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Turning brain drain into brain gain: evidence from Romania's medical sector

Irina Boncea*

Bucharest University of Economic Studies, Pta Romana, No 6, Bucharest, Romania

Abstract

This article aims to investigate Romania's potential of turning medical brain drain into brain gain, focusing on three directions of study: the return intention, the diaspora option and the remittances. The nature of the study is exploratory. A survey was conducted among Romanian physicians (trained in Romania) with an international work experience (currently working abroad or those who worked abroad and returned). Data collected was analyzed using SPSS 19. The main findings constitute a valuable instrument for policy makers in the health system, offering an overview of the possible areas of intervention.

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1. Introduction

Literature on medical brain drain evolved over the past 60 years, from the early stage, with scholars highlighting the neutral effect on source countries, sometimes even beneficial, through the second phase, with the emphasis on the negative impact on donor countries and finally to the new economics of brain drain theory, accepting both the beneficial and detrimental effects on the country of origin. Recent literature identifies several options that, under specific circumstances may turn the brain drain into brain gain: return option, diaspora option and remittances. Research in this area is scarce in Romania, a former communist country affected by the medical brain drain, phenomenon that has intensified after the accession to the European Union. In this respect, this study

* Corresponding author. Tel.: +4-076-671-9566.
E-mail address: irinaboncea@gmail.com

aims to tackle the emigration of physicians from the beneficial perspective. It identifies the perception of Romanian physicians with an international working experience (currently working abroad or who have worked abroad for a certain period of time) related to the return intention, the scientific networks between the origin and the destination country and the role of remittances as sources of external financing.

The nature of this study is an exploratory one. Firstly, it presents the main concepts of the new economics of brain drain, highlighting the main contributors. The second section describes the methodology adopted and the target population. Section three includes the main results. Finally, the paper presents possible solutions and policy implications.

2. Literature review on the new economics of brain drain

The third phase of research on brain drain (mid 1990s) brings in a new approach consisting in a possible beneficial effect of the phenomenon on donor countries. Return migration, diaspora option and remittances constitute, under specific circumstances, possible gains for the country of origin. The attractiveness of migration perspective foster the investment in education among the population in the sending country, the “beneficial brain drain” (Beine et al., 2001:277) depending on the percentage of highly skilled that actually emigrate.

Return migration is one of the sources of brain gain: the highly skilled migrants return home and apply the knowledge and skills acquired during their stay abroad (Docquier, 2006, Stark and Fan, 2007). The return migration is determined by the technological progress in the country of origin, which offers the access to adequate infrastructure for applying the knowledge. A study on the return intention among medical doctors working in UK provides the following conclusion: 26% of respondents don't intend to return, 41% intend to return and 32% are uncertain. The return intention varies among different groups: fewer high-income country doctors intend to return. Moreover, the reasons for not returning are different between the income groups: working conditions, facilities and standard of living are mentioned by low-income and middle-income doctors, while high-income doctors mentioned family reasons (Kangasniemi et al., 2007). However, other studies offer evidence for the limited return migration among the highly skilled: less than one fifth of Taiwanese PhDs who graduated in US universities in the 1970s, 13% of Chinese PhD holders and 18% of Indian PhDs who graduated in US in the period 1990-1999 returned to their country of origin (Kwok and Leland, 1982, Luo and Wang, 2001, in Docquier, 2006).

In Romania, research on this topic is scarce and inconclusive. Sandu (2009) conducted, in 2008, a survey among Romanian migrants in the region of Madrid, with the following conclusion: 71% of the respondents intend to return. Ghita et al. (2007) identified the potential benefits for Romania: work experience, productivity, financial capital and new technological ideas. Another study (Goschin et al., 2012), found that gender, age or level of education and length of the stay abroad is not significantly affecting the return intention. Income level has a significant and negative impact. Also, a positive correlation exists between the links with relatives in the country of origin (money sent) and the return intention.

Diaspora is another possible gain for the destination country. Firstly, diasporas are lowering the migration costs (through information) and visa costs (through family reunification programs) (Beine et al., 2001). Scientific networks are beneficial for the donor country, as, even they don't return, diaspora's members offer valuable information, advice, collaboration or financial support.

Current knowledge about Romanian scientific networks is insufficient. A study (Ciumasu, 2011:139) conducted among diaspora members found a 95% of interest in professional involvement in Romania. However, less than a half of the respondents maintained a form of collaboration with Romanian scientists during their stay abroad. Distance collaboration (brain networking) is preferred to brain circulation (only 25% prefer to return to Romania). The perspective of turning brain drain into brain networking seems very attractive.

According to World Bank, remittances represent for the developing countries the second source of external financing, after foreign direct investments. Remittances reduce poverty and contribute to the economic growth of donor countries (Ghosh, 2006). However, other studies (Ozden et al., 2008) concluded that remittances could not mitigate or offset the impact of the brain drain as skilled emigrants have the tendency to remit less than the unskilled ones.

In Romania, only a few studies regarding the migration, remittances and the economic effects exist. One of them (Goschin et al., 2012), based on a survey, brings in the following conclusions: the most important factors that

determine the behavior of Romanian emigrants concerning the tendency to remit money are the income obtained in the destination country and the return intention. Also, the education has a negative influence: the highly-skilled remit less, but the amount is not affected by the level of education.

3. Research design

This exploratory study aims to investigate Romania's potential of transforming brain drain into brain gain. In this respect a survey was conducted among Romanian physicians (trained in Romania) with an international work experience (currently working abroad or those who worked abroad and returned in Romania). The questionnaire contains different types of items: simple choice, multiple choice and open questions. It was administrated online, for a period of three months, among specific groups of physicians. 90 complete and usable questionnaires are used for this study.

Information collected concerns respondents' socio-demographic characteristics push and pull factors, the return intention, the role of diaspora and the remittances. This paper focuses on the return intention, diaspora option and remittances. The determinants of the decision to emigrate are explored in a different paper. Data was analyzed using SPSS 19.

The first section of the questionnaire identifies the socio-demographic characteristics of the respondents. The mean age of respondents is 33.02 years (Standard Deviation=7.473), 51.1% declared they are not married, 24.4% married with children, 20.00% married without children and 4.4% divorced. A number of 34 men and 56 women filled the questionnaire, among them 26 general practitioners and 64 specialists. The distribution by age and gender is represented in Table 1.

Table 1. Distribution by gender and age

		Respondent's age (grouped)					Total
		24 or less	25-34	35-44	45-54	55 or above	
Respondent's gender	Female	2	44	8	0	2	56
	Male	0	22	6	6	0	34
Total		2	66	14	6	2	90

Source: Author's calculations using SPSS

Most of the respondents leaved Romania at the early stage of their career (distribution by gender and status on the labour market before leaving could be seen in Table 2).

Table 2. Distribution by gender and status on the labour market

		Status on the labour market before leaving				Total
		Employed in private system	Employed in public system	Unemployed	Student/Resident Physician	
Respondent's gender	Female	2	8	0	46	56
	Male	8	8	4	14	34
Total		10	16	4	60	90

Source: Author's calculations using SPSS

Main destination countries include: France (30 respondents), Germany (24), UK (10), Spain (10), Belgium (8), Sweden (6) and USA (2). The period of time spent abroad varies from less than one year (44.4%) to more than 4 years (the longest period being 10 years).

Table 3. Years abroad (grouped)

		Frequency	Valid Percent
Valid	less than 1 year	40	44.4
	between 1 and 2 years	18	20.0
	between 2 and 3 years	18	20.0
	between 3 and 4 years	4	4.4
	more than 4 years	10	11.1
Total		90	100.0

Source: Author's calculations using SPSS

One item questioning the level of income in Romania concluded that 86.4% of the respondents earned less than 2000 RON in Romania. Only 12 respondents declared their salary in the destination country is less than 2000 EUR (all of them leaved Romania at the early stage of their career, having the status of student or resident physician, earning less than 2000 RON). 10 of them chose as destination country France and one of them Belgium. The gap in the level of payment between the origin and the destination country confirms one more time the influence of the financial aspect in the emigration decision.

4. Results

In this section, the main results of the study will be presented. The study focus on three directions: return migration, diaspora option and remittances as possible sources of brain gain.

4.1. Return option

A first direction of this study aims to identify the intention of returning in the country of origin among the Romanian medical doctors and the main reasons for returning or for not returning.

37.8% of the respondents did not intend to return in the country of origin, 40% are undecided. Only 8 persons stated their firm intention of returning in Romania (the period of time varies from 2 months to 10 years).

Those who have already returned (12) argued that their decision is based on personal reasons (family reasons), patriotism and the desire of contributing to the change of the Romanian medical sector, considering that they can use the knowledge they gained abroad to determine a change. Only one respondent mentioned that beside family reunification, the decision was based on a good salary offered in the private health sector in Romania. One other respondent mentioned the incapacity of accommodation in the medical sector from the destination country.

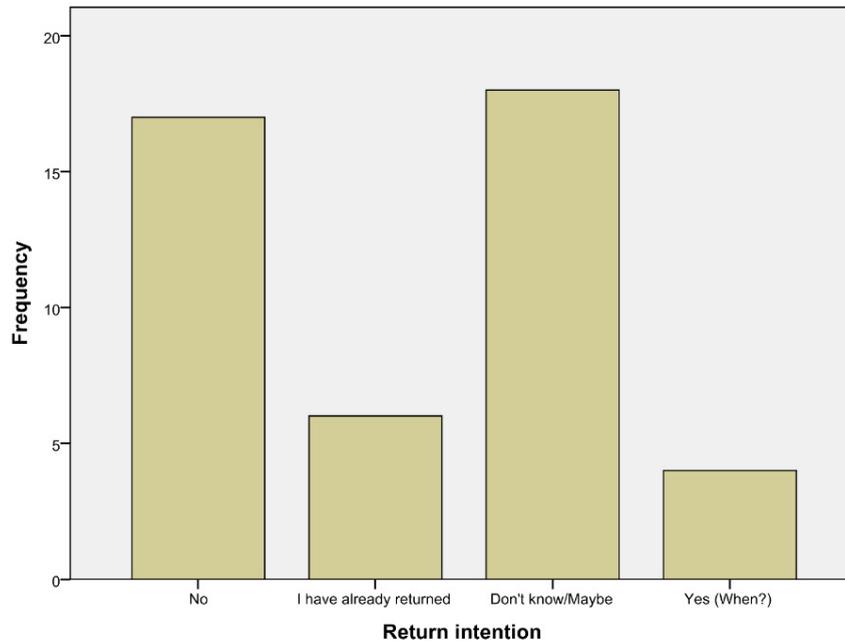


Fig.1 Return intention

Although more than one third of the respondents are undecided about returning to Romania, the highest percentage of them is included in the age category 25-34 years old, which could be a positive aspect, as a highly skilled person (medical doctor in this case) is not productive in the first part of his career – dedicated to knowledge and experience accumulation. In this respect, we can assume that Romania could obtain an advantage based on its ability of creating incentives to attract the emigrants to return and to use their knowledge and experience in its benefit. At least, a chance still exists, as some of the young physicians undecided might want to return but current situation is not a favourable one.

One of the open items of this study offered the respondents the possibility of expressing the conditions under which they will return in Romania. We can group the reasons under five main categories:

- level of payment (decent salary which offers financial security and stability and a decent living, in accordance with the years of training and at the same level with the salary received in the destination country);
- working conditions (decent working conditions, at the same level with those in the destination country, working program of maximum 40 hours/week, less stress and pressure, healthy relationships, a good collaboration and a real competition (based on excellence) between medical doctors, integrity and transparency, promotion based on performance, the elimination of corruption and nepotism from the medical sector);
- resources from the health system (high performance equipment which offer the possibility of applying the knowledge gained abroad, medicines and sanitary materials available);
- opportunities for career development or educational opportunities (lifelong medical learning, the possibility of participating in medical conferences and congresses so that the access to latest information be assured, cooperation with medical universities from Europe, training courses, medical research possibilities, academic positions, administrative support for developing some medical branches, the recognition of the medical training from the destination country);
- respect and recognition (the respect for the medical profession).

All the circumstances under which physicians will consider returning in the country of origin are closely associated with the main determinants (push and pull factors) of the decision to emigrate.

4.2. Diaspora option

The most accessible way a developing country could turn the brain drain into brain gain is through scientific networking. The aim of this section is to investigate the perception of physicians regarding the importance of diaspora.

51.1% of the respondents said that during their stay abroad they collaborated (at individual or institutional level) with the country of origin. 64.4% of the respondents consider important or very important for the country of origin to maintain scientific contact with diaspora's members (Table 4).

Table 4. Diaspora option

		Frequency	Valid Percent
Valid	Strongly agree	36	40.0
	Agree	22	24.4
	Neutral	22	24.4
	Disagree	4	4.4
	Strongly disagree	6	6.7
	Total	90	100.0

Source: Author's calculations using SPSS

However, 73.3% of the respondents appreciate the implication of their country of origin in maintaining scientific networks as unsatisfactory (Table 5).

Table 5. Romania and diaspora

		Frequency	Valid Percent
Valid	Above average	2	2.2
	Average	18	20.0
	Below average	4	4.4
	Poor	66	73.3
	Total	90	100.0

Source: Author's calculations using SPSS

A percentage of 54.5% of the respondents consider that the contact with Romanian medical doctors already practicing in the destination country had a significant contribution in the decision-making process.

The analysis of the individual or institutional collaboration with the country of origin during the stay abroad and the return intention shows that there is no statistically significant association between them (Pearson Chi-Square=5.135, df=3, p-value=0.162).

4.3. Remittances

A third direction of study investigates the remittances, considered as a possible benefit for the country of origin. 54.5% of the respondents mentioned that they send money to their family and relatives occasionally and 25% send money on a monthly basis (Table 6). Some of them agreed to mention the amount of money they send annually, this varying from 100 euros to 12000 euros, with an average of 2874 euros/medical doctor. However, the general tendency among highly skilled is to take their families with them, not to send money. Although 85.3% of the

respondents send money in Romania, the amounts are too small to even hope that remittances could represent a gain for the country of origin.

Table 6. Remittances

		Frequency	Valid Percent
Valid	No, never	18	20.5
	Yes, monthly	22	25.0
	Yes, sometimes	48	54.5
	Total	88	100.0
Missing	Refused/Not answered	2	
Total		45	

Source: Author's calculations using SPSS

No statistically significant association between the return intention and the maintenance of contact with family or relatives in Romania by sending them money was found (Person Chi-Square=5.082, df=6, p-value=0.533).

5. Conclusion

The present study aimed to investigate Romania's potential of turning medical brain drain into brain gain. Precisely, three main research objectives were considered: the possibility of return migration, the diaspora option and the remittances as important sources of external financing.

The investigation of the return intention concluded that 37.8% of the respondents did not intend to return in the country of origin, 8.9% intend to return and 40% are undecided. 12 persons already returned. The conditions under which physicians may consider returning confirm one more time the weaknesses of the Romanian health system and the stringent necessity of intervention. Increasing the salaries of medical doctors is not a solution to the medical brain drain, as they are pushed by other factors, of similar importance, such as the poor working conditions, the inaccessibility of health performance equipment, the lack of career opportunities or specializations in specific domains, the lack of respect and appreciation for the medical profession and for the long period of training. The major preoccupation should gravitate around the implementation of a set of adequate measures both to reduce the emigration and to stimulate the return. Despite the alarming trend of emigrants, no measure was adopted so far.

The second direction of study investigated the diaspora option. More than a half of the participants in this study mentioned that they collaborated with the country of origin during their stay abroad, which is a positive aspect that could sustain the possibility for Romania of turning brain drain into brain networking. 64.4% of the respondents considered important or very important for the country of origin the maintenance of scientific contact with diaspora's members and for 54.5% of them, the feedback received from physicians who have already emigrated had a significant importance in the process of decision-making. However, 73.3% of the respondents appreciated as unsatisfactory the implication of their country of origin in maintaining scientific networks. The conclusion seems very simple: among the medical community the willingness to collaborate exists, but only through an active implication at institutional level, Romania could possibly benefit from the diaspora option. A strategy in this area should take into account the examples of scientific networks from other countries and adapt them to the national context (Ciumasu, 2010:145).

The third direction of study investigated the remittances. Although only 9 respondents stated that they never send money to family or relatives in the country of origin, no solid conclusion could be drawn in this respect. Moreover, no statistically significant association could be found between the return intention and the action of sending money to family or relatives. Further research is necessary, which implies a greater sample of respondents and accurate statistical data about remittances.

The main limit of this study is linked to the research methodology, which makes the generalization of the results impossible.

The aim of this study was to investigate the return intention, diaspora option and remittances and to draw some conclusions about an alarming phenomenon. It represents a valuable instrument for policy makers in the health system, offering an overview of some critical aspects. Further research may focus on the physicians that have returned in Romania and which could provide valuable information about their experience abroad.

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