

Iran's Brain Drain and the Solutions

Fuga de Cérebros no Irão e as soluções

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1. Introduction

Emigration means moving from one place to another in search for a better life or job. The people usually get away from unsuitable conditions such as poverty, unemployment, disease, political problems, natural disasters, war, and insecurity. However, favorable and attractive conditions of the destination country, like the better standard of living and quality of life, higher incomes, more health facilities, better grounds for education, more political liberties and so on, are involved as well. They are the reasons that mostly attract the peoples from non-developed or developing countries to developed countries.

Migration is not easy. But, how much a person's conditions can be unfavorable or even terrible that force him/her, despite the hardships of migration, to decide to leave the homeland, is something that should be reflected on. The emigrants have to leave much of their elements of belonging such as family, friends, supports, their language, and culture. Also, migration is expensive and some of them cannot afford that. They have to sell all or the majority of their assets to ensure the travel and migration expenditures. Besides, when they arrive in a new country, they have to look for a job, especially a job related to their field of study and/or work experience, to find a place to live, to comply with new rules, new cultural patterns, and new language, and possibly racism and other oppositional behavior. Some families wait years to be reunited (or not).

Yet, no matter how accustomed they get to the new destination, they do not become satisfied, due to the the cultural differences, a sense of loneliness and depression arising from not living in the homeland. The lack of coordination between the host country and their dreams and goals and their imaginations, and all in all considering that one living in abroad is rootless, is lost, and his iden-

tity is unknown intensify this feeling. If a person is very attached to his family and to his country's culture, he may suffer a lot because of loneliness and cultural differences or even cultural shock and eventually get depressed. Many, not because of nationalism, but because of the problems they face, cannot endure emigration and return to the country of origin.

However, there is a large number of migrants who, because of the hardships, are even forced to become refugees. Migration can be legal or illegal, but in some cases, if the conditions are not available for legal migration, he/she may even accept wholeheartedly, the limits of asylum life or even the risk of not reaching the destination, deportation, or death on the route due to the current unfavorable conditions in his/her native land.

What should not be ignored is that there are definite advantages for the migrants and the involved countries (origin and destination) in the migration process. Yet, the benefits may be different for each person and/or country.

Regarding the migrants, some people refer to greater freedom and broader control on their lives and some consider that migration opens new horizons for themselves. For some, migration is a permanent classroom of life. When people go away from their country for a long time, they learn that they belong to part of the world rather than just to their own country. Migration increases one's self-confidence and creativity. If migration, like many major steps in life such as marriage, work, and study, is well planned, it can build a new world for the migrant. By acquiring more choices and facilities for experiment and experience, the migrant can have a better chance to achieve his/her individual desires.

One of the major results of migration is people becoming familiar with different cultures and civilizations. Although the acceptance of different cultures, by the migrants and the locals, may come across with negative reactions and/or resistance at first, what is viewed in the beginning as a clash of civilizations, will gradually change into cultural interactions.

2. The Reasons of Migration from Iran

According to the demographer Mahmoud Moshfegh (2014)¹, the reasons for migration have been different in each period. He classifies the main migration periods as follows:

- Before the revolution, in the years before 1976
- The early years right after the revolution (1977-1979)
- The period of war (1980-1988)
- After the war
- The recent period of sanctions
- All time

The emigrants, before the revolution, were from governmental families and wealthy people affiliated to the former regime. They left the country to acquire higher education, and some of them stayed in the country of destination.

¹ <http://didban.ir/fa/news-details/19773/چرا-ایرانی-ها-مهاجرت-می-کنند؟> (accessed on 23.05.2016)

During the early years right after the revolution, another trend of migration took place. Many people, who were against the revolution and affiliated to the former regime, emigrated gradually in 1977-1979. This migration was due more to political than economic reasons.

During the war, some emigrated mostly to evade military service, seeking security and the like. However, in this period, there were also a series of migrations, which were more for education and business.

After the war, the children of a large population (formed between 1976-1986), when got to college-age, emigrated for education and jobs.

Although Moshfegh does not provide any explanations about the emigration in the recent period of sanctions, it is evident that the sanctions imposed on Iran by America and some European countries have created some difficulties, which have led to some emigration in this period.

A series of emigration shifts happened continually in all periods, whether during the war, after the war, or in the recent period. The emigrants were mostly experts, educated individuals, and/or specialized professionals. This was mainly due to different job opportunities in Iran and in the European countries, which essentially attracted the Iranian who had the talent, knowledge, and skills.

From among the most important causes of emigration, the followings can be underlined: unemployment, job opportunities, education, social and political freedom, and the prospect of a prosperous life.

In this study, we point out and discuss the migration of the elites from Iran, the reasons, and some effective solutions to prevent migrations of no return.

3. Brain Drain

Brain drain is usually associated with the emigration of the younger population. It is the migration of skilled human resources for trade, education, etc. (World Bank, 2000).

More than half of Iran's population is under 35 years old (2012)² (Figure 1) and Iran's emigrants are mostly young (between 20-40 years old) and highly skilled (Figure 2), leading to the "brain drain" phenomenon. The phenomenon of the skilled forces leaving Iran to reside permanently in the developed countries grew in intensity, especially for the intellectuals and professionals, after the Islamic revolution and the Iran-Iraq war. This phenomenon has become so common that according to the statistics of the International Monetary Fund (IMF) for 2009, Iran ranked first in brain drain among the 91 developing and developed countries in the world.

² "International News | World News – ABC News". Abcnews.go.com. 2012-11-30.

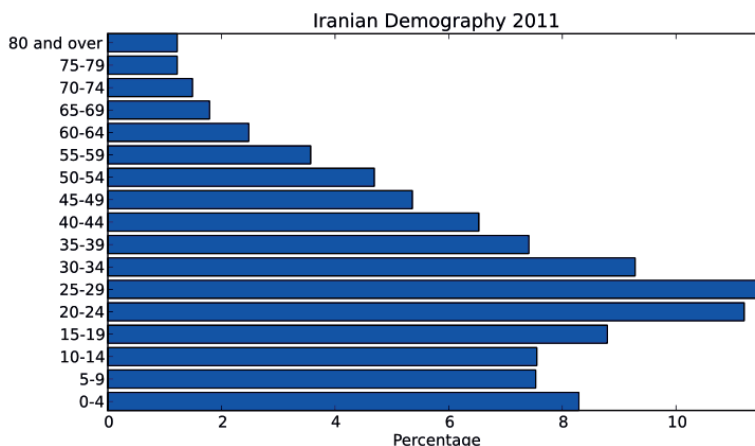


Figure 1 – Iran's population in 2011

The statistics of the Census Organization show that America accommodates one million and four hundred thousand Iranian immigrants. More than a quarter of the Iranians in America have masters and doctoral degrees. America and Canada are the main destinations of Iranian professionals. Between 2011 and 2012, the United States of America was the destination of many Iranian students. According to the statistics, at the present time there are more than 250 thousand Iranian engineers, physicians and physicists and over 170 highly educated Iranians located in America³.

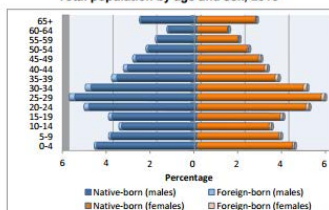
Iran (Islamic Republic of)

Part IV. International migrant stocks

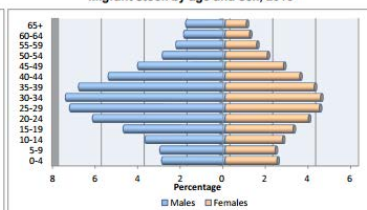
International migrant stock by age and sex

	1990			2000			2013		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	121 357	115 587	236 944	81 840	71 636	153 476	78 498	63 921	142 419
5-9	144 352	128 288	272 620	86 039	70 448	156 487	80 835	61 702	142 537
10-14	234 508	194 062	428 570	112 320	85 865	198 185	99 117	70 781	169 898
15-19	319 039	244 271	563 310	147 776	104 794	252 570	126 214	83 782	209 996
20-24	362 876	261 192	624 068	197 266	131 761	329 027	164 080	102 746	266 826
25-29	352 125	244 010	596 135	225 884	145 420	371 304	192 439	116 252	308 691
30-34	267 097	182 577	449 674	214 460	136 245	350 705	197 614	117 842	315 456
35-39	172 859	120 276	293 135	179 314	115 897	295 211	181 362	109 086	290 448
40-44	107 152	76 344	183 496	125 786	85 305	211 091	144 693	91 962	236 655
45-49	87 198	66 629	153 827	84 507	59 985	144 492	108 264	71 934	180 198
50-54	71 542	55 035	126 577	58 101	41 391	99 492	77 742	51 837	129 579
55-59	69 330	50 705	120 035	51 812	35 146	86 958	60 963	38 789	99 752
60-64	71 700	47 666	119 366	48 285	29 989	78 274	51 356	29 657	81 013
65+	75 565	45 859	121 424	48 874	27 659	76 533	48 837	26 011	74 848
Total	2 456 700	1 834 901	4 291 601	1 662 264	1 141 541	2 803 805	1 612 034	1 037 462	2 649 516

Total population by age and sex, 2013



Migrant stock by age and sex, 2013



³ <http://www.iranbalkan.net/print-15013.html>

Figure 2 – Iran's migrant stock by age and sex (presented by Unicef)

3.1. The Loss due to brain drain

As a consequence of emigration, brain drain is a growing concern worldwide. It is associated with the heaviest losses to the home country if the emigrants do not return to the country of origin and this seriously affects the economic sectors.

"The intellectuals of any country are some of the most expensive resources because of their training in terms of material cost and time" (Dodani & LaPorte, 2005, p. 487). According to Dodani & LaPorte (2005, p. 501) many countries "have made significant investments in infrastructure and education but have not achieved the scientific development, technological and innovative capability either to retain or to recover the human capital that they have generated". That is, the main investment of the developing countries, that is the human capital (skilled work force), is put simply and cheaply at the disposal of the recipient developed countries and every year billions of dollars are lost through brain migration. In this regard, Cabrito et al. (2015, p. 1) indicate,

Since human capital is not made profitable in the same society or country where it was generated there is a loss of capital invested in the training of these individuals and, therefore, a potential loss of externalities that result from this investment in the medium and long term.

According to the IMF, approximately 150 to 180,000 skilled and educated Iranians, roughly equivalent to 500 persons per day, emigrate annually from the country in the hope of a better life and employment opportunities, and don't go back. The IMF adds that departure of about 180 thousand members of professional elites from Iran signifies an annual of 150 billion dollars going out of the country; that is, a million dollars for any educated emigrant (Data released in September 2014)⁴.

According to some sources, Iran's total emigration from 1978 to 1980 was estimated at two million people. This massive displacement had deleterious economic impacts. While the population outside of Iran had a face value of \$400 billion, at the same time, about 2.5 million refugees from Afghanistan and many from Iraq immigrated into Iran, 95% of them had no expertise and they were considered a simple unskilled labour force. The refugees coming to Iran impose the cost of approximately \$3 billion on the country, in various ways.

The brain drain is not critical for the developed countries. Because if these countries lose the elites they have the capability to recruit other professionals and the so-called brain exchange takes place. However, the developing countries can neither maintain their elites nor do they have the power to attract new elites and professionals. Therefore, in essence, the brain drain is noticeable when the emigration trend of the professionals and the university graduates is constant, and cannot be compensated by the same immigrants' trend from other countries. The brain drain is a process which takes shape from an unbalanced rela-

⁴ <http://danakhabar.com/fa/news/1181816/>
صندوق بین‌المللی پول - هر سال حدود ۱۸۰ هزار ایرانی تحصیلکرده مهاجرت می‌کند ۱۵۰ میلیارد دلار ضرر سالانه کشور - از خروج نخبگان

tionship between advanced industrial countries and less developed countries of the third world. This creates irreparable damage to the small and sparsely populated developing countries.

As Shahram Yazdani (2015)⁵ points out, it is obvious that the burden of development of societies is on the shoulder of the elites. However, when in a country the condition is such that the elites leave it over time, not only does their migration directly affect the country, but also, in the long term, it leads to its genetic reserves getting poorer and in future generations, the transfer of high IQs to "The Future Iranian" is faced with disorder. As a natural result of this process, the mean IQ of the Iranian decreases in the long run.

What is remarkable is that although with the emigration of each Iranian member of the intellectual elite, the country suffers enormous economic loss, if emigrants stay in the country of origin their capabilities will be wasted, due to the lack of circumstances for taking advantage of their expertise. Therefore, economists, demographers, and sociologists argue that these migrations are mostly in favour of developing countries. Then, they refer to the return of acquired surpluses. That is something that the emigrants send or bring with them to their country. The return surpluses consist of the expertise and experience that the emigrants bring with them or the savings that they send to their home country. In this regard, Olesen (2002) states that although the brain drain may have immediate negative effects to the country of origin, its benefits may occur in the medium term by their sending savings while abroad and/or by transferring human capital when they return. For example, some economists believe that one of the main reasons for the development of Turkey in recent decades was the Turkish immigrants, who had migrated to Germany, sent the surplus back to Turkey and invested in their country and so provided grounds for the growth and development of Turkey. In Iran, for instance, there are some emigrants who (have) lived in America, Germany, or other countries and they set up their own enterprises, institutions, companies, hospital or workshops, using funds brought back from abroad. In fact, they have launched an economic activity in the country with the capital they brought.

However, one can claim that the elite who is in pursuit of a life that can satisfy the majority of their needs, when they find it abroad, after starting and developing their lives there and settling down, are unlikely to return to the country of origin. Thus, the hypothesis of medium-term or long-term benefit of probable return of human capital can be practically rejected. In addition, the savings sent to the country of origin to make some investments at home with the money acquired abroad can be rejected for the same reason. After having settled in a foreign country it is unlikely that one will prefer to save money or make investments in the country from which he/she is absent. The emigrant opts to take advantage of his/her acquired income in the present life; that is, in the host country.

⁵ <http://www.bultanneews.com/fa/news/37567/> ضریب-هوشی-84-جرای-ایرانی-ها

3.2. Grounds for Brain Drain from Iran

The reasons for the brain drain may vary from one country to the other. Machayo and Keraro (2013) cite the following reasons for brain drain:

1. Lack of research funding; poor research facilities;
2. Limited career structures;
3. Poor intellectual stimulation; threats of violence;
4. Lack of good education for children in home country (Pang et al., 2002);
5. Lack of an evidence-based decision-making culture, leading to lack of recognition of the potential contribution of researchers to national health development (Kupfer et al., 2004)

Asgari et al. (1997, p. 7) present the following motives for the brain drain in Iran:

3.2.1. Neglecting the position of science and research and scientist and researcher

Ignoring the qualitative development and research and lack of educational and research facilities, scholarships, and welfare at the universities are the motives of the brain drain.

More attention has been given to quantitative values rather to qualitative ones so that many teaching methods are traditional and based solely on theories and memorizing the old subjects. Lack of up-to-date data, the use of traditional methods and non-standard tools, scanty research carried out in academic centres, lack of coordination between research and application, assigning insufficient budget to the research, and the popularity of academic credentials are other factors which generate the most discontent among students.

Many individuals that emigrate to study abroad seek to achieve a more appropriate tool to create science and spread their knowledge and ideas. Some believe that coming back from abroad with a higher degree, especially from well-known universities, is an important factor for them in having more job opportunities.

It is true that the market usually values the higher academic degrees more. "The academic diploma still plays as credential to an easier access to the labour market" (Spence, 1973). However, "higher education today does not mean warranty on the labor market as recorded years ago, as can be seen on official data of emigration" (Cabrito et al., 2014).

On the other hand, some of the emigrants originally plan to stay in the country of destination temporarily, but due to entering the labour market of developed countries or when they are satisfied with the standards of life, their stay becomes permanent. "Higher education is one of the principal conduits of permanent emigration" (Meyer & Brown, 1999). "On the plus side, the graduates acquire expensive skills which are not available within their countries. On the negative side, these skills and knowledge never migrate back to their own countries" (Dodani & LaPorte, 2005, p. 488). However, according to Johnson and Regets (1998), those who acquire a higher education abroad and then work experience there, become a medium-term benefit on their return, which is explained further below.

country like Iran, means reduction of skilled and educated work force and, subsequently, economic loss.

Presently, the countries which accept immigrants are mainly receptive of cheap, highly qualified human capital. For they know that training a skilled work-force will cost billions of dollars, and with the migration of educated youths into these countries this puts this investment simply at their disposal.

3.2.3. Lack of Social and Political Liberty

Among other factors for migration, we can refer to inadequate social and political immunities for presenting scientific opinions, the governance of certain political groups in universities and scientific centres, as well as instability or long outdated rules and due process in the judicial system of the country.

Some emigrants leave the country to seek the social and political liberties lacking in the country of origin.

Liberty consists of the social and political freedoms to which all community members are entitled. Social liberty is the synthesis of individual independence and communal autonomy from overarching government or state control. It permits a person to choose to remain free of restraint by society, except in cases in which an individual's claim of freedom interferes with another individual's right to be free from unwarranted, aggressive coercion or harm¹⁰. Political liberty is the right to express oneself freely and effectually regarding the conduct, makeup, and principles of the government under which one lives.

3.2.4. Lack of meritocracy

There are other factors that contribute to the brain drain: many jobs are delegated to unqualified or less qualified candidates; recruitments are based on favouritism rather than on regulations; jobs do not comply with expertise of the employed people; and administrative bureaucracy and monopoly of jobs are very common.

3.2.5. State monopolies

Another factor resulting in the brain drain is state monopoly. The government, on the one hand, refuses to employ the elite in the name of downsizing and, on the other hand, defies delegating the country's activities to the private sectors. Consequently, the elite cannot stand this situation.

3.2.6. No hope for the future

The more hope for the future, the less migration there will be. The youths' hope for the future regarding their future jobs, their income, living conditions to marry, to establish a family, to buy a house, and so on are influential in the rate of the brain drain. People are usually attracted by countries that ensure their futures and arouse their interest and hope for a brighter future.

¹⁰ <http://www.urbandictionary.com/define.php?term=Social+Liberty>

In sum, we believe that what the elite of the developing world want is respect, peace and confidence in the workplace, and grounds to present their creativities (Omidvarnia, 2002, p. 190). As Forster (2000) rightly argues, for the elites the economic problems and job opportunities represent only a part of the reason for migration, and may even be accompanied by negative economic effects.

3.3. Solutions

In reviewing what motivates the brain drain and exodus, it is now appropriate to state that the decision-makers in developing countries (Iran, in this case) should adopt some policies in order to provide the adequate solutions and standards of life in the country of origin and, by doing this, to stem the outflow of brains from developing countries to developed countries.

It is obvious that the brain drain trend will continue unless the conditions in the country of origin get primed to host the brain. In this regard, Mansouri (1991, pp. 16-18) proposes the following solutions in order to prevent the brain drain of no return:

1. To provide sufficient incentives (material & spiritual conditions) and a peaceful, happy, and confidential environment for the brain to override the limitations at home and the attraction of opportunities found abroad and so to stay in or return to.

2. To employ their expertise, skills and human capital. For this purpose, creating professional meetings and seminars or developing collaborative training programs. By doing this, they can disseminate and share their knowledge and skills and promote research and development.

3. To involve the elite in the field of development and to create opportunities at home. To keep them away from the situation where they consider themselves as victims of underdevelopment. That is, they have to assume underdevelopment as their own problem and to stay and work even under the most difficult and inappropriate conditions.

4. Above all are the following: to reform the country's educational system, to strive for training creative and decision-making human resources, to promote a research mentality in the country and to apply run-off results. To delegate jobs to the most qualified applicants and to implement a meritocracy system, to link educational and research centres to industry and products and services institutions, to put into practice the concrete plans, and to create an appropriate environment for the growth and presentation of their creativity.

The last but not least solution for preventing the loss of the emigrated elites that do not opt to return can be by providing on-site world-class education and training programs, by developing countries¹¹, involving the elite at home and abroad (i.e., "brain circulation", Meyer, 2001). This can be materialized by providing different information means, technologies, and networks, which facilitate the access to these educational programs for free to a global audience.

¹¹ <http://www.nsf.gov/statistics/> Accessed on 06/04/2016.

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Abstract

This article seeks to focus on migratory exodus from Iran in terms of its nature and relevant pull and push factors, i.e., the effects of social, cultural, economic and political factors on emigration. In this study, we present different periods of emigration in Iran and the reasons in each period. The study centers mainly on the phenomenon of brain drain, trying to point towards the motives of such emigration, the losses thereof, and solutions for its prevention. The brain drain phenomenon is so common in Iran that, according to the International Monetary Fund's statistics for 2009, Iran ranked first among the 91 developing and non-developed countries in the world. According to research, the main causes for the Iranian elite's exit from the country can be summarized in cases like neglect for the importance of science and research, economic factors, lack of social and political liberties, lack of meritocracy, unemployment, among others, for which some solutions are offered in this study. The reasons behind emigration differ in different periods. The principal emigration periods in Iran are before the revolution, the early years right after the Revolution, the period of war, and the recent period of sanctions.

Resumo

O presente artigo centra-se no êxodo migratório do Irão, a sua natureza e os fatores de *push* e *pull* envolvidos, ou seja, os efeitos de fatores sociais, culturais, económicos e políticos sobre a

emigração. Neste estudo, apresentamos diferentes períodos de emigração no Irão e os impulsores desta ação em cada período. O estudo centra-se, principalmente, no fenómeno da fuga de cérebros, tentando apontar os motivos de tal emigração, as perdas resultantes, e soluções para a sua prevenção. O fenómeno da fuga de cérebros é tão comum no Irão que, de acordo com as estatísticas do Fundo Monetário Internacional, para o ano de 2009, o Irão estava em primeiro lugar, entre os 91 países não desenvolvidos e em vias de desenvolvimento no mundo. De acordo com alguns estudos, as principais causas para a fuga das elites intelectuais iranianas podem ser resumidas a fatores como negligência pela importância da ciência e da investigação, fatores económicos, a ausência de liberdades políticas e sociais, a falta de meritocracia, o desemprego, entre outros, para os quais algumas soluções são apresentadas neste estudo. As razões subjacentes à emigração diferem nos diferentes períodos. Os principais períodos de emigração do Irão situam-se: no período antes da revolução, nos primeiros anos após a Revolução, no período de guerra, e no período recente de sanções.