

# **SOCIUS Working Papers**

**João Peixoto**

**" Highly Skilled Migration in Portugal  
– An Overview "**

**Nº 3/2004**

**SOCIUS - Centro de Investigação em Sociologia Económica e das Organizações  
Instituto Superior de Economia e Gestão  
Universidade Técnica de Lisboa  
Rua Miguel Lupi, 20  
1249-078 Lisboa  
Tel. 21 3951787 Fax:21 3951783  
E-mail: [socius@iseg.utl.pt](mailto:socius@iseg.utl.pt)  
Web Page: <http://pascal.iseg.utl.pt/~socius/index.htm>**

**João Peixoto \***

---

\* SOCIUS, ISEG/UTL.

## Highly Skilled Migration in Portugal – An Overview <sup>\*\*</sup>

### Introduction

International migration of highly skilled labour in Portugal has been object of scarce attention. The large volume of unskilled and low skilled movements occurred since the 60s – first emigration and recently immigration – explains the only marginal effort that has been done to understand it. In what concerns emigration, it is known that since the 60s some highly skilled outflows have been taking place, including a fraction of scientists and researchers. Some of these left the country and some are known to be carrying excellent work in their fields. The overall outflows increased since the mid-70s, after the modernisation of the country, and targeted more diverse areas, including business. However, they never amounted to a significant quantitative number and they are not considered to be a problem. In what concerns immigration, some flows have also been occurring, also related to multiple areas of work. Since the 60s, movements occurring in the framework of multinational corporations have dominated them, along with other business-related flows. The former paralleled the trends of foreign direct investment, whilst the second resulted from specific migratory sources, including Brazil. In relative terms, the highly skilled inflow has been substantial, gathering almost a third of all legal immigrants in recent decades. Despite its importance, this movement only rarely has been understood as problematic.

Besides the unawareness of any social problem of this type, there are severe methodological difficulties to capture the phenomenon. It is known that international migration flows are generally difficult to evaluate. The difficulties are wider when we deal with a narrow professional segment. The “invisibility” of highly skilled migrants has been referred to by Salt (1992), arguing on the basis of their social status character and on the temporary nature of many stays. In Portugal, detailed statistics on occupation and education of emigrants existed until 1988, but they were not resumed afterwards. Currently, emigration is measured by a survey, and no specific variables of that kind are available. As a result, only poor indications can be obtained of recent

---

<sup>\*\*</sup> Paper written as a contribution to the Brain Drain Study (“Brain Drain – Emigration Flows for Qualified Scientists”) and commissioned by the Italian National Research Council, for the European

highly skilled outflows at a general level. Concerning immigration, figures on occupation for the foreign legal population (stock data) are available since 1986, but no similar information exists for education. Data on annual inflows for the foreigners has been produced since the late 90s and they contain some sparse material about skills. In both cases – emigration and immigration -, even when statistics are available, the number of correlated variables (demographic and other socio-economic) is short and the quality of data is of difficult assumption.

Despite the difficulties on measuring highly skilled migration in Portugal, its study seems interesting for some contrasting reasons. At the one hand, concerning emigration, this flow is one of the most likely to occur in the European Union (EU) context, as the income levels of Portuguese professionals are lower than in other developed countries. This should engender, by push-pull mechanisms, a pressure on Portuguese to emigrate abroad (even accepting a lower wage than other nationals), i.e., a brain drain. However, the “relative” income and the internal social status of these categories in Portugal and the relative saturation in other national labour markets lead to an unclear outcome. At the other hand, concerning immigration, a significant inflow could be expected. The proportion of skilled labour in Portugal is lower than in most other EU countries, a situation illustrated by the lower education of its labour force. In 1997, in Portugal, only circa 11% of adults had a tertiary level diploma (higher education), compared to almost 19% in the EU. Hence, an important flow of professionals could be expected to enter the country, attracted by frequent employment opportunities (due to the local shortage) and pushed by eventual redundancy (unemployment or under-use of their skills) in their own countries (Baganha, 1998). However, the low levels of income in Portugal rend again difficult the prediction.

In the next sections we will review, first, the trends on highly skilled immigration and, second, emigration. In both cases we will use the (few) available statistical indicators together with some qualitative evidence gathered by some research on this field. Finally, we will conclude, examining the balance between the movements and trying to evaluate the existence or the potential for any form of brain drain in Portugal.

## **Immigration**

The overall picture of highly skilled immigration in Portugal can be found in Tables 1 to 3, based on the stock of foreign legal population. From 1986 (the first year providing occupational statistics) until 1998 (the latest year available) the number of legal foreigners engaged in professional, managerial and technical occupations has represented consistently around 30 per cent of total foreign labour force (see Table 1). In absolute numbers, its increase has been strong, doubling its volume during the period. This rate of increase is next to the one of all economically active foreigners. The idea of a relatively major under-evaluation of the lower skilled segments, often affected by irregular situations (see Baganha, 1998), does not completely hold, since the highly skilled may also be said to be under-evaluated, due to the temporary status of many stays. Considering detailed occupations, it can be found that the majority of the highly skilled group is engaged in professional and technical occupations (24.4% in 1998), whilst the remaining are managers and cadres (5.8% in 1998). Their relative weight has not changed significantly since 1986, although there is evidence of a slight larger growth of the second group.

Generally speaking, the social polarisation of immigrants in Portugal, divided between a group of highly skilled agents and a majority of low skilled ones, seems to be a constant, at least since the moment when immigration became significant (late 70s and early 80s). This trend parallels another, the one of the over-qualification of foreigners compared to the average Portuguese population. In fact, observing occupational data for the entire population in the country, we notice that professional, managerial and technical occupations do only involve 13.2% of the employed labour force, in 1998 (see INE, Labour Force Surveys), compared with the 30.3% of foreigners. Comparatively, there seems to be an almost equivalence in manual occupations (manufacturing, civil construction...), since they group around 45% of the Portuguese employed labour force, in 1998 (see INE), as against the 47.7% of foreigners.

Taking groups of nationalities, EU citizens amounted in 1998 to a little more than half the highly skilled segment (52%), followed by Brazilians (18.1%) (see Table 2).

Among Europeans, the dominant single nationalities were the UK, Germany and Spain. Taking detailed occupations, it can be observed that the predominance of Europeans is stronger among managers and cadres, where they represented 70.1% in 1998, against the professional and technical, where they amounted to slightly less than half (47.7%). Alternatively, Brazilians were much less on managerial occupations (8.1% of the total) and more abundant on the professional and technical ones (20.5%). These figures represent, as we will see ahead, a predominance of “organisational” flows amongst Europeans and “independent” ones amongst Brazilians. The quantitative evolution of the flows of these nationalities between 1986 and 1998 may be slightly misleading, since data available in 1986 are of an uncertain quality: this is mainly the case of the figure for Brazilians, which seems to be over-estimated. If we pick the period 1990-1998, apparently more precise, it is clear that there is a stronger growth of Brazilians at all highly skilled occupational levels (they double or more than double its absolute volume in this period), compared to Europeans.

The skill profile of the different foreign nationalities living in Portugal is revealed in Table 3. Europeans and Brazilians are clearly a very skilled migration, since half or more of its nationals detain a highly skilled occupation in Portugal, in 1998. As stated above, the managerial categories are more frequent among Europeans, although they only represent circa 14% of their total at that date. The unskilled occupations were, in 1998, an almost exclusive situation of African nationals, namely the ones that came from the Portuguese ex-colonies (mainly Cape Verde, Angola and Guinea-Bissau). Only 4.7% of their nationals could then be considered highly skilled - or, at least, they were allowed to perform in that position. In fact, some processes of “brain waste” are known to exist, although no systematic knowledge of its volume is available. They mostly seemed to affect, in that date, the Africans – although, after 2000, this situation has been more typical of the fast growing Eastern European community in Portugal (see Peixoto, 2002).

Statistics on legal foreigners have changed in the final years of the 90s. The occupational series on the legal foreign stock was interrupted, whilst a new series was launched for annual inflows of foreigners (based on annual requests for legal residence). This latter included new occupational and educational series. Table 4 presents some data about the occupation of foreigners entering the country in 1999

and 2000. These data confirm that a large proportion of the immigrants is highly skilled: they represent between 22% and 33% of all inflows. The more skilled groups continue to be Europeans (between 56% and 59%) and Brazilians (around 30%) – although the latter seems to become globally less skilled. This new series only does not confirm the higher managerial component of the Europeans (but the decrease in foreign direct investment in recent years may explain this trend). Table 5 includes some figures on the educational level of foreigners, which broadly confirm what was stated. Between 18% and 19% of all foreigners applying for legal residence possess an higher education diploma (corresponding to the tertiary level of international statistics). The Europeans are the more educated (around 45%), followed by Brazilians (18% to 23%).

Taking into account the research that has been carried out in these issues (see Peixoto, 1998 and 1999), some further observations can still be made about the main lines of highly skilled immigration (some of the following notes are based in Peixoto, 2001a). Looking into its origins, the first significant presence of highly skilled foreigners in Portugal dates maybe from the 60s. The adhesion to EFTA and the increase in tourism represented then a progressive opening of the country. Most of the flows occurred in the framework of multinational corporations. The entrance of professional and managerial labour to exert technical and control functions in the organisations paralleled the increase in foreign direct investment. In the beginning, the individuals concerned were few, due to the limited dimension of the Portuguese market and the prolonged stays then dominant among expatriates. Progressively, the flows became frequent, due to wider activities and more staff rotation, often linked to career development policies. A large part of foreign highly skilled presence in the country proceeds by this type of framework - despite the counter-tendency to substitute foreign expatriates by local cadres, which also occurs in Portugal. Following the trend of foreign direct investment in Portugal, which strongly augmented after 1986, with the adhesion to the (then) European Economic Community, we will have an indirect sign of the increase of flows. It is mainly Europeans (and EU ones) that have been involved in this type of flows, following the picture of main foreign investors: UK, France and Spain, amongst others, in recent years.

A different type of inflows – “independent” ones - became frequent since the 80s. The most important one was from Brazilians. This country was responsible for a large increase in recent foreign immigration to Portugal. Some cases were of non-problematic insertion. Activities such as marketing benefited largely from Brazilian presence, due to local shortage and their talent in the area. Other cases were of difficult insertion, particularly in sectors where professional regulations and recognition of diplomas’ procedures are complex. This mainly affected Brazilian dentists, which had a prolonged conflict with Portuguese national and professional authorities. Besides Brazilians, although in a much lesser volume, other “independent” flows entered the country. A few individuals coming from Eastern Europe, mainly targeting the scientific system, demonstrated that the Eastern brain drain of the 90s was, at least partially, a reality. Medical doctors and nurses coming from Spain and nurses coming from Brazil also came up, filling certain shortages in the area. European professionals had greater ease of establishment, following the EU regulations on free circulation (they are frequent, for example, in language institutes). African students never ceased to enter, benefiting from scholarships from their country or Portuguese-sponsored ones. A significant proportion of them do not return.

As stated, these latter flows have in common an “independent” nature, i.e., the fact of being exterior to any organisational framework. As such, these migrants must compete in the national labour market, facing particular constraints compared to organisational ones. First, they are more dependent on the local dynamics of labour markets. They benefit from the existence of specific shortages, and will face resistance if they do not occur. As a result, their presence occurred either in sectors where the total Portuguese labour force is scarce or in regions abandoned by Portuguese professionals. This occurred, for instance, in peripheral rural regions of the country. Second, they cannot avoid procedures on recognition of diplomas. The case of Brazilian dentists is exemplary of the tensions that can arise in a highly skilled labour market. Finally, these migrants represent for Portugal the hosting of a brain drain. This skilled personnel from less developed countries takes a similar decision than others since the 60s, although targeting a new country than before. In general, this group seemed to have fulfilled a positive role in the country, and they are usually exempt from public opinion concerns about immigration.

Some further detailed data can be added to the discussion. Official data on the stock or flows of foreign population does not discriminate by demographic characteristics (sex and age). A research that was carried out on the highly skilled migration (Peixoto, 1998), although based on the 1991 Census, partially solves this problem. On Table 6 the demographic structure of all foreigners with economic activity in Portugal is compared with the one of a specific segment, the “highly skilled core group”. This latter includes individuals that possessed simultaneously a professional, managerial or technical occupation and a tertiary level occupation (a similar definition can be found in OECD, when talking about the “human resources in science and technology” – see OECD, 1995). The proportion of this “core group” in the foreign labour force was around 10%, a lesser volume than we found before. The inclusion of both occupational and educational data explains this variation, since not all the highly skilled occupations that we initially considered are formally highly educated. Concerning nationalities, Europeans (from EU) were still the more represented, followed by Brazilians (44.6% and 29.2%, respectively) (Table 7).

Looking into the demographic data, we observe that the highly skilled “core group” is consistently composed of more males and displays more mature ages than the overall economically active foreign population (Table 6). Considering gender, the highly skilled were 69% males in 1991, against 62% on the whole foreign labour force. Considering age structure, they were relatively more represented in the 40-64 age group, with 40.5%, against 22.9% on the whole (although the majority, in both cases, belong to the 15-39 age group – 57.4% in the highly skilled case). Migrations of the highly skilled “core group” since 1985 and 1989 (until 1991) were bringing more youth to the group. This demographic profile is consistent with the presence of some male dominated occupations (managers of multinational firms, for example), the higher education of the group (they start their activity in later ages) and their professional careers (some organisational movements may only occur at mature ages). As expected, this profile corresponds mainly to the European fraction of the group, where the “organisational” migration is prominent and the migratory inflow to Portugal began earlier. The Brazilians displayed a more balanced sex ratio (60.9%, against 72.9% on the Europeans) and much more youth (74.3% in the 15-39 age group, against 43.5% in the case of Europeans), a situation typical of an “independent” migration (see Table 7).



Concerning scientific flows, some specific information is also available. The number of foreign researchers working in Portugal is low: in full-time equivalent, they amounted to 4.7% of the total in 1999 (Table 8). The majority of them were nationals from EU countries (42.8%), followed by Africans (mainly ex-colonies) and South Americans (mainly Brazil), with between 14% and 15% each. They were mostly male (more than 70%) and they had a mean age of 39 years. The majority of them were engaged in higher education (circa 75%) and mainly in public universities – a situation that is also common to Portuguese researchers. Slightly more than half hold stable or semi-stable career positions in Portugal, whilst circa 40% were scholarship holders (see, for these data, OCT, National Survey on Science and Technology, 1999). Other figures on scholarships confirm that the number of foreigners in Portugal is growing quickly. Between 1994 and 1999, Portugal has increased the number of scholarships for incoming foreign researchers by 50% - although the figures remain quantitatively very low. Considering the 624 scholarships attributed to foreign researchers between 1994-1999 by the Ministry for Science and Technology, the majority were for invited scientists (35.4%), followed by post-doctoral and doctoral scholarships (see OCT, unpublished data). In sum, scientific inflows are growing in volume, often being an explicit target of the Portuguese scientific policy, but its amount remains low.

## **Emigration**

In what concerns highly skilled emigration only few general statistical data can be displayed. Portugal possessed relatively good emigration statistics until 1988, which included information on occupation and educational level. The fact that a significant proportion of the emigrants did not officially register (and hence were not captured by the statistics) is the basic problem of this source. The highly skilled segment was no exception, once many of their departures were intended as temporary or they were caused by political motives. For the purpose of this paper, this source also lacks relevance due to the period concerned. More recently, after 1988, emigration statistics are available in a survey basis. However, no information has ever been displayed on occupations and education in this source, and the aggregation of the data eliminates any possibility of characterising small segments of the population.

Considering the available research, some considerations can be presented about the general trends of highly skilled outflows (see Peixoto, 1998 and 1999; some of the following notes are based in Peixoto, 2001a). In the “golden” age of Portuguese emigration towards Europe, from the mid-60s to the mid-70s, highly skilled emigrants were scarce. The available data point to the very low volume of this flow. Taking the emigrants with “intellectual and managerial” occupations, they did never surpass 0.4% of total flows from 1955 until 1973. In quantitative terms, they just surpassed a hundred individuals in 1966 and 1967. It is known, from other sources, that some movements of Portuguese highly skilled were indeed verified in this period, targeting Europe and the USA. Some of them resulted from professional motives, such as advanced academic training in those countries. Other flows resulted from political motives, namely the opposition to the authoritarian regime then existing. Some of these flows – the academic or the politically motivated ones – may have been kept out the official data. There are good reasons to believe that a significant highly skilled emigration was unlikely. As was stated by some authors, highly skilled Portuguese individuals had no motives to emigrate, if we compare their situation with their foreign counterparts. Considering relative income and social status, they seemed rather good, leaving the need to depart to lower skilled ranks of the labour force (Baganha, 1994).

The 70s introduced some modifications in this panorama, witnessing a larger amount of movements. Some figures about professional, technical and managerial occupations available from 1974 to 1988 indicate a significant increase in movements. They attained two peaks, one in 1975-76 and the other in the first half of the 80s. These periods comprised a few hundreds of emigrants per year and attained 6 to 8 per cent of total flows, respectively. Although representing a growth in a period where overall emigration strongly declined, those figures are nonetheless significant. The first peak represents a flow, never adequately studied or quantified (the official figures are certainly under-evaluated), grouping “top” social agents after the political revolution of 1974. Besides elites linked to the former regime, entrepreneurs, cadres and technicians left the country due to political disturbance or deterioration in their life styles. Many of them revived a former Portuguese destiny, Brazil, which had lost its predominance to Europe since the early 60s. A large part of these flows seemed to

have been temporary. In fact, just after the “normalisation” of the political life, the direct plea of governments, processes of privatisation (many of the economic activity became state owned in 1974-75) and the overall economic dynamics led to the “return” of many of these skilled (or other socially privileged) groups.

The second peak of skilled movements was longer and had a different character. In fact, since the late 70s, two distinct outflows started to occur, both representing organisational flows. At the one hand, a short – but significant – demand from large investments and public works in the Middle East led to the movement of more skilled labour than the usual standard in the country. This flow paralleled others going from European countries to the Middle East - flows which helped to change the picture of highly skilled research in Europe (Findlay, 1990, for example). These flows, strictly temporary, represented an important qualitative change in Portuguese out-migration. At the other hand, the beginning of a process of development assistance with the ex-colonies of Africa led to the movement of skilled Portuguese personnel with this destination. This flow occurred in the framework of state agencies and non-governmental organisations. The continuous turbulence that many of the ex-colonies knew after the independence was one of the motives explaining the decrease of flows. From then on, it was mainly the international activity of Portuguese firms in the ex-colonies that led to the persistence of flows in this direction, although with an unknown magnitude.

From the mid-80s, other forms of skilled outflows became significant. The first one is related to business. Portuguese cadres and technicians became increasingly involved in the international internal labour markets of Portuguese and foreign-owned international firms. The first movements of this kind are related to foreign firms operating in Portugal, a process that was more visible since the 60s. Those firms were responsible for a larger inflow of skilled personnel than a correspondent outflow, but some Portuguese staff has gained position in the international company circuits. From the 80s, sustained processes of internationalisation of Portuguese-owned firms became evident, targeting destinations as the ex-colonies, Latin America (mainly Brazil) and some European countries (western or eastern ones). A new flow of Portuguese cadres, symmetrical to the one occurring in foreign firms, arose, targeting technical and control functions in their organisations.

A second recent outflow involves undergraduate and graduate students. As we saw, movements related to academic careers are known since the 60s, and seem to be recurrent. Although comparable figures are difficult to obtain, a surge in flows concerning younger students seemed to occur from the mid-80s. At the one hand, it is related to EU student programs, such as Erasmus and, later, Socrates. Portugal seems to have a relatively secondary position, in quantitative terms, among European sending and host countries, but significant numbers of Portuguese and foreign students are using this schema. (Interestingly, some of the foreign students that search Portugal are descendants from former Portuguese - low skilled - out-migration, revealing an interesting effect of network.) At the other hand, studies in foreign countries became a means of upward social mobility, since some foreign diplomas (including post-graduate ones) are highly valued in the country. It is mainly upper or middle-upper social classes that seek this path. It is possible that a “social” selection of this type also applies to Erasmus outflows, although little evidence is available on this issue. The membership of the EU favours this kind of circulation and the correspondent recognition of diplomas.

The Portuguese government has also engaged itself in a strong policy of “advanced training of human resources”, mainly since the 90s. This involved the granting of scholarships to obtain post-graduate degrees, namely masters and PhDs, and to carry on post-doctoral research in Portugal or in foreign countries. The scholarships were granted by the Ministry for Science and Technology to Portuguese and non-Portuguese students (although the former constituted the large majority of the applicants). Some figures are displayed on Table 9. During the period 1990-2000, the proportion of scholarships directed to foreign countries (including total and partial stays in these countries) reached almost 30% for the whole scholarships, a figure that has acquired a growing volume during the decade. By type of scholarship, the bulk of the “foreign” ones were at the doctoral level. Considering the whole scholarships, the doctoral ones reached almost 80% of all the scholarships in foreign countries. Amongst them, slightly more than half (51.3%) was in this situation. Post-doctoral scholarships were also important in this regard (37.9% were directed to foreign countries), but their absolute number was lower.

Concerning scientific mobility, including academic careers and student flows, there are reasons to believe that a large part of the outflows are temporary. Observing data on the PhDs awarded in Portugal or awarded in foreign countries and recognised in Portugal (see Table 10) some conclusions seem to be clear. The number of PhDs is growing very strongly since the 80s. They went from less than 500 in each 5-years period before 1980 to the current 3516 in 1996-2000. In the 90s the number of PhDs grew by more than 10% per year – what represents one of the largest growth rates in Europe. Considering the “national” and the “foreign” dimension of these degrees, both have strongly increased after 1980. However, if we take the relative proportion, national PhDs are becoming increasingly prevalent. They slightly diminished during the 70s, but afterwards they increased gradually, attaining today 75.8% of the total. Foreign PhDs, although decreasing, are still substantial. They only ceased to be more than half the total since the early 80s, when the Portuguese scientific system became mature and capable of self-reproduction - but they still constitute almost a quarter of all PhDs.

We can take for granted the idea that most of these PhDs are targeted to exert activity in Portugal: this explains why their holders have sought to obtain the diploma or its recognition in the country. We can also believe that most of the holders of the “foreign” PhDs are Portuguese individuals. Evidence gathered in another context revealed that obtaining foreign degrees at this level is a common strategy amongst Portuguese scientists (see Peixoto, 1998 and 2001b). This results from the shortcomings of some scientific domains at the national level, the excellence of given scientific research centres abroad or strategies of upward mobility. Although there is no evidence about how many Portuguese that completed PhDs abroad remained in their host countries and how many returned, this second component is certainly substantial - and very probably the largest one. For example, a recently constituted network called International Forum of Portuguese Researchers (*Forum Internacional de Investigadores Portugueses*), intending to link researchers in Portugal and abroad (its first encounter dates back from 1995), has shown that if some scientists remain persistently abroad, others have only temporary experiences of this type.

Observing the evolution during the last decades, returns may have been significant first in the mid-70s - although no empirical evidence exists to quantify them.

Scientists and intellectuals that left the country for political reasons returned, for the most part, in 1974 or immediately afterwards, following the process of democratisation. The boom in higher education occurred from that date on explained both an easy integration of these foreign-trained (or exiled) individuals and the continuous incorporation of further ones. Many of the foreign degrees obtained since the mid-70s are also related to the higher education expansion, since they reflected the schools' strategy on the training of human resources and the individuals' flows engaged in academic careers. In the 90s, academic training in foreign countries was an explicit aim of the Portuguese scientific policy, which supported a large proportion of total outflows. The rationale seems to be that the training will enrich the national scientific system via return of these researchers. The "openness" of the legal framework in Portugal towards PhDs degrees obtained abroad – since 1997 it is easy to obtain a recognition – is maybe best explained by the will on removing obstacles at this level. As such, this data confirm the temporary character of many highly skilled outflows – particularly in the field of science - in Portugal.

As a result, Portugal seems to be, at least, a partial exception to several brain drain sources. It is true that, as occurs with other European countries, there seems to exist a significant group of Portuguese scientists abroad. The rationale for a Portuguese to move to a scientifically developed country, such as the USA or some EU ones, seems to be unquestionable, since the working conditions and the available funding are often compensating. Probably, those who remain there are amongst the more talented, since they are able to obtain success. However, a significant fraction of those who have ever worked (or benefited from training) in foreign countries do return. This is a different picture from the one of advanced students and scientists from other sources, where the probability of permanence is higher. The social polarity that we have mentioned in this paper may partially explain the situation. Highly ranked social groups – and scientists, although not at the top, are well located – have little rationale for moving. The easy access to academic careers existing until recently is another explanation. However, the picture is starting to change, as many of the traditional paths for upward professional mobility are becoming harsher to go through.

## **Conclusion**

Taking all highly skilled movements, the panorama in Portugal seems to be of a net migration gain. Concerning emigration, the scarce information available points to a residual volume of flows. These respect to individuals engaged in multinational corporations and international activities of Portuguese and foreign-owned companies; agents inserted in development assistance programmes of governmental and non-governmental agencies; academics going abroad and students following undergraduate and graduate education in foreign countries. A large part of these outflows (although a fraction that it is not possible to measure) seems to be temporary, being followed by returns. Concerning immigration, its volume seems to be higher than the one of exits, attaining almost a third of all inflows of foreign labour force. It comprises individuals working for multinational and international corporations; independent professionals coming from Brazil and other origins, such as Western and Eastern Europe; and students coming mainly from the ex-colonies of Africa.

The characteristics and causal factors acting over those flows are different. Outflows seem relatively more temporary and less company-related than inflows. Concerning causalities, the reduced potential for emigration results from the low competitive capacity of Portuguese professionals in skilled labour markets abroad (the average qualification of the population is still low), their overall good social status in the country and the (until recently) good local job opportunities. Inflows present diverse characteristics. Among them, the ones from the EU are the more company-related and, probably, the more temporary. In general, immigration results from the need of accompanying foreign direct investment for control and technical functions, and from shortages existing in the skilled national labour market – facts that became more visible with the adhesion to the EU. “Independent” inflows, such as the ones coming from Brazil and resulting from the permanence of African students, represent a sort of brain drain benefiting Portugal.

In the future, everything points to an increase of flows. The overall growth in the skill level of population, the growing need for skilled labour, specific skill shortages, processes of regional and political integration (in the framework of the EU), local restructuring processes – all are basis for a potential increase of both inflows and

outflows. The policy of free circulation inside the EU, paralleled by a gradually more consistent process of recognition of diplomas – vital to highly skilled migration -, will probably intensify flows in the medium-term (although we can argue that it has not had a strong impact on movements until today – Peixoto, 2001b). Schemas of student and academic exchange are also facilitators of both current and future movements, given the process of institutional integration and the networking effect that accompanies them.

Areas of concern to Portugal appear to be some. First, the country may lack competitive capacity to attract the best worldwide talents, a question that is increasingly occupying the debate on highly skilled (Findlay, 2001). Second, it may prove to be difficult to assure the return of the more capable of the Portuguese that left the country and remained in their destination. These situations may result from the persistence of a relatively less central status in the European context. This applies either to the general socio-economic condition of the country or to the difficulty in consolidating local scientific centres of excellence. Third, and maybe the most important, a growing difficulty can emerge to retain the best local talents. This may result from the greater abundance of qualifications in the Portuguese labour market; from the difficulty of pursuing local careers (as already happens in the academic field); and from the wider international experience of Portuguese students and scientists, and the facilitating process over migration that this creates. In sum, Portugal may experience in the near future a brain drain directed to the economic and scientific centres of Europe or elsewhere.

A final note must be done for the current situation of Portuguese students and young scientists abroad. As already stated, besides numerous independent initiatives, Portuguese government is actively supporting advanced training in foreign countries, particularly the attainment of PhD degrees. Young Portuguese researchers may now face the possibility of staying abroad if the opportunities there emerge or the difficulties for return arise. The Portuguese government launched in the late 90s a program to support the return and integration in the national scientific system of PhD holders residing abroad. This programme, which also applies to Portuguese scientists residing there for a longer time, illustrates the above-mentioned concern. We may state that the residential criterion is no longer the main one to grant results for the



national scientific system. The benefits of the networking effect, for example, may overdo it. However, there remains an open question of how to attract, by residence or by common work, the activities of talented citizens.

**Table 1**  
**Foreign legal population with economic activity, by occupation and year, 1986-1998**

	Total				%				Variation
	1986	1990	1994	1998	1986	1990	1994	1998	1986-98 %
<b>Occupation (a)</b>									
<i>Highly skilled</i>	12609	16208	23140	26819	29,3	31,3	29,8	30,3	112,7
0/1	10352	12743	18543	21656	24,0	24,6	23,9	24,4	109,2
2	2257	3465	4597	5163	5,2	6,7	5,9	5,8	128,8
<i>Medium and low skilled</i>	30494	35573	54459	61786	70,7	68,7	70,2	69,7	102,6
3	2125	2592	3222	3473	4,9	5,0	4,2	3,9	63,4
4	3461	4100	6176	7421	8,0	7,9	8,0	8,4	114,4
5	2287	1824	5332	7555	5,3	3,5	6,9	8,5	230,3
6	1109	910	1015	1096	2,6	1,8	1,3	1,2	-1,2
7/8/9	21441	23552	38714	42241	49,7	45,5	49,9	47,7	97,0
Other	71	2595	...	...	0,2	5,0	...	...	...
<i>Total</i>	43103	51781	77599	88605	100	100	100	100	105,6

Note: (a) The list of occupations considered in the official statistics on foreign population is the following:

- 0/1: Professional and technical occupations; 2: Managers and cadres;
- 3: Employees; 4: Sales personnel; 5: Personnel services occupations;
- 6: Farmers; 7/8/9: Working class.

The aggregation on "highly skilled" and "medium and low skilled" was done by the author.

Source: INE

**Table 2**  
**Foreign legal population with highly skilled occupations, 1986-1998**

<i>Years</i>	1986		1990		1994		1998		Variation 1986-98 %
	Total	%	Total	%	Total	%	Total	%	
<i>Occupations</i>									
Total (Professional, managerial and technical)	12609	100	16208	100	23140	100	26819	100	112,7
<i>EU (a)</i>	5798	46,0	9110	56,2	10826	46,8	13954	52,0	140,7
<i>Brazil</i>	4096	32,5	2369	14,6	4475	19,3	4862	18,1	18,7
<i>Other</i>	2715	21,5	4729	29,2	7839	33,9	8003	29,8	194,8
Professional and technical occup.	10352	100	12743	100	18543	100	21656	100	109,2
<i>EU (a)</i>	4043	39,1	6526	51,2	7839	42,3	10335	47,7	155,6
<i>Brazil</i>	4016	38,8	2190	17,2	4076	22,0	4443	20,5	10,6
<i>Other</i>	2293	22,2	4027	31,6	6628	35,7	6878	31,8	200,0
Managers and cadres	2257	100	3465	100	4597	100	5163	100	128,8
<i>EU (a)</i>	1755	77,8	2584	74,6	2987	65,0	3619	70,1	106,2
<i>Brazil</i>	80	3,5	179	5,2	399	8,7	419	8,1	423,8
<i>Other</i>	422	18,7	702	20,3	1211	26,3	1125	21,8	166,6

Note: (a) In 1986 and 1990, all Europe.

Source: INE

**Table 3**  
**Foreign legal population with economic activity, by occupation and nationality, 1998**

	Total					%				
	EU	Brazil	PALOP (b)	Other	Total	EU	Brazil	PALOP (b)	Other	Total
<b>Occupation (a)</b>										
<i>Highly skilled</i>	13954	4862	1945	6058	26819	54,8	50,8	4,7	48,9	30,3
0/1	10335	4443	1835	5043	21656	40,6	46,4	4,5	40,7	24,4
2	3619	419	110	1015	5163	14,2	4,4	0,3	8,2	5,8
<i>Medium and low skilled</i>	11529	4708	39223	6326	61786	45,2	49,2	95,3	51,1	69,7
3	1336	655	1208	274	3473	5,2	6,8	2,9	2,2	3,9
4	3391	1157	1066	1807	7421	13,3	12,1	2,6	14,6	8,4
5	1588	685	4253	1029	7555	6,2	7,2	10,3	8,3	8,5
6	480	65	270	281	1096	1,9	0,7	0,7	2,3	1,2
7/8/9	4734	2146	32426	2935	42241	18,6	22,4	78,8	23,7	47,7
<i>Total</i>	25483	9570	41168	12384	88605	100	100	100	100	100

Note: (a) See Table 1.

(b) Portuguese-speaking African countries.

Source: INE

**Table 4**  
**Immigration of foreign labour force (a) - Total and highly skilled occupations, 1999 and 2000**

	1999					2000				
	Total labour force	Highly skilled occupations (b)			Total labour force	Highly skilled occupations (b)				
		Total	%	Profess. techn.		Managers cadres	Total	%	Profess. techn.	Managers cadres
<i>Total</i>	4058	1341	33,0	970	371	7835	1745	22,3	1267	478
<i>EU</i>	1958	1098	56,1	798	300	2056	1203	58,5	890	313
<i>Brazil</i>	339	104	30,7	71	33	688	200	29,1	152	48
<i>Other</i>	1761	139	7,9	101	38	5091	342	6,7	225	117

Notes: (a) Foreign population that applied for a legal resident status each year.

(b) The list of occupations includes: 1 - Managers and cadres; 2 - Professional and technical occupations. Although this classification is not the same as the one used for the foreign legal stocks, it can be considered comparable at the highly skilled level.

Source: INE

**Table 5**  
**Immigration of foreign labour force (a), by educational level, 1999 and 2000**

	1999				2000			
	Total	Educational level		Other (c)	Total	Educational level		Other (c)
		Higher education(b)	%			Higher education(b)	%	
<i>Total</i>	14476	2729	18,9	11747	18412	3361	18,3	15051
<i>EU</i>	4568	2019	44,2	2549	4715	2158	45,8	2557
<i>Brazil</i>	1351	242	17,9	1109	1786	410	23,0	1376
<i>Other</i>	8557	468	5,5	8089	11911	793	6,7	11118

Notes: (a) Foreign population that applied for a legal resident status each year.

(b) Tertiary level education.

(c) Includes population at all ages.

Source: INE

**Table 6**  
**Demographic structure of foreign population -**  
**Labour force and highly skilled core group (a), 1991**

	Foreign labour force	Foreign HSCG (a)	Foreign HSCG Migrants/85 (b)	Foreign HSCG Migrants/89 (c)
Total	44639	4546	2334	942
%	100	10,2		
<i>Gender distribution</i>				
% male	62,0	69,0	69,7	70,7
% female	38,0	31,0	30,3	29,3
<i>Age structure</i>				
% 0-14	0,6	-	-	-
% 15-39	75,3	57,4	63,6	65,8
% 40-64	22,9	40,5	35,7	33,5
% 65 and more	1,2	2,1	0,6	0,6
Average age	32,6	39,1	37,4	36,7
Median age	31	37	36	35
Modal age	27	30	30	30
Standard deviation	11,9	10,5	9,3	9,7

Note: (a) The "highly skilled core group" (HSCG) include those who have simultaneously a professional, managerial and technical occupation and a tertiary level education.

(b) "Highly skilled core group" having migrated to Portugal between 1985 and 1991.

(c) "Highly skilled core group" having migrated to Portugal between 1989 and 1991.

Source: Peixoto, 1998, based on INE, 1991 Census

**Table 7**  
**Demographic structure of foreign population -**  
**Highly skilled core group (a), by nationality, 1991**

	Total HSCG (a)	Nationality HSCG (a)		
		EU	Brazil	Other
Total	4546	2027	1326	1193
%	100	44,6	29,2	26,2
<i>Gender distribution</i>				
% male	69,0	72,9	60,9	71,5
% female	31,0	27,1	39,1	28,5
<i>Age structure</i>				
% 0-14	-	-	-	-
% 15-39	57,4	43,5	74,3	62,4
% 40-64	40,5	53,2	25,2	35,9
% 65 and more	2,1	3,3	0,5	1,8

Note: (a) The "highly skilled core group" (HSCG) include those who have simultaneously a professional, managerial and technical occupation and a tertiary level education.

Source: Peixoto, 1998, based on INE, 1991 Census



**Table 8**  
**Foreign researchers working in Portugal, by nationality, 1999**

<i>Nationality</i>	Total	FTE (a)	% (FTE)
European Union	446	263,5	42,8
Other European countries	98	58,6	9,5
South America	154	86	14,0
Africa	143	90,8	14,7
North America	51	29,1	4,7
Asia	82	57,5	9,3
Oceania	2	1,7	0,3
Non stated	56	29,1	4,7
<i>Total foreign researchers</i>	<b>1032</b>	<b>616,3</b>	<b>100</b>
<i>Total of researchers (FTE)</i>		<b>13165</b>	
<i>% foreign researchers (FTE)</i>		4,7	

Note: (a) Full time equivalent.

Source: OCT, National Survey on Science and Technology, 1999

**Table 9**  
**Scholarships granted to graduate students, by number and localisation (foreign countries), 1990-2000**

	1990-1993 (a)			1994-1999 (a)			2000 (a)			Total		
	Total	Foreign countries (b)	%	Total	Foreign countries (b)	%	Total	Foreign countries (b)	%	Total	Foreign countries (b)	%
Post-Doctoral	0	0	...	683	280	41,0	216	61	28,2	899	341	37,9
Doctoral	1572	700	44,5	3528	1894	53,7	668	365	54,6	5768	2959	51,3
Masters	1632	161	9,9	2339	202	8,6	140	31	22,1	4111	394	9,6
Others	0	0	...	1867	55	2,9	8	8	100,0	1875	63	3,4
<i>Total</i>	3204	861	26,9	8417	2431	28,9	1032	465	45,1	12653	3757	29,7

Notes:

(a) The scholarships were granted under different official programs: CIENCIA (1990-1993), PRAXIS XXI (1994-1999) and POCTI (2000).

(b) Including scholarships for total or partial stays in foreign countries ("foreign" or "mixt" scholarships).

Source: OCT

**Table 10**  
**PhDs awarded in Portugal and in foreign countries, 1970-2000**

	1970-1975	1976-1980	1981-1985	1986-1990	1991-1995	1996-2000	Total
Total	<b>436</b>	<b>452</b>	<b>844</b>	<b>1444</b>	<b>2184</b>	<b>3516</b>	<b>8876</b>
PhDs in Portugal (a)	178	159	465	989	1597	2666	6054
PhDs in foreign countries (b)	258	293	379	455	587	850	2822
Total	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
PhDs in Portugal (a)	<i>40,8</i>	<i>35,2</i>	<i>55,1</i>	<i>68,5</i>	<i>73,1</i>	<i>75,8</i>	<i>68,2</i>
PhDs in foreign countries (b)	<i>59,2</i>	<i>64,8</i>	<i>44,9</i>	<i>31,5</i>	<i>26,9</i>	<i>24,2</i>	<i>31,8</i>

Notes:

(a) PhDs awarded by Portuguese universities.

(b) PhDs awarded by foreign universities and recognised in Portugal.

Source: OCT

## References

- Baganha, Maria Ioannis (1994), “As correntes emigratórias portuguesas no século XX e o seu impacto na economia nacional”, *Análise Social*, 29 (128): 959-980.
- Baganha, Maria Ioannis (1998), “Immigrant involvement in the informal economy: the Portuguese case”, *Journal of Ethnic and Migration Studies*, 24 (2): 367-385.
- Findlay, Allan (1990), “A migration channels approach to the study of high level manpower movements: a theoretical perspective”, *International Migration*, 28(1): 15-24.
- Findlay, Allan (2001), “Brain drain: the second wave”, paper presented at the Conference “Strangers and Citizens: Challenges for European Governance, Identity, Citizenship”, University of Dundee, March 2001.
- INE (Instituto Nacional de Estatística), Infoline, <http://www.ine.pt>.
- OCT (Observatório das Ciências e das Tecnologias), <http://www.oct.mct.pt>.
- OECD (1995), *Manual on the Measurement of Human Resources Devoted to Science and Technology – The Canberra Manual*, Paris, OECD.
- Peixoto, João (1998), *As Migrações dos Quadros Altamente Qualificados em Portugal – Fluxos Migratórios Inter-Regionais e Internacionais e Mobilidade Intra-Organizacional*, PhD dissertation, Lisbon, Instituto Superior de Economia e Gestão, Universidade Técnica de Lisboa.
- Peixoto, João (1999), *A Mobilidade Internacional dos Quadros – Migrações Internacionais, Quadros e Empresas Transnacionais em Portugal*, Oeiras, Celta Editora.
- Peixoto, João (2001a), “International migration of highly skilled labour in Portugal”, paper presented in the Seminar “International Mobility of Highly Skilled Workers: From Statistical Analysis to the Formulation of Policies”, OECD, Paris, June 2001 (unpublished paper).
- Peixoto, João (2001b), “Migration and policies in the European Union: highly skilled mobility, free movement of labour and recognition of diplomas”, *International Migration*, 39 (1): 33-61.
- Peixoto, João (2002), “Strong market and weak state: the case of recent foreign immigration in Portugal”, forthcoming in the *Journal of Ethnic and Migration Studies*.
- Salt, John (1992), “Migration processes among the highly skilled in Europe”, *International Migration Review*, 26 (2): 484-505.