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**BRAIN DRAIN IN MIDDLE EAST & NORTH AFRICA –
THE PATTERNS UNDER THE SURFACE ***

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*The views expressed in the paper do not imply the expression of any opinion on the part of the United Nations Secretariat.

1. INTRODUCTION

Global economic integration is not only about the increased movement of goods, services and capital across international borders, but also involves the greater mobility of people. However, unlike the patterns we observed during the second half of the 19th Century, migration flows have not accompanied the big surge of in international flow of goods and capital that defined the current wave of global integration in the post-WWII era.

There are strong indications that the tide will turn around in the 21st Century. It is estimated that around 200 million people – 3 percent of the world’s population – are living in countries in which they were not born. These numbers are expected to increase rapidly in the following decades. Diverging demographic trends between the North and the South, rapidly declining transportation and telecommunications costs are making it increasingly difficult to restrain migration flows through government policies. As a result, migration flows will be among the most important factors shaping our economic, social and cultural profile in the near future.

Among the most hotly debated issues is the migration of the highly-skilled and educated people, the so-called brain drain, especially from developing countries to developed countries. Most developing countries already suffer from low levels of human capital which has been increasingly identified as among the main determinants of economic growth and development. Although there has been extensive analysis of the impact of migration on the receiving countries’ economies, the links between migration and economic development, particularly as far as empirical research in concerned, have been somewhat neglected. This has been especially true in the case of brain drain, which, ironically, has been the subject of extensive theoretical analysis. The main reason for this oversight has been the absence of systematic and reliable data on international migration patterns and migrants’ characteristics, both at the aggregate and the household level. Fortunately such data are finally becoming available. For instance, Docquier & Marfouk (2005) dataset presents the most-comprehensive data on bilateral migration numbers to date.

In this paper, we present the extent of the brain-drain from Middle East and North Africa countries and focus on several often-ignored issues. Among these issues are the following: (i) the choice of destination country, (ii) the labor market performance of migrants in their destination countries and (iii) the actual location where the education is obtained. Unlike migrants from Latin America who overwhelmingly choose North America as their final destination, the migrants from Middle East and North Africa have many choices. The current data indicate that a large portion chooses European Union

member countries, but the United States, Canada and Australia are also important destinations, especially for the highly educated migrants. Furthermore, there is indication that even among seemingly similar migrants, there is a selection effect present and the migrants to the “New World” are more professionally qualified when compared to the migrants choosing the “Old World.”

The labor market performance is a very good indicator of the “relative quality” of migrants from a given country when compared to migrants from other countries. This is critical since it has large implications for the assimilation of the migrants in the destination countries as well as other issues related to migration such as efficiency/quality of the education systems of the sending countries and their long-term economic competitiveness in the global markets.

Finally, the location of education is one of the most important issues within the brain drain debate. Most destination countries, especially European countries, designate an individual as a migrant if he carries the citizenship of another country even if he had never lived there. As a result, in the new migration datasets, that individual, if he has a college degree, would appear as an example of “brain drain.” However, economically and socially he is not a “loss” for the country of which he is a citizen, especially if there is strong indication that he might have never received that education if his family had chosen to stay in the source country instead of migrating. Thus, brain drain analysis and debate have to pay close attention to migrants who migrated at young ages and obtained their degrees in the destination countries.

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and, in most likelihood, their home countries. We explore the implications in more detail in the following sections.

The final observation is on the performance of migrants in the US labor market, specifically on the quality of jobs they obtain. We find that, on most cases, migrants who completed their education in their home countries fail to obtain skilled jobs, especially when compared to migrants from other parts of the world such as East and South Asia. We present some reasons why this might be the case. Among them are the quality of the education and various selection effects.

In the next section, we explain the data sources which is followed by the presentation of our findings. We explore several policy implications and end with conclusions.

2. DATA

Empirical research on issues linked to "brain drain" has been constrained by the scarcity of data.. One exceptional source of dataset is the one assembled by Frederic Docquier which is explained in detail in Docquier & Marfouk (2005). This is dataset of bilateral migration stocks for 1990 and 2000 by education level to OECD countries. The dataset has 192 source countries for 2000 and 174 countries for 1990. There has been special effort towards homogeneity and comparability of data from different destination countries since their definitions of a migrant differ considerably. They also constructed a new unpublished dataset to compare the migrants' educational composition to those of the native populations. These are the main sources we use in this paper and their underlying data sources are the national censuses.

Even though it is among the most comprehensive dataset to date on this issue, there are several shortcomings. First, it is based on the OECD countries as the destination countries and, as such, ignores several major destinations such as the Persian Gulf countries, Singapore, South Africa etc. Especially the Persian Gulf countries are important destinations for the purposes for this paper, but until these countries

Some of the analysis in this paper is based on the US Census which includes detailed information on the social and economic status of foreign-born people in the United States. The data in this paper are from the 1% sample of the 2000 Census¹. We restrict our analysis to foreign-born people who are between 25-65 years old and employed at the time of the census.² Each individual observation in the census has a population weight attached to it which is that representative observation's proportion in the overall US population. Each individual in the census declares an education level and a profession. The education levels are: (1) less than 4 years, (2) 5-9 years, (3) 9-12 years, (4) high-school, (5) some college, (6) bachelors degree, (7) graduate degrees which can be a master's degree, professional degree³ or a doctorate degree.

There are over 500 separate occupations in the census and we group them into three main categories, based on the job description and the average educational attainment⁴:

- (i) Skilled - average education is at least 16 years; includes managers, accountants, engineers, social workers and teachers, medical and legal professionals, scientists.
- (ii) Semi-skilled - the average education is between 12-16 years; includes engineering technicians, police, secretaries and administrative assistants.
- (vi) Unskilled - the average education is below 12 years; includes waiters, salespersons, cashiers, construction laborers, automotive mechanics and drivers.

3. BRAIN DRAIN FROM MIDDLE EAST & NORTH AFRICA

i. Overall Migration Patterns

The aggregate migration numbers from the Middle East and North Africa to the OECD countries is dominated by several countries. Figure 1 presents the number of migrants in OECD labor markets from the countries in the region. The largest source countries are Turkey (close to 2m workers in the OECD labor force as of 2000), Morocco (slightly over 1m), Algeria, Iran (both around 500 thousand), Egypt,

¹ Extracts from the Census samples were made through IPUMS (Integrated Public Use Microdata Series), which is a database maintained by Minnesota Population Center at University of Minnesota (<http://beta.ipums.org/usa/index.html>).

² The census asks the respondents their level of education, but not where they obtained it. However, we know the age at which the immigrant entered the United States. So based on this information, we can designate a person "US educated" if they arrived in the US before they would have normally finished their declared education level. For example, if a university graduate arrived at the age of 23 or older, then he is considered "foreign educated."

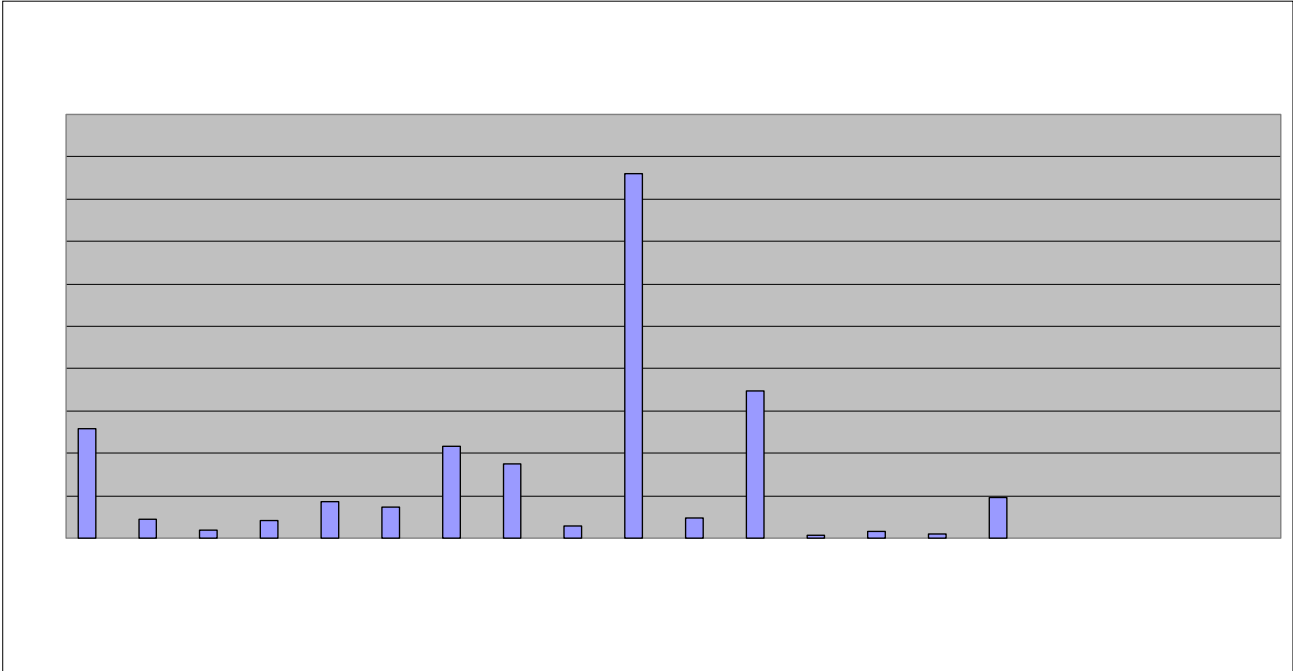
³ According to census, these are medical, law, optometry, dentistry, pharmacy and veterinary degrees.

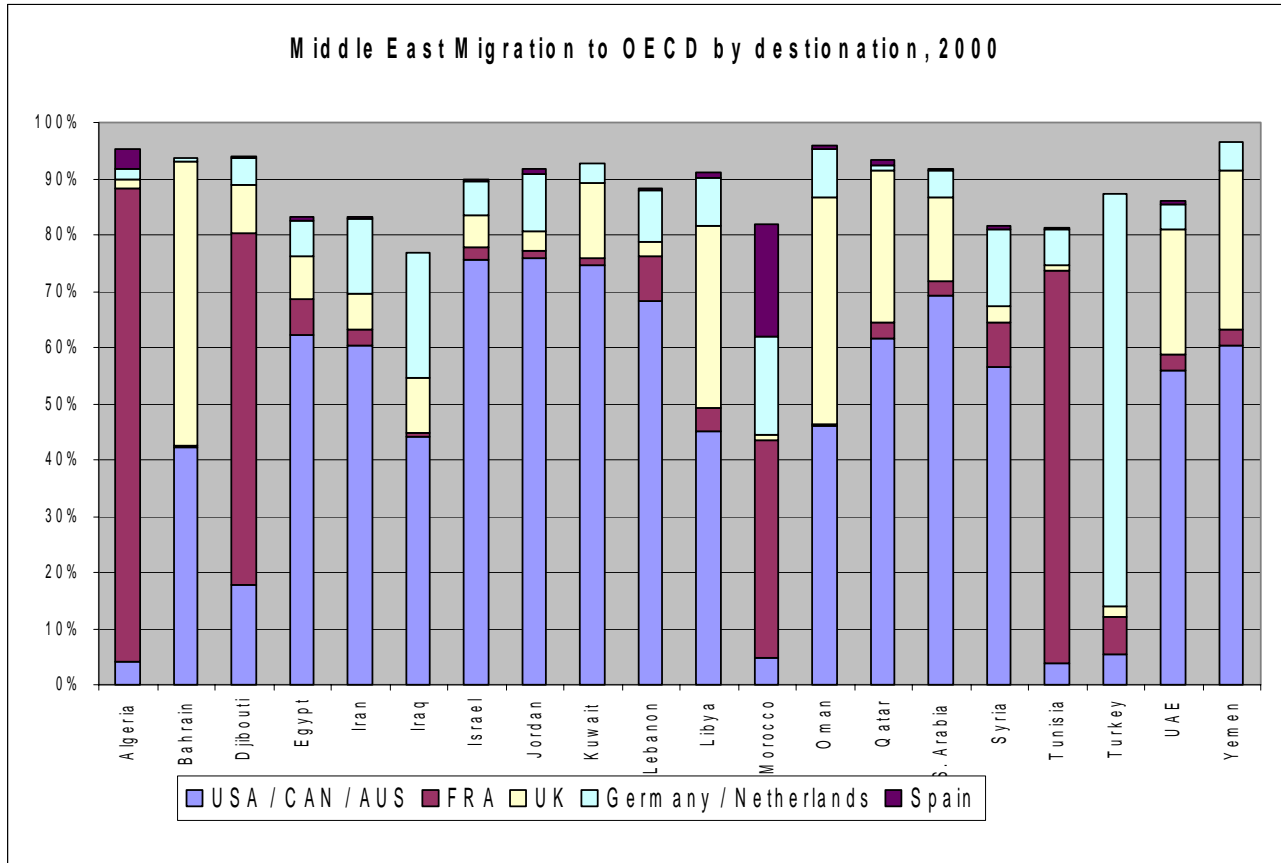
⁴ Educational attainments were obtained by computing the average years of education in each profession, with all US-born and foreign-born people (males and females) included.

Iraq, Lebanon and Tunisia (each around 250 thousand). It should be emphasized that the figure is on a logarithmic scale – otherwise these large source countries would visually dwarf the smaller countries. Figure 1 has data for both 1990 and 2000 and all countries have experienced increased emigration during the decade. The overall number of migrants has increased by 40% - but this naturally includes the children of the migrants who were born in the destination countries and who are considered migrants in most of the EU countries. Smaller countries have experienced more rapid increases in their migration. Among the larger source countries, the exception is Iraq due to the political instability.

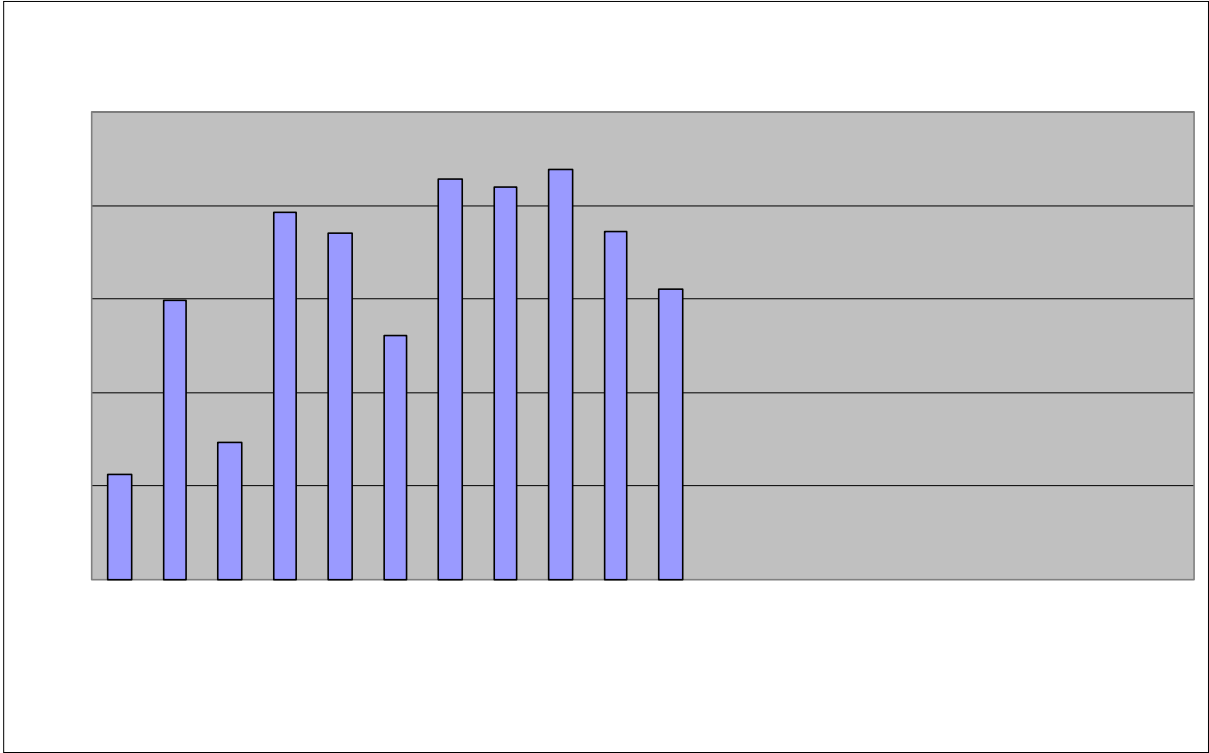


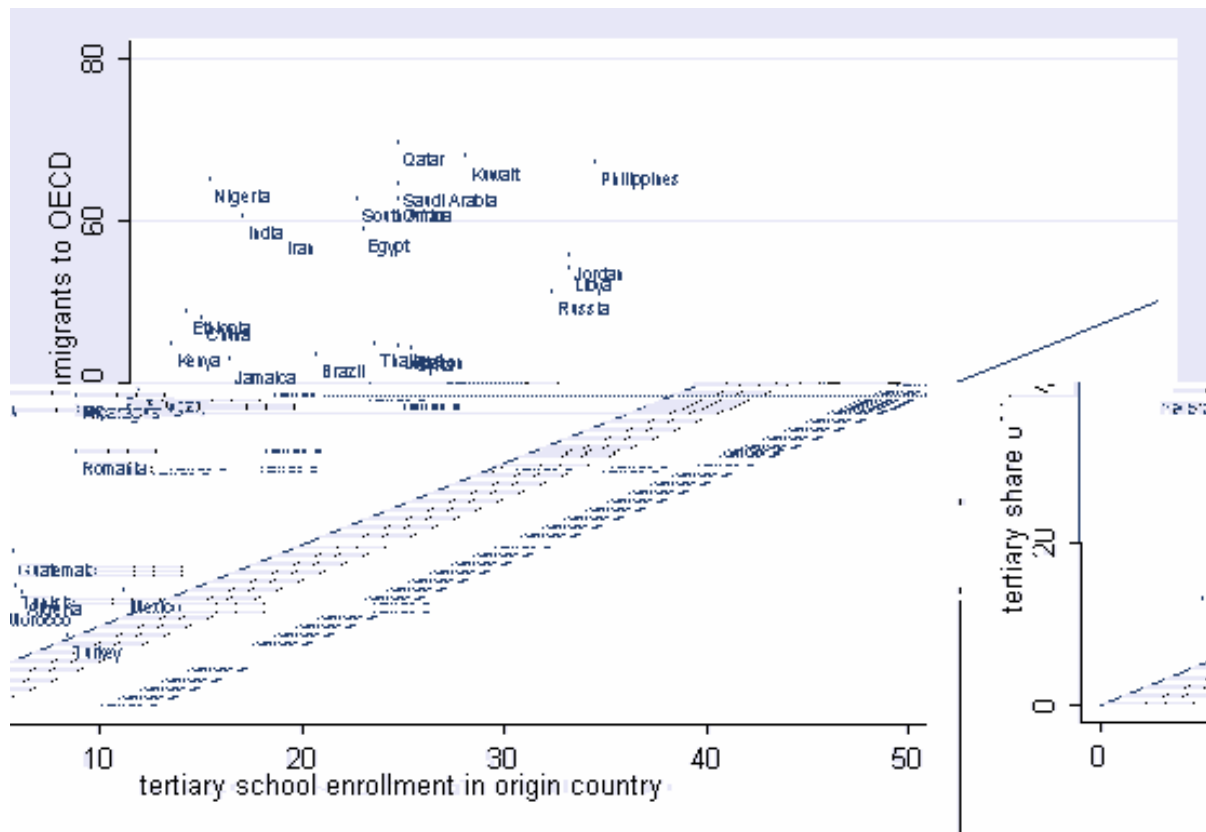
oil-rich Persian Gulf countries from other countries such as Egypt and Jordan which are not captured in these two figures due to data limitations.





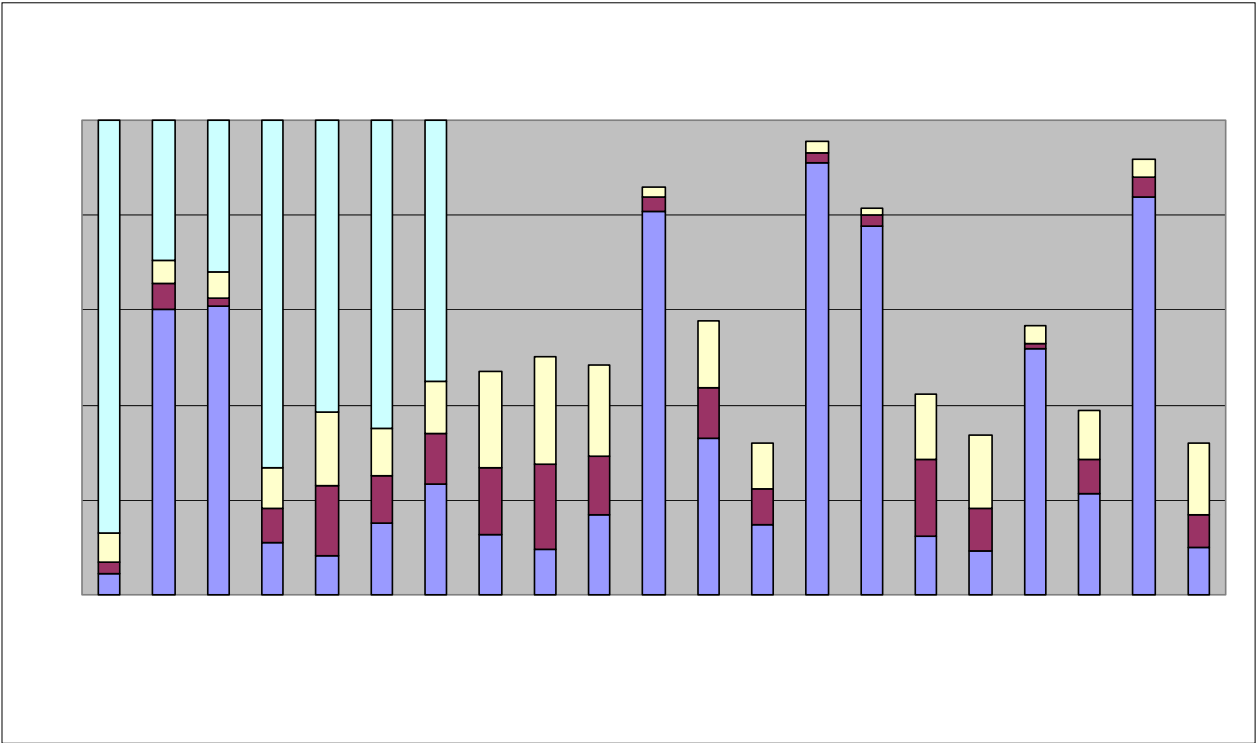
The geographic destination choices for the educated migrants from the region are presented in the next figure. The patterns for the educated migrants are similar to those of overall migration. For example, majority of educated Turkish migrants are in Germany and North African migrants are in France. The most important distinction is that the share of US/Canada/Australia is much higher among tertiary educated migrants for every country. For example, while only 5% of Turks and Moroccans go to these countries, close 30% of educated Turks and 25% of educated Moroccans migrate to the “New World.” There are various reasons for this distinction – the most important being that the educated migrants might perform better in these labor markets compared to the European countries. Also, it might be easier to legally and socially be accepted.



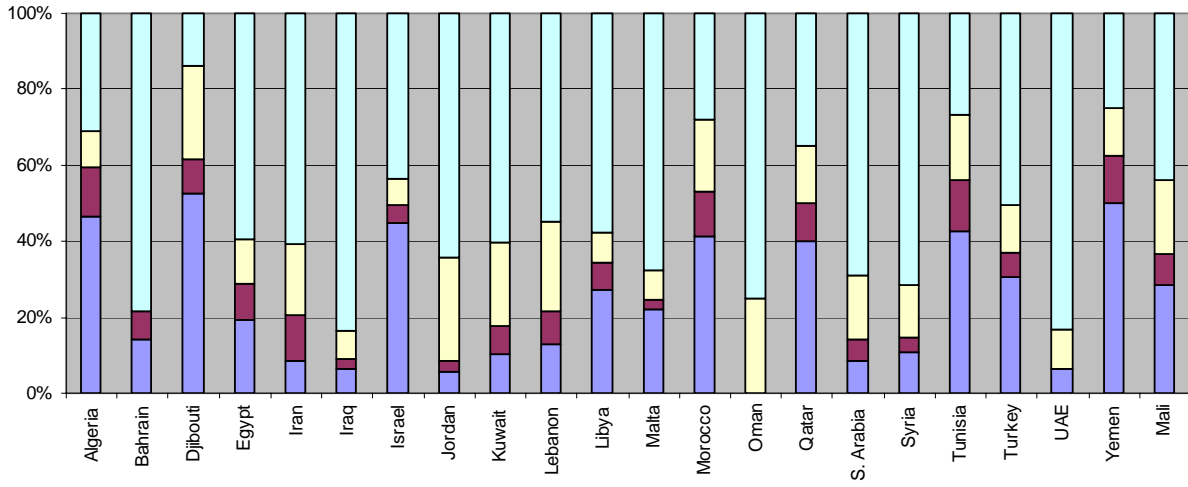


The figure above reveals that the migrants from almost every developing country are more educated than the native population. There are many reasons for this selection effect – the migration policies of the receiving countries are biased towards educated migrants, they face fewer constraints in

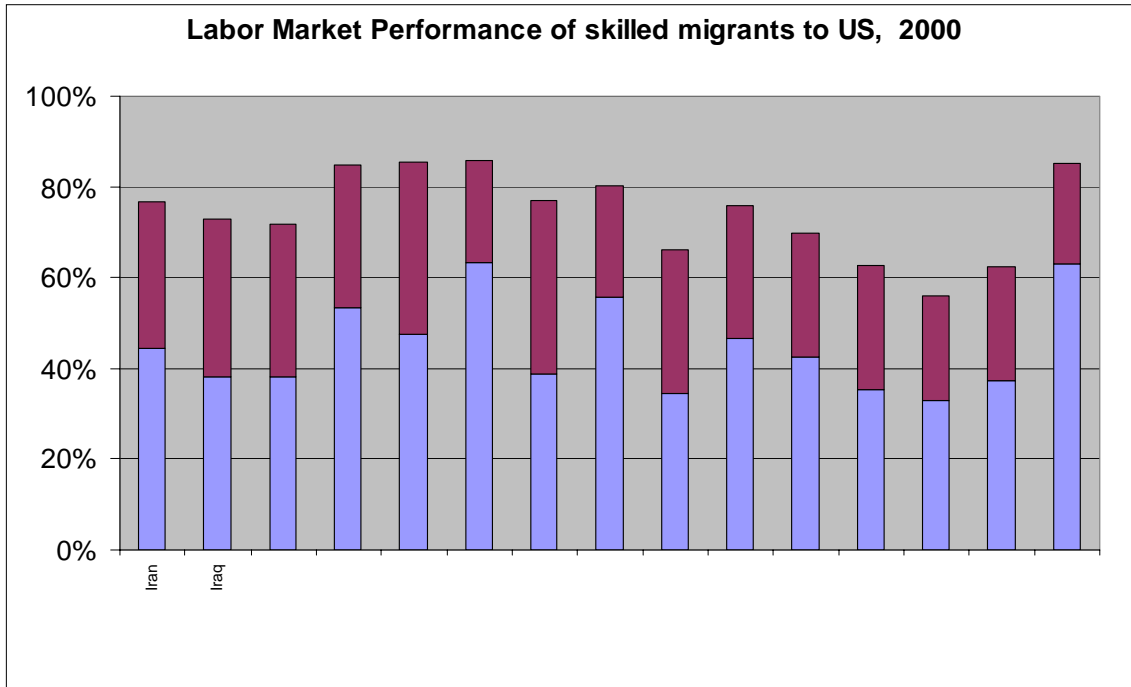
number of students abroad to complete their education, these data imply that these students return home upon graduation.



Middle East Skilled Migration to France, by Age 2000



The main point is that majority of the highly educated migrants who completed their education in their home countries end up with jobs that are not commensurate with their education levels. This is especially severe in the case of migrants from Latin America and Eastern Europe to the US. For example, among the Latin American migrants who arrived in the 1990s and have at least a college degree obtained at home, only 36% obtains a skilled job and another 26% has a semi-skilled job. In other words, close to 40% of Latin American migrants with college degrees have unskilled jobs in the US labor market.



people with lower levels of human capital to migrate. However, in the case of Turks or Egyptians, the main path to enter the US is through employment authorization which requires higher levels of human capital. As a result, they have superior labor market performance. The key parameter will be the comparison with migrants in Europe which hopefully will be possible soon.

CONCLUSION

The aim of this paper is to present certain patterns among the highly educated migrants from Middle East and North African countries.. There are several points we would like to emphasize:

- 1 – There are large variations among different these countries. It is difficult and dangerous to draw conclusions without detailed analysis.
- 2 – We see large migration flows from poorer countries and these are the ones who are losing a large portion of their highly educated citizens.
- 3 – In the case of wealthier countries, a smaller portion of the educated people migrates. But they form a larger portion of the migration flow since the overall migration is much smaller.
- 4 – Majority of the college educated migrants to France (who are considered migrants even if they were born in France) actually completed their education there. This is not the case with the migrants to the US/Canada/Australia The evidence suggests that they migrated specifically to complete their education and there are reasons to believe they would not obtain the same level or quality of education if they were to stay at home. This fact needs to be taken into account in the brain drain debate.
- 5 – Large portion of migrants who completed their education at home fail to obtain jobs commensurate with their education levels. This is partially due to lower quality of education and this also needs to be taken into in the policy debates.

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