

The brain drain in Portugal: some explanatory reasons

BELMIRO CABRITO

Universidade de Lisboa.
b.cabrito@ie.ulisboa.pt

LUISA CERDEIRA

Universidade de Lisboa.
luisa.cerdeira@ie.ulisboa.pt

MARIA DE LOURDES MACHADO-TAYLOR

CIPES- Centro de Investigação de Políticas do Ensino Superior. lmachado@cipes.up.pt

TOMÁS PATROCÍNIO

Universidade de Lisboa .
patrocinio.tomas@gmail.com

RUI BRITES

Universidade de Lisboa.
rui.brites52@gmail.com

RUI GOMES

Universidade de Coimbra.
ramgomes@gmail.com

JOÃO TEIXEIRA LOPES

Universidade do Porto.
jmteixeiralopes@gmail.com

HENRIQUE VAZ

Universidade do Porto.
henrique@fpce.up.pt

PAULO PEIXOTO

Universidade de Coimbra.
pp@fe.uc.pt

DULCE MAGALHÃES

Universidade do Porto.
dulcegracamagalhaes@gmail.com

SILVIA MARTINS

Universidade de Coimbra.
silvia.m.martins.silva@gmail.com

ABSTRACT

In recent years youth unemployment has increased very quickly and intensely namely regarding the higher education qualified, in Portugal. This outward movement is so strong that it can be viewed as a true brain drain. This paper aims to quantify the variables under consideration – unemployment and emigration - in last decade and present some of the reasons for the skilled emigration in Portugal. These reasons come from the preliminary results of a research that the

authors are carrying out on the subject. The research is financed by FCT (Foundation for Science and Technology), the main official agency for funding research in the country.

Keywords: higher education; unemployment; brain drain

Acknowledgements: This research is financially supported by FEDER and the FCT (Fundação para a Ciência e a Tecnologia) and COMPETE (Programa Nacional Factores de Competitividade), PTDC/IVC-PEC/5040/2012.

INTRODUCTION

One of the problems that some countries face is certainly the emigration of individuals with high academic and professional qualifications. It is urgent to study and combat this situation when it occurs from less developed to more developed countries given that this fact leads less developed economies with a skill gap in research, production and public and private services countries. On the other hand, more developed countries will use this high qualified human capital on a free cost basis.

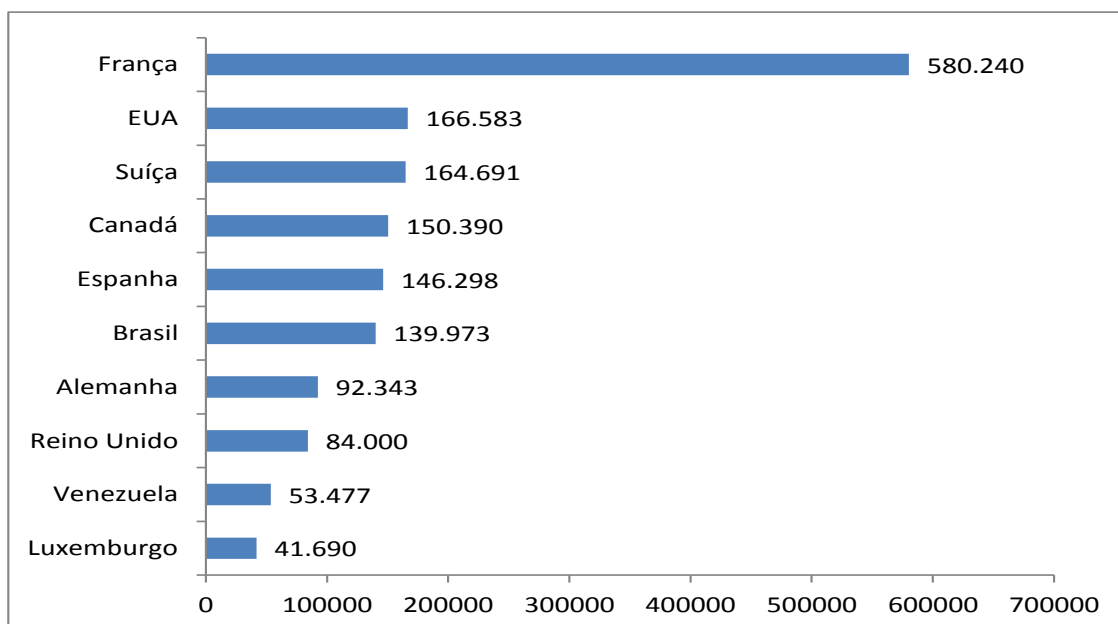
While existing statistics on this type of emigration are still quite weak in methodology and limited in scope, is recognized in international studies published in recent years that Portugal is one of the European countries where brain drain is more accentuated in the last decade.

Marfouk & Docquier (2007) have estimated at 19.5% the proportion of workers with higher education degree who emigrated in recent years and that Portugal would have lost one fifth of its workforce more skilled.

Portuguese high qualified emigration in the last decade

Figure 1 sets forth the total numbers of Portuguese emigration to the countries most chosen, revealing not only the role of Europe as a recipient of the emigration of the country but also the large number of emigrants.

Figure 1 – The 10 countries with more Portuguese emigrants, 2001-2011



Source: Observatório da Emigração; updated on: 24/01/2013

In addition to the high numbers that Portuguese emigration reached in the last decade, is of great importance to understand how it has behaved the skilled emigration, precisely the problems that may lead to the country and that helps to meet the country is, or not, to know a process of "brain drain".

The figures in table 1 are quite revealing of how it has grown to highly skilled emigration in Portugal, requiring a careful reflection on the subject. This growing trend of highly skilled emigration becomes even clearer in its contours when comparing the relative growth of the total emigration and highly skilled emigration over the period.

Table 1 – Evolution of emigrant population in Portugal, with more than 15 years, the OECD

Period	Emigrant Population			Emigration rate	
	Total (in thousands)	Highly skilled (in thousands)	Highly skilled (in %)	Total rate of emigration (in %)	Emigration rate of highly skilled population (in %)
2000	1260.8	81	6.4	12.8	8.0
2005-2006	1382.1	119	8.6	13.5	11.6
2010-2011	1492.0	147	9.9	14.2	12.9

Source: DIOC2000, DIOC 2005/06, Barro & Lee (2010); DIOC2010/11 <http://www.oecd.org/els/mig/dio.htm>

Note that in Table 2:

Table 2 – Percentage growth (total and highly skilled) emigrant population – period 2000-2011

Period	Total migrant population (in %)	Highly skilled emigrant population (in %)
2006-2011	8	24
2000-2011	18	82

Source: Authors' calculations from DIOC2000, DIOC 2005/06, Barro & Lee (2010); DIOC2010/11 <http://www.oecd.org/els/mig/dio.htm>

The analysis of the values in Table 2 clearly shows that Portuguese emigration grew between 2000 and 2011, more particularly the highly skilled population, showing a real process of brain drain from the country and follows, as a working hypothesis, the current existing working conditions the country particularly for highly skilled professionals.

In fact, higher education today does not mean warranty on the labor market as recorded years ago, as can be seen on official data of emigration. Firstly, Table 3 shows that in the note that one of the strongest relationships that is usual to record between qualifications and employment, is that the level of qualifications directly favors the inclusion of individuals in the labor market.

Table 3 – Unemployment rate for individuals under 40 years, according to educational attainment (%)

Year	With Higher Education degree	Without Higher Education degree	Total
2002	6,42	6,65	6,63
2003	7,70	8,47	8,36
2004	7,31	8,57	8,37
2005	8,74	9,77	9,61
2006	8,95	9,67	9,55
2007	10,59	10,12	10,20
2008	9,31	9,50	9,46
2009	8,21	12,65	11,77
2010	8,75	14,44	13,23

Source: INE, IE – National Institute of Statistics

In a first analysis of the data of Table 3, one notices that the unemployment of individuals under 40 years of age increased in the period under review. However, the unemployment rates for individuals under 40 years of age without higher education more than doubled (increased from 6.65% in 2002 to 14.44% in 2010) while the rate on individuals with higher education increased by "only" 36.3% in the period under review.

The above data show, therefore, a larger facility to stay in employment for individuals with higher qualifications. The market keeps the trend of the last century to reward higher education, a clear "obedience" to the assumptions of the theory of human capital (Schultz, 1961; Becker, 1964).

Table 4 – Unemployment rate according to educational attainment (%)

Year	With Higher Education degree	Without Higher Education degree (with High School)	Total
2007	7,50	8,20	8,00
2008	6,90	7,90	7,60
2009	6,40	9,60	9,50
2010	7,10	11,30	10,80
2011	9,20	13,30	12,70
2012	11,90	17,60	15,70

Source: INE, IE – National Institute of Statistics; Pordata

From data in Table 4, it can be observed that unemployment rate increased over the last years, both with and without Higher Education Degrees. But, the unemployment rate of individuals "With Higher Education Degree" is still the lowest.

In addition to these findings, and because higher education include various grade levels, Table 5 presents, the unemployment rates for individuals under 40 years per degree.

As it can be seen in Table 5, over the period, while the unemployment rate for individuals with bachelor degree and HE – 1st cycle increases, the corresponding rates for individuals with masters and doctorates declined. The market continues to value more the higher academic degrees, especially doctoral degree. The academic diploma still plays as credential to a more easy access the labor market (Spence, 1973).

Table 5 – Unemployment rate for individuals under 40 years, according to the degree (%)

Year	HE – Bachelor(*)	HE – 1st cycle	HE – 2nd cycle	PhD	Total
2002	5,50	6,70	6,80	1,26	6,42
2003	6,12	8,42	3,12	0,00	7,70
2004	6,23	7,64	6,57	0,00	7,31
2005	8,09	9,17	2,21	2,39	8,74
2006	8,36	9,19	8,12	0,00	8,95
2007	10,09	10,87	4,89	12,26	10,59
2008	6,86	9,56	11,36	3,98	9,31
2009	7,13	8,60	6,10	0,00	8,21
2010	11,24	9,02	4,43	2,44	8,75

Source: INE, IE – National Institute of Statistics (*) Corresponding to a polytechnic degree, up to 3 years higher education studies, which belong to Portuguese Higher Education System before the Bologna Process.

Combined analysis of Tables 3, 4 and 5 giving reason to the premise that education is an important factor in finding and keeping a job, as it is stated by human capital theories

1.2. Areas of education and training and highly skilled emigration

Being multiple the areas of education and training, it is natural that not all have the same behavior in the labor market. That is, taking into account the "needs" of the market is that the market can "treat" differently graduates in each area, explaining the differences among unemployment rates by scientific area. The diploma is no longer, as regards Collins (1979), more than a claim that the graduates have to negotiate its entry into the labor market. Data in Table 6 witness as well, unequal treatment of each area of study by the market in Portugal in the last decade.

Analyzing the data in Table 6 it can be concluded that the unemployment rate of individuals aged 40 years of some of the training areas have, on average, higher values than the overall average rate. So with the areas of Training of teachers / trainers and educational sciences, Arts and humanities, Social sciences, business and law, Life sciences, Physical sciences and Services. At the opposite, there are the formations related to computers, mathematics and statistics, in fact those areas most related to the ICT development.

Table 6 – Unemployment rates for individuals less than 40 years, according to the areas of education and training (in %)

Area of education and training	2004	2006	2008	2010	Average (2004-2010)
Training of teachers / trainers and education science	7,62	10,67	6,98	7,34	9,05
Arts and Humanities	8,82	11,83	14,22	11,51	12,44
Foreign languages and literatures	10,09	12,43	17,46	3,94	11,33
Social Sciences, business and law	8,38	7,73	9,19	10,18	9,00
Life Sciences	8,31	11,66	15,82	8,90	11,06
Physical sciences	14,80	15,01	6,35	6,38	10,83
Mathematics and statistics	14,78	7,74	3,78	2,94	7,28
Computer science	3,40	6,02	2,83	5,60	3,39
Computer science - user's perspective	7,42	8,36	12,08	6,09	7,01
Engineering, manufacturing and construction	4,58	7,29	7,35	7,80	7,68
Agriculture, forestry, fisheries and veterinary science	6,48	2,21	5,37	11,81	7,64
Health and social protection	3,13	6,52	9,23	7,32	6,40
Services	5,17	15,11	7,09	13,77	10,90
Large group: Science, mathematics and computing	8,28	19,21	0,00	0,00	3,54
Unknown	0,00	11,68	5,78	12,25	8,72
Total	7,31	8,95	9,31	8,75	8,86

Source: INE, IE – National Institute of Statistics

The statistical data already presented show that different training areas are treated differently and unequally by the market is unequally, with some scientific areas more "employable" than

others. This will certainly have consequences on the life trajectories of individuals and may contribute to explain the fact that labor demand abroad for HE graduates is situated mostly in those areas of education / training whose graduates are less absorbed by the domestic market. Note Table 7.

It is in this context of intellectual and professional drain on the country that leads the charge of the research project Project "BRADAMO - Academic Mobility and Brain Drain from Portugal to Europe" funded by FEDER and the Foundation for Science and Technology.

Table 7 - Individuals working abroad with higher qualifications, according the area of education and training (in %)

Area of education and training	2004	2006	2008	2010	Average (2004-2010)
Training of teachers / trainers and education science	10,0	11,3	8,6	13,6	13,0
Arts and Humanities	8,1	13,0	0,0	3,4	10,4
Foreign languages and literatures	3,6	4,3	2,6	5,1	3,9
Social Sciences, business and law	25,8	24,3	33,6	25,2	24,9
Life Sciences	0,0	0,0	4,4	4,0	2,9
Physical sciences	3,1	0,0	3,9	16,1	4,8
Mathematics and statistics	0,0	0,0	0,0	0,0	0,0
Computer science	0,0	0,0	9,2	0,0	1,4
Computer science - user's perspective	0,0	0,0	0,0	0,0	0,0
Engineering, manufacturing and construction	48,6	47,2	30,3	17,0	28,6
Agriculture, forestry, fisheries and veterinary science	0,0	0,0	0,0	0,9	0,2
Health and social protection	0,9	0,0	5,6	5,3	5,1
Services	0,0	0,0	1,9	6,7	3,9
Large group: Science, mathematics and computing	0,0	0,0	0,0	2,6	0,5
Unknown	0,0	0,0	0,0	0,0	0,4

Source: INE, IE – National Institute of Statistics

THE EMIGRATION OF HIGH-SKILLED PROFESSIONALS

The problematic

Emigration of high-skilled professionals from less developed countries to developed countries leaves the sending countries' economies with a reduced supply of skilled people in research, production, and in public and private services. The resulting brain drain would limit the use of educational investment in the sending countries, creating favorable conditions for their re-use by the more developed countries. Skilled emigration has been analyzed according to two contrasting models: a) the model of the exodus that stresses the idea that more skilled individuals are forced to the exile, allowing them to get a job and a remuneration corresponding to their training; b) the model of the Diaspora that stresses the mutual benefits of intercultural exchanges opened by the circulation of academic, scientific and cultural cosmopolitan elites. This research aims to test the comprehensive power of each of these theses referencing to the

various types of mobility of highly qualified Portuguese professionals to Europe in the last decade. Although the existing statistics are poor on the methodology used and limited in its scope, it is recognized in international studies published over the past years that Portugal is one of the European countries where the drain is more accentuated in the last decade (Marfouk & Docquier, 2007).

However, these preliminary data leave many unresolved issues which we describe and analyze in this pioneering study in Portugal: 1) What are the modalities, causes and characteristics of brain drain over the past decade in Portugal? 2) Which is the evolution of the stock and flows? 3) What are the forms of articulation between different modalities of the exodus of Portuguese skilled professionals and the process of international migration? 4) What are the forms of articulation between the brain drain and the increasing flow of academic mobility? 5) What are the consequences for the scientific system and Portuguese higher education? 6) What is the impact in the emergence or reduction of scientific networks featuring Portuguese scientists?

The research strategy is suitable to the characteristics of an exploratory study that allows enunciating questions and hypotheses that can be studied in later steps of the research. Articulating an extensive research with an in-depth analysis we seek to identify the subjectivity of the direct actors of emigration in some of its main working contexts. We use a mixed strategy which makes use of multilateral technical quantitative and qualitative data collection: a) the questionnaire surveys that aims to characterize the push and pull factors present in the decision to emigrate, as well as the effects of deskilling and re-skilling resulting from migration; b) life stories and interviews with focus groups that will draft the life trajectories, the differential effects of socialization on the biographical dispositions and the strategies of improving the educational capital. Using a multiple case methodology we will describe and compare the circumstances, the modalities and the characteristics of the mobility of two types of migration of high skilled Portuguese individuals in Europe: a) long-term migration to a European country for work in primary or secondary segment of the employment system; b) temporary or commuting mobility through European networks of science, production, services or culture.

Theoretical hypothesis

Our hypothesis consist in assuming that the different migration flows as well as the contexts, projects, the paths of life and how biographical expectations are constructed and therefore can be understood by the concurrent models. Case studies of each of these groups will test the research hypotheses presented in the literature in a comparative way:

a) *The hypothesis of brain drain.* Since human capital is not made profitable in the same society or country where it was generated there is a loss of capital invested in the training of these individuals and, therefore, a potential loss of externalities that result from this investment in the medium and long term. There is evidence of negative effects on economic growth and human capital training in the country of origin (Miyagiwa, 1991; Haque & Kim, 1995). Thus the return of the educational investment can be loosed by the effect of emigration of human resources, measured through the return losses of capital or through loss development potential

(Rosenbaum et al., 1990). The brain drain results in a subsidy to the rich countries (Hamilton, 2003) because the growth of most developed countries also stems from the concentration of human capital (Castles & Miller, 2003).

b) *The hypothesis of a beneficial brain drain.* Since the emigration of skilled individuals results in higher individual income and this is made possible through their investment in education, then more individuals will be available to invest in their education and their children education and this will eventually increase the return rate to education in developing countries (Mountford, 1997) The results from this type of analysis are mixed. Some empirical studies proxying investments in human capital by the growth rate of the proportion of tertiary educated individuals find that the brain drain rate measured in the base period exerts a positive effect on the rate of change of the previous stock of human capital, interpreted as a brain gain (Beine, Docquier & Rapoport, 2003, 2008; Docquier, Faye & Pestieau, 2008). On the contrary, Heuer (2011) modeling anticipatory expectation-building and accounting for possible convergence forces in the accumulation process of human capital, reveal a strong negative effect of the occupation specific emigration rates on the sending countries employment shares, which suggests an inexistent brain gain compared to the brain drain.

c) *The hypothesis of the cross-fertilization movement of elites.* Since the international mobility of skilled human resources is often transitory and takes on characteristics of exchange of knowledge, skills, and temporary projects, this circular process is beneficial for both developed countries and developing countries. Olesen (2002), criticizing the study of short-term impacts of brain drain, says that the benefit to the country of origin may occur in the medium term. The highly skilled emigrants who leave their countries of origin for more than 10 years send savings while abroad and transfer human capital, financial and social when return, beating the immediate negative effects. Faini (2003) instead concludes that the qualified emigration provides remittance flows for instance reducing the financial return. Moreover qualified mobility can occur regardless of salary benefits obtained (Mahroum, 2000). For these groups the economic motives represent only a part of the reason for migration, and may even be accompanied by negative economic effects (Forster, 2000).

d) *The hypothesis of brain circulation by creating networks.* Since scientific and business transnationalism results in networking in order to transfer technology and knowledge from the host countries to the countries of origin, it is expected that the increase in the circulation of knowledge and people in the context of globalization is inevitable, regardless of the level of development of countries of origin. The temporary movement of highly qualified individuals appears to complement with increasing frequency the long-term migration, especially among industrialized countries (Straubhaar, 2000). The networks formed by scientific Diasporas and business has frequently sought to use the knowledge and skills acquired by scientists and other expatriate professionals in the development of the country of origin (Meyer, 2001).

e) *The hypothesis of latent brain drain due to the mobility training.* As mobility training, or for graduate studies or post-graduates, worsened in the last decade, the outputs to study abroad, with or without grants, originally planned as temporary, may become permanent due to the insertion in the labor market of developed countries or less affected by unemployment of young workers (Pizarro, 2005). However, there is also evidence that a period of study abroad,

followed by a work experience in the destination country can become a medium-term benefit on the return (Johnson & Regets, 1998).

Research design

Being the brain drain a multifaceted phenomenon, the research design follows the relational nature of the social object, articulating many dimensions of analysis. From the comparative study of four cases representing different profiles of highly skilled emigration, the study have involved the understanding of each case, and, at the same time, seek to deliver factors and processes of comparison, translation and transfer, allowing a generalization not based on statistical probability and representativeness, rather on depth, intensity and density of analysis.

Thus, from each case and within each case, we combine qualitative and quantitative approaches, explanation and understanding, deduction and induction, while moving back and forth between theory and practice. Following a relatively open theory model, we embrace the possibility of reshaping the initial corpus of theoretical hypothesis throughout the field work, and will avoid them as “straightjackets”, understanding them more as “exciting” heuristics, which brings us closer to the extended case method proposed by Burawoy (2009).

The application of a relatively varied range of research techniques allow the operationalization of purposes assumed beforehand, and the comparison of lived, experienced, narrated and declared practices of the players of these migratory flows, triangulating the collection of information.

The selection of the cases studies follows the intersection of four main structuring principles: a) Time characteristics of mobility: permanent or temporary, long term or transitory; b) Social place in the employment system: primary segment or secondary segment of the labour market; c) Functional profile in the employment system: academic and scientist, other highly skilled professions; d) Type of mobility: direct (after having entered in the employment system of the sending country), indirect or latent (after a period of study in the receiving country).

In each case, we have began with an exploratory research based on the analysis of secondary sources, either documentary (official documents on this type of migration), or statistical, associated with informal conversations with privileged informant well placed in the organizations (associations and official institutions) who deal with these flows and players.

This will be followed by focus groups in the different cases under analysis (Barbour Kitzinger, 1999). Taking advantage of the intersubjective and shared nature of this technique (Krueger, 1998), we believe that prior to the application of the survey, it will be particularly useful to identify push and pull factors and deskilling and reskilling factors, because the review of the state-of-the-art points to very general factors. In this way, the dimensions and indicators of the survey will be more accurate.

Due to the lack of systematized studies on migratory flows associated with academic mobility, it will be relevant, at the onset and from a methodological point of view, to use a crosscutting approach more suited to an effort to map the representativeness of this phenomenon. It is precisely the lack thereof that determines the establishment of a non-probabilistic intentional

sample, which gradually helps (and by association to other research instruments) to understand not just the extent of the phenomenon, but also its intrinsic characteristics.

To this extent, the questionnaire deliberately chooses a dominant audience – with high academic skills –, but must contain the many situations expressed in the study cases to be developed, which, in a way, determines a prior categorization likely to ensure comparability with the survey instrument, a comparability that allows us to discriminate determining traits in the characterization of the phenomenon. Accordingly, the structure of the questionnaire, in addition to the independent variables that characterize the target population, will seek to list a set of scales covering the following topics: 1) push and pull factors; 2) factors perceived as crucial in the decision to migrate; 3) deskilling and reskilling factors; 4) brain gain and brain waste; 5) Social and cultural mobility.

The provisional findings and the shortcomings and clues resulting from the survey's data analysis will provide guidelines to prepare the scripts on sociological portraits (Lahire, 2002) focused on explaining contradiction from the intersection of the application of the survey, the exploratory analysis and the results of the focus-group.

The sociological portraits assume the existence of multi-socialized individuals, plural agents who, throughout their pathways, have acquired a wealth of predispositions, often contrasting and even contradictory, which in a way reflects both the complexity of contemporary societies and the multidimensional nature of projects and constraints associated with these migratory flows.

The final triangulation will allow us to confront practices and discourses, or, in other terms, compare the lived with the experienced (the memory of a past), the narrated (especially visible in the portraits), the shared (highlighted in the focus group), and the declared (shown in the survey). Similarly, we will emphasize a type of reflexive scientific practice, permeated by the intersubjectivity between social scientists and their object of study.

In this paper we will present and discuss some results of the focus group interviews only.

Interviews guidelines, sample selection and content analysis

Interviews guidelines: a) to identify the diversity of the migratory processes; b) to characterize the type of inclusion in various European employment systems; c) to understand the strategies used to enhance the academic and professional capital; d) to describe the factors contributing to the process of deskilling and reskilling; e) to identify the type of relationship with the country of origin; f) to characterize the pull and push factors of the country of origin and the country of destination; g) understand the relationships between the factors of economic and financial globalization and the different modalities of exodus; h) understand the expectations about future projects; i) to analyse the type and intensity of integration in social and professional national or international networks.

Sample selection and administration: a) to identify and select the European countries with higher accumulated flows of mobility of high-skilled professionals; b) select eight focus groups (two in each case study) consisting each one of 4/5 individuals with the following features:

homogeneity on the country or region of destination and temporal characteristics of mobility (long-term, short-term and transitional) and heterogeneity regarding the functional profile of integration in the employment system, the segment of the labor market, and gender; c) administration of the interviews by Skype.

Transcription and coding speech into categories: a) transcription verbatim; b) summaries of each of the interviews; c) coding speech into six thematic categories a priori: type of inclusion in employment systems of receiving countries; relations with the country of origin; expectations and future projects; network integration; push and pull factors of the sending and receiving countries; deskilling and reskilling factors of the employment systems of the receiving countries.

Content analysis including thematic categories a priori and sub-thematic categories a posteriori: a) synoptic table ordering the common characteristics of the migratory process; b) dimensions and list of indicators of push and pull factors of the sending and receiving countries; c) dimensions and list of indicators of deskilling and re-skilling factors of the employment systems of the receiving countries; d) synoptic table ordering and comparing the common and contrasting characteristics in four dimensions of the migratory process.

PRELIMINARY RESULTS

In this paper, we analyze the content of interviews carried out with focus groups (27 individuals) and the questionnaires they have answered, considering the reasons put forward for mobility within the European area, and the temporal characteristics of mobility (permanent or temporary, long term or transitory).

Characterization of respondents

Firstly it is presented a brief characterization of the 27 individuals who participated in group interviews.

Sex: 13 males and 14 females

Age: 15 aged less than 30 years; 10 between 30 and 40 years

Highest academic diploma: 6 with second higher education cycle; 1 with post-graduate studies; 14 with second higher education studies; 6 PhD.

Country of present work: United Kingdom: 6; Belgium: 4; Germany: 4; Denmark: 2; Spain: 2; France: 1.

General reasons to go abroad: Economic reasons: 25.6%; Professional reasons: 43.6%; Study reasons: 17.9%; Other reasons: 12.9%.

Pull and push factors

What are the reasons that lead qualified individuals to leave their country of origin? What does exist in other countries that Portugal lacks?

The factors presented by respondents for their exodus are related to three main aspects: a) the crisis of the labor market in Portugal offers few opportunities for skilled work; b) the work content does not always effectively use the skills attained and certified by the educational system; c) the desire to accumulate internationalization capital. Most respondents expressed the idea that they could not find, in Portugal, satisfaction and professional achievement, or cognitive and professional stimuli critical to the development of the career they pursued.

The reason why I came to Liverpool was that, whenever I applied for Portugal... I was over qualified. And I think the problem in Portugal is the lack of job prospects. (e6. Case A1)

At this time, I am not going back to Portugal before having an established career, because, at this moment, things are very bad, or at least this is my perception. Thus, now I am going to invest on a career here and I think there is a good chance to do that, to establish a career, I do not know if it will be a better one, but at least it will be more recognized internationally than in Portugal. (e1. Case A1)

[...] Here in London I do feel more comfortable or even safer, not because of the relationship I have with my current employer, but rather by the number of alternatives available on the market. (e6. Case D1)

[...] When I was finishing up my study programme, leaving Portugal was completely out of my plans; I wanted to stay in Portugal, no matter what. Then I started working, and I saw how the market was in reality, and there was a time that I overcame that barrier: "No, I have to leave if I want to do what I like doing", and so I left. (e3. Case D1)

Why [emigrate]? Well, there are several reasons for that; more adventurous propensity, especially the idea that, so as to develop a career, an international career, or to have international visibility in the area, I could not attain that without a training abroad. (e1. Case D1)

As can be perceived through these testimonies, emigration appears as a way of "doing what one likes", of developing a career and projecting it internationally. However, the existence of better job opportunities in destination countries is also quite stressed, giving emigrants a greater sense of stability and job security, insofar as there are more options.

[...] I had not planned of going anywhere, but I started sending resumes abroad, because I knew that, in Portugal, it would be very difficult to get something. (e2. Case A1)

[...] I was a bit torn between getting a job in Portugal and coming here. After six months, I could not find anything, not even research grants, and I began to actively seek here ... a lot of people in Portugal are unemployed or are pursuing a PhD. Some people enjoy doing a PhD, others do it because it is the only alternative they have there [in Portugal]. (e3. Case A1)

[...] I was a bit precarious in Portugal, honestly; ... if I had stayed there, at this point I would, probably, be unemployed. (e2. Case D2)

[...] even though I wished to return, I found the situation very difficult; I started to seek work in Portugal to try to come back and got nothing. (e1. Case D2)

Other motivations leading to emigration, although at a secondary level, are related to emotional, personal or family autonomy factors.

I came for emotional reasons; my husband is here and I was in Lisbon and decided to come here too. (e1. Case A1)

[...] I became very fond of a Dutch person. (e3. Case A1)

[...] It was, in a way, the decision to continue a few years depending on my parents or having the possibility, despite going out, of being independent and building my life. (e2. Case A1)

At that time, I was already married to a scientific researcher who had already left Portugal to pursue a PhD. (e2. Case D1)

Meanwhile, the reason why I emigrated again is that I got married and my partner already lived in Paris (e. Case D2).

Long term or transitory mobility

One of the aspects that may determine the loss of human capital in the country of origin is the duration of the emigration period.

When a person emigrates, does that person consider that decision as a temporary or a long-term one? Is it a project for life or a short term one? Does the mobility period lived meanwhile change the initial view? Why?

Most respondents refers that the prospect of mobility is, at least, in the medium term and, although initially contemplating a transient solution, the experience lived in the meantime changed the plans for a bigger migration period.

At this moment, the idea of being in London or of being open to the prospect of moving to another country is present in my mind; returning to Portugal, honestly, no. (e1. Case A1)

Personally, I do not see myself returning to Portugal in a five years time; it is a very short period to return. (e4. Case A1)

For me it was gradual, when I left I went with a two year contract ... Meanwhile, I began to realize that the goal would be at the age of thirty, I put a wider goal and then started looking for the best things to do, and that's why I ended up in Copenhagen and, today, I put the goal of possibly forever [...] (e2. Case A1)

[...] The first five or six years will certainly be spent doing the specialty here [...] I was born in Lisbon, I'm from Lisbon and I grew up in Lisbon, of course I love being in Lisbon and being in Portugal and with the people I have there, but I don't have a very great need, I don't have a very great patriotic symbolism, so I don't intend to go back urgently. (e1. Case C1)

[...] When I am asked whether I always wished to return to Portugal, I say no, if I am asked whether I want to go back to Portugal today, I also say not. If I return to Portugal, it will necessarily be to work in a place that I regard as being in the geographical point corresponding to Portugal, but integrated into an international network, do you understand? (e2. Case D1)

Most of the times I came, I never thought that I would stay in the long term, because I have always come with very temporary jobs, short-term contracts, and I knew that, at some point, I would have to go back. At this time in particular, I wish to go to Portugal, I miss it already, I

have been away from the country for many years, but I'm also not sure that I want to stay there forever [...] (e1. Case D2)

The idea of a temporary emigration has given rise to a long-term emigration. Opportunities found, together with the feeling of not getting the same in Portugal, are the most frequently mentioned reasons for this shift. Transient emigration out of Portugal is also a scenario that is now regarded more naturally.

Honestly, I keep an open mind, I'll see where destiny leads me, but, quite frankly, it is not a big deal if I do not return to Portugal. (e2. Case D2)

I have no intention of returning to Portugal, but I also have no intention to stay here in London. [...]I would like to continue in countries further north, maybe in a Scandinavian city [...] (e2. Case C1)

[...] For me, that did not undertake Erasmus, and did not have that strong idea of going abroad, I had the idea of spending just one or two months abroad as a visiting researcher, I realized that coming abroad makes the person see other realities and becoming much more open minded. I think that the idea of emigration is much more open, it is easier for us to move by being abroad. (e1. Case A1)

I have everything open, staying here or going to another place, and my perception has changed since I left, because there are many opportunities outside of Portugal. (e5. Case A1)

Respondents' expectations about the future imply, thus, a long-term abroad stay. The idea that only for some reason of family emergency or for some irresistible employment offer they would return to Portugal in the short term is recurrent among respondents.

I would like to have a permanent contract at a university here, buy a house here and visit friends in Portugal or bring them here. [...] I think that only if it was something very serious with my family. Not even a good job opportunity, because I have my husband here, and the gains of being here are good. (e1. Case A1)

[...] Only in case someone, a family member, would get ill, that is, there would be nothing, I cannot imagine nothing at all, having an offer in Portugal [...] (e1. Case C1)

It is not for life, not for life... I can only return to Portugal when conditions for doing the work I do at a level that I consider that complies with my... with my qualifications and experience (e2. Case D1).

CONCLUSIONS

The above analysis for the Portuguese case demonstrates well the different theoretical positions referenced above: Higher levels of education are more rewarded by the labor market; and Different areas of education and training are treated differently by the market denouncing various levels of employability. Although the Higher Education unemployment rate is always less than the total, the number of HE unemployed has grown significantly in recent years. As a

result, graduates have sought employment outside of Portugal and the flow of emigration in recent years is higher among the more skilled than in the total population.

On the other hand, the analysis of the reasons presented by the interviewed to go abroad allows to conclude:

1. The factors shown to boost European mobility and emigration are multiple and relational:
 - a) The crisis of the skilled employment system in Portugal; b) Few opportunities to apply and develop professional skills acquired in formal education and in the professional induction period carried out in Portugal; c) Strong expectations of internationalization and creation of scientific and professional networks; d) Pursuit of personal autonomy; e) Construction and maintenance of personal and romantic relationships.
2. The temporal features of mobility are predominantly long or medium term.
3. The temporary or transitional mobility projects have given rise to long-term emigration projects.
4. Only family reasons have the potential to disrupt the current options for mobility.
5. We conclude that the factors perceived as crucial in the decision to migrate start with the economic crisis, the devaluation of local resources, the lack of career opportunities and the unemployment. The ties that migrants have with their country of origin, including ties with the contexts of production that best articulate their areas of knowledge help to understand when the migratory movements contribute more to situations of brain gain – a situation that offers employability and remuneration not likely to be obtained in the country of origin – or to situations of brain waste in which migration to a context with high intellectual standards may result in outsourcing that requires less skills than those held.

REFERENCES

- Becker, G. (1964). *Human Capital – A Theoretical and Empirical Analysis, with Special Reference to Education*. New York: Columbia University Press.
- Collins, R. (1979). *The Credential Society: A Historical Sociology of Education and Stratification*. New York: Academic Press.
- Docquier, F. & Marfouk A. (2007)., Brain Drain in Developing Countries. *World Bank Economic Review*, 21(2), pp. 193-218.
- Miyagiwa, K. (1991). Scale Economies in Education and the Brain Drain Problem. *International Economic Review*, 32, 743-759.
- Haque, N. & Kim, S. J. (1995). Human Capital Flight: Impact of Migration on Income and Growth. *IMF Staff Paper*, 42(3), pp. 577-607.
- Rosenbaum, J. L. et al. (1990). Market and Network Theories of the Transition from High-School to Work: Their Application to Industrial Societies. *Annual Review of Sociology*, 16, pp. 263-299.
- Hamilton, K. (2003). *Migration and Development: Blind Fact and Hand-to-Find Facts*. Migration Policy Institute.
- Castles, S. & Miller, M. J. (2003). *Age of Migration International Population Movements in the Modern World*. Basingstoke: Palgrave Macmillan.

- Mountford, A. (1997). Can a Brain Drain be Good for Growth in the Source Economy? *Journal of Development Economics*, 53(2), 287-303.
- Beine, M., Docquier, F. & Rapoport, H. (2003). *Brain Drain and LDC's Growth: Winners and Losers*. Discussion Paper n.º 819. Bonn.
- Beine, M., Docquier, F. & Rapoport, H. (2008). Brain Drain and Human Capital Formation in Developing Countries: Winners and Losers. *The Economic Journal*, 118(528), 631-652.
- Docquier, F., Faye, O. & Pestieau, P. (2008). Is Migration a Good Substitute for Education Subsidies? *Journal of Development Economics*, 86(2), 263-276.
- Heuer, N. (2011). *The Effect of Occupation-Specific Brain Drain on Human Capital*. Working Papers in Economic and Finance n.º 7. Tübingen: University of Tübingen.
- Olesen, H. (2002). Migration, Return and Development: An Institutional Perspective. *International Migration*, 40(4), 125-151.
- Faini, R. (2003). *Is the Brain Drain an Unmitigated Blessing?* WIDER Discussion Paper n.º 2003/64. Helsinki: United Nations University, WIDER.
- Mahroum, S. (2000). Highly Skilled Globetrotters. Mapping the International Migration of Human Capital. *R & D Management*, 30(1), 23-31.
- Forster, N. (2000). The Myth of the International Manager. *International Journal of Human Resource Management*, 11(1), 126-142.
- Straubhaar, T. (2000). *International Mobility of the Highly Skilled: Brain Drain, Brain Gain or Brain Exchange?* Discussion Paper n.º 88. Hamburg: Hamburgisches Welt-Wirtschafts-Archiv.
- Meyer, J-R. (2001). Network Approach versus Brain Drain: Lessons from the Diáspora. *International Migration*, 5, 91-110.
- Pizarro, J. M. (2005). Globalizados, pero restringidos. Una visión latinoamericana del mercado global de recursos humanos calificados. Santiago de Chile: Centro Latinoamericano y Caribeño de Demografía.
- Johnson, J. M. & Regets, M. (1998). *International Mobility of Scientists and Engineers to the US-Brain Drain or Brain Circulation?* NSF Issue Brief, pp. 98-316.
- Burawoy, M. (2009). *The extended Case Method*. Berkeley: University of California Press.
- Barbour, R. & Kitzinger, J. (1999). *Developing focus group research: politics, theory and practice*. London: Sage Publications.
- Krueger, R. (1998). *Developing questions for focus groups*. Thousand Oaks: Sage Publications.
- Lahire, B. (2002). *Portraits Sociologiques*. Paris: Nathan.
- Schultz, T. (1961). Investment in Human Capital. *American Economic Review*, n.º 51, pp. 1-16.
- Spence, M. (1973). Job Market Signaling. *Quarterly Journal of Economics*, vol. 87, n.º 3, pp. 335-374.