely still inconclusive and need to be assessed in terms of both sector of employment, other social and economic costs and benefits, and changing patterns of migration flows. An analysis from the OECD (2008: 38) suggests that Central and Eastern Europeans may have been able to improve their position in the UK labor market, compared to what was possible before EU-enlargement. However, it should be noted that the public response has not always been positive. For instance, a FT Harris Poll in March 2009, 54% of Britons polled resenting the legal right of EU citizens to work in Britain’ (White, 2009).

The situation for the accession of two additional countries, Bulgaria and Romania, in 2007 was also marked by a large number of countries imposing restrictions on access to either work or welfare benefits, further indicating resistance to the idea that the free mobility of labor is beneficial. The specific roles taken by individual member states had changed and were marked by greater restrictions: Sweden once again adopted a policy free mobility and was joined by Finland, and nine of the ten new EU members (Hungary was the exception) from the 2005 accession. In the UK, a distinction has been made between low and high-skilled labor. The BBC reported,

After an unexpectedly large influx of workers from Central Europe - an estimated 600,000 in two years - the UK announced that it would impose restrictions on workers from Bulgaria and Romania. Up to 20,000 will be allowed to take low-skilled jobs in agriculture or food processing, high-skilled workers will be able to apply for work permits to perform a skilled job, and students will be able to work part-time. Self-employed people from Bulgaria and Romania are already allowed to work in the UK, and this will continue (BBC News 2009).
In response to current restrictions on mobility of citizens of Bulgaria and Romania from various EU member states, Vladimír Špidla, European Commissioner for Employment, Social Affairs and Equal Opportunities stated: ‘The economic downturn is not a reason to keep restrictions. Free labor mobility is self-regulatory and provides a much needed flexibility in both directions: workers go to where there is demand for labour, not to be unemployed in another country.’

Although data is not readily available, it is important to keep in mind that individuals from these new Central and Eastern European countries were gradually granted full access to the labor markets in the other EU countries. Although the flows have been seen to be primarily for low-skilled jobs at the time of writing, there may be an increasing possibility for the highest skilled, including scientists, to seek further employment in more scientifically advanced European countries.

STIMULATING EUROPEAN COMPETITIVENESS THROUGH RESEARCH AND THE KNOWLEDGE ECONOMY

As discussed previously, the knowledge economy has been touted across much of the world as a major contributor for enabling economic vitality and competitiveness in the future. In the case of the EU, is particularly evident in the priorities and support for the knowledge economy as set out in the Lisbon Agenda of 2000 in order to ‘make the EU the most competitive economy in the world and achieving full employment by 2010.’ The Lisbon Agenda has led to further measures to increase competitiveness such as by setting targets for R&D spends at 3 per cent of GDP for each EU country (also known as the Barcelona Declaration). According to Morano-Foadi (2008, p. 638):

All European summits from Lisbon 2000 onwards have underlined the contribution of research and education in setting up the European knowledge society. In March 2002, to achieve this target, the Barcelona Declaration first called for a rise in the share of European GDP invested in research (from 1.9 per cent to 3 per cent) and, second, for an increase in the number of researchers (a further 700,000 researchers or 1.2 million research related personnel).

In other words, supporting scientific sectors and ensuring significant numbers of scientific staff in Europe, whether through attracting from outside the EU or by training and retaining inside, have been catapulted as the top priority within the goals set by the European Union.

Within discussions of free mobility in the European Union, what is often not recognized is that the EU proposed a ‘fifth freedom’ – ‘free movement of knowledge’ in the Presidency of

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Conclusions from the Spring Summit on the 14 March 2008. Again, the acceptance of ‘knowledge’ as one of the pillars of the single market and the EU emphasizes the political emphasis placed on building the knowledge economy and supporting the goals of the Lisbon Agenda which basically relates to the goals of improving scientific centers of excellence in the EU and promoting and supporting the international mobility of researchers. The implementation of this ‘fifth freedom’ still seems to be underway; however, it is an important signal of the priority placed on development of scientific research in the EU (see Martens and Zuleeg 2008) and is also reflected through the European Research Area (ERA), discussed in more detail in the next section. What is clear is that interest in advancing this objective has continued in the EU, even during the economic recession. For example, the Horizon 2020 program has been approved to have additional financial backing for research. The European Commission describes it as, “Running from 2014 to 2020 with an €80 billion budget, the EU’s new programme for research and innovation is part of the drive to create new growth and jobs in Europe.”

European Research Area

One area where there have been great strides in setting common priorities and policies is in the advancement of the European Research Area (ERA). The advent of the ERA in 2000 is viewed as an essential part of advancing job growth and European competitiveness as set out in the Lisbon Agenda, seen as the primary goal for the EU’s member states. According to the EU’s (2007) green paper, The European Research Area: New Perspectives, ERA is based on six main objectives, two of which relate directly to European mobility and international migration: ‘an adequate flow of researchers’ and ‘a wide opening of the European Research Area to the world’ (p. 2-3). The other four objectives address goals for improving the research infrastructure, quality and knowledge sharing. There is a general perception that European science is flagging behind US and that competition is emerging from Asia as well. ERA therefore includes a range of policies to ‘attract’ and ‘retain’ MA and doctoral graduates and other scientists, including reintegration grants to attract scientists that have moved abroad to move back ‘home,’ measures to attract scientific ‘talent’ from outside of Europe, and harmonization of policies for residence permits for researchers accepted at European higher education institutions. The ERA is seen as essential to the supporting growth of the knowledge economy and the European Commission has called it “the lynchpin of the Community’s future action in this field” (Commission of the European Communities, 2005).

Ensuring the mobility of researchers from outside of the EU and hence knowledge transfer has also taken the form of a ‘Researchers Directive,’ which was to be implemented in national law (with the exception of the UK and Denmark) by October 2007. In brief, the Directive is designed to allow fast-track process for a one year residence permit for those who are accepted at a recognized European research institute and with the expectation of free mobility within the EU for conducting the research or teaching. The Researchers’ Directive (EC Directive 2005/71) also contains provisions to ease other restrictions, for instance family members of the researcher are also given permits and that the researcher may apply for an extension in the territory where the permit was offered. However, analysis by Euractiv (2007) indicated reluctance for many member states to adopt the legislation, with most countries not implementing it until pressured. The adoption of common policies, and the resistance toward participating, will be discussed later in
this chapter. The finding that mobility can occur despite resistance to explicit mobility or migration policies nationally point to the possibility that increased mobility of ‘talent’ are taking shape in Europe first through unifying EU policy, and not on the national level in the EU countries where there is reluctance to further open the labor market. In an assessment of the effect of the Researcher’s Directive, it was found that the policy has been effective and by having the visa based on hosting agreements it has created “a fundamental shift in the decision on the admission of a TCN (third-country national) from migration authorities to research organisations and private entities” (Hofmann, 2012, p. 3). The study also found that while the researcher’s visa gives the researcher many rights equal to citizens and allows for mobility to another EU country during the visa, many of its recipients were not aware of these rights.

Harmonization of education systems through the Bologna Process

The harmonization of education systems and the recognition of credentials across the various EU (and affiliated) countries has also been important in expanding intra-EU mobility. The Bologna Declaration of 1999 has created a common higher education system (Bachelor’s, Master’s and Doctorate) across European universities, equivalent European credits system to facilitate academic exchange programs, and various other measures to increase the quality and as well as the recognition of education credentials throughout Europe. A target date of 2010 was set for the implementation of the Bologna Process, which should then lead to the operation of the “European Higher Education Area” (EHEA).

This process is also important for mobility, which is set as one of the main action lines, and hence the global competition for talent in the EU context for a number of reasons. First, it facilitates international exchange, particularly among members of different EU countries. This aspect is important in terms of supporting both European integration (common education system and advancing skills recognition) and in trying to improve the training and possibilities to retain individuals that can operate in the growing knowledge economy. Second, the Bologna Process also contains goals of further attracting people from outside the EU. The EU document, *Strategy for the European Higher Education Area in a Global Setting* (n.d) states,

> Europe must also make concerted efforts to increase its international attractiveness to students, teachers and researchers across the world. To this end, all Bologna countries\(^\text{14}\) should designate an organization as having the prime responsibility for coordinating efforts for the international promotion of their higher education systems and institutions’ (p. 3-4).

In other words, the Bologna Process is not only trying to harmonize education, but also to promote each country as a destination for international student migration.

**The European Union’s Blue Card for skilled migration**

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\(^{14}\) The Bologna Process consists for forty-six countries in total as of 2009, including all member states of the EU plus some countries with close proximity to the EU, such as Turkey, Ukraine, and Georgia to name a few.
This next section looks at skilled migration in particular within EU policy. Although immigration still largely remains an issue considered central to national sovereignty, the EU is increasing its role in setting and harmonizing immigration policies across its member states. One of the most noted changes is the adoption of a Directive for a more unified, European skilled migration programme for third-country nationals (individuals with citizenship outside of the EU), known as the ‘Blue Card’ on 18 June 200915. EurActiv (2009), a private communications initiative, which reports on activities of the EU, traces its development:

The Portuguese Presidency was the first to tackle these issues, with a High Level Conference on Legal Immigration organised on 13-14 September 2007 in Lisbon. On this occasion, the Commission presented its proposal for the so-called Blue Card, part of its strategy for legal migration.

The Blue Card is the EU’s main policy initiative in the global competition for the best, highly mobile brains. The aim is to create a single application procedure for non-EU workers to reside and work within the EU. The proposal aims to attract up to 20 million highly skilled workers from outside the EU.

Again, the discussion indicates the associations made between immigration, competitiveness and feelings of an advancing ‘global competition for talent.’ However, tension between national and EU concerns were evident from the earliest phase in the discussions surrounding the proposal. According to the initial Blue Card proposal, the programme would allow a renewable visa and rights for family members of skilled migrants to work, if the individual met education and salary requirements. However, as discussed in more detail by Collett (2008), there have been many lines of opposition both linked to defining ‘highly skilled’ and also due to labor market protection concerns. One of the barriers is that the minimum wage levels vary greatly across European countries. Additionally, some countries, particularly the Czech Republic state concerns that the EU should not be considering policies for immigration from outside the EU until employment restrictions for citizens of the CEE have been fully lifted. Furthermore, it was recognized that EU countries still ‘compete’ between each other for migrants. Therefore, the Blue Card will act as an additional measure but will not replace individual member states skilled migration policies (Collett 2009). The UK, Ireland and Denmark, which each have previously signed agreements that allow them to opt-out of some EU policies, have decided not to participate in the Blue Card programme at all.

The Blue Card was implemented by the various participating countries in 2011 and 2012, during the global economic recession and often after the deadline initially set by the EU. As stated by

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15 It is important to note that the Blue Card is not the only legislation created on the EU level that has an impact on skilled migration, as other policies have dealt with aspects indirectly related to skilled migration, such as the right of non-EU individuals married to EU nationals to work, and a proposed Directive on intra-corporate transferees, to name a few.
Collett and Zuleeg (2009): “It is far less contentious for governments to advocate skilled migration than any other type, as long as governments can argue convincingly that their numbers will be small and their impact on the local labor market negligible” (p. 346), but clearly fears of impact on native workers climbed during the recession. Initially the salary threshold was set at least three times higher than the minimum wage, but later discussions lowered this to one and a half times, and in the end each state was allowed to set its own salary threshold. Permanent residency is possible after five years of employment, although some countries, such as Germany, also require knowledge of the national language.

A brief summary of some of the various salary levels required to receive a Blue Card in 2012 are summarized in Figure 6. This table the wage differences for defining the highly skilled across various EU countries: “In practice, reported salary requirements existing in the Member States range from €1,293 (Lithuania) per month to a minimum annual salary of €67,842” (Luxembourg). (European Migration Network, 2013, p. 15)

FIGURE 6 EU BLUE CARD THRESHOLDS, REQUIRED SALARY AS A PERCENTAGE OF THE AVERAGE ANNUAL GROSS INCOME OF FULL-TIME EMPLOYED, 2010-12

Notes: Thresholds are calculated for the top bracket, in most cases shortage occupations are subject to a threshold of 80% of the main threshold, although the shortage threshold may be set lower. 1. Spain applies the threshold based on average salary for each sector; threshold shown is for average income overall.

Sources: Data on average annual gross income of full-time employed: OECD.stat.; EU Blue Card thresholds from official national publications for the first year of application and using 2012 exchange rates for non-Euro currencies. Figure available at OECD, http://dx.doi.org/10.1787/888932822598
Although it is difficult to summarize the position of Europe, given national divergence in immigration policies and flows, research generally states that Europe has many limitations in attracting skilled migrants (Cervantes & Goldstein, 2008; Zimmermann, 2005). The ramifications are also present in statistics for skilled movements. Cervantes and Goldstein report, “In 2000 there were 3.4 million highly skilled foreigners (foreign-born and noncitizen) from developing countries in the OECD countries and Europe as a region (EU25, Norway, and Switzerland) hosted only 13 percent of them… Some European countries therefore appear not only to attract fewer higher skilled immigrants for settlement than the US, but those that come tend to come from OECD countries as opposed to from developing countries.”

Simply put, Western European immigration has historically been built around post-colonial migrations, low-skilled guest workers (policy in the 1960s and 1970s) and subsequently their family members, and for international humanitarian reasons, such as asylum seekers (1980s and 1990s) and these are largely the categories that have been available for residence permits. With this backdrop, the number of skilled migrants in Europe is relatively low and makes up a small percentage of total migrants received. While some of the individuals that fit into these categories are highly-educated and skilled, the policies in place to date have typically not focused on this aspect per se. This is an important point, for instance, when looking at the occupational patterns of skilled asylum seekers, for instance, or of spouses that may come in on family migration programs and face restricted labor market access.

Skilled migration, as an explicit category of immigration with its own admission policy, has only recently been acknowledged as important to governments’ immigration strategies and priorities within the majority of European countries. Starting around 2000, interest in skilled migration, either specifically for the knowledge economy and particularly the IT sector, bloomed in more European countries. However, it should be kept in mind that the policies are often recent and not uniform across all EU member states. Policies for skilled migration are often changing, which makes doing assessments of them difficult. Several large, international studies have been done to compare skilled migration policies in either OECD or European countries (Chaloff & Lemaître, 2009; European Migration Network, 2007; OECD, 2008; Salt, 2005). In an overview of skilled migration policies in many of the member states, the European Migration Network (2007:5) concluded that high-skilled migration programs were not prevalent in Austria, Belgium, Germany, Greece, Italy or Sweden at the time the study was conducted in 2007. The development of skilled migration policies in Europe builds from a backdrop of restricting labor migration in general.

Statistics also show that immigration to the EU is predominantly low-skilled. More specifically, it is reported that, “the EU still tends to attract mainly less-skilled migrants: 48% of recent working-age migrants are low-skilled and only one in five is high-skilled” (European Commission, 2008, p. 15). According to the 2006 European Labour Force Survey, the highest
percentage of highly skilled immigrants and professionals in Europe are found in Luxembourg, Switzerland and Ireland. The lowest amounts are found in the former Central European member states that partook in the study, the Czech Republic, Hungary, and the Slovak Republic (cited in Chaloff & Lemaître, 2009, p. 16)

TABLE 8 COUNTRY COMPARISON: POLICY PRIORITIES AND STRATEGIES FOR HIGH-SKILLED MIGRATION, 2009

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<td>Immigration to meet skills shortages</td>
<td>Facilitation for international students</td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>Immigration as element of overall development strategy, with target entry levels</td>
<td>Selection of higher skilled immigrants and their spouses for permanent migration</td>
<td>Targets met. Some question of language skills for international students</td>
</tr>
<tr>
<td></td>
<td>Immigration to meet skills shortages</td>
<td>Facilitation for international students</td>
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<tr>
<td>United States</td>
<td>Protect native workers while meeting employer needs</td>
<td>Quotas for most high-skilled categories</td>
<td>Programmes oversubscribed, with long waiting lists</td>
</tr>
<tr>
<td></td>
<td>Prevent low-skilled immigration and limit immigration in general</td>
<td>Job offer essential</td>
<td>Recourse to alternative visas (exchange, IC Transfers, etc.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Large temporary programme</td>
<td></td>
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<td></td>
<td></td>
<td>Little facilitation for international students</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Rely on free movement as much as possible</td>
<td>Points-system for migration by highest skilled; no quota</td>
<td>New system yet to be evaluated</td>
</tr>
<tr>
<td></td>
<td>Allow highest skilled to enter while limiting immigration of less skilled</td>
<td>Shortage list for high-skilled employees sought</td>
<td></td>
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<td></td>
<td></td>
<td>Access for international students to above</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>Protect native workers while meeting employer needs</td>
<td>Strict labour market test and occupation list</td>
<td>Limited immigration</td>
</tr>
<tr>
<td>Country</td>
<td>Policy Strategy</td>
<td>Eligibility Requirements</td>
<td>Outcomes</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Increase &quot;economic migration&quot;</td>
<td>Exemptions from strict language and labour market test for high skill, high salary</td>
<td>Satisfactory use of “high-skilled” permit, meets expectations</td>
</tr>
<tr>
<td></td>
<td>Reduce immigration by people with few skills and little Dutch language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>Limit immigration while allowing high-skilled to enter</td>
<td>Permanent residence for very high skill and high-paid foreigners</td>
<td>Limited immigration, mostly change of status of students, others. Flows fall short of expectations</td>
</tr>
<tr>
<td></td>
<td>Compete with other destinations for the highest skilled</td>
<td>Strict conditions for others</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some possibility for former students</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>Protect native workers while meeting employer needs</td>
<td>Quotas for most high-skilled categories</td>
<td>Quota undersubscribed</td>
</tr>
<tr>
<td></td>
<td>Free movement supposed to meet many labour needs</td>
<td>Job offer essential</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>Accept high-skilled migration while maintaining limit on low-skilled immigration</td>
<td>Strict definition of skilled positions</td>
<td>Little high-skilled migration despite openness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Allow foreign students to seek work</td>
<td>Some students remain for employment</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Facilitate employment of high-skilled foreigners by Czech employers</td>
<td>Accelerate access to permanent residence for highly qualified foreign workers</td>
<td>Most beneficiaries are already in Czech Republic</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Flows less than hoped</td>
</tr>
</tbody>
</table>

Source: Chaloff and Lemaitre 2009, p. 30-31

Chaloff and Lemaitre also classified the policy strategy for high-skilled migration of various OECD countries. A few points are important to mention. First of all, in the strategies, most countries have simultaneous goals of attracting some wanted immigration while limiting some other forms. Only Australia and Canada have strategies that lean more toward openness for skilled migration. The US, which is often seen as a magnet economy for skilled migrants, has few visas for this per se, but rather has inflows from family migration and other visa categories, such as students. The strategies in Europe vary from each other dramatically. For both purposes of illustration of the diversity and to build description of places that are discussed in more detail in subsequent chapters, a few brief examples of the discourse used that reflect the ‘novelty’ of skilled migration in Europe. As these examples show, there has been a changing discourse with more openness to skilled migration for competitiveness; albeit with many barriers of moving from restrictive to more open policies. It is also important to mention that these tendencies do not reflect the realities of financial or administrative backing for skilled migration programs, nor do they reflect whether or not the programs are able to successfully attract skilled workers from
other countries. Furthermore, a report titled, *The Global Competition for Talent: Mobility of the Highly Skilled* (OECD, 2008, pp. 14-15) found:

Only a few countries’ policy approaches are part of an explicit mobility strategy.

For those in which policies are not part of such a strategy, there is a greater risk of incoherence among policies on inflows, outflows and the diaspora. Ideally, mobility policies should be part of a wider mobility strategy that contributes to the country’s economic and social objectives and sets out the rationale for intervention. There is generally more support for inflows of researchers and other HRST than for outflows, perhaps because countries judge outward mobility to be adequate or because they are reluctant to encourage outward mobility, despite arguments about the benefits of brain circulation.

This quote points to a few important points about policy. First of all, skilled migration policy is not always linked to economic goals. This means that there can be a difference between groups targeted in skilled migration versus those targeted by innovation policies that also aim to increase mobility or attract skilled individuals. Second, in OECD countries, there has been little policy attention to the benefits of return migration, and hence few policies target out-going migration. However, this strategy has been adopted by some developing countries, such as China and the Philippines.

The next section discusses some of the discourse surrounding skilled migration and policies in various European countries.

**Germany**

Germany has typically taken a restrictive stance towards migration. Long holding on to the perspective that Germany is ‘not a country of immigration’, current immigration to Germany is mostly the result of guest worker policies, an inflow that was assumed to be temporary, inflows related to humanitarian concerns or related to right of return for ‘ethnic’ Germans after World War II. Yet, in terms of skilled migration policy in Europe, Germany is often named as a front runner in Europe. The Green Card for IT workers was adopted in 2000, with statistics for the programme broadly showing a large proportion given to individuals from CEE countries or parts of the former Soviet Union, and 26.4 per cent of the total permits given to IT specialists from India, which received the largest number for any single country. The policy was undertaken due to pressure from the IT industry, but later discussions revealed that the approach of bringing in foreigners to fill jobs was against the long-held German policy and standards of closed borders for labor migration, other than some bilateral agreements, and the programme ended in 2004. It

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16 The statistics given are not fully divided by country, and therefore a total for the EU accession countries cannot be given. The data groups provided that contain data for the recent accession countries include: Russia, Belarus, Ukraine and Baltic States 12.6 per cent; Romania 7.0 per cent; Czech/Slovak Republic 6.6 per cent; Hungary 3.4 per cent Bulgaria 2.9 per cent.

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also became associated with the right-wing opposition slogan ‘Kinder statt Inder’ (‘Children instead of Indians’) (Saxenian, 2002), showing the plea for more protection of the national labor market while echoing possibilities of discrimination towards foreign workers in Germany.

Although the Green Card for IT workers was one of the earliest skilled migration policies in Europe, it can be seen as the exception rather than the rule. It is sometimes argued that the German Green Card was a failure, due to lower numbers coming than expected, and that Germany is not competitive in the global competition for talent; however, Kolb (2005) points out that it helped set a number of precedents that likely had an effect on immigration policy developments in Germany. The Immigration Act of 2005 made notable reforms in Germany’s immigration system, but is still quite conservative and scaled back from the original proposal. For instance, for skilled migration it was decided:

The ban on recruiting foreign labour remains in effect for unskilled and semi-skilled workers; it even applies to skilled workers except in specific, justified cases when it is in the public interest. Highly skilled workers are eligible for a permanent settlement permit upon entering Germany. (Immigration Act of 2005: 36, section 3.2)\(^\text{17}\)

However, the act expanded the possibility for high-skilled migration in sectors other than IT and, as mentioned in the quote, also eased work permit restrictions and increased possibilities for permanent residence.\(^\text{18}\) In this case, ‘highly skilled’ workers were defined primarily by having a high salary of at least €86,000.\(^\text{19}\) Immigration from the CEE countries was restricted, even for the highly skilled. Based on labor shortages, this restriction has been lifted at times; for instance, an immigration law website reports that in late 2007, ‘German employers are now allowed to hire electrical and mechanical engineering skilled migrants from the Eastern European nations that joined the EU in 2004 without giving priority to local applicants.’\(^\text{20}\) Hence, the German example indicates that despite relatively early adoption of a skilled migration programme for IT workers, ‘openness’ to skilled migration is still fledged by political debate and leans towards labor market protection (even before the recent global economic crisis), limited to specific occupations and is thus far from indicating an acceptance for skilled migration as a whole.

The Netherlands

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\(^\text{17}\) In the German version of document, it reads ‘Für Nicht- und Geringqualifizierte, aber auch für Qualifizierte wird der Anwerbestopp beibehalten, für Qualifizierte mit der Ausnahmeregulierung im begründeten Einzelfall, wenn ein öffentliches Interesse an einer Beschäftigung besteht. Für Hochqualifizierte ist eine Niederlassungserlaubnis von Anfang an vorgesehen’ and is found on page 32.


Like Germany, the Netherlands has had an overall restrictive approach towards immigration since the end of the guest worker programme in the 1970s, yet in the mid-2000s, there has been an important policy shift with attention turned to skilled migration as a way to advance the knowledge economy. On 1 October 2004, the Dutch government implemented its first formal skilled migration policy for knowledge migrants (kennismigranten). This policy was implemented as a response to labor shortages, particularly as related to supporting the growth of the knowledge economy. The programme waives work permits and labor market tests for non-EU individuals to work in the Netherlands, if they meet the minimum income criteria, which for 2008 were € 47,565 or €34,881 for those under the age of 30, and the employer has been approved within the knowledge migrant programme. Academic researchers, including PhDs, post-docs and lecturers, are eligible for the knowledge migrant status without meeting the income requirement. There are no additional qualifications, such as educational level, outside of the salary requirement and approval of the employer. However, the knowledge worker category is also a form of temporary labor migration, with the permits valid for a maximum of five years. The policy sets the tone for discussions of immigration and competitiveness in the Netherlands.

In 2006, the Dutch Ministry of Justice published Towards a Modern Migration Policy (The Netherlands Ministry of Justice, 2006). This document expresses the standpoint of the government that ‘Dutch migration policy can no longer be exclusively restrictive – it also has to be selective’ and includes measures to further ‘attract’ individuals, particularly those with high skills, including tertiary education students and skilled employees. The programmes are viewed as ‘modernizing’ immigration in the Netherlands and as it is argued, ‘To reinforce the international competitive position of the Netherlands, the country needs a society that is permanently in motion at an economic, cultural and knowledge development level. Migration forms part of this motion’ (The Netherlands Ministry of Justice 2006: 17). In another example, the Sociaal-Economische Raad (2007) issued a policy advice that urged the government to advance policies for skilled migration even further:

According to the Council, the Netherlands’ labour migration policy must undergo a change. The principle of “no, unless” should give way to a more welcoming attitude towards labour migrants who can offer Dutch society added value. Instead of “no, unless”, the underlying assumption should be “yes, provided that”. A more welcoming policy is particularly desirable when it comes to highly skilled labour migrants. Non-EU labour migrants in the lower and middle segments of the labour market should be made welcome if the supply of labour from within the EU is non-existent.

As this indicates, there is a potential move not only to increase support the mobility of the highly skilled, but also to better position the Netherlands as an attracter of needed labor in all forms.

The case of the Netherlands shows in part how this changing paradigm has been implemented. The knowledge worker visa allowed a broad basis for further bringing in ‘talent’, which was defined as individuals with a job offer and a relatively high salary. It is an indication that the earlier assumption that businesses can bring in whomever they want may have been too simplistic and the government aimed to simplify and speed up immigration procedures.
The United Kingdom

The UK has been viewed in the past at the EU’s leader for implementing a skilled migration policy and attracting skilled migrants, as well as for being a magnet for mobility of individuals from CEE, due to both the hard economics of relatively high wages and soft factors, such as English being the international business language and its cosmopolitan cities. While it is out of the scope of the chapter to discuss the nuances of the specific policies, it is important to note three main things. First of all, the UK policy towards skilled migration is relatively recent and implemented later than programmes in the US or Canada. Up until 2002, when the UK started a policy to attract highly skilled migrants, there was nearly a void of policies to attract or even allow skilled migrants outside of the internal mechanisms put in place by multinational corporations and other businesses and various bilateral agreements, for instance for health care workers. Iredale (2008) explains that the UK’s policy then allowed

[...] individuals with special skills and experience to immigration, initially for a year but with the opportunity to renew. [...] This is the first time in nearly three decades that foreign workers, other than EU member nationals, have been able to enter the UK without guaranteed employment.

Second, the rules are changing. The system of predicting labor market needs as originally instituted became burdensome and in 2008 the UK adopted a human capital based, points-system instead, whereby individuals were scored according to characteristics such as their education and age. In addition, after the economic crisis, the UK has made its policies for foreigners to come and the stay more stringent and once again had a major revision of its skilled migration policies. According to the European Migration Network (2010, p. 6), skilled migration in the UK has been declining: “The number of non-EEA nationals gaining skilled work visas (Tiers 1 and 2 of the Points Based System) has also declined over the period: with 78,400 issued in 2007, 74,600 issued in 2008 and 55,300 issued in 2009.” The tiers have been redefined and the quotas have been lowered.

Third, in line with the developments seen in the US, the UK used discussions of relationships between skilled migration and competitiveness to stress the importance of the issue, but this is not fully accepted by the local population. In the speech that began setting the new direction for the UK’s immigration policy and more attention on the highly skilled, Immigration Minister Barbara Roche (quoted in OECD, 2002, p. 338) said:

“As with other aspects of globalisation there are potentially huge economic benefits for Britain and best talents - the entrepreneurs, the scientists, the high technology specialists who make the whole economy if it is able to adapt to the new environment. We are in competition for the brightest and best talents - the entrepreneurs, the scientists, the high technology specialists who make the whole economy tick. In order to seize the opportunities of the knowledge economy and to play a constructive part in shaping these huge changes, we need to explore carefully their implications for immigration policy.”

However, debate continues as the skilled migration programme is redefined and public debate on the necessity of migration, in Britain (as elsewhere) continues.
Unlike many of the other countries in the European Union, the UK has a clause in the agreement signed when they joined the EU that allows them to opt-out of participating in some EU initiatives. As a result, they do not participate in either the Researchers’ Directive or in the Blue Card program, arguing that they already have suitable policies in place.

Other policies have also changed. For example, in February 2012, the UK revised the policy so that foreign students must have a job offer with a salary of at least £20,000 in order to work in the UK after graduation, with capital at least £50,000 to invest as entrepreneurs, or for others who have been deemed to have innovative ideas, versus the previous policy of allowing a two-year stay to work after graduation\(^\text{21}\).

The case of the UK shows that even in countries which are seen as having diverse populations, and have even been named as a leader in attracting skilled migrants, there has not been an open acceptance of skilled migration. The UK is careful to maintain ‘control’ over entry into its territory, including by excluding itself from EU directives related to migration, although at the same time it has been among one of the most open countries to intra-European migration.

Spain

Little attention has been paid to skilled migration in Spanish policy. Spain was a country of emigration until the 1980s and then experienced an immigration boom, and was considered one of the ‘new’ immigration countries in Europe in the 2000s. This immigration was mostly for sectors such as the service sector, construction and agriculture, where there were labor shortages in mostly unskilled or low-skilled occupations. However, the flows have again slowed, as Spain was hard-hit by the economic crisis. Spain has not had a large skilled migration policy, although fast-track visas exist for a few categories:

“A foreign employee is eligible for the fast-track process if he or she is:

- Hired by a Large Business Unit (Unidad de Grandes Empresas, or UGE) company.
- A university professor hired by a Spanish university.
- A highly-skilled scientist or technology expert hired by a state or local government.
- A renowned artist or technician participating in a culturally relevant project.
- A senior manager or highly-skilled employee participating in a project found to have significant public interest. Qualifying projects are those that can be shown to result in job creation, local socioeconomic investment or scientific or technological innovation.”

(BAL Corporate Immigration, 2013)

Various regions publish lists of occupations for which there is a shortage of workers and hence are open for immigration, yet Bruquetas-Callejo, Garcés-Mascaréñas, Morén-Alegret, Penninx &

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Ruiz-Viyeztez (2008, pp. 15-16) argue that in practice these lists have not had much influence on actual hiring of foreigners. Spain has allowed for foreign students who have been in Spain for at least three years to seek work there after graduation (Chaloff & Lemaitre, 2009, p. 49), yet the number the visa granted in this area are low. According to a recent review of student migration in Spain (European Migration Network, 2012, p. 61):

… the presence of international students is not an important subject of public debate in Spanish society, although there is a notably positive opinion regarding the mobility of EU students, driven by the Erasmus programme.

Consequently, the strategies and policies for attracting third-country international students are barely visible in the public agenda, albeit constituting a central topic within the university sphere.

Although it is primarily, a medium to low skills economy, Spain has been successfully advancing its position in scientific research through larger R&D investments, including targeting fields such as biotechnology. However, there are widespread structural problems, according to a report prepared to assess the country’s strengths and weaknesses (Heijs, 2011, pp. 15-16):

Although Spain was one of the leading countries in relation to the growth of the gross expenditures in public R&D (EC, 2011a) the long term impact of these growing financial efforts will be almost zero if they are not accompanied by measures that ensure structural changes and modernisation of the public research system (Heijs, 2010). The lack of meritocracy and excellence; the inefficient use of resources, the lack of critical mass and the fragmentation of its public research system (in public research organisations and especially in universities); the small number of academic spin-offs of technology based firms and the mismatch between academic research and commercial or societal needs has a negative effect on the usefulness of the research results and the quality of the generated human capital. These problems make technology and knowledge circulation more difficult and impede multiplier effects for the Spanish innovation system as a whole.

In other words, Spain presents an interesting example of an economy trying to improve its position in knowledge-based economic activities. However, this occurs with little supporting structures to guide aspects such as human capital development, which are shaped by both education policies and skilled migration. Spain’s skilled migration policies currently and in the near future will likely be mostly linked to the initiatives of the EU, particularly the Blue Card and Researchers’ Directive, and these could give Spain a slight boost in attracting foreign talent. However, Spain has been among the slowest countries in the EU in implementing either of these visa changes, as it is not in line with political priorities.

Switzerland

Switzerland has a relatively unique position in Europe, and one that poses several challenges in terms of understanding its immigration situation. First of all, it is not part of the EU, yet agreed
to participate in free mobility agreements with the EU. EU citizens have been able to work in Switzerland and vice versa since July 2004\textsuperscript{22}, with the exception of individuals from the new member states in Central and Eastern Europe. Second, Switzerland has an image of being international and one of the highest rates of international skilled migrants (see Table 8) and students in Europe, and at the same time, has long been associated with having a highly protectionist approach to its labor market. How has this contradiction come about?

Switzerland adopts a labor-demand perspective to immigration. In the past decades, there have been major revisions to Swiss immigration policy (Becker, Liebig, & Sousa-Poza, 2008), to change from a policy geared around seasonal workers to more skills-based admissions since the early 1990s. There is also a priority on first filling positions with nationals or other EU citizens. Therefore, the majority of labor migrants to Switzerland come from countries within the EU, with the highest numbers coming from Germany, as it both borders Switzerland and German is one of the national languages. However, free mobility for EU citizens has not been fully embraced, and additional constraints were put in place in 2012 especially for mobility from the new EU member states in Central and Eastern Europe, with a quota of approximately 2,000 permits set for citizens from Estonia, Latvia, Lithuania, Poland, Slovakia, Slovenia, the Czech Republic and Hungary\textsuperscript{23}. This shows that the Swiss exercise their own judgment in terms of when to apply free mobility for EU citizens, as the restrictions came after the date that the EU required open access for these citizens in EU territory.

Although Switzerland has long had one of the highest percentages of international students in the world, particularly in graduate programs where nearly 50% are foreigners, it only recently allowed these graduates to look for a job in Switzerland after graduation. In 2011, foreign graduates from outside the EU were allowed six months to find a job\textsuperscript{24} that “involves an activity of particular scientific or economic importance.”\textsuperscript{25} Graduates before this time were required to leave Switzerland after their studies.

Taken together, the examples from these five countries, a small subset of countries within Europe, shows a reluctant acceptance of skilled migration. Migration, as a whole, is often politicized and met with resistance or is not seen as necessary. There is a move to framing labor market needs into a context of global competitiveness, but the global ‘competition’ is not yet truly global in that there are restrictions both on countries of origin of those immigrating and variations in programmes and accepted occupations for skilled migration across countries.

\textsuperscript{22} http://www.migrationpolicy.org/article/switzerland-faces-common-european-challenges, Accessed 4 March 2015
\textsuperscript{23} http://www.dw.de/swiss-limit-eastern-central-european-immigration/a-15902745, Accessed 4 March 2015
\textsuperscript{24} http://www.swissinfo.ch/eng/swiss_news/Foreign_graduates_allowed_to_job_hunt.html?cid=9073812
\textsuperscript{25} http://www.bfm.admin.ch/content/bfm/en/home/themen/arbeit/nicht-eu_efta-angehoerige/hochschulabgaenger.html, Accessed 4 March 2015
POLICIES FOR INCREASING HUMAN CAPITAL IN THE KNOWLEDGE ECONOMY IN THE EUROPEAN UNION

As discussed in the last chapter, it is important to note that immigration policy is just one type of policy that can support having the workforce needed for innovation and the knowledge economy. It has been further argued that immigration policy often is not the most important factor. For instance, Peri (2007) states that the prestige of various universities has helped draw in ‘talent’ to the US, not the country’s immigration policies. Ackers (2008, p. 413) argues that in EU policy, mobility is often over-emphasized as a “proxy for internationalization, excellence and competitiveness.” In other words, mobility is used as a metric, particularly within universities, and those with more international students and scholars are often considered to be more successful and competitive, but this overlooks some of the dynamics and policies that promote or hinder mobility.

Pontikakis, Fernández-Zubieta, Henriques, Moguérou & Pietrogiacomo (2009) took a different approach and reviewed human resource policies for research, quantifying the forms of policies used in the 27 countries of the EU (Figure 7). They utilized data from two public databases, one that assess the European Research Area, ERAWATCH, and the other contains policies for innovation, the TRENDCHART. This research is interesting to mention as it focused on the goal of support for human resources, and their analysis looks at policy domains other than immigration. Their study included “policies employing a diverse range of policy instruments, ranging from direct funding for employment, training or mobility, to awareness raising measures and the establishment of new organisations with a specific mission related to human resources” (p. 10). The majority of the initiatives fell under the category of research and innovation policy (56% of nationally focused initiatives and 70% of the internationally focused, followed by education policy (23% of nationally focused and 12% of the internationally focused initiatives).

They found that internationally focused initiatives had increased across Europe dramatically since the 1990s, and most the majority of international policies targeted incoming researchers and a smaller amount targeted PhD students. Policies for other categories of attracting other knowledge workers, such as R&D staff or human resources for science and technology, were not found on the national level. These authors also found a distinction between the types of policies undertaken by countries that have a large percentage of researchers in their working population, versus those that are seen as having medium and weak capacities. Those with low or medium numbers of researchers were more likely to build awareness through offering prizes and competitions. Furthermore, these activities were more likely to be handled by the central government. In contrast, the countries that have the most researchers also were more likely to have created sub-branches or regions to handle the innovation activities (p. 17). These authors also reported that most of the policies in the EU did not have a thematic focus (75%) and among the target themes identified, biotechnology had the highest number of initiatives, but this was only at 3% (followed by 1.9% each for nanosciences and nanotechnology and social sciences and humanities) (p. 13).
The OECD’s (2008, p. 3) publication, *The Global Competition for Talent: Mobility of the Highly Skilled*, looks at the “dimensions of HRST (human resources for science and technology) mobility, particularly of scientists, engineers and researchers, and the range of policies available to manage and shape this mobility, by drawing together analysis on international mobility, knowledge transfer and innovation, and related government policy.” Their analysis also points to a continued lack of attention to the aspect nationally, stating that “…analysis of questionnaire responses suggests that national policies generally target the same population and that there is little specialization according to national scientific and technological interests” (p. 138).

In combination, the findings discussed above are interesting for several reasons. On one hand, they indicate the growing number of human resource designated policies for the knowledge economy since the mid-1990s. This is evidence that although immigration has long been considered an issue of national sovereignty, the common policies put into place by the EU and in line with the goals of the Lisbon Agenda are now having an overarching effect on mobility of scientists in Europe. There is a striking similarity in approaches in much of Europe is due to the common framework set up by both free mobility in the EU and the Researchers Directive particularly, which has allowed easier flows of researchers regardless of their nationality. There were a relatively low number of initiatives related to the internationalization of researchers before the ERA had begun. On the other hand, as both the research of Pontikakis et al. (2009) and the OECD (2008) show, only a small number of policy types have been utilized to date in Europe, with the focus generally on the type of work, for instance researcher, rather than in building certain economically viable sectors. This shows that there is still a large potential for policies related to the workforce to diverge in the future across various countries, as policies for
promoting human capital in knowledge-based sectors are further developed by various countries or regions within these countries.

CONCLUSION

Although globalization includes some forms of economic integration, it does not change the role of national governments in meeting the needs and demands of their citizens. Terminology like the ‘global competition for talent’ seems to suggest an unequivocal acceptance of skilled migration as an economic necessity in the globalizing world, immigration remains one of the most hotly debated topic across countries and also in contexts of both economic boom and bust, with concerns about the impact of immigrants on job displacement, depression of wages and welfare burdens. Countries in Europe often have a more inward (protect local labor markets), rather than outward (recruit the best internationally) orientation. Although immigration still largely remains an issue considered to be central to national sovereignty, the EU is increasing its role in setting and harmonizing immigration policies across its member states. Among the countries of the EU, these tensions are magnified on another level as well as there are tensions between furthering European integration and protecting national ways of life and welfare. These tensions have been used to argue against the potential longevity of the EU and present a challenge for European integration and harmonized standards.

Policies implemented by the EU are also gradually leading to a more common framework for both labor mobility and skilled migration across European countries. In Europe, a distinction is made between mobility of individuals from within the EU and ‘migration’ from those outside. However, despite the common market of the EU hinging on ‘free mobility’ not only in issues of trade or capital but also in terms of labor, the majority of the ‘older’ member states initially set restrictions on their labor markets for individuals from the new Central and Eastern European countries. Only Sweden, Ireland and the UK opened their labor markets, showing the strong resistance to labor mobility in the EU and a general attitude of not ‘attracting’ but of ‘preventing’ increased labor mobility. Nonetheless, these changes may indicate a move from the previous restrictive regimes to a new openness, as restrictions on the movement of EU nationals were to be fully lifted by 2011. Furthermore, initiatives such as the Researchers’ Directive or the harmonization of educational systems through the Bologna Process set precedents and created new frameworks for increasing mobility in Europe, although most have fallen outside of the realm of immigration policy per se and are seen instead as part of supporting the knowledge economy.

The EU has passed a Directive to further enable skilled migration through the Blue Card; however this Directive has changed forms and is now a ‘watered down’ version due to concerns of various member states which want greater control nationally or a more restrictive policy than what the EU initially recommended. The Blue Card will likely have a further effect on the convergence in policy approaches taken in the EU, but it is too soon to judge the extent to which it will be utilized, in comparison to other nationally based skilled migration programs. However, as was seen for the Researchers Directive, in countries where no skilled migration program existed before, the Blue Card will be especially influential in allowing for new skilled migration
inflows. At the same time, decreasing quotas for the highly skilled in the UK, may lead some to decide on a different destination either within or outside of the EU. Therefore, skilled mobility patterns in Europe in the near future may differ substantially from what has been seen up until now.

On the national level, there is often either a lack of attention to skilled migration or some resistance when new programs are in place. Germany and the UK were among the first countries to adopt a specific policy for skilled migration in Europe, but both have since either scaled back or stopped the original programs, in part due to public outcry. At the same time, other countries, such as the Netherlands, are starting to put new skilled migration policies in place. In Europe the new policies have mostly been demand-driven, often requiring an employment contract and a minimum salary, or for one to work in job that is currently on a labor shortages list. Switzerland has had high numbers of foreigners, but at the same time expresses its resistance to increasing immigration.

Policies to target to attract the scientific and technological workforce have been found to be similar across European countries and do not utilize the full range of policy possibilities available, such as by using thematically targeted initiatives to build particular research areas or sectors. The majority of initiatives are based on building the skills of nationals, although internationally focused initiatives have been increasing, particularly since the mid-2000s, in conjunction with the formation of the ERA.

In summary, while the ‘competition for talent’ has gained attention, national policy responses have been fragmented and often clearly resistant to implementing more migration programs or supporting labor mobility. At the same time, there are social barriers nationally, including public attitudes at times characterized by resistance to immigration due to both assumptions about immigrants straining national resources and competing with natives for jobs, as well as due to resistance towards cultural differences and societal change. European countries also grapple with various issues related to population change, both decline in numbers of working age populations as well as accommodation of different cultural groups, including those from intra-European mobility. The tensions between national interests and regional and international economic integration not only pose questions of selectivity, priorities, and mechanisms among states for migration (including skilled migration), but also partially frame the attitudes towards openness to foreigners in general, including those from other EU countries, and hence influence the migrant’s individual experience and the opportunities afforded to people from other countries and backgrounds. The implications of these mixed reviews likely have a multitude of effects on both the country’s ability to attract migrants, in general, where programmes are in place, to the individual’s ability to secure a job pursuant to their qualifications when moving to another country. The first part is crucial when looking at the ‘failure’ of some high-skilled migration programmes to attract the people expected. The second may be helpful in analyzing processes of ‘deskilling’ of foreign populations present, whereby individuals tend to work in jobs well below their qualifications, an issue also pertinent to early post-accession mobility patterns of individuals from CEE who work in Western European countries.