

## Medical Brain Drain from Maghreb to Northern Countries: for a new social dialogue?

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### Abstract

Migrant seems to be a threat for the security of many European countries. However, there is a global war to attract the most talented migrants, particularly for health care. Skilled migration from the Maghreb countries has become a hot issue since the beginning of this millennium.

Combining different recent datasets, this paper reveals two key profiles of migrants with high level of education: engineers and medical doctors.

The results indicate a high rate "medical brain drain" from the Maghreb countries and a low educational progress of migrants in France. The authors also reveal the profiles of specialists. Algeria registers a higher rate than its neighbours in three fields: psychiatrists, ophthalmologists and radiologists. The expenses for medical training are very heavy: this drain is a "deadweight loss" for the benefit of advanced economies without any compensation. Finally, the authors suggest the opening of a new social dialogue across the Mediterranean shores, enlarged to Sub-Saharan Countries.

**keywords:** Maghreb; Algeria; Brain drain; Medical skills; Employment; Mediterranean policies.

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### 1. Introduction

This analysis of the brain drain is quite different from more classical studies based on the push-pull theory. This is not so much an analysis of the low retention capacity of countries of the South; rather, it calls for the adoption of an active attractive policy of scientific migration.

This paper is structured on three levels. First, an overview of migration from Maghreb shows the current trend of scientific migration. Secondly, a thorough analysis of Maghrebian skills, particularly in France where there is a high concentration of Maghrebian migrants, with an empirical evaluation of the "brain drain" rate involving particularly physicians migrating to France. In the third section, the authors suggest to open a new social dialogue with a multi-faceted view on migrant's integration.

Finally, some proposals are put forward for a dialogue for a 3-Win policy and for a real strategy for skills mobility hitherto exclusively practiced among the

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Northern countries. The dream of a transition from brain drain to brain circulation in the Mediterranean is also shared by Maghreb analysts, but the means of achieving it are different.

These results come timely in the climate of deep fear surrounding the “crisis migration” not only in Europe but also in the USA, where migrants are seen more as “devils” than “angels”. Global talents like medical practitioners, but also engineers and artists from third world countries, are in fact a “blessing” for Northern countries which lack high-end skills to sustain their growth rate and the wellbeing of their aging societies.

## ***2. Overview of migration from Maghreb countries***

The issue of "brain drain" is not new in the literature on international migration. Indeed, there is a rich literature on this phenomenon. There is also a need to update the scientific views of brain drain in the era of globalization.

What do we know about this phenomenon? Some answers are sufficient to point out the need for renewal. A synthetic review of the literature has been produced by Gaillard & Meyer (1996) focused on the evolution of the perception of the "brain drain" phenomenon. Some years later, the World Bank analysts (Bollard et al, 2011) also revisited the links between brain drain and remittances.

The transnationalism theory nevertheless insists that the Diaspora should not be addressed only from the point of view of remittances. Peggy Levitt (2006) argues that the relationships between migration and development are not only financial but must also include social remittances.

Among developing countries the phenomenon was raised by the African Union, particularly in the NEPAD program. At the country level of the Arab Maghreb Union (UMA), some thoughts have been advanced by researchers (Boukllia, 2010) without however developing a synthesis of the Maghreb countries.

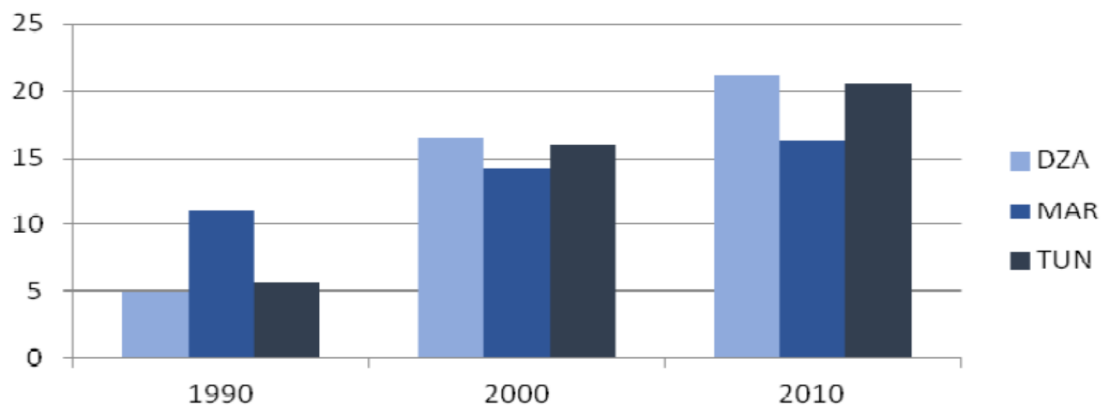
Our approach builds on the progress made in the study and knowledge of the phenomenon. It also brings a new vision. It considers scientific migration as a potential resource which can be mobilized in order to contribute to the economic, technological, scientific and social development of the country. Drawing on a strategy designed for migrant remittances, this "resource" is not exclusively material but it is also immaterial (Musette, 2011).

Central Maghreb countries (Algeria, Morocco and Tunisia) registered just over 80 million population in 2015, more than double the 27 million in 1960 (UNDESA, 2015). These countries are also known to be emigration countries particularly since their independence in the 1960s. It must also be recalled that they have long been a land of immigration from Northern countries, particularly

from colonial France.

By now there is a stock of 5 million migrants abroad - nearly 90% in Europe according to the same UN data - representing 6.2% of Maghreb population. The quantity of North African highly educated migrants is estimated at around 800.000 in OECD countries, an average rate of 20% in 2010 against 10% in 1990 (OECD, 2014). The rate has doubled over the last two decades. It should be noted that Maghrebian migrants are not located exclusively in OECD countries.

*Fig. 1 - Growth rate of Maghrebian Highly-Educated Migration to OECD countries from 1990 to 2010*



DZA: People's Democratic Republic of Algeria

Source: authors' elaboration based on OECD data

These data show that the growth rate is different for the three countries. Algeria registered a higher growth from a rate of 5% in 1990 to 21% in 2010, four times higher than Tunisia (2) and Morocco (1.5). This raises a few questions. Does this growth mean brain drain, as put forward by OECD analyst? An in-depth analysis is necessary to distinguish non migrants from migrants. Moreover, measuring the brain drain rate requires to differentiate people who have been trained in the country of origin from those having graduated in host countries.

Maghreb high skills migrants (over 25 years old) in France are estimated at about 324.000, according to the French 2012 Labour Force Survey (INSEE, 2014).

Tab. 1 - Distribution of Maghrebian High Skills Migrants in France by countries of origin

Graduation	MAR	DZA	TUN	TOTAL
<b>High level graduate</b>	<b>87.294</b>	<b>95.630</b>	<b>26.782</b>	<b>209.706</b>
<i>Of which medical doctors</i>	5.106	17.658	5.106	27.870
<i>Of which BA level</i>	4.961	21.034	4.961	30.956
<i>Of which engineers</i>	6.787	14.115	6.787	27.689
Bachelors	52.407	44.255	17.325	113.987
<i>Of which technicians</i>	8.891	17.762	8.891	35.544
<b>Total High Skills</b>	<b>139.702</b>	<b>139.885</b>	<b>44.107</b>	<b>323.694</b>
Employed Migrants (25-64 years old)	640.046	453.395	230.402	1.323.843
High Skills Migration Rate (%)	21,8	30,9	19,1	24,5

Source: authors' elaboration based on INSEE - LFS 2012 data - France

These data show a number of details so far little known. Let's focus particularly on engineers and doctors. The supply of these two profiles is almost the same as a whole. Algeria is still the exception, originating three times as many doctors and twice as many engineers than the two neighboring countries. If the phenomenon of North African engineers is fairly well-known, the second profile, that of doctors, is quite unknown. What are the profiles of the doctors? Are all Maghrebian doctors migrants? Have they have been trained in the countries of origin? These data do not consider "citizenship" as a criterion and include also nationals, whatever their date of departure from the Maghreb countries. From a historical outlook these data can be questioned. However, the Human Development Report (CNES, 2015:27) shows that 73.3% of doctors from Algeria have graduated in the home country, while the rate is only 3.8% for Tunisians and 20.4% for Moroccans.

### 3. The medical brain drain from Maghreb countries

The medical brain drain (MBD) phenomenon is not exclusively Maghrebian. It affects many countries in the world: Caribbean and Pacific islands, Ireland and sub-Saharan African countries register the highest emigration rate of doctors. The economic size of island countries and their limited absorption capacities largely explain the high emigration of doctors from these regions. These high emigration rates can be explained by other factors too: The official language of these countries is English; their geographical proximity to the United States, to Europe or even to the Arab Gulf countries, which represent a large area of

physician recruitment (Moullan and Bourgueil 2014).

The Sub-Saharan African countries (South Africa, Uganda, Nigeria in particular) are severely affected by the MBD penalizing their weak health systems. They have the lowest medical densities in the world. Half their doctors have emigrated during the period of the structural adjustment policies. A study of Bhargava and Docquier (2008) shows that the medical emigration rate in Sub-Saharan African countries has increased significantly between 1990 and 2004. This has contributed to the weakening of the health systems of these countries in the face of major pandemics. WHO data show that about 57 countries are suffering from an acute shortage of doctors, and 36 of them are in Sub-Saharan Africa (WHO 2006).

At the Maghreb level, the medical density in Tunisia is similar to that registered in Algeria. Morocco registers a lower density. Overall, the medical density in the Maghreb countries has improved significantly over the last three decades, even though regional differences persist. The pace of physician training is much higher in Algeria than in Tunisia and Morocco. This latter shows a deficit of doctors to meet the needs of its population. The WHO classified Morocco, among the 57 countries worldwide, as a country with acute shortage of medical staff. Aware of this situation, Morocco has launched a training program to improve the rate of medical density by 2020.

Despite their need for medical staff, the Maghreb countries seem to face to the MBD phenomenon. They lose each year many doctors who prefer to go abroad, mainly to France and Canada.

To quantify this phenomenon, we have used and crossed multiple data sources: those of the Health Ministries of the three Maghreb countries, the employment survey conducted by INSEE (2012) and data from the Council of the Medical Association (CNOM, France).

*Tab. 2 - Global Medical Brain Drain rate in the Maghreb (country of birth)*

Employment Status of Physicians	Algeria	Morocco	Tunisia
Doctors born in the Maghreb, settled in France (INSEE Survey,2012)	14.847	6.230	3.846
Active physicians workforce in native country (Countries Data)	48.184	19.770	13.640
<b>MBD rate</b>	<b>24%</b>	<b>24%</b>	<b>22%</b>

*Source: prepared by the authors based on data from MSPRH, MSM, MST, CNOM and INSEE*

The average emigration rate is 23% in 2012 for the whole Maghreb.

This rate takes into account all the doctors born in North Africa, whatever their

place of training (France and Maghreb countries) and practicing as a doctor in France. The emigration rate is even more important if we include all doctors established in France and engaged in the medical or other sector: it reached almost 30%. Like other developing countries or Sub-Saharan Africa, the Maghreb countries are experiencing a remarkable MBD phenomenon. The rates in these countries are not far from those registered by sub-Saharan African countries: Ghana and South Africa show 38% and 24% rates, according to data provided by Bhargava et al. (Bhargava, Docquier, Moullan 2011).

The majority of North African doctors migrate to France for historical, cultural, geographical reasons and because of a training system inspired by the French model and the existence of inter-university agreements. The number of North African doctors registered in the French Physicians Order (TOM) was 16.821 in 2014<sup>1</sup>. Almost 92% of doctors held a regular job.

*Tab. 3 - Medical workforce according to the type of activity*

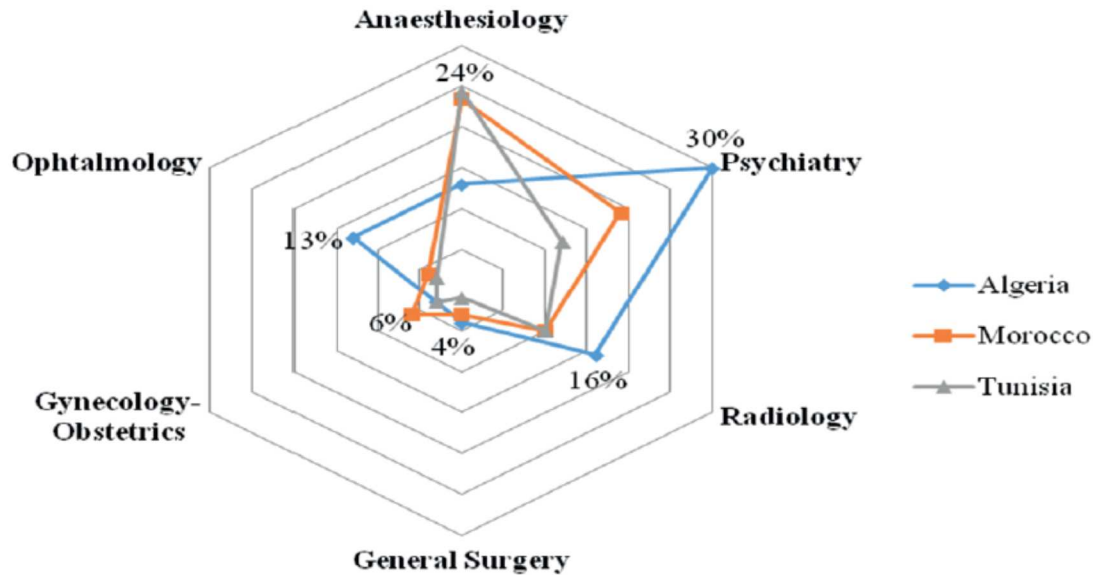
	<b>Algeria</b>	<b>Morocco</b>	<b>Tunisia</b>
Temporary	274	159	73
Substitute	484	250	169
Regular activity	9.561	4.598	2.662

*Source: authors' elaboration based on data from CNOM, 2014.*

The recent survey of CNOM (Le Breton-Lerouillois 2014) indicates that the number of doctors born outside the European Union and working in France rose by 10.4% between 2007 and 2014 and will very likely continue to grow in 2020. More than one out of two doctors born outside the EU was born in a Maghreb country. The specialties are differently affected by MBD. The following figures show the emigration rate in some specialties where data were available.

<sup>1</sup> Not all practicing doctors in France enrolled in TOM. The number of practicing physicians is therefore higher.

Fig. 2 - Brain Drain Rate of medical specialists born and trained in Maghreb countries and migrated to France (%)



Source: prepared by the authors based on data from CNOM, 2014.

This figures show the emigration rate of doctors born and trained exclusively in the Maghreb. Psychiatry remains the specialty registering the highest migration rate: 30%, 19% and 12% respectively for Algeria, Morocco and Tunisia. North Africans represent in total 63.9% of psychiatrists trained outside the EU and working in France, and Algeria topped the list with 41%. Anaesthesiology comes second with an emigration rate of 24%, 23% and 13% respectively for Tunisia, Morocco and Algeria. Half of Maghreb anesthesiologists practicing in France have graduated in their origin country. Radiology is in third position with 16% coming from Algeria, 10% from both Morocco and Tunisia. Almost 50% of Algerian radiologists graduated in their native country. One third of Moroccan radiologists established in France have graduated in their native country. Finally, 25% of Tunisian radiologists arrived with their diplomas in France. Ophthalmology ranks fourth with an emigration rate of 13% for Algeria, 4% for Morocco and 3% for Tunisia. 37% of Algerian ophthalmologists established in France have been trained in Algeria, 12% in Morocco and 13% in Tunisia. Obstetrics and gynecology shows a brain drain rate of 6% for Morocco, 3% for both Algeria and Tunisia. The percentage of North African gynecologists established in France who obtained their degree in their home country is 41.4% for Algeria, 57.5% for Morocco and 45.8% for Tunisia. 41%, 23% and 6.5% of gynecologists have been trained respectively in Algeria, Morocco and Tunisia. General surgery shows the lowest rate at 4%, 3% and 1% respectively for

Algeria, Morocco and Tunisia.

These data show that the specialties are not affected to the same extent by the MBD phenomenon. This craze for emigration matches with health personnel needs in host countries that will register a significant growth in coming years. In the absence of qualitative surveys, it is difficult to identify the rationales of the MBD. The reasons are certainly multifaceted. In a recent research conducted in the Algerian context (Zehnati, 2016), we tried to check whether the public sector doctors were underpaid. Our results show that doctors (regardless of their grades) are relatively better paid than the rest of the socio-professional categories. Thus, the MBD is not related to financial constraint. New tracks are to be explored together within a broader social dialogue.

Our results suggest that a decrease of remittances is to be expected in the long run. It is related to the continuing brain drain. How to avoid the end of the transfers and how to turn the brain drain into brain circulation?

First, it is necessary to reconsider the theories according to which countries of origin do benefit from a deal in with the losses caused by the departure of skills are compensated by migrants' remittances.

Then new actions need to be taken at the level of the Maghreb countries, although these countries are relatively better endowed with human resources than the rest of Africa, with a few exceptions.

The theory of remittances as compensation from abroad was reversed for the Maghreb countries already some years ago by the MIREM (2007) study. High skilled workers contribute far less to remittances than those who are less skilled. However, intangible gains are possible but cannot be measured and weighted. Further detailed analyses are needed on remittances to reduce informal flows.

The thesis of the "brain gain", inspired by the human capital theory, is quite attractive for the Maghreb countries, with some nuances. The human capital gain proceeds from a migration desire of new generations who strive to acquire "exportable" skills. The negative image created by the failure of high skills because their diplomas cannot be validated needs a new dialogue with Northern countries.

The classical sociological vision of migration as a social success needs also to be revised. Migration is expected to represent a mechanism for social mobility, but often such is not the case, as doctors who are not allowed to practice overseas become taxi drivers. Qualitative studies are needed on the image of qualified North African migrants abroad. The renewal of the European Blue Card in 2015 could shed more light on the quality of new Maghreb skills, as these countries have recently adopted the LMD system.

The theory of the role of intellectual Diaspora networks should be an asset for Maghreb authorities. Its potential is confirmed by studies conducted in Algeria and Morocco, despite the lack of very detailed data (due to the advent of new communication technologies, more precise big data set would be necessary for a correct analysis and monitoring). Continuous observation of network activities



should first distinguish the demographic data (birth and death), the legal aspects of different actions implemented and then assess eventual forms of compensation that would benefit the country of origin.

#### **4. *New Social Dialogue towards the integration process***

The integration of the Euro-Med countries by means of international migration is rooted in the political, economic, social and cultural context. The concept of integration has taken on new dimensions since the beginning of the new Millennium. Today we witness an accelerated process of globalization and the intensification of geopolitical conflicts around the Mediterranean. Globalization requires strong economic ties for the prosperity of the countries of the region. The intensification of geopolitical conflicts tends to the dissolution of societal, if not civilizational links, with risks of violence endangering the security and stability of all countries of the two shores of the Mediterranean.

The current context calls for a revision, if not a break with past visions of integration, laying new foundations for social dialogue aimed at the prosperity of countries of both shores. This social dialogue requires, in turn, taking into account the dimensions of the environment. Regional and international organizations will continue to push with all their weight towards the desired integration. It is in this sense that the integration of peoples on both sides should be revisited through North-South but also South-South Societal Dialogue.

Integration through international migration is not new in literature. The European Union has set up an observatory for the integration of migrants, with a set of indicators aimed at assessing and monitoring the strategies of EU member states. This observatory is backed by the border security system (FRONTEX) and a large-scale information system.

Similarly, the EU has funded a series of studies and programs (I-MAP, EUROMED migration ...) in the region. It should also be remembered that migration was an early subject of consultation in the region (such as the 5 + 5 Group, the Barcelona Process, UPM Initiative Rabat) and recently the Europe-Africa Valletta Summit (2015). Despite these efforts, the Mediterranean has become a "graveyard" of migrants and refugees, with increasing numbers. On the one hand, fear is settled in several countries of Europe, fueled by sensational press which demonizes migrants. On the other hand, all demographic indicators confirm the need for immigration in order to maintain the level of economic growth and "wellbeing" of European countries.

Several questions arise from these remarks: How can we revisit integration through international migration in the light of new realities? Is economic integration a prelude to shared prosperity? By reducing economic inequality, can we bring on a growth of "wellbeing" for all peoples of the Mediterranean?

Integration, in the Durkheim sense of "living together", is compatible with the plurality of models of migration governance? Can integration - often opposed to assimilation - lead to interculturalism?

Three tracks are suggested to initiate a renewal of a social dialogue between the two shores of the Mediterranean on integration through migration.

*(i) Relationships between migration and development*

Despite the restrictions imposed on both sides of the Mediterranean, the migration flow cannot be interrupted. The movement patterns (regular, irregular, mixed ...) will continue. Prospective studies should be constantly updated in both the North and the South, especially as far as the needs of the international labor market are concerned, which currently operates without rules or ethical basis. If for the mobility of skilled people head hunters are engaged in a war for talent, for the less skilled the informal economy without borders exploits a workforce made vulnerable by the illegal working conditions which are often imposed on them. Studies undertaken on remittances indicate that migrant remittances will be decreasing in the long run. Moreover, initiatives are undertaken through the networks of the North African Diaspora for investments in the countries of origin.

*(ii) Harmonization of the models of governance of migration flows from Maghreb*

Migratory movements are powered by population displacement caused by cyclical crises created by geostrategic issues in the Mediterranean region, both in the Sahel and the Middle East. The investments made by countries to secure their borders with the construction of "walls" are heavy and unsustainable in the medium and long term. The costs of humanitarian protection of forcibly displaced people require a strong contribution of the civil society that could dwindle over time. Other forms of "migration crisis" are expected as climate changes affects the countries of the region. The different Maghreb countries have undertaken a review of their migration management strategies while excluding to serve as a tool of European externalization of migration control policies.

*(iii) Building bridges between the shores: Mediterranean as an area of wellbeing*

Migratory movements, considered in their two dimensions (economic and political), call for a new social vision for the peaceful coexistence of peoples on

the two shores of the Mediterranean. A perspective grounded on interculturalism is a wealth of the Mediterranean: the market for global talent (medical practitioners, engineers, artists, sportsmen ...) deserves greater visibility to build social dialogue in this region. Transnational migration, and the correlated assets and capabilities embedded in binational individuals, can be the bridge between the two shores.

Around these three dimensions, a new outlook on integration through migration can be developed. Our peoples are “condemned” to live together.

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