



## Brain drain and dependency: the Portuguese case

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### ABSTRACT

In the last 40 years, Portugal did significant investments in education, namely in higher education (HE). In 1998, only 6.1% of the population had a HE degree; that number increased to 16.5% in 2014. Since 2008, thousands of HE graduates seek emigration in order to find adequate work for their qualification. Between 2000/01 and 2010/11, the number of emigrants with a HE degree increased 88% (77,790 to 145,833), reaching 10% of the Portuguese emigrants. This emigration flow is so intense that could be analysed as a “brain drain” phenomena. Based on, OECD statistics (2014) and using Altbach methodology (2013) this article will introduce an estimation of the Portuguese public and private costs to educate a student from primary schooling through a HE degree, that are offered on a free basis cost to OECD countries where they emigrated.

### KEYWORDS

Higher education, brain drain, private and public costs of education.

### Introduction

The so-called “brain drain” phenomenon refers to “the international transfer of human resources and mainly applies to the migration of relatively highly educated individuals from developing to developed countries” (Beine, Docquier & Rapoport, 2008, p. 631). So, in this article the expression “brain drain” refers to the transfer of human capital with high levels of education and skills from the least developed countries to the more developed ones (Hamilton, 2003; Castles & Miller, 2003). This situation implies a waste of resources for the sending countries which accentuates the asymmetric distribution of resources in the process of educational, cultural and economic globalization (Heuer, 2011) making urgent to study and combat the eventual negative effects of this high qualified human capital emigration at a free cost basis.

The recessive economic situation that Portugal is going through, being intervened by international financial institutions under a program of deep austerity is, to a great extent, the explanation for a recent growth of emigration rates, reediting an historical profile that seems to be glued to the Portuguese labour market. Nevertheless, what seems to be novelty in the present emigration flow is the relevance that highly qualified individuals has in it which implies to determine the investment Portugal has spent with the training of those emigrants which is “offered” to developed countries.

### To export skilled labour force on a free cost basis: the cost to Portugal and to the Portuguese

The “brain drain” phenomena raises questions to which is urgent to respond, namely: how much Portugal loses, in currency, with the exit of its highly skilled labour to foreign countries, in particular to OECD countries?

To determine the wealth attained by the countries receiving Portuguese highly-qualified emigrants, we pursue close-

ly the methodology followed by Altbach (2013), who, in his work *The State of Higher Education 2013* (chapter 8, pp. 103-107), puts forward, through a few examples, how much the “brain exporting countries” “offer” to the recipient countries in a mobility that takes place from developing countries to developed countries. In his article, Altbach (2013) strikingly argues exactly with the very high amount that countries such as the United States receive, through the import of skilled labour force, at zero cost, namely from India.

Following Altbach’s (2013) ideas, for this accounting, we had in mind:

- financial resources that Portugal/taxpayers spend to educate their young, the “direct public costs”;
- income taxes Portugal would raise on the income that would probably be earned by young people if they were working and not studying;
- students’ opportunity costs, i.e. the salary students would earned if they are not studying;
- financial resources that students/families spend on their education, the “direct private costs”.

The values for each of the above mentioned indicators were taken from 2014 *Education at a Glance: OECD Indicators*, Indicator 7: What are the incentives to invest in education? and relate to 2010.

**Table 1. Portugal/Public and Private costs and lost with a man/woman to hold secondary or post-secondary non-tertiary education and HE (when compared to a man/woman who has reached the lower level of education) and cumulative total, in 2010 (in USD ppps)**

Educational Level	Gender	Public			Private		
		Public direct costs	Income taxes not received	Total public cost	Private direct costs	Lost wages	Total public cost
HE	Female	10,295	2,148	12,443	4,627	15,481	20,108
	Male	10,295	2,245	12,540	4,627	16,181	20,808
Secondary or post-secondary non-tertiary education	Female	26,371	2,352	28,723	0	16,952	16,952
	Male	26,371	2,429	28,800	0	17,510	17,510
Cumulative total	Female	36,666	4,500	41,166	36,666	4,500	37,060
	Male	36,666	4,674	41,340	36,666	4,674	38,318

Source: Education at a Glance: OECD Indicators, 2014 (adapted)

Considering that the expenditure made by the country in the education of a young person is the accumulation of the expenditure made in the diverse academic degrees until reaching the highest level, by the State/taxpayers and by the students/families, according to Table 1, it may be concluded that:

- Portuguese government spent a total of 41,340 and 41,166 USD to train with HE, respectively, each man and woman;
- higher education qualification of each young person costs him/her, or his/her family, 37,060 and 38,318 USD, respectively.

So, it may be stated that the host countries of Portuguese skilled-labour will benefit from those amounts, once they had not paid anything by its training.

At this point, we are able to determine the amount that the country (taxpayers and families) spends in training a young person with higher education qualification, by adding the above calculated public costs and private costs (see Table 2).

**Table 2. Total cost of a HE training for a man/woman in 2010 (in USD ppp)**

	Total public cost	Total private cost	Total cost
Man	41,340	38,318	79,658
Woman	41,166	37,060	78,226

Source: Education at a Glance: OECD Indicators, 2014 (authors' production)

Continuing to follow Altbach (2013), it is possible to calculate, albeit somewhat roughly, how much the countries where Portuguese highly skilled emigration goes to are funded by Portuguese taxpayers. According to the Portuguese Emigration Statistical Report 2014, in 2010, 145,853 young people with a HE degree were emigrated in OECD countries. However, official data do not report on the gender disparities of these emigrants. This difficulty may, nevertheless, be overcome by the data of the Portuguese skilled emigration obtained by the authors through the survey applied to this universe, within the BRADRAMO Project (Male 45.8%; 54.2%).

Consequently, it is assumed that there is no significant difference between the standard in gender of this universe and that of the random sample obtained in the already mentioned research study. If so, the structure, by gender, of the Portuguese skilled emigration in 2010 would be 66,801 Male and 79,052 Female.

Table 3 depicts the amounts that these men and women demanded for their education in US dollars.

**Table 3. Portugal/Total estimated costs (public+private) of the education of Portuguese emigrants holding HE qualifications, residents in OECD countries, in 2010 (USD ppp)**

	Number of emigrants with HE	Total cost in HE of a woman/man	Total spent by the country in the education of emigrants holding a HE degree
Female	79,052	78,226	6,183,921,752
Male	66,801	79,658	5,321,234,058
Total	145,853	-	11,505,155,810

Source: Authors' production

Data from table 3 are very explicit about the level of wealth spent by Portugal in the education of the highly qualified professionals, which exports to OECD developed countries, and that, in 2010, exceeded the eleven billion American dollars<sup>1</sup>, around 8,9 billion euros. This value corresponds to the estimated total amount that the country will lose if all the highly qualified emigrants remain as emigrants throughout their whole working life.

A more objective analysis of this reality requires that we take into account the possibility that some of the individuals currently emigrated may return to Portugal in the near future. Data collected in the BRADRAMO Project points towards a permanent residency ("for life") of 68% of highly qualified emigrants, which will be a permanent loss of investment in education in Portugal. Note Table 4 that results from the application of BRADRAMO Project information to the total of the highly qualified Portuguese emigrants living in OECD countries in 2010. The following values, should, naturally, be taken with some caution, due to the fact that the analysis is based on the percentage of highly qualified emigrants who claim to have emigrated "for life", within the scope of the BRADRAMO Project, whose results cannot be statistically generalised.

**Table 4. Portugal/(public+private) total estimated, definitive and partial costs of the education of Portuguese highly qualified emigrants, residents in OECD countries, in 2010, lost by Portugal in benefit of the receiver countries (billion euros)**

% of highly qualified emigrants "for life"	Estimated losses	Definite losses	Partial losses
68.0	8,9	6,05	2,85

Source: Authors' production

It may be observed that the permanent loss of public and private investment by Portugal in the education of these emigrants reaches 6 billion euros and that figure will be closer to the total estimated value depending on, among other factors, the number of years spent in emigration and the average value of remittances. Under these circumstances, there is a partial loss of 2,85 billion euros, which will tend to zero as the number of emigrants who will really not return to Portugal during their working life approaches the total number of highly skilled emigrants.

### Final thoughts

The previous exercise was aimed at determining how much Portugal has spent in the education of its highly qualified professionals who left the country, materialising a havoc of qualifications never before experienced. Those Portuguese left the country for various reasons, namely the difficulties of qualified professional integration in the country. This is an issue that those in power, represented by the current prime minister, thought of solving by literally urging those young people to emigrate.

This calculation of ours would simultaneously determine the wealth that the countries receiving this labour force take possession of, without having contributed with any amount to its education.

Accordingly, on the basis of the indicators from A7 OECD (2014) and the gender structure of highly skilled Portuguese emigrants determined by the authors within the framework of the BRADRAMO Project, and following the methodology used by Altbach (2013) for this type of calculation, it was determined the value that Portugal (through the State budget and through the students/families) has spent with the education of that labour force.

In 2010, with its skilled emigrants, Portugal offered to the developed countries almost 9 billion euros. At the same time, Portugal was subjected to an intervention by the European Bank, the IMF and the EU, because of the situation of the “country’s financial bankruptcy” vis-à-vis other countries. There is something very wrong in this situation, which is typical of the colonialism from the past century. While it falls into debt, Portugal offers a wealth to those who explore it. It is quite a situation that reflects the political immaturity of the country’s rulers and the glaring error of the ultra-liberal policy followed.

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