Chapter 7

BRAIN DRAIN IN HIGHER EDUCATION IN EUROPE: CURRENT TRENDS AND FUTURE PERSPECTIVES

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ABSTRACT

Since the early 1990s, certain European Union (EU) initiatives such as the Erasmus programme provided the opportunity to a great number of academics, researchers and students to move for a relatively short period of time to other EU member states in order to enhance their skills and improve their career potential (a phenomenon known as '*brain circulation*'). The popularity of particular member states such as Italy, Spain, Germany and the United Kingdoom has gradually created an influx of highly skilled staff especially from the less developed EU member states, from Southern Europe and the former Eastern European

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countries. The proposed changes in the EU Higher Education and Research frameworks during the 1990s and the 2000s encupsulated in the Bologna and Lisbon initiatives respectively, have had controversial results. In addition, the internationalisation and to a great extent the (competitive) commercialisation of Higher Education (HE) has left many EU member states behind since they failed to reform their national HE systems. A masive exodus of academics and researchers was observed from 2008 until 2017, mainly from the countries that suffered more the consequeses of the economic crisis (Ireland, Portugal, Spain, Italy, Greece and Cyprus). The destination (host) countries included primarily locations within the EU, with the most popular being the the UK and Germany. The mass emigration of academic staff within and outside the EU ('*brain drain*') is causing loss of highly skilled human capital with catastrophic consequenses for the sending (home) countries. On the other hand, host member states utilise to the maximum the capabilities of the EU academics and researchers ('*brain gain*') in order to achieve competitive advantage in the so called 'knowledge economy'.

Keywords: Europe, higher education, brain drain, brain gain, brain circulation, academic mobility

7.1. INTRODUCTION

The aftershock of the economic crisis in the late 2000s and the dramatic changes in Higher Education (HE) in Europe in terms of governance, quality monitoring and mobility are setting the scene for the current and future developments in this vital sector within and outside the European Union (EU). The six country case studies presented in the previous chapters, demonstrated clearly the steady growing mobility trend for academics and researchers; the receiving (host) countries are representing the most advanced nations in terms of living and working conditions, career prospects, remuneration and social security provisions. The latter set of countries have been acting as talent magnets for the past three decades, ripping the benefits from the concentration of highly skilled human capital. The HE sector in paricular countries like the United Kingdoom is a good example of the brain drain-brain gain relationship emerged withing the EU. This chapter explores the causes of the academic

mobility, the effects of the HE internationalisation in EU, and the equilibrium between the brain drain and brain gain in HE, and among the EU member states. Besides, it takes up the instance of BREXIT as signal of changes to come in brain-circulation, and discusses some of the unanticipates outcomes that the brain drain phenomenon may be causing in countries most affected by it. All these direct attention to the need to rethink the multifarious aspects of this problem situation, and the need for concerted action to counter it at the European and local levels alike.

7.2. ACADEMIC MOBILITY AND BRAIN DRAIN IN EUROPE

Brain drain in academia is not a new phenomenon. Highly-educated professionals and scientists have been travelling the world seeking better work conditions and new opportunities for centuries now. Scholars' and academics' mobility existed in Ancient Greece, in the Arab scientific community of the 8th century, the European medieval university system, under European colonialism, and in the 19th and 20th centuries when migration flows where shaped by national interests (Kim, 2009; Taylor et al., 2008). In the second half of the 20th century, some of the most prominent scientists and scholars in history have chosen to leave their home country and explore their talents in more developed countries, providing them with the financial and technological means they needed to reach their full intellectual capacities. Some notable examples include Albert Einstein and Nikola Tesla, who left Europe and moved to the Unites States, Sigmund Freud, who emigrated from Austria and settled permanently in England.

Today, a high degree of mobility continues to characterise the academic and research community. Bauder (2015) suggests that the mobility of academics and scientists tends to be self-organized, stemming by the need for prestige and credibility. On his part Mahroum views academic mobility as "a process of networking and extending of one's social space, in other words it is stimulated by a desire for professional socialization" (2000:26). From a labour market perspective, these distinct

practices of mobility confirm that the academic labour market constitutes a distinct field, in which rules of mobility exist that do not apply in other professions (Bauder, 2006). Despite the distinctiveness of the academic mobility practices, it is argued that the academic labour market is highly variable and intersects with factors, such as job opportunities, mobility programs, and earnings potential, as well as family and personal considerations, producing diverse mobility patterns (Thorn and Holm-Nielsen, 2008). Bauder (2015), identifies three key factors that determine the nature of academic mobility, namely duration, carrier stage and gender. Firstly, there are strong indications that mobility among the academic and research community is highly variable in terms of duration. Scheibelhofer (2006) identified three different categories of academic labour mobility: permanent settlement abroad, short-term stays with return to the home country, and transnationally-oriented migration. A good example of permanent (or semi-permanent) settlement is the case of US universities and research centres that for long have benefitted from the influx of highly qualified academic staff from literally any corner of the planet. It was estimated that 73% of foreign doctoral graduates were still in the USA one year after graduation; and 60% remained in the USA after 10 years (Finn, 2010). On the other hand, the temporary nature of academic labour mobility is reflected in the example of foreign academics and researchers that stay in Germany: it is estimated that approximately 50% of them stay for only three months or less; among postdoctoral researchers 55% stay one year or less (DAAD, 2010). In addition, Diehl and Dixon (2005) found that German scientists are also highly internationally mobile, although only but a few decide to stay permanently abroad. Temporary academic mobility is encouraged in countries such as the USA, Canada and Australia, through the availability of sabbaticals and staff exchange programmes (Jöns, 2009). Finally, the transnationally-oriented migration appears to attract a certain profile of academics, with multiple institutional affiliations at different locations, top-level academic administrative positions in the governance of globally-oriented universities, or supervisory responsibilities in international research projects (Kim, 2008).

The second factor affecting academic mobility patterns is the employment circumstances and career stage of the individual (Hoffman, 2007). As expected, younger and more recent graduates tend to be more internationally mobile than their senior colleagues (Auriol, 2010). In addition, international mobility is particularly attractive for postdoctoral studies, due to the strong competition for a limited pool of jobs and the need to increase one's 'market' value (Guth and Gill, 2008). Thus, among a sample of researchers in ten European countries, 20% of doctoral students received their previous degree in a different country; this percentage increases to 40 for post-docs (Barjak and Robinson, 2008). On the other hand it is observed that when academics are more established in later career stages, mobility tends to decline. A number of studies support this claim: Todisco et al. (2003) found that in Italy, foreign researchers in their forties are less mobile than those in their thirties; according to Nerdrum and Sarpebakken (2006) foreign researchers in Norway are on average 41.1 years old, compared to their Norwegian counterparts who average 44.5 years; in the UK, 63% of foreign academic staff was under the age of 40, compared to 33.3% of UK staff (Universities UK, 2007: 9).

The third factor shaping academic labour mobility according to Bauder (2015) is gender; he argues that female academics are less internationally mobile than their male colleagues. In the USA for example, 64.4% of foreign scholars are men and only 35.6% women (Institute of International Education, 2010). In Australia, 37% of male but only 22% of female academic staff are international (Welch, 1997: 329-330). In Italy, female foreign researchers tend to stay for shorter periods than men (Todisco et al., 2003). Walker (2005) argues that mobile female academics are often disadvantaged in dual career families. In Norway for example Nerdrum and Sarpebakken (2006) found that almost one-third of foreign female researchers followed their spouse or someone they are emotionally attached to. Based on the above Bauder (2015) argues that there are gender-specific mobility constraints in higher education contexts that in turn cause an under-representation of female academics and researchers moving abroad.

To these, a fourth factor that influences academics' decision to move across countries may be added. Namely, the levels of extrinsic rewards that academic migrants may collect, coupled with knowledge of salary and benefit differentials across countries. In fact, such differentials may be quite huge when southern and east European counties are compared with their west and northern European counterparts. Thus, as the European University Institute's (EUI) Academic Careers Observatory study shows the adjusted weighted average total yearly salary for researchers was in 2006 as high as € 62.406 in Austria, € 60.727 in Ireland, € 59.103 in the Netherlands, € 58.462 in Belgium, € 56.132 in Germany, € 56.053 in Sweden, € 56.048 in the United Kingdom, € 50.879 in France, and € 44.635 in Finland. Another group of countries offered middling-size researchers' salaries, namely € 36.201 in Italy, € 34.908 in Spain; € 29.001 in Portugal, € 28.078 in Malta, € 27.756 in Slovenia, € 25.685 in Greece, and € 19.620 in the Czech Republic. At the low end there was a third group of countries offering salaries of € 16.671 in Croatia, € 15.812 in Hungary; € 13.851 in Lithuania, € 11.659 in Poland; € 10.488 in Latvia; € 9.178 in Slovakia; € 6.286 in Romania, to a very low € 3.556 in Bulgaria (EUI, 2015). The difference between the highest and lowest ends across European Union member states salaries was as much as 18 times over!

A more limited set of available information for 2008/09 academic year indicates that differences in salaries remain most significant in the academic sector across Europe. Indeed, the average monthly gross salary for academic teachers calculated in terms of purchasing power parity in US dollars was $ 6,955 in Italy, $ 5,943 in the UK, $ 5,313 in the Netherlands, $5,141 in Germany, $3,484 in France, $2,495 in the Czech Republic, and $1,785 in Latvia (Altbach, Reisberg, and Pacheco, 2012: 12). Clearly, remuneration levels across counties also interact with the other factors, as those mentioned above, to determine the nature of academic mobility. The overall patterning is for academics to move from a less well paid country to a better paid one.

Mobility as an academic practice suggests that academics and researchers should ideally circulate continuously, and thus favour a short-term and transnationally-oriented mobility over permanent settlement in a

new country. However, transnational and/or short-term mobility is not always easy to maintain. It may require a transient lifestyle, and come at a cost to the academic in personal and professional terms (Scheibelhofer, 2006). Moreover, it is argued that mobility hinders the danger of 'brain waste'. Brain waste, is used to describe the loss of investment (in education and training) and the waste of individual skills and talent when host countries cannot offer jobs compatible with their people's qualifications acquired in tertiary and further education. Brain waste also characterises the de-skilling process faced by many migrants in host countries, where circumstances (i.e., non-recognition of qualifications) lead people to take jobs that do not match their qualifications (overqualified). While this is more frequent during the initial migration stage when migrants are adapting to the new sociocultural and work context, in some cases this situation becomes permanent. Such a situation is faced for example, by many highly qualified Poles residing in the United Kingdom (Schellinger, 2015). Migration literature suggests that overall migration devalues labour, allocates it to the lower labour market segments, and contributes to the flexibilisation and neoliberalisation of labour markets (Sassen, 2000). Bauder (2015) suggests that academic migration may contradict this conventional narrative. For example, internationally mobile academics are more likely to be employed full-time in most national systems of higher education (Welch, 1997: 330), and foreign-born female academics are more engaged in prestigious research activities and less in teaching and administration than their native-born colleagues (Mamiseishvili, 2010).

Based on the discussion so far it can be suggested that academia possesses its own structures and practices of mobility. In addition, the following section demonstrates that within the EU a strong academic mobility infrastructure exists and it is supported by supra-national agencies and by governments. The view however of academia as a separate field in terms of highly qualified staff mobility, does not imply the existence of a universal academic mobility model. As it was already discussed, the complexity of academic mobility involves permanent, short-term and transnational migration, in various career stages and gender roles, and disciplinary and geographical contingencies (Bauder, 2015).

7.3. THE INTERNATIONALISATION OF EUROPEAN HIGHER EDUCATION

In 1999 the Ministers of Education from 28 EU member states, signed a declaration that initiated the so called Bologna Process. The aim of this process was to to ensure comparability in HE standards, quality assurance and qualifications. The Bologna initiative, initially focused on enhancing mobility within the EU, has prompted a worldwide re-tooling of educational systems to ease international mobility and enhance competition for the lucrative international student market (Cemmell and Bekhradnia, 2008). On the other hand, another EU joined agreement known as the '*Lisbon Agenda*' aimed to make Europe '*the most dynamic and competitive knowledge-based economy in the world*' by significantly increasing investment in Research and Development (R&D) to 3 per cent of GDP and by doubling the number of PhD students (European Commission, 2010: 2); it has been followed by Europe 2020 research program (i.e., the 7th Framework Program), which focuses on '*smart, sustainable and inclusive growth*' (Hazelkorn, 2015). National governments and supranational institutions are stimulating academic mobility in an effort to capitalize on the knowledge consolidation which this mobility promises. The European Research Area exemplifies recent political efforts to stimulate international academic mobility. With a budget of €3.1 billion the Erasmus mobility program provided grants to 1.6 million students to study and train abroad and to 300,000 academic and administrative staff to teach and learn new practices abroad. Overall, by the end of the academic year 2013-14, the Erasmus programme had supported 3.3 million Erasmus students and 470,000 staff since its launch 27 years ago (European Commission, 2015). On the other hand, the Marie Skłodowska-Curie actions (MSCA) is the main EU programme for doctoral training, financing 25,000 PhD students with a budget of €6.16 billion in the period to 2020 (https://ec.europa.eu/research/mariecurieactions/about_en). Other mobility initiatives include the European Network of Mobility Centres, which provides mobility support for foreign researchers and assistance in visa matters,

taxation, housing, childcare, language acquisition and settlement assistance; and EURAXESS, a one-stop shop for mobile researchers (Barjak and Robinson, 2008; European Commission, 2010; Morano-Foadi, 2005). Despite the undeniable success of the above described academic mobility initiatives, there are strong indications that after almost two decades of planning and implementation, the harmonisation in European HE (including Research and Development) seems to suffer from a clear vision, lack of determination and unwillingness on behalf certain member states to perform the necessary reforms.

A major obstacle to academic mobility is the national character of institutional contexts and academic practice. Jarausch (2005:32) argues that academic "career paths remain firmly locked into distinctive national hierarchies" in Europe. As an example here Morano-Foadi (2005: 149-150) refers to the southern European academic systems as "feudal-like" hierarchies in which being abroad and absent from a research group can be detrimental to a career. In a similar manner, academic career patterns are very system-particular in French universities, which discourages mobility because institutionalised cultural capital from abroad is not always recognised (Kim, 2008). Even in the UK that possess one of the most successful HE systems globally, mobility is not recognised as part of the Research Excellence Framework, which supposedly 'measures' academic excellence (Bauder, 2015).

To demonstrate the inability of certain HE systems to embrace internationalisation and the rapid changes in the European and global environment, the following examples from Italy and Greece are pertinent. Thus, the reforms of the Italian universities implemented since the late 1990s were characterised by two unique features that were to condition their outcome. On the one hand, a favourable policy window made it possible to reform the university curricula, following the Bologna Declaration, of which Italy had been one of the promoters. On the other hand, the implementation of that reform suffered significant shortcomings and raised the perception of ineffectiveness and inefficiency (Torrisi, 2014). Consequently, governments started to include a number of restrictions on the universities' autonomy, and to establish standards which

the universities were called upon to conform to, while reintroducing a logic of centralised bureaucratic control (Capano et al., 2016). As a direct consequence, the majority of the Italian universities contributed towards creating mistrust in the academic world, which as critically discussed by Torrisi and Monteleone in Chapter 3, has led to a mass exodus of Italian academics, researchers and students.

The Greek example depicts a similar, nevertheless more severe case. Since the early 1980s the two main political parties in power (the conservative 'New Democracy' and the left socialist 'PASOK') have been reluctant to implement any substantial changes to the HE system; the main reason for that was the fear of the reaction of the different stakeholders involved resulting in a high political cost and eventually losing the elections (Giousmpasoglou et al., 2016). From 1981 until 2011 there were several attempts to reform the Greek HE without much success. On the top of that there are several examples of Ministers of Education in Greece, who found themselves out of office as a result of waves of protest and reactions following an effort to reform parts of the system. Reforms in HE were also unsuccessful due to the fact that they were introduced by an opponent political party (Nakos & Hajidimitriou, 2009). Overall, it can be argued that the Greek political system as a whole, and particularly the aforementioned at the time two major political parties, has shown political opportunism, which has significantly delayed not only the reforms in HE but also the proper application of existing legislation (Tsiligiris, 2012). Based on the above, it can be argued that public sector protectionism is responsible for the poor image of the Greek universities in global rankings (The Times HE, 2017). The highly centralised structure of the Greek HE has left the country unable to evolve in response to the industry needs and technological evolution (OECD, 2011; International Committee, 2010). Put plainly Greek universities and technological education institutes (TEIs) for many decades were disconnected from the real market needs; they remain so to this date. As a result, those graduates who were not lucky enough to secure a place in the public sector would be employed in a field, most often than not, irrelevant to their studies (Henley, 2013). Greece has been investing money to train and develop a highly qualified workforce that it is

not able to motivate and retain. As a result, a good part of the young and talented workforce is migrating abroad, leaving the country with limited scientific potential, which in turn appears to affects the production structure and eventually deteriorates the quality of life for its citizens (Christopoulos et al., 2014).

When one considers the above two examples, it would be easy to blame certain national governments for inability or unwillingness to sucessfully implement the agreements regarding the recommended reforms, different for each case. It is argued that the various problems in the implementation of the policies and strategies in the European HE can be explained under the lens of the HE internationalisation. The issues of HE internationalisation had a breakthrough in the late 1990s (Hazelkorn, 2011). Student and academic staff mobility within the EU expanded substantially during that period through programmes such as Erasmus or Leonardo da Vinci. The free movement of people within the EU and a substantial number of EU-funded programmes encouraged students and academics alike to travel in more or less developed countries as part of their personal and professional development. Thus, mobility was not anymore seen as an exceptional option, but as a normal activity. The 'mainstreaming' of internationalisation in the European HE paved the way for the Bologna and Lisbon Processes with the prime argument that these initiatives would turn Europe to the 'most competitive economy' in the world. As a result, an increased attention was paid to global 'rankings' of 'world-class' universities; this was supported by the spreading belief that academic progress depended on successful world-wide competition of the most excellent universities (Teichler, 2015).

The notion of HE 'Excellence' required fundamental changes in terms of structure, staffing and governance in most European universities. Universities were now required to produce revenue alongside with knowledge and impactful research generously funded by the EU (Giousmpasoglou, 2016), in addition to that made available by the various national bodies. Yet, despite the international character of knowledge and knowledge dissemination, Universities are controlled or regulated by national governments. Given the diversity of the different national,

regional and local contexts in the EU, it is easily understood that the harmonisation of the European HE through the internationalisation of Universities, was not an easy task. The tension between national systems and the EU plans for a borderless university free from the public sector's protectionism and inefficiency became a key issue in HE and R&D policy discourse in Europe since the 1990s. The more 'internationalisation' became such a key issue, the more inflationary became the use of this or related terms. Various analyses have shown that 'international' and 'internationalisation' in higher education may comprise a broad range of issues. Teichler (2015: S8-S9) identifies five notable themes on the agenda of the European HE internationalisation, the following:

- Physical mobility, notably of students, but also of academic staff and occasionally administrative staff as well, is obviously the most visible international activity and it is in the forefront of programmes aiming to promote internationalisation. Thereby, a broad range of activities is made up by student mobility for a short period or a whole study programme as well as scholars' mobility for attending conferences, visiting research partners and longer stays in other countries for research purposes, and even migration and international professional mobility.
- Recognition of study achievements across borders is a second major theme which, naturally, is clearly linked to the first one: are the results of learning in one country accepted as equivalent to that expected to be learned in another country?
- Other modes of transfer of knowledge across borders have been less in the focus of recent public debates, but have altogether a stronger weight than physical mobility of students and scholars: e.g., international knowledge transfer through media (printed publications, patents, virtual communication for varied purposes, and 'trans-national education' as modes of transporting study programmes across borders).
- Internationality in the substance of higher education, paradoxically, is least often discussed, but possibly the most salient issue: for example foreign language learning, comparative

analysis, analysis of border-crossing phenomena (e.g., international law) and 'international education'.

- The international orientations and attitudes of the policy actors, students and academics are major issues: growing 'global understanding', more favourable views of the partner country, a growing empathy with other cultures, etc.

In addition, two other themes are often referred to, though they are only loosely related to 'internationalisation' are (Teichler, 2015: S9):

- *The similarity or heterogeneity of national systems of higher education* plays an ambivalent role in this respect. On the one hand, a variety of national higher education systems is considered beneficial, for example in order to provide mobile students with the opportunity to learn from contrasts and thus to develop a more reflective mind. On the other hand, for example, the Bologna Declaration called for a structural convergence of higher education systems in Europe notably as a means of facilitating intra-European student mobility.
- Finally, *internationalisation is underscored as an argument for almost any reform in higher education and science.* Improvement should be striven for in steering and management as well as in quality, relevance and efficiency in order not to fall behind in worldwide competition and to be successful according to 'international standards'. Top quality is called 'world class' and efforts for quality enhancement are viewed as part of 'global competition', although some experts claim that the divides between 'regional', 'national' and 'global' are vanishing.

The last point highlights the efforts of certain HE institutions within and outside the EU to attract talented staff; these institutions are building a global reputation and promoted as 'talent magnates' for 'elite' academics and researchers (Florida, 2005). These universities offer a variety of support services, such as counselling, legal and administrative assistance,

including help with visa applications and, in some cases, arrange housing and schoolaccess for children; overall they provide working conditions that permit combining work and career with family and children (Ackers, 2008; Föbker et al., 2010). It is not surpising therefore that countries with reputable universities and research centres such as the United Kingdom, Germany and France have been steadily attracting academics and researchers from all over Europe in the past three decades.

7.4. THE BRAIN DRAIN - BRAIN GAIN EQUILIBRIUM IN EUROPE

Nedeljkovic (2014) observes two distinct trends when it comes to migration of highly-skilled labour in the EU. First, there are the practitioners and academics that are European nationals who choose to migrate out of the EU causing a brain drain, and similarly the non-EU citizens moving to member states bringing a brain gain for the destination countries. On the other hand, a brain drain/gain phenomenon is also observed within the EU, with the currently extensive migration of highly-skilled workers from Eastern and Southern Europe to the Western and Northern European countries.

The study of the brain drain phenomenon and the movement of a highly qualified labour force within the EU, requires a consideration of the immigration duration: the concepts of brain drain and gain imply permanent or long-term immigration of highly qualified staff from economically less developed home countries to the most developed destination (host) countries. When the mobility of staff is characterised by fluidity which is translated to more frequent movements from one country to another (including the home country) then we can talk about 'brain circulation' (Schellinger, 2015). The current debate regarding this phenomenon is whether the intra-EU mobility of highly qualified staff contributes to the building of an integrated skilled labour force, or it leads to new forms of inequality between EU countries (Nedeljkovic, 2014). The

importance of the creation of a highly qualified workforce is directly linked to the concept of the 'knowledge society'. According to this theorem, in earlier times the wealth of nations depended to a much lesser degree than today on the innovative capacity of their workforces, and more on other factors (such as natural resources, for example). In order to outperform others today, however, it is more important to avail of human resources capable of cutting-edge developments in science and technology than to have large coalfields or fertile soil. Therefore, according to this concept, the economic future of Europe, as that of any other region or country in the world, will critically hinge on its ability to produce sufficient numbers of highly skilled people, but also to retain them, and to attract further ones from other countries (Kelo and Wächter, 2004). As a result a number of economically and technologically developed countries (i.e., U.S.A., U.K. and Germany) have focused on the attraction and utilisation of highly qualified immigrants (a phenomenon also known as 'brain gain'). In this situation host countries make use of immigrants' qualifications, skills, and education for whose acquisition they did not incur any costs, to offset labour shortages and boost their knowledge economy (Boeri et al., 2012).

When one investigates the perspective of the home countries, highly qualified staff mobility equals to brain drain: on one hand, they lose their investment in education and skills and, on the other hand, have to face a shortage of a qualified workforce. The actual cost of brain drain depends on the sectoral composition of highly qualified emigration, especially if the professions that are the most affected influence the production potential of others, such as medical doctors or engineers (Beine et al. 2008). Altbach (2013) also argues that, the losses for the home countries are huge, especially for the HE sector, in research and teaching talent, new and innovative ideas that might have been cultivated from overseas experience, practices in university management, and many others. Home countries might nevertheless benefit from highly qualified emigration through remittances, transnational networks or knowledge transfer (Gibson and McKenzie 2012). In addition, brain drain happens not only from developing to developed countries, but also between developed countries,

such as between EU countries (Galgóczi, Leschke and Watt 2009). Highly qualified immigration is indeed becoming an essential component of national technology and economic development policies in European and most other industrialised countries (Mahroum 2001). This is leading to competition between countries to attract talent (Boeri et al., 2012). The extent to which the current intra-EU mobility of highly qualified staff can be equated with intra-EU brain drain and brain gain, however, remains an open question that has to be assessed empirically (Nedeljkovic, 2014).

As it was already mentioned above, there is a visible trend in migration from Eastern and Southern Europe to the Western parts of the Union and particularly Germany. A paradox is nevertheless observed in Germany that also suffers from brain drain in certain specialisations such as medical doctors and researchers (see case study 1). Intra-EU emigration from regions most affected by the recent crisis, namely the Southern EU member states has risen significantly after 2009 (the following statistics refer to all specialisations - practitioners and academics). The German Federal Statistical Office reports that the inflow of Spanish migrants to Germany increased by 37.1% in 2012 compared to 2011; the respective rates for Portugal and Greece were 41.1% and 53.0%. Migration from the Eastern European region also increased: 16.4% more Bulgarians and 24.3% more Romanians moved to Germany in 2012 compared to 2011 (Düll 2013); the trend continued in 2013 as well. This phenomenon is also coupled with a decrease in migration towards Southern Europe. Migration to Spain decreased by 22% in 2012 compared to 2011 and the flow of EU nationals to Italy went down by 9% (OECD 2014b). In the period 2006-2010, the second largest group of migrants coming to Germany was managers and senior officials, inflows of educational and social care professionals, engineers and social scientists, artists and journalists have also increased (Nedeljkovic, 2014).

As regards mobility for studies, most of the European Erasmus students (53%) still go to one of the top 5 target countries, namely Spain, France, Germany, the UK and Italy. But the magnitude of mobility flows to the single countries has changed. Compared to 2011–2012, fewer students go to all top 5 host countries, with the exception of Germany that

shows an increase of 7.5% (EAIE, 2017). The number of young people coming from the EU who moved to Germany for their studies increased from 14,100 in 2007 to 16,837 in 2009 and to 21,324 in 2010. Moreover, in 2011, the third and fourth largest groups of students immigrating to Germany in order to study at universities were Bulgarian (7,500) and Polish students (7,500). Furthermore 4,500 Spanish, 4,300 Italian and about 3,100 Romanian students moved to Germany for their studies (Düll 2013). Among Eastern European Member States, Romania and Poland are the most affected by the brain drain (Ionescu, 2014). With youth unemployment reaching 50.70% in Greece in July 2014, 24.30% in Romania in June 2014 and 35.20% in Portugal, 53.70% in Spain and 22.50% in Bulgaria in September 2014, young scientists are not migrating anymore by choice, but out of necessity (Nedeljkovic, 2014).

Case Study 1: Brain gain and brain drain in Germany

Germany has newly acquired the status of the country that benefits the most from intra-EU immigration: intra-EU immigration flows to Germany doubled between 2007 and 2013. The main factors behind this intra-EU immigration growth are EU enlargement to the central and eastern European countries, together with the current economic crisis, which has hit southern EU countries particularly hard. According to the most recent statistics, among all EU immigrants to Germany in the past five years, the proportion of highly qualified workers has been as high as the proportion of highly qualified Germans among the domestic population. From 2003 to the end of 2013, Germany topped the list of countries whose professionals have sought to relocate and be accredited in other European countries, with 45,175 licensed professionals trying to establish themselves around Europe, mainly in Switzerland and Austria. Germans also enjoyed the one of the highest rates of recognition around Europe, with 89% of professionals like doctors, nurses, teachers and architects being accredited outside Germany. The highest rate was Sweden with 93%, but more than three-quarters of

the migration of licensed Swedish professionals was to Norway.

An analysis of one of the three highly skilled professions characterised by the most acute labour shortage in Europe – medical doctors – shows that the number of non-German EU doctors practicing in Germany has more than doubled since 2005, which points to an intra-EU brain gain for this profession. However, the brain gain status of Germany for this profession becomes more uncertain once German medical doctors leaving Germany are also taken into account: the number of non-German medical doctors registering with the German chamber of medical doctors has outperformed the number of German medical doctors leaving Germany only since 2011. German doctors' most popular host country is Switzerland (58%), arguably because of the shared language and the potential for higher salaries.

While Germany achieved to strike a balance in terms of doctors' and paramedical professions supply, the same cannot be argued for the Higher Education sector. Since the late 1990s, many qualified German researchers and doctoral graduates go abroad to work while few foreigners are interested in coming to teach and/or conduct research in German universities (OECD, 2009). In the early 2000s German education experts have called for more autonomy for German universities to improve competitiveness on an international level. As a response to the steadily growing academic brain drain phenomenon, the German government agreed on the so called "Excellence Initiative" in 2005. The initiative supported with extra grants nine German universities with approximately 40 graduate schools and 30 clusters of excellence; the overall aim was for the universities to develop and expand their international competitiveness in their areas of excellence. The "Excellence Initiative" has yielded moderate results, with German universities still struggling for talent retention and international recognition.

Overall it can be argued that with few exceptions, most key actors in German society support the increase in qualified immigration to Germany as a way of coping with the predicted demographic changes

and to ensure economic growth and prosperity in the long run. However, the largest trade union (DGB) is the only actor so far that has acknowledged the potential emerging economic imbalances for the sending (EU and non-EU) countries experiencing the brain drain of which Germany might become a major beneficiary.

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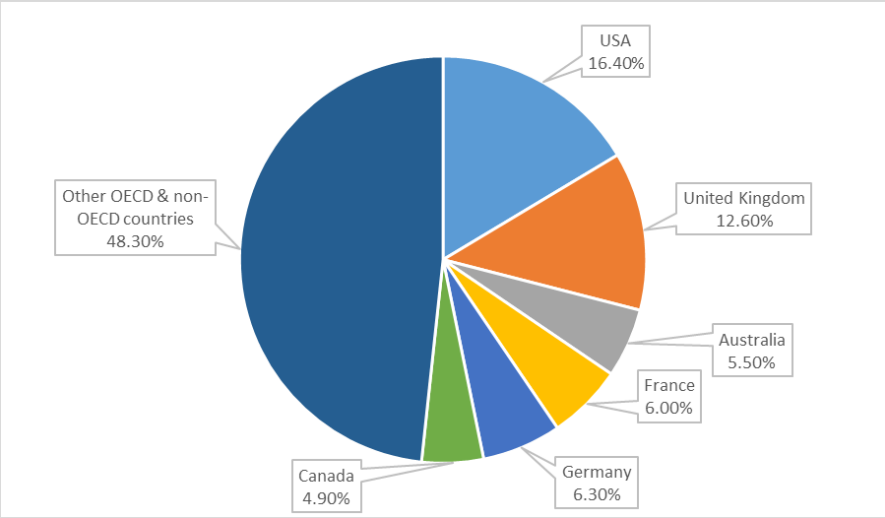
The Higher Education systems in developed western countries seems to be among the sectors that are most benefited from international students as well as academic staff and researchers' immigration. According to Altbach (2013), emerging and developing economies are contributing significantly to the academic systems of wealthier countries. OECD (2014) data show that international students contribute significantly to the economies of the United States, Australia and the United Kingdom (Figure 7.1); these popular destinations for HE studies, have a clearly formulated national strategy to increase income from overseas students. Data from 2016 indicate that international students studying in the United States contribute approximately US$33 billion to the American economy annually (NAFSA, 2017). Similar statistics show that Australia earns US$14 (AU$18.20) billion from international scholars (Department of Education & Training, 2016). The most interesting example is that of the United Kingdom: a report by the Department for Business, Innovation and Skills (BIS) estimated that the total value of UK education and training exports to the country's economy is approximately £14 (US$17.44) billion annually with a projection that this could rise as high as £26 billion by 2025 (Conlon, Litchfield and Sadlier, 2011). The United Kingdome is also

a popular destination for researchers and academics. A recent report by the Higher Education Funding Council for England (Figure 7.2) reveals that EU scholars accounted for 12,635 of 31,950 new academic posts created between 2004-05 and 2014-15 (39.5 per cent) (Havergal, 2016).



Source: OECD (2014a).

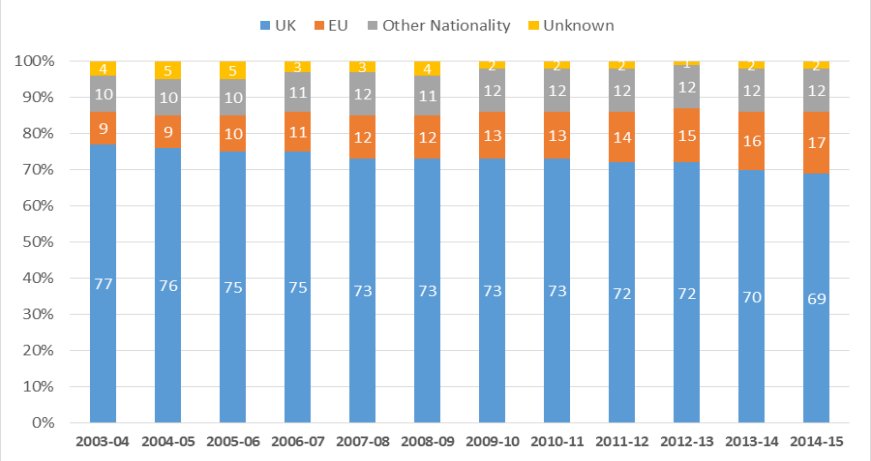
Figure 7.1. Shares of the international student market.

7.5. A Note on Brain Drain and Brexit

Indeed, BREXIT complicates the situation since the United Kingdom has been predominantly the prime destination for academics and researchers from mainly other EU member states. By the time this book was written, nobody could safely predict the future of the HE sector in the UK after BREXIT. However, arguably, the recent decision of the United Kingdom to leave the EU is expected to have controversial effects on the HE sector (see Case Study 2).

The worst case scenario is that the sector will shrink because of the potential drop of the EU student enrolment and the elimination of the EU

funds for research and mobility; a considerable amount of academics and researchers will be made redundant in a market that will no longer be able to generate jobs. In this scenario, the UK HE sector loses its competitive advantage and is no longer able to attract the brightest and most talented minds from the EU. There are also certain sociocultural impacts affecting the academics and researchers who have chosen the United Kingdom as their second country: the vast majority have settled with their families (or made a family after their arrival). Sooner or later they will be faced with the dilemma whether to stay and face an uncertain future or start searching for career opportunities elsewhere. According to a University and College Union (UCU) survey in the aftermath of BREXIT, over 1,000 lecturers and professors in UK higher education considered to leave Britain (Turner, 2017).



Source: Hefce analysis of Hesa staff records (cited in Havergal, 2016).

Figure 7.2. Changing proportions of nationalities among academic posts in England (2003-15).

Case Study 2

"EU referendum: Will there be a university brain drain if Britain leaves?"

Under EU legislation on free movement of citizens, those moving to another member state have the same access to education as nationals, meaning British school leavers can apply to universities in Copenhagen, Rome or Bucharest at no extra cost, should they so choose. This is helped by legislation that allows every eligible student in the EU to pay the same tuition fees and can apply for the same financial support as nationals of the hosting country. A healthy dose of EU funding and ease of mobility for workers helps researchers to collaborate with academic experts from across all EU member countries and produce research which is recognised globally for its outstanding quality.

So what could change?

Universities UK estimates that British institutions benefit from £1.2bn each year. This makes the UK one of the largest recipients of research funding in the EU. Its likely Britain would lose that funding if we choose to leave, which ultimately risks knocking the country's reputation as a global centre for research. Student mobility schemes such as the Erasmus Programme could be lost, and it could also mean academics struggle to cooperate on research projects – which are becoming increasingly international in their approach.

Which universities and courses are most at risk?

Bigger universities with larger research budgets depend on EU sources for a sizeable minority of their funds, but newer universities tend to rely more heavily on EU funded grants. Southampton Solent University, for example, receives more than 91 per cent of its competitive grant research income from the EU. Almost a quarter of the research funding from competitive grants to the University of Cambridge comes from the EU, while the proportion at the University

of Oxford is about a fifth. A Brexit brain drain wouldn't just mean fewer scientists pottering about in labs. The funding that universities receive can in turn transform local communities, creating jobs, better architecture and facilities that can be shared by the public as well as students.

Would EU students still be able to study in the UK?

Yes, but they would count as international students – meaning their fees would be much higher. While that might sound like a good thing for higher education funds, research suggests that the number of EU students applying to the UK would fall quite dramatically. Undergraduate tuition fees for non-EU students in 2014-15 were priced at £12,000 on average for classroom-based subjects, but many courses ask much higher prices – a degree in Medicine at the University of Cambridge costs almost four and half times more as an international student than a UK citizen. Countries such as Denmark, which offer courses at a snip of the price, are likely to increase in popularity over the UK. In the 2013-2014 academic year there were around 125,300 EU students at UK universities. They were awarded a total of £224m in student loans – 3.7 per cent of the total bill. To some, a Brexit looks attractive in this context. UKIP members have highlighted the difficulty of recouping loan payments from EU students after they return home. Others claim that lower salaries, particularly in Eastern Europe, will mean many graduates won't be in a position to repay their loans quickly – if at all. "I welcome students from other European countries coming to the UK," said MEP Jonathan Arnott, "but I don't welcome the notion that the UK taxpayer should be the one to subsidise that."

So, what do Brexiteers say?

The Leave campaign says universities would be no worse off financially because there is such high demand among UK students. Indeed, they say students would be more likely to secure places on their desired courses because there would be less competition from overseas students. Universities might also be able to avoid strict EU regulations

on clinical trials, which some argue has a damaging effect on research and innovation.

Source:

Adapted from Pells, Rachel. 2016. "EU referendum: Will there be a university brain drain if Britain leaves?" Available from: http://www.independent.co.uk/news/uk/politics/brexit-eu-referendum-will-there-be-a-brain-drain-europe-a7056776.html.

The potential weakening of the United Kingdom as a key player in the international student market, creates opportunities for the existing intra-EU competitors (Germany and France) and leaves room for new entrants (e.g., Ireland or the Netherlands). For instance, the remarkable recovery of the Irish economy (Zhang, 2016) in conjunction with the cultural and physical proximity with the United Kingdom make it a very attractive destination for researchers, academic staff and EU students. According to the HEA report (2016), international student recruitment in Ireland has become a vital source of income in addition to underpinning the internationalisation of educational programmes. In 2016 they were 15,600 full-time non-EU students in Ireland or 8.69% of the 179,354 total full time enrolments; on the other hand there were 2,880 full time EU students (excluding those from UK and Northern Ireland) or 1.60% of the total full time enrolments (HEA, 2016). In comparison, there were 2,280,830 enrolments in the UK higher education providers for the academic year 2015/16; 127,440 were EU nationals and 207,522 international (non-EU) students (HESA, 2017). As noted above, BREXIT provides a great opportunity for the Irish universities and higher education providers to increase the numbers of the EU students redirected from the UK (Table 7.1). Nevertheless, despite this unique occasion, it is argued that the Irish HE system has to go through a series of reforms (HEA, 2016) in order to be able to become a serious competitor in the international HE sector arena.

Table 7.1. UK-Ireland HE enrollment comparison (2015-16)

	United Kingdom	Ireland
Total Enrolments	**2,280,830**	**179,354**
EU students	127,440	2,880
EU students (%)	**5.58%**	**1.60%**
Non-EU students	207,522	15,600
Non-EU students (%)	**9.09%**	**8.69%**

Sources: HEA (2016) and HESA (2017).

CONCLUSION

The vision for a unified and homogeneous Higher Education system in Europe is under serious threat due to a variety of factors discussed previously in this chapter. Academic mobility has both positive and negative impact in the European HE sector (Figure 7.3). The beneficial for all parties (home and host countries) academic mobility and brain circulation has turned into a brain drain-brain gain relationship between the sending and receiving countries; in addition, there is always danger to waste talent in both home and host countries. Furthermore, the escalating efforts for the HE internationalisation in conjunction with the economic crisis and the geopolitical events within and outside the EU (i.e., the 2008 subprime crisis, the subsequent crises in several EU counties, the civil war in Syria, and BREXIT) have left winners and losers among the EU member states. Besides, one of the most significant impact of the current *status quo* goes beyond government policies and statistics; it is about the academics and researchers among other highly skilled professionals who left their families and friends in search of a better future.

The BREXIT watershed given the UK's central position in academic matters is highly likely to affect the brain drain − brain gain equation. Ireland's success in leaving the crisis behind her, and its own particular features seem to indicate that it has good prospects to become a major destination for the highly educated. This may also be the case with other western/northern countries, e.g., Germany or the Netherlands. However,

regarding the rest of the countries investigated in this book (Spain, Portugal, Italy and Greece) apart from Cyprus, there seems to be no easy recovery from the economic crisis. As the majority of the county case studies in this book have shown, the propensity of academics and researchers to return in their home countries in very low. In addition, brain drain doesn't seem to be easily intercepted and reversed to brain circulation. What is really interesting to see in the following years will be the impact of Brexit in Europe's HE sector. EU's leaders need a new vision for research and university education that goes beyond internationalisation. But a vision and a fresh start is not enough to provide comfort to the highly skilled workforce who emigrated by having no another viable option. Brain drain and brain waste is not an option for Europe, and this is now more than ever visible in Southern Europe and the former Eastern European countries. Nor is it possible to accept the localised misuse of European academic tradition for cleintelistic purposes under the pretext of arresting the brain drain.

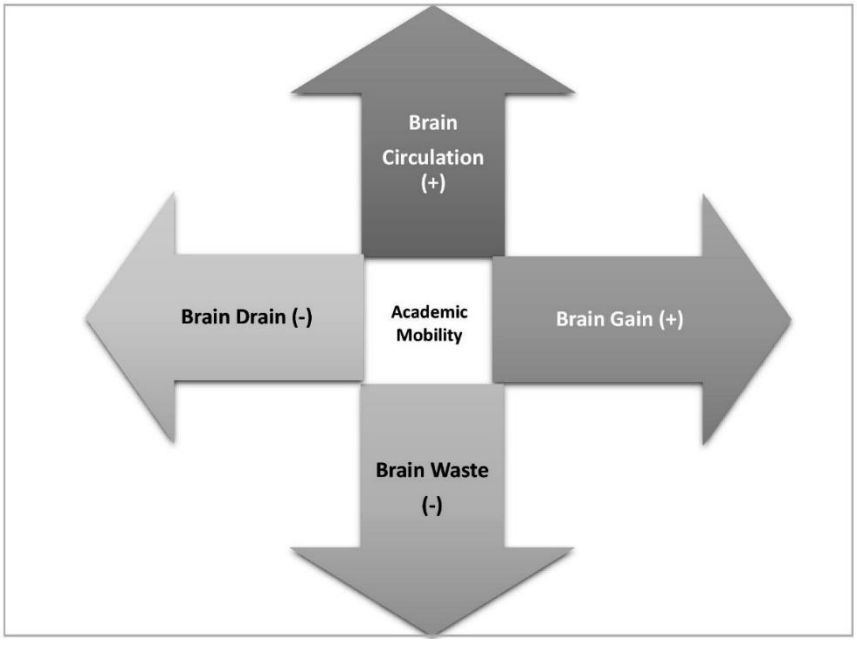


Figure 7.3. The academic mobility crossroads.

Thus, it has come into sight that the decision makers in Europe have to go back to the drawing board and work in order to restore the confidence and trust in HE professionals and to tackle with a fresh eye the brain drain issue in all its complexity. This is certainly no easy task as, among other problem areas, it might entail a rethinking of the delegation of authority to some national/local levels, and the invention of ways to organise the fruition of academic mobility as a win-win enterprise to all those implicated and affected. Nevertheless, it has emerged that it is high time for Europe to act in drafting a new course of action and putting it into effect too.

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