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## A Geo-Economic Approach to Brain Drain in Morocco

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### Abstract

The brain drain is a symptom of a more serious disease that plagues the Moroccan policy of training and scientific research. The “brain drain” phenomenon is not novel and dates back to 1950. At that time, the term meant the massive departures of British scientists and engineers to the United States. Then, it referred to the South-North scientists’ migration and since recently scientists’ emigration from the East. Now this term is used in a broader sense to refer to the flight of human capital (that is to say, highly educated individuals with a university degree or equivalent) from the developing countries to the industrialized countries. Over the past two decades, the magnitude of the brain drain has reached staggering proportions.

It is however clear that the extent of the *brain drain* has increased dramatically since the seventies. This is due in part to the introduction of selective immigration policies favoring skilled workers in most countries. Yet, the skilled labor migration contributes essentially to the increasing globalization of the economy, a globalization that reinforces the natural tendency of human capital to agglomerate where it is already abundant.

In this article, we aim to explore some positive aspects of the “*Brain Drain*”. In fact, we will show that, in principle, a brain drain gain can at least rhyme with positive *feedback* for the country of origin. We will show through empirical analysis that the migration of skilled labor from a country can play a potential role in the pace of development of the latter and can be a source of positive externalities, and that through two channels. The first is related to the acquisition of additional skills and the increase in the ex-ante level of education. The second is related to the “brain gain” thanks to a compensation in terms of migrants’ return and the technology transfer that ensues.

This article will aim to answer three major questions:

- What are the determinants of skilled labor departure in Morocco?
- Is there a link between the perspective of emigrating to a more developed country and the accumulation of human capital in Morocco?
- Why these skilled migrants return and what is their role in the development of the country of origin?

This article will present the determinants of departure and causes of return of the skilled migration in Morocco, analyze the issues raised by this migration and define the channels that mitigate its negative impact.

*Keywords: International migrations, Brain drain, Human capital, Development, Brain gain*

### Introduction

The brain drain is a characteristic feature of globalization. It is meant to grow and expand in the future. The phenomenon has been of considerable importance since the end of the last century. The term “brain drain” was popularized in the fifties referring to the migration of senior scientists from countries such as the UK, Canada or the former Soviet Union to the US; this term is now used in a broader sense to refer to the migration of human capital (that is to say, highly educated individuals with a university degree or equivalent) in developing countries to industrialized countries. Over the past two decades, the magnitude of the brain drain has reached staggering proportions. Yet, it is essentially part of the increasing globalization of economy, a globalization which reinforces the natural tendency of human capital to agglomerate where it is already abundant.

Currently, there is an affluence of expressions to describe this form of migration: elitist migration, brain drain, skills drain, knowledge leakage, exodus of intellectuals, reverses transfer of technology ... Although it's increasingly being thrust into the limelight, the question remains little explored and poorly controlled. The issue is quite complex and multidisciplinary, it challenges the sociologist, the economist, the political scientist, the demographer, the legal expert and other disciplines. Moreover, a quantified assessment of this form of migration is difficult due to the lack of reliable statistics.

Morocco is concerned with the brain drain phenomenon and cannot stop it. Certain skills opt for life abroad, which is the case in most countries of the South now. Morocco, which has ratified most of the international human rights instruments, cannot undermine this principle by imposing restrictions on its citizens' right to freedom of movement or by preventing its skilled subjects from leaving the country. Some foreign skills are residing in Morocco. The skilled Moroccan emigrants are primarily members of the Moroccan diaspora. They are foreigners who emigrated for various reasons, mainly to work.

This article aims to answer four key questions: What are the determinants of the skills exodus from Morocco?

Are there any effects on Morocco? What are the strategies and policies for the return of the skilled emigrants and what is their role in the development of the country?

This article will present the determinants of departure and causes of return of the skilled migration in Morocco, analyze the issues raised by this migration and define the channels that mitigate its negative repercussions.

## **Determinants of the brain drain**

In order to control migration, it is crucial to understand why people are migrating. The brain drain is the product of a combination of several factors. This multitude of causes seems to share a strong propensity to emigrate. The logics that underlie this flow are both endogenous and exogenous (push and pull factors).

Although there are a few factors that can be identified in several countries as the forces of "drive" or "attraction" that stimulate migration in most cases, the only way to understand the dynamics involved in the brain drain is the analysis of variables in the context of a specific region or country.

### ***Endogenous factors***

They are of different natures and do not have the same intensity in all countries. These factors are:

- Economic: the existence of an economic divide between the North and the South;
- Political: the lack of democratic mechanisms to ensure the equality of opportunity for all (meritocracy);
- Professional: the inability of the national economy to meet the aspirations of those who have acquired high level qualifications;
- Total or partial unemployment, often attributable to the inadequate implementation of the education, employment and science and technology policies;
- The failure of the entrepreneurial system whose main features are the little importance granted to research and development and the weak mentoring of the Moroccan companies;
- The limited budget allocated to research: Morocco's overall expenditure represents less than 0.3% of the GDP, well below the rates recorded in developed countries (2% in EU countries);
- The weak means of intellectual stimulation (laboratories, libraries, professional associations) coupled with bureaucratic inertia.

### ***Exogenous factors***

The incubation of the project to emigrate is often triggered by exogenous factors, the phenomenon being intensified by an international demand for the brain drain. The current globalization plays a paramount role in accelerating this elite migration. The restructuring of the production systems has led to a hike in the demand for highly qualified personnel. And this is sometimes accompanied by aggressive recruitment policies as evidenced

by the Green Card in Germany which led to the proliferation of recruitment companies and of websites specialized in “talent hunting”.

Other exogenous factors of a professional nature encourage this elite to wake up from its latent phase, step up to the plate and emigrate. It is indeed the attractive environment in developed countries characterized by auspicious working and living conditions: a quest for excellence; an organizational flexibility; a competitive spirit; promotion prospects and access to opportunities; sectoral attractions related to the new trades of the new technologies. These professional factors are sustained by others of a rather personal nature: the wage incentives, the promotion systems and the opportunities at hand; the effective social security systems; the possibility to help parents and to be spoilt for choice on children’s schooling.

Zimmermann (1996) distinguishes between the factors that “push” people out of their countries of origin and the factors that “attract” them to a new “host” country. Some home unfavorable internal conditions are the unsatisfactory educational capacity, the low living standards, the limitations of technology, the inadequate training and employment and the uncertainty of tomorrow, the political malaise, the armed conflicts<sup>4</sup>, the absence of realistic labor policies and the economic instability (Chang, 1999).

### «Impulse» factors

The barriers to achieving educational goals or the lack of career opportunities (e.g. due to cuts in the budget allocated to public universities, as is the case in most African countries) can be an “Impulse” towards migration.

The establishment of a subsidiary of an international company, or the relocation of factories, is also pushing skilled workers abroad, particularly to the developed world where some IT companies relocate some categories of skilled workers in countries such as India. There is evidence that deteriorating economic conditions are responsible for the brain drain in South Africa (Bhorat *et al.*, 2002). However, for the skilled black South Africans, the feeling of estrangement from the political status quo and the loss of confidence in the government’s ability to improve the living conditions – particularly human rights violations – seem to play an important additional role.

The “Impulse” factors can be summarized as follows: (World Migration 2003: 218):

1. Higher wages abroad, although there are cases of underemployment: Example of African holders of doctoral degrees who drive taxis or work in hotels and security agencies;
2. Greater job mobility and professional career development;
3. Few bureaucratic controls and high living standards;
4. Acquisition of high-level qualifications impossible at home as the Higher Education sector lacks resources and staff;
5. Foreign scholarships and support for education;
6. Unsatisfactory socio-economic conditions and African populations deprivation in many countries;
7. Active presence of recruiters.

### «Attraction» Factors

The factors of attraction include better personal and professional opportunities in the host country, propitious policies for the immigration of the better-educated, wage differentials, differences in the quality of life, education for children, interaction with other professionals, political stability, and job security (Hillman and Weiss 1991, Porés 1991). Countries such as Canada, New Zealand, Germany, the United States and the United Kingdom now have aggressive recruitment policies for highly qualified foreigners to increase their own skilled labor force, particularly in a globalized global economy where intellectual worker are highly coveted.

From an economic perspective, the fundamental motivation for migration is the hope to score a net gain.

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<sup>4</sup> For example, a number of countries in Africa have experienced serious conflicts over the last 15 to 20 years. These include South Africa, Zimbabwe, Mozambique, Angola, Democratic Republic of Congo, Central African Republic, Kenya, Somalia, Sudan, Uganda, Ethiopia, Eritrea, Burundi, Rwanda, Algeria, Côte d’Ivoire, Senegal, Gambia, Sierra Leone, Liberia and Guinea.

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There are at least two potential economic benefits to migration for those participating in the labor market.

The first is linked to the gains in the labor market or to income more generally. The second advantage is employment. People can move elsewhere to increase their income in the labor market; migration is then the result of the job search process. They may also move to increase their chances of landing a job, and in this case, migration is an intrinsic part of the job search.

Skilled Moroccans leave the homeland mainly to work. The working conditions they enjoy in their country of residence are generally better than those offered by their country of origin. Moroccans who emigrate choose to live abroad, but in fact it is their employers who choose them. Indeed, migration for work has always been the choice of the host countries (especially rich countries), since in most cases these countries encourage and accept only people who are sought after in their labor market. These skilled Moroccans abroad have become not only providers of intelligence for their host countries, but also “knowledge workers” in the new globalized order and new actors in international cooperation.

Nowadays, it seems that the “*Moroccan emigration to Quebec is more important than the French one. There are nearly 100,000 Moroccans in Canada, immigrants or merely students, 80% of whom are settled in Quebec. Approximately 2,500 of them cross the Atlantic every year*” (Bladi, 2009). The emigration of skilled Moroccans to Canada, and more particularly to Quebec, seems to have been increasingly the choice of Moroccans for quite some time. This migration is also in line with the orientations of the country’s migration policy. In addressing the theme of “Globalization and the brain drain: the case of Quebec immigration policy towards Moroccan candidates”, a Moroccan migration specialist underlined that “*the new policies orientations in the North tend to encourage/facilitate the reception and residence of certain occupational profiles of foreign professionals*”. He added that “*the quota policy is one of the visible aspects because it contains the idea of selection according to needs and interests*”. The author pointed out in his study that “*the Quebec immigration policy with regard to Moroccans in particular is part of this trend*” (Mohamed DIOURY Conference, 2001, <http://www.afrology.com/eco/fuitecerv.html>).

The same study concluded that the Moroccans living in Quebec are more educated than the average of other immigrants and that they are more educated than the average of Quebecers. The author deduced that “*this situation represents a net positive contribution for Quebec and a net loss for Morocco*” (DIOURY, 2001).

### **The brain drains effects**

The cost of the brain drain includes different components: the training cost since preschool and the opportunity cost for the country of origin: what this country loses in the absence of the skilled trainee (productivity, income, etc.). Furthermore, it would be possible to add other additional costs: the costs assumed by the families of the trainees (education, health, housing, leisure, etc.); the cost ensuing from the trainee’s absence incurred by his family and eventually the children.

The assessment of the brain drain cost requires the availability of various and fairly detailed data. In the case of Morocco, however, some of these data are either unavailable or difficult of access. For example, the cost of training an engineer requires a joint review of both operating and investment budgets of the institutes and training schools (as well as those of educational institutions from preschool to university). Yet, in most cases, investment data and its internal composition are difficult to produce<sup>5</sup>.

### ***An engineer’s training cost***

Morocco devotes a significant part of its financial efforts to the education sector. In 2007, the budget dedicated to national education and vocational training represents one quarter of the State general budget. The

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<sup>5</sup> It is true that Morocco is changing and that, since the 2000s, Morocco has experienced major reforms in all areas, but the country is still in a transition period. “Anti-law” practices inherited from the old regime persist and give rise to injustice and discrimination, which push some skills to expatriate themselves in search of more equity and democracy.

cost of training an engineer includes the primary school, the secondary school, the higher secondary, the preparatory classes and engineering school. The 2005 data show that an engineer's training in Morocco costs an average of 95,460 dirhams (about 12,000 dollars) before entering the engineering institute or school.

The branches where the biggest deficits are and which have given rise to a war for talents are the NICT.

Recruiters from around the world are vying for these specialists, dipping mainly into countries such as India, where 43,000 computer scientists expatriated in 1999 and 50,000 in 2000. In fact, the race for these geeks explains why the most coveted laureates in Morocco are those graduating from the Grandes Ecoles: Institut National des Postes et Télécommunications (INPT), Ecole Nationale Supérieure d'Informatique et d'Analyse de Système (ENSIAS) & l'Ecole Mohammedia des Ingénieurs (EMI) whose 50 to 60% of the laureates in 2000 had, according to a Moroccan daily, already left or were due to leave at the time of the closing ceremony (Abd Al Ilah Al Mouttaqi, 2010, p.15).

These three Ecoles witness a more or less substantial departure flow, depending on the period. And this is the reason why we shall limit the assessment of the cost to these three institutions, focusing on the case of the INPT for which fairly accurate data are available. Within the INPT, the unit cost of an engineer's training is of the order of 93,380 dirhams per year (Ministry of National Education, INPT, 2007). This figure has the advantage of including investments (depreciation), the INPT having an adequate analytical accounting. If one adds the scholarships (excluded from the institute budget) and the costs of preliminary training, the training of an INPT engineer would cost 389,700 dirhams. For the EMI and the ENSIAS, the average unit cost of an engineer's training from 2000 to 2007 is 144,000 dirhams over the three years of training (Ministry of National Education: Assessment and Long-Term Planning Department), if we add the scholarship, the total sum is then 158,100 dirhams per engineer. Thus, the average overall training cost is about 253,560 dirhams, or about 32508 USD per engineer.

Today (more than ever before), the Moroccans needed in Europe and also in North America are mostly people with a good academic background and often a proven track record of success. A great deal of the Moroccan graduates from the most prestigious Grandes Ecoles emigrate annually and more than 15% of Moroccan students are based abroad, about 50 000 students<sup>6</sup>. A certain portion of the population of the Kingdom positions itself in this new type of migration opportunity.

### ***Other negative consequences of this brain drain***

Until recently, it was assumed that the brain drain could only be pernicious to the country of origin. As early as the 1970s, well-known economists, chief among them was Jagdish Bhagwati, defended this pessimistic view and put forward the following arguments (Bhagwati, J.N., 1974, pp. 19-42):

- ☑ The brain drain is fundamentally a negative externality imposed on the population residing in the country of origin;
- ☑ It can be analyzed as a zero-sum game, where rich countries get richer and the poor countries become poorer; &
- ☑ In terms of economic policy, the international community should introduce compensatory transfer mechanisms in favor of the countries of origin.

Finally, it should be noted that in the Moroccan case, the losses recorded are all the more detrimental to its economy since, on the one hand, those who leave the country are recruited mostly amongst the locally employable graduates and not graduates who have difficulty finding a job; on the other hand, the country is confronted with crucial deadlines: the upgrading of the Moroccan companies and the various major projects underway (the Emergence program and other sectoral programs) suffer from this brain drain. Upgrading and achieving productivity gains do require competence-based management.

<sup>6</sup> See Survey on International Moroccan Student Mobility: EMEMI project in <http://www.uae.ac.ma/dossiers/down/recherche/EMEMI/SUPPORT-EMEMI.pdf>



Nevertheless, if the economic analysis is now making a more nuanced assessment of the brain drain effects on developing countries, it is mainly due to the fact that by inflating the expected return on human capital, the perspectives of emigration can contribute to boosting the investment in education in the countries of origin.

### ***Economic contributions of the returning migrants***

Obviously, the brain drain can in principle at least be accompanied by positive feedback for the countries of origin, such as remittances from migrant workers; their return after they have accumulated savings or new qualifications; and even the participation of these migrants in scientific and business networks promoting the circulation of technological and industrial knowledge.

- ☑ As a revealing sign of the importance of remittances, almost half of the emigrants have transferred more than 1000 Euros per year, this amount is slightly higher for emigrants opting for the voluntary return (49.1%) than for those forced to return (45.6%). More than 85% of the returnees had transferred more than 500 Euros per year, and 37% of emigrants, between 500 and 1000 Euros. These transfers are allocated to different uses, mainly to sustain their families back in the homeland (85.3%) to which must be added the children schooling (14.2%), which highlights the importance of the transfers assigned to consumption. Investment is commonplace in 69.2% of cases, including 38.6% for the acquisition or construction of a house, 14.8% for an economic project, 12.6% for the purchase of land and 3.2% for the purchase of agricultural equipment.
- ☑ Concerning the realization of investment projects in Morocco, the survey reveals that 82% of the returnees made one or more investments in their country of origin. In this respect, it should be borne in mind that, in general, traditional investments made by emigrants in the region relate primarily to housing (86.5%) and then to coffee/restaurant-type of service activities, which explains the importance of the two projects section: 45.5% including 46.6% for emigrants whose return is voluntary and almost 40% for those whose return is forced. The strong propensity to save in the latter category, aware of the precariousness of its situation, explains the respective rate.
- ☑ The location of the project is mainly due to convenience and, secondarily, to economic reasons. The main lessons learned are:
  - The relatively high share of investment in the place of residence before emigrating (36.2%) for those who opted for the voluntary return (35.7%) and those forced to return as well (40.5%). This can be explained by this desire to flaunt one's social success before the eyes of one's family and acquaintances.
  - The relatively high share, but to a lesser extent, of investment in a place other than the place of birth and residence before emigrating (24.6%). Generally, the choice falls on a larger city than the town or village of origin (the capital of the province, Tangier or Tetouan), which is for the emigrant "both a geographical and social promotion".
  - The place of birth ranks third and is of particular interest to migrants who were forced to return rather than the others, which can be explained by their choice of a place where they could rely on family solidarity.
- ☑ The two main sources of investment financing for returning migrants are self-financing (98.8%) and bank loans (42.8%).
- ☑ Concerning the number of jobs created, apart from real estate, the investments made are micro-projects which in almost 60% of the cases employ fewer than five people and in almost 86% less than 10. Only 1.4% of the projects employ more than 50 people, and are therefore medium-sized enterprises.
- ☑ More than half of returning migrants contributed to the realization of a collective welfare. Yet, emigrants returning voluntarily are more inclined to collective investment than emigrants returning involuntarily, i.e. almost 60% and nearly 37% respectively. Participation in the construction of mosques is by far the main collective investment.

The three main benefits of migration are the migrants' remittances, recruitment and return. The repatriation of migrant workers funds could be maximized by reducing transfer costs. Moreover, emigration countries must apply a realistic exchange rate and their governments must encourage and channel investments made with the repatriated money (Martin and Straubhaar, 2002). Another option mentioned is the taxation of the skilled expatriates, or the reimbursement of the higher education expenses that these expats received in their country of origin (The Economist, 2002). This is easier said than done, as migrant workers do not provide information about their place of residence in the countries of origin.

Another form of human capital profitability for foreign nationals may be through the system of networks (Brown, 2000). Skilled migrant workers can be an important resource and their qualifications can be used to establish research partnerships, special programs to encourage knowledge transfer and joint ventures. Bhagwati (1974) proposed taxing the additional income of emigrants at a higher rate than that applied by the host country taxation system, which is to be used eventually to finance the developing countries.

Ideally, skilled migrants should enjoy all their rights, both in their host country and in their country of origin, move from skills exodus to elite mobility (from "brain drain" to "brain gain") and make the brain drain an asset for the development of the countries of origin and not a hindrance to their development. This could be achieved through the establishment of an international scientific community capable of fostering international cooperation and serving both the host country and the country of origin. This community could maintain links with the nationals to improve the scientific and technical training in the country of origin and thereby contribute to the internationalization of the national scientific communities. This is what Morocco is currently trying to do with its diaspora. However, all governmental and non-governmental, national and international active actors in the countries of origin as well as the countries of residence must be involved in this process, without any exclusion.

The brain drain is therefore one of the main challenges facing Morocco to upgrade its economy. But if we believe in the freedom of individuals to emigrate, we should think of a policy of return, even in the framework of the pendulum migration of these skilled migrants.

### **Strategies & Political Options to Manage the Brain Drain**

The problem of the brain drain could be resolved fairly if the rights and interests of all parties involved are taken into account: the migrants, the country of origin and also the host country. The problem could be solved in several ways, nationally and internationally. For instance, it is necessary to:

- Introduce reforms in the country of origin to mitigate the brain drain (democratization, the rule of law and equality among citizens, recognition of all competences without discrimination or specific preferences)<sup>7</sup>;
- Make the skilled expatriates a development engine of the country of origin by their permanent or occasional physical or only virtual return;
- Maintain links with the expats and create collaboration and mutual assistance opportunities between the skilled at home and those abroad;
- Discuss the brain drain and its consequences worldwide;
- Create a kind of "qualified immigration tax" that could be managed by a specialized United Nations fund, which host countries would pay whenever they receive skilled migrants and benefit from their knowledge.

Morocco is aware of the shortfall resulting from the settlement of some of its skilled migrants abroad, mainly in Europe and North America and tries to encourage and facilitate their return. The country is also aware that the Moroccans living abroad want to bring added value to the world and to their country of origin with which

<sup>7</sup> For example, in the case of certain European countries such as Spain and Italy, the change in the economic and political situation resulted in the mitigation of the MCHQ, without stopping it however.

they have not ceased to have deep ties, as witnessed by the formidable “rush” to the homeland during the summer holidays, which is a fairly unique phenomenon in the world.

Morocco seeks to consolidate its ties with its community living abroad to make it a development tool, to build and strengthen the bridges with the diasporic networks and to “cash in on the diasporic talents” to make them contribute, each according to their level and their means, to the development of the country. The Moroccan authorities endeavor to make the Moroccans Living Abroad a “*second hand*” that the country needs to build up its development and front-line ambassadors that strengthen the relationships and boost cooperation with the host countries (Le Matin du Sahara, 2009). Indeed, the Moroccan migration policy has always been oriented towards the consolidation of ties with the diaspora, particularly with the 2nd and 3rd generations of emigrants, the majority of whom were born abroad and acquired their education and training in the host country.

Then, maximize emigration benefits by:

- Policies to promote the return of migrants to their countries of origin.
- Recruitment policies of international migrants which do not limit their numbers and reduce the protective measures that hinder admissions.
- Initiatives to re-engage the expatriates through increased communication, transfer of knowledge and funds, as well as investment.
- Restorative policies that will make the host countries reimburse the countries of origin to offset their loss on human capital, or just tax emigrants directly.

Another approach is to make emigration unnecessary by strengthening the national educational institutions, adapting trade, investment and assistance policies to speed up economic development. These are called the five conservative policies to prevent graduates from leaving.

The brain drain is therefore one of the main challenges facing Morocco to upgrade its economy. But if we believe in the freedom of individuals to emigrate, we should think of a policy of return, even in the framework of the pendulum migration of these skills. These skills could be the indicated actors of circular migration.

However, it should be emphasized that the emotional and cultural attachment of this elite is not sufficient.

It should be supported by economic incentives and an adequate investment environment. This implies a review by the various institutions of their perception of the current and potential role of migrants.

The encouragement of the return of skilled Moroccan expatriates has characterized the government actions since the 1990s. Qualified people living abroad are often invited to return to Morocco to contribute to the development of the country and consolidate its democratic achievements. Several speeches and actions of Moroccan officials echoed this invitation for skilled Moroccan migrants abroad to return. It is in this spirit that some initiatives such as the TOKTEN and FINCOME Programs were carried out in Morocco or similar initiatives by the civil society.

**(i) The TOKTEN program**

The TOKTEN (*Transfer of Knowledge Through Expatriate Nationals*) program was initiated by the PNUD in 1977 in some 50 countries. Its mission is to identify the scientific skilled migrants living abroad and to set up a network that enables them to promote research and development for the benefit of their native countries.

While this program seems to have yielded encouraging results worldwide, as in China and Turkey, the results are rather meager in the case of Morocco: the two meetings organized under this program in 1993 in Rabat and in 1994 in Casablanca did not come out with convincing results.

**(ii) International Forum of Skilled Moroccans Living Abroad (IFSMLA/FINCOME).**

The IFMCLA/FINCOME program (The IFMCLA/FINCOME website (FINCOME means “where are you”, in Moroccan dialect), <http://www.fincome.ma>) is “a space that will allow to establish institutional links with the skilled Moroccan migrants abroad». This program intends to establish a database of these skilled Moroccans, both in the public and private sectors. The national strategy of Mobilizing the Skilled Moroccans Living Abroad aims in particular at achieving the following objectives:

- Support for research and development and training;
- Transfer of technology and know-how;



- Assistance to expertise, to devising sectoral development strategies and assessment of research projects and programs;
- The attraction of investment and business partnerships;
- The synergy between the skilled Moroccans living home and those living abroad, particularly through research networks;
- The contribution to strengthening bilateral cooperation.

In the framework of the implementation of the IFMCLA/FINCOME program, the CNRST and R&D-Morocco, with the financial support of the Ministry of National Education, Higher Education, Managers Training and Scientific Research, launch each year a call for tender to support actions that would implicate the skilled Moroccans living abroad and would benefit a Moroccan entity, public or private. Support involves two types of actions: expertise and meetings.

(iii) Other initiatives are to be mentioned. The association “*Savoir et Développement*” (150 to 200 members).

Was created in 1999 on the initiative of a number of Moroccan researchers specializing in different disciplines (computer mathematicians, economists, managers, etc.). In addition to these scientists, the association remains open to the professional world, businessmen and young promoters of innovative projects.

The scope of the association covers most French regions and some European and American countries. The objective of the association is to promote scientific and technological transfers in favor of Morocco.

(iv) *Council of the Moroccan Community Abroad (CMCA/CCME)*

The CMCA/CCME is working to bring back the Skilled Moroccans living abroad. For his Secretary-General, “*Faced with a lack of highly qualified human resources, Morocco has a fairly large number of profiles among its diaspora that could help to fill this gap*”. He adds: “*It is in this perspective that for more than a decade, more and more determined attention has been paid to skilled Moroccans living abroad to contribute directly to the ongoing projects or to act as scientific, economic, social levers in some sectors or even newly identified niches*” (the interview of Mr. Abdellah Boussouf, electronic Magazine of Morroccans Living Abroad, Yabiladi, 2009).

Several other institutions had been created with a view to safeguard and develop the ties with “the Moroccans of the world”. Thus, in addition to the diplomatic missions and several Moroccans-Living-Abroad associations operating abroad, there are various national institutions in charge of the Moroccans Living Abroad: The Ministry in charge of the Moroccan Community Abroad before the Prime Minister, the Hassan II Foundation for the Moroccans Living Abroad, the Mohammed IV Foundation for Solidarity, etc. Some government actions target specific categories of Moroccans living abroad. Recently, actions are directed more particularly towards the skilled women in the diaspora, who represent more than 45% of the Moroccans Living Abroad. Two meetings organized on “Moroccans from here and elsewhere” showed that migrant women seem more attached than men to the country of origin and are ready to contribute to the development of the country (The Moroccan newspaper L’Economiste, 2010”. The civil society sometimes encourages the return of skilled migrants and contributes to the fight against the brain drain. For example, the Horizons-Maroc Forum, initiated by the Association of Moroccans of the Grandes Ecoles (AMGE), strives to encourage the return of the young graduates living in France. One of the persons responsible for the organization of this forum stated that “*the phenomenon is gaining importance and more and more qualified young people are ready to return to Morocco, provided they are offered a position that meets their expectations*” (Forum-Horizons-Maroc, 2009).

However, in its endeavor to attract the skills of the diaspora, Morocco is aware that there is an international competition for the capitation of this highly qualified elite which is a boon mainly to the countries of the North, and that there are radical changes affecting these skilled people including their feminization and the transformation of their socio-professional profiles due to the rising levels of education.

## Conclusion

There is no treasure more precious than human capital. This is why we must take into consideration the brain drains from the countries of the South to the countries of the North and address the main causes of these

departures and their consequences. It is true that freedom of movement is a human right and that the skilled migrants from the South cannot be held back from traveling and choosing to reside outside their countries of origin, but the interests of their countries of origin that had often invested large sums of money for their training is also to be accounted for.

The Moroccan trade unions, the political parties and the civil society organizations should be more involved in migration policies in order to better defend the rights and interests of all migrants: Moroccan emigrants and foreign immigrants on an equal footing. All skilled immigrants in a country should normally enjoy the same rights and benefits granted to persons with the same level of education and similar training, without any distinction based on origin and provenance.

Thanks to globalization, the circulation of capital and skilled people has revved up. It would be difficult to stop this circulation. But we must ensure that globalization is not synonymous with the reinforcement of injustices, the denial of migrants' rights, inegalitarian laws in the name of the law of the strongest: countries importing labor. It is also necessary to reconcile the two facets of skilled migration: voluntary migration and impelled migration.

At the end of this article, it seems impossible to deny the role of the system of education and training, research and development in the economic growth. We have shown the importance of the skills of the diaspora. As demonstrated in the Moroccan experience, the great paradox often underlined is the brain drain under conditions of scarce qualifications and especially the financial resources while the import of the know-how is at its peak.

And this is the result of an almost widespread neglect of the local skills and know-how. Morocco is worried today about the brain drain, the flight of brains, skills, so many qualifiers to name the ability to create, to innovate. Indeed, these departures are a loss on several levels. The migrant graduates who have cost a small fortune in terms of investment in training are, on the one hand, not directly involved in the national economic activity and, on the other hand, not passing on their knowledge, know-how and experience to the local businesses.

Generally speaking, by 2020, Morocco will have to become a land of attraction for all kinds of investments, both material and non-material. It shall not be just a land of fiscal attraction or improved foreign exchange regulations only. Morocco (which still has many assets) shall have to respond favorably to the demands of the brain drain, be it in terms of the quality of everyday life, of the education system, of leisure, of tourism, of cultural life or of social life debureaucratization. This indeed underlines how titanic is the task that awaits all our leaders.

## REFERENCES

1. Abd Al Ilah Al Mouttaqi, «La Fédération Sportive dépose une plainte contre les personnes qui ont aidé à l'émigration de sportifs marocains au Qatar- The Sports Federation files a complaint against the people who helped Moroccan sportsmen emigrate to Qatar», Assabah N. 3029, Jan 6<sup>th</sup>, 2010, p.15 (www.assabah.press.ma)
2. Amable A. & Guellac D., "Les théories de la croissance endogène-Theories of endogenous growth", *Revue d'économie politique*, n. 102, vol. 3, May-June 1992.
3. Beaud M. & Dorstaler G., "La Pensée économique depuis Keynes – The Economic Thought since Keynes", Paris, Seuil, 1993.
4. Becker G.-S., *Human Capital*, Chicago and London, The University of Chicago Press, 2<sup>nd</sup> edition, 1975.
5. Belguendouz Abdelkrim, "Hogra des Mouhajirines: les quatre vérités-The contempt of the Muhajirun: the home truths", Beni Znassen printing house, Rabat, 2008.
6. Bhagwati, J.N., Hamada, K., 1974. The brain drains, international integration of markets for professionals and unemployment, *Journal of Development Economics* 1 (1), 19-42.
7. Bladi (my country), "Emigration: ces Marocains qui partent au Canada-Emigration: these Moroccans who leave to Canada", December 26<sup>th</sup>, 2009, <http://www.bladi.net/emigration-ces-marocains-qui-partent-au-canada.html>
8. Boukhssimi D., "L'enseignement est-il en crise? Une réflexion critique sur un discours – Is education in crisis? A critical reflection on a discourse", Dar Errachad EL Haditha Edition, 1997.
9. Docquier, F., Rapoport, H., 1999a. "Fuite des cerveaux et formation de capital humain – The brain drain and human capital training", *Économie internationale* 79, 3<sup>rd</sup> quarter, 63-71.

10. Drissi Mhammed (sous la direction de), "Le Nouveau Code marocain de nationalité et les enfants issus du mariage mixte- The New Moroccan Code of Nationality and Mixed Marriages Children", Bouregreg Editions, Rabat, 2008.
11. Epingard P., *L'investissement immatériel: cœur d'une économie fondée sur le savoir – Intangible investment: the core of a knowledge-based economy*, Paris, Centre national de la Recherche Scientifique (CNRS) – National Center of Scientific Research, 1999.
12. Foray D., *L'économie de la connaissance-Knowledge-based economy*, Paris, La Découverte Editions, 2000.
13. Gaillard J. *et al.*, "Fuite des cerveaux, retours et diasporas-The Brain drain, returns and diasporas", *Futuribles*, n. 228, Feb 1998.
14. Garboua L.-L., Jarousse J.-P., "L'investissement humain dans l'entreprise: une application de la théorie du capital humain- The Human Investment in Enterprises: An Application of the Human Capital Theory", Report for the *Credoc*, n. 3, April 1987.
15. Guellec D., "Croissance endogène: les principaux mécanismes-Endogenous growth: the main mechanisms", *Economie et prévision*, n. 106, May 1992, pp. 41-50.
16. Hénin P.-Y., Ralle P., "Les nouvelles théories de la croissance: quelques apports pour la politique économique- The new growth theories: some inputs for the economic policy", *Revue économique*, Special issue, 1994, pp. 75-100.
17. Jayet, H., Ragot, L. & Rajaonarison D. (2001): "L'immigration: quels effets économiques? – Immigration: what economic effects?", *Revue d'Economie Politique*, 111, 4, 565-596.
18. Le Courrier De L'unesco, "L'enseignement supérieur et après- Higher education and then what? Boukhari Sophie, "Diplômés aux enchères-Graduates on the auction block", September 1998.
19. L'économiste, "Marocaines d'ici et d'ailleurs. Quel est leur profil? – Moroccans from here and elsewhere. What is their profile?" 2010
20. Le Matin Du Sahara: "Les compétences marocaines à l'étranger: l'autre main du Maroc – The Moroccan skills abroad: the other hand of Morocco", du 22 novembre 2009.
21. Lucas R.-E., "On the mechanisms of economic development", *Journal of monetary economics*, n. 22, 1988, pp. 3-42.
22. Malinvaud E., "Regard d'un ancien sur les nouvelles théories de la croissance – An elder look at the new theories of growth". *Revue économique*, vol. 44, n. 2, March 1993, pp. 171-187.
23. Mincer J., "Human Capital and Economic Growth", *Economics of Education Review*, vol. 3, 1989, p. 197.
24. Ministry of Economy & Finance, "L'économie marocaine en chiffres: les indicateurs sociaux – The Moroccan economy in figures: The social indicators", 2001.
25. United Nations. (2001): "Human Development Report 2001", New York, Oxford: Oxford University Press.
26. Electronic Magazine of The Morrocans Living Abroad Yabiladi, l'interview de Monsieur Abdellah Boussouf, le Secrétaire Général du CCME publiée le 01 décembre 2009, the interview of Mr. Abdellah Boussouf, the Secretary General of the CCME published on December 01, 2009. in: <http://www.yabiladi.com/article-economie-2226.html>
27. Vermeren P., "La formation des élites par l'enseignement supérieur au Maroc et Tunisie au XX<sup>ème</sup> siècle- The training of elites by higher education in Morocco and Tunisia in the 20th century", Thesis defended on February 24<sup>th</sup>, 2000 à Paris VIII, p. 757.
28. Vermeren P., "Le Maroc en transition-Morocco in transition", Ed. La Découverte, 2001.
29. Vermeren P., "Les Marocains rêvent de l'Europe-Moroccans dream of Europe", *Monde diplomatique*, June 2002.