THE CHARACTERISTICS OF MIGRANT PHYSICIANS FROM ROMANIA

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Abstract

An important part of migration represents the brain drain, especially the migration of physicians. Romania has a health system in continuous reform, facing for over 3 decades a shortage of employees. Moreover, employed specialists and young physicians migrated, the health care system registering a medium efficiency. The number of migrant physicians from Romania followed an ascending trend, and this had negative consequences on Romanian population health. The main objective of this paper is identifying the profile and the dynamics of the migrant physician from Romania. Other objective is highlighting the Romanian counties where most physicians migrated from and the preferred destination countries.

Keywords: Migration, Brain drain, Physicians, Health

JEL Classification: C10, C38, F22

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1. Introduction

The specialist migration has always been a major problem of human capital loss for the least developed countries of the world. The financial limitations for technological development stimulated the medium and high qualified migration to the countries that provided superior working conditions and technological equipment compared to the countries of origin. Finally, a better remuneration, respectively wage disparities for similar jobs, has stimulated the mobility for multiannual work, but also transforming the temporary mobility into migration (definitive migration through change of residence) and/or circular migration, respectively moving from one country to another, depending on the employment opportunities. In addition, accession to the EU has extended the possibility for medical students to undertake training internships, respectively to have a real contact with the working environment in hospitals abroad, through the mobility system. All these factors created employees deficits in different activity areas, becoming chronic over time. Even in times of economic crisis, employers had problems finding work force with the right qualifications for the vacancies (Dimian, 2014). This is also the case of the health system in Romania, where the employees deficit is alarming. Improving or eliminating only one of the factors mentioned above do not stop or cancel mobility, only temporarily slow the departures dynamics. This is also the reason why, in our research we focused on analyzing the granting of practice/work permits abroad, analyzing the propensity of mobility partially capitalized, considering that applying and receiving this permits strengthen the decision of external mobility for work. Some authors analyzed migration intention on the basis of a questionnaire among students (Suciu et al., 2017), but considering in general migration decision appears after residence, we consider that the analysis of the work permits granted by the College of Physicians highlights the intensity of the migration propensity.

With a health system in continuous reform, but on a scheme not correlated with the factors mentioned above, Romania has been facing for over 3 decades a shortage of employment in the health sector. In 1990 Romania passed to a market economy, starting from a minimum level of development regarding the health system. Moreover, the specialist migration was mainly from employed person, and young physicians after residence, the efficiency of healthcare system being medium.

According to the official statistics of the OECD (2007) at the beginning of the 2000s Romania occupied the 18th place among the countries with migrant physicians in the OECD area, with 5182 migrant physicians and an expatriation rate of 10.9% (Martin, 2007). Some of these persons migrated to the OECD countries with the help of bilateral agreements for the medical personnel recruitment, approved both before 2007 and until 2014, when the (partially) restricted movement of Romanian workforce in the EU ended.

Estimates from other sources show that 43,000 physicians migrated after 2007 (The Gurdian, 2019), and 14,000 physicians left during the period 2009 and 2015 (Husanu, 2017).

The factors that influence physicians' decision to migrate are economic, political, social, personal and professional. The objective of this paper is to identify the profile of the migrant physician from Romania and the dynamics of migrant physicians. We wanted to know if the physicians who want to migrate from Romania are distributed in a certain area, by certain, specialization, age and countries where they choose to go.

It is found that the share of women physicians who want to migrate from Romania is higher than the share of men. The preferred destination countries for the Romanian physicians are the countries that register high health expenses and high living standards (especially UK, Germany, France). Regarding the age, most physicians who want to migrate from Romania are represented by young people, they adapt much easier to a new society.

Finally, the last part contains conclusions and some proposals for future policies that could reduce the migration of physicians from Romania.

The fundamental coordinates, shaping factors, effects of the migration process from Romania, particularly of the highly skilled labor have been extensively approached in the literature, but this research views it from a different angle: identify the counties where there is a greater demand for physicians migration from Romania and the preferred destination countries. The novelty of this article is represented by the data, which are provided by the Romanian College of Physicians and represent the requests for Current Professional Certificates in order to be able to practice abroad.

The current professional certificate is the document issued at the request of the doctor or at the request of the homologous competent authority of another state and contains relevant personal data on the respectability, morality and competence needed for the doctor who holds or has held membership in the past to exercise his profession.

2. Literature review

Migration has important consequences, economic and social. Romania's external migration is influenced by economic growth and the influence of this increase on the standard of living and the migration policies of the western countries. The category that migrated for economic reasons in the last years is represented by young population (aged 30). Significant economic consequences were identified, as the volume of the transferred amounts were approximately seven billion euros in 2007, this being reflected by financial aspects and quality of Romanians' lives. Migration has a major social impact, influencing the family lives of migrants. The most important social consequence is the temporary abandon of minors by parents who migrate searching for a job (Roman and Voicu, 2010).

The Romanian migrant was associated with the gross labor force. The phenomenon of "muscle migration" led to the appearance of the "strawberry picker" in Romanian, the person who migrates to collect the crop from other countries for financial reasons. They are both people without too much education and professional experience, but also engineers, skilled workers, trained people, both adolescents and older people. The destinations that absorbed the most migrants were Spain and Italy. In addition to muscle migration, Romania has faced migration of brains, the migration of professionals, graduates with higher education and a high level of training. They migrated searching salaries correlated with their skills and a system that appreciate and value them. If the working Romanian goes abroad to collect a certain amount of money and after return home, the professional Romanian migrates for a longer period of time and considers the final settlement in the country of destination. Both "migration of brains" and "muscle migration" influence the national economy, but in different ways. Most Romanian specialists who decide to migrate are from the medical system. The value of the Romanian school of medicine is appreciated abroad, and the job offers that come from other countries are generous, with salaries even 5 times higher than in Romania (Glazer, 2016).

Migration of brains is defined as the international migration of skilled workers from one country to another. The country of origin is experiencing a brain drain, while the destination country experiences a brain gain. Intellectuals represent a source of economic growth, and through their migration the host country faces a loss of valuable human capital and, implicitly the investments in their education, to the detriment of the destination country. In this way, the first country is considered the loser and the second country is considered the winner (Beine et al., 2008).

The brain drain in the health sector is more dramatic than in other sectors, because the consequences are both economic, and social. The health status of a society influences the degree of social cohesion. A country is responsible for providing access to adequate medical services for its population, and the lack of health professionals prevents this (Astărăstoae et al., 2014).

Physician migration is an important phenomenon, affecting the less developed economies of the EU. The data from the last decades show a constant flow of specialists and qualified personnel, with medical training, who migrate to work abroad. Some of them are young graduates, others are already employed, which increases the deficit in the national medical sector (Vasile et al., 2018).

The migration led to a decrease in the workforce in the medical sector and an increase in the average age of the physicians. The decrease in the labor force can be solved by migration or by training new professional physicians in the country. Factors for retaining or attracting medical staff are: salary, relative cost of living and quality of public institutions and services in the country of origin (Hnatiuc and Job, 2013).

The main reasons for which physicians migrate are: a better structure of medical education, better incomes, general security and better prospects for the family. The countries of Central and Eastern Europe are characterized by severe deficiencies, inadequate mixing of skills and deficiencies in the coverage of health services. Migration from eastern to western Europe is the result of dissatisfaction with the economic opportunities in the new Member States, compared with the older ones (Boboc et al., 2011).

Factors that favour the migration of physicians from Romania are: the recognition of medical studies from Romania abroad, the Romanian physicians know at least one foreign language and the differences between the salary of physicians in Romania and those from abroad. For the host country, the physicians' migration brings net benefits through coverage deficit in certain specialties, following the demand for labor force in the host country. For the country of origin the physicians' migration presents disadvantages, often affecting the necessary specializations, without having significant effects on unemployment (Rechel et al., 2005).

Migration attracts the best trained people, thus affecting the performance of the health sector in the country of origin (Dodani and LaPorte, 2005). Those who migrate are predominantly young, as they have a higher potential for performance, and the period for which they migrate is higher, and may even reach to definitive migration (Tilea et al., 2013).

Vujicic et al. (2004) concluded that there is a small correlation between wage differences in the health sector between the countries of origin and destination and the supply of migrants in the health sector (both physicians and nurses), which shows that a wage increase policy cannot prevent the health professionals migration. Other policies are needed regarding working and living conditions, these being factors that influence the phenomenon of migration in the health sector. Other important factors are demand-side policies, and cooperation between the countries of origin and the host countries.

Socially, the physicians' migration is not beneficial, the decision to migrate involves the personal costs and benefits. Temporary migration has a different impact than permanent migration. The temporary migration of physicians implies modernization of skills, technology and financial transfers, while permanent migration represents an export of human capital from the home country to the host country. Temporary migration can represent a way of professional development or experimentation with new techniques that are not available in the country of origin, the result being a career development. Conversely, permanent migration implies weakening the capacity and efficiency of the health system in the countries of origin (Forcier et al., 2004).

Research shows that "brain exchanges" (Fall, 2010) normally bring benefits to both the country of origin and the country of destination through the professional experience gained by expatriate medical personnel. However, when the migration is permanent, the benefits are only for the country of destination. In the case of temporary migration, the benefits are for the

country of origin, the migrant physicians returning with an increase of knowledge that they use in practice. There are situations in which for lack of equipment this knowledge cannot be applied in the country of origin.

Even if in the moment of migration the physicians consider temporary migration, the longer the time spent in the country of destination, the more the migrant physician adapt to the society and culture, appearing the feeling of belonging to that society (Rachedi, 2009). The longer the practice period is, and the greater the investments in the country of destination, the stronger the feeling of alienation and the probability of returning to the country of origin decreases.

Another factor that leads to the definitive establishment of migrant physician in the country of destination is the social and professional integration. When he is recognized, both socially and professionally, he is integrated in the destination society. This recognition denotes equal rights with physicians in the country of destination, regarding access to work and wages (Farhat, 1998).

Other variables that lead to the professional and social integration of the migrant physicians are the experience in the medical field and the age. Young people integrate faster, they are not so attached to the country of origin. If they have benefited from specializations in other countries, the degree of adaptability to a new society increases. Migration and professional experience favours their permanent establishment (Fangen, 2010).

According to Buchan et al. (2006), the reasons for migrant physicians are often characterized as "push and pull" factors. They address the issues of relative pay, career prospects, working conditions and the available environment, both in the country of origin and in the country of destination. When the differences between the two countries are large, the phenomenon of migration appears, the people being pushed from the low-level countries and attracted by the high-level countries. Free movement, infrastructure and communications have influenced migration in general and health migration in particular. Other factors that have contributed to the increase figures on migration of healthcare professionals are similar educational programs, similar languages and traditional links between countries.

Since the physicians migrate to countries where wages and living conditions are much more attractive than in the country of destination, the physicians migration is, in most cases, definitive (Schmoll, 2005).

Regarding the gender of the migrant physician, studies show that the share of women who migrate is higher than the share of men. In general, women are more social and supportive than men, being much easier to integrate into a foreign society, which means that women are prone to permanent migration (Saghin et al., 2016).

The higher share of female physicians is also due the different specialties, so they benefit more opportunities than male physicians. The greater willingness of women to succeed than men leads to a better integration and implicitly, to a permanent migration of them (Temime, 2007).

The profile of the migrant physician is different regarding gender. Also, the female migrant physician profile is different from the profile of the less qualified female migrant. If the less qualified female migrant is marginalized by the uncertainty of a subqualified and underpaid job, the female physician has a professional, social and cultural capital that make her an initiator of migration (Bentchicou, 1997).

Wiskow (2004) studied migration of health workers in Europe, analyzing the situation in Romania, Czech Republic, Serbia and Croatia. The results showed that the major factors encouraging migration were: working conditions and employment process. In Romania, the situation was a concern, the average net salaries were reported that time around 200 euros per month, and the salaries in the health sector were below the national average. This demonstrates the low appreciation of physicians in Romania, correlated with a low remuneration. In Czech Republic, although the salaries of physicians are almost at the same level as the national average, are lower compared to the countries of destination, this being the main factor of attraction. In Serbia, the results underlined that the average gross salary of physicians is not enough to cover the cost of living. In addition to financial factor, better professional opportunities were reported in Croatia, especially among young graduates.

The brain drain in the medical field is not a new phenomenon, Romania faces this problem since the 1990s. Boncea. (2014) analyzed the factors that influence the phenomenon of physicians migration from Romania, using a questionnaire that was distributed to Romanian physicians with international experience. The results confirmed that the wage differences between Romania and the countries of destination are an important cause of migration, migration is influenced to a greater extent by the working conditions and the availability of the facilities. Economic and political stability or personal factors have less influence, instead the opportunities for career development and continuous training determine the Romanian physicians to migrate.

Suciu et al., (2017) studied the migration of physicians in Romania, using a sample of 957 graduates of the "Iuliu Hațieganu" Faculties of Medicine in Cluj-Napoca between 2013-2015. The main purpose of the study was to analyze the intention of migration. The conclusions of the study showed that 84.7% of the graduates intend to search for a job abroad, 44.5% of them are already enrolled in a foreign language course, and 42.7% have already searched jobs on Internet. Factors leading to the migration of medical graduates are higher salaries, better living and working conditions, increased professional opportunities, lack of places in the residency program for the chosen specialty, disappointment with the Romanian medical system.

Păunică et al. (2017) studied the phenomenon of migration of physicians from Romania using the interview. The results showed that the physicians who work in Romania register low salaries compared to what other countries offer, lack of equipment and impossibility of adequate professional development. Most of the respondent physicians consider that migration of physicians conduces to a reduction of physicians, overloading the existing physicians and

difficult patients access of the to quality medical care. The migration preferences of the Romanian physicians are also confirmed by the figures published by the OECD, among the favorite destinations being France, Germany and the United Kingdom, where, in addition to substantial financial compensation and adequate facilities, physicians expect a higher standard of living than in Romania.

Boboc et al. (2015) has shown empirically that the migration of the physicians to the European Union is caused by the poor distribution of physicians, low internal mobility and a mixture of inadequate skills. The results of the analysis show that the Romanian physicians who migrate prefer the countries of destination with a similar labor market, but with better opportunities for career development. Another result of the analysis is the Romanian physicians' migration is influenced by high unemployment among the young people, especially that the most interested in migration are the young graduates.

The healthcare services are complex and their costs are increasing, one solution is funding. The performance, reforms or vitality of a healthcare system implies an adequate funding system. All these developments prove that the economic aspect is very important and the most important is that "the health of a population is undoubtedly the main objective" (Vandenbroucke, 2002).

The labor force is beginning to become an asset restricted by demographic aging even in economically developed countries (Dimian, 2016). Developed countries face an aging phenomenon of medical staff and especially physicians, and Romania is not an exception, 10 years ago 56% of Romanian physicians were over 50 years old, 27% were between 40 and 50 years old, while only 16% were under 40 years old, which indicates that in 5 years, 60% of the doctors working in Romania will be over 60 years old (Vasilcu, 2010).

3. Characteristics of the migrant physician from Romania

In Romania the fall of communism also brought the phenomenon of migration, first people migrated on political and ethnic basis, some of them being repatriated. So far, the phenomenon of migration has been increasing, and a large share is represented by brain migration. The physicians' migration is part of brain migration, and its trend has been upward as well.

To configure the profile of migrant physician from Romania we used the database provided by Eurostat, the National Institute of Statistics of Romania and the Romanian College of Physicians (as a result of the request registered at the Romanian College of Physicians with no. 8585 / 30.08.2019).

The indicators used are the number of applications for Current Professional Certificates, the physicians specialization, age, gender, county from where they want to migrate, preferred country for destination, health expenses, inflows of foreign-trained physicians and the analysed period is 2000-2018.

The analysis were realised using Excel, Eviews and Geoda softwares.

In Romania the number of physicians who migrated has increased over time. In 2007, when Romania joined the EU, the number of physicians who migrated from Romania was 1421, increasing in 2009 to more than 2400 physicians. Since 2007, the diplomas of physicians from Romania have been recognized in the EU community and the Ministry of Public Health has started to issue certificates for the recognition of medical personnel (Newsletter, 2009). At the end of 2009, the economic crisis began to have a profound impact on the Romanian society, including on the health system. In 2010 in the healthcare system the number of employees was diminished, and wages were reduced by 25% (Galan et al., 2011), this fact being reflected by the increased number of migrant physicians from Romania. In 2011 the Government introduced austerity measures in order to reform the health care system that conducted to the closure of 67 hospitals (from a total of 435), cutting 5,700 hospital beds, licenses and salaries (Stoiciu, 2012). The results of these measures were reflected in limited access of the population to healthcare services. Since 2011, the number of migrant physicians from Romania has fluctuated, and since 2018, their number decreased (figure no. 1).

Figure no. 1: Dynamics of migrant physicians from Romania, 2006-2017

Source: Authors projection, using Excel

However, the number of physicians who left Romania is high, especially as Romania faces a shortage of physicians. If we analyze the number of migrant physicians in the EU it is observed that the migrants from Romania represent a high share and an ascending trend over time (figure no. 2).

Figure no. 2: Number of physicians trained in Romania in annual inflows of foreign-trained physicians to EU countries, 2006-2017

Source: Authors projection, using Excel

According to the country of destination, most physicians migrated from Romania to France and Germany (figure no. 3). This number includes the Romanian-trained physicians who are licensed to practice according to the legislation in the country of destination, excluding the physicians who do not provide services to individual patients (in pharmaceutical industry, administration, research). Over time the number of physicians from Romania has increased for all the destination countries, excepting Hungary.

Figure no. 3: Physicians migration from Romania, 2000-2018, according to the country of destination

Source: Authors projection, using Excel

If we relate the number of migrant physicians to the number of foreign-trained doctors, the biggest share of physicians from Romania is in Hungary, followed by France, Belgium and Germany (figure no. 4).

Figure no. 4: The share of physicians from Romania in the total foreign-trained physicians, 2000-2018

Source: Authors projection, using Excel

According to the World Health Organization, and the European Statistics, Romania is the country with the lowest number of physicians per thousand inhabitants from the European Union. The physicians who want to migrate need a Current Professional Certificate, so we can consider the figures regarding Current Professional Certificates reflects the approximate number of migrant physicians. The figures show an increase until 2015 with some fluctuations, and after a decrease (figure no. 5).

Figure no. 5: Dynamics of Current Professional Certificates in Romania, 2010-2018

Source: Authors projection, using Eviews

In 2017, according to the data provided by the College of Physicians, the most physicians who wanted to migrate from Romania are from Bucharest, Iasi, Cluj and Timisoara (figure no. 6). This is explained by the fact that the 4 counties are important university centres of the country and have prestigious medical faculties. Many physicians migrate from big cities, because exist migration networks (Ryan, 2007), traditional institutional exchanges between university centres and better access to information on migration. Another explanation is that most physicians are distributed in urban areas, the rural areas having a large deficit regarding physicians.

Figure no. 6: Current Professional Certificates map, 2017

Source: Authors projection, using Geoda

According to the data provided by the College of Physicians, in 2017 the physicians who needed the Current Professional Certificates for migrate from Romania are able to work, most of them under the age of 40, 44.94% aged between 31 and 40, and 24.16% are under 30 years old (figure no. 7). These results show an aging of the existing physicians in Romania. The fact that the physicians who migrate are young implies permanent migration, because young people are more likely to migrate permanently, which means a loss of valuable capital for Romania. The results are related to the findings and theoretical grounds found in Rachedi, 2009 and Fangen, 2010.

Figure no. 7: Share of Current Professional Certificates, by age, 2017

Source: Authors projection, using Excel

Among the physicians who wanted to migrate, the highest share is represented by female (64%). As we know from literature (Temime, 2007, Bentchicou, 1997), women adapt more easily, are more sociable, more ambitious and the probability to establish permanently in the country of destination is higher in their case, so another valuable capital loss for Romania (figure no. 8).

Figure no. 8: Share of Current Professional Certificates, by gender, 2017

Source: Authors projection, using Excel

Regarding the country of destination (figure no. 9), most physicians who wanted to migrate are considering as destination countries: France (27.09%), UK (20.64%) and Germany (17.1%). These countries register high incomes per inhabitant, physicians migration being influenced by incomes. Another explanation for choosing these countries to migrate is the fact that Romanian graduates are familiar with English, French and German languages, so and can easily adapt.

Figure no. 9: Share of Current Professional Certificates, according to the country of destination, 2017

Source: Authors projection, using Excel

The countries preferred by the Romanian physicians register high health expenditure in EU, reflected in an efficient health system (figure no. 10). Therefore, the physicians who wanted to migrate consider the incomes, but also the working conditions.

Figure no. 10: Health expenditure in EU, 2017

Source: Authors projection, using Excel

According to specialization, most of the physicians who wanted to migrate are specialized in general medicine /family medicine (20.07%), followed by general surgery (6.13%) and obstetrics and gynaecology (5.33%) (figure no. 11).

Figure no. 11: Share of Current Professional Certificates, according to specialization, 2017

Source: Authors projection, using Excel

4. Dynamics of migrant physicians from Romania

After Romania's integration to EU, Romania has experienced an increase of physicians who considered to migrate. This is reflected by the number of requests of Current Professional Certificates deposited at the Romanian College of Physicians, considering that a migrant physician needs this certificate. The number of physicians who considered to migrate continued to increase in 2010 when was implemented the policy of reducing wages in the health sector and reducing the number of personnel. Since 2016 the number of physicians who considered to migrate decreased, one explanation may be considered the increase of the average salary by 12% compared to the previous year in 2016 and the increase of wages in the medical sector in 2018 (table no. 1).

Table no. 1: The number of requests of Current Professional Certificates deposited at the Romanian College of Physicians by medical specialization

Specialty/Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
General Medicine/ Family Medicine	700	866	1035	893	757	974	350	226	232	6033
General surgery	208	157	101	100	97	112	80	69	56	980
ATI	158	140	97	98	93	92	63	53	72	866
Obstetric Gynecology	135	132	84	98	76	74	79	60	63	801
Pediatrics	90	112	89	70	58	59	52	38	33	601
Radiology	78	88	85	50	59	70	46	41	39	556
Psychiatry	78	71	58	94	55	58	48	34	28	524
Orthopedics	91	77	69	58	49	32	44	50	27	497
Ophthalmology	71	66	59	49	52	46			45	

							56	40		980
Cardiology	70	75	41	39	44	39	42	35	36	
Neurology	40	51	43	38	32	27	31	22	25	421
Dermatology	41	48	25	27	28	37	29	25	24	309
Plastic surgery										
	26	21	26	27	38	30	39	30	22	284
Urology	28	34	20	22	14	23	19	10	19	980
Vascular surgery										
	35	29	27	12	14	16	19	10	11	421
Neurosurgery	39	23	12	19	17	20	10	10	11	189
Others specialties	991	992	589	501	441	560	455	373	275	189

Source data: Romanian College of Physicians

Figure no. 12: Dynamics of the Current Professional Certificates, 2010-2018, according to specializations

Source: Authors projection, using Excel

In figure 12 it is observed that the number of physicians who wanted to migrate decreases in the last years no matter the specializations, which means that the policies of wages increasing may have had a significant effect and we can forecast a greater decrease in the next years.

5. Conclusions

The population health is influenced by the health system of the country. The health care system must be able to provide medical care, available, qualified and motivated health care specialists, the physicians' migration from Romania prevents this achievement.

The results of the analysis indicated that, among the migrant physicians, most are young people, and the probability of settling in the country of destination is higher among young people, because they adapt more easily to new societies.

The countries where most physicians are considering to migrate are: the UK, France and Germany, because they register a high standard of living and high health expenditure. Another reason is the knowledge of English, French and German by graduates, these foreign languages being studied in Romanian schools.

Regarding the gender, the share of female physicians who wanted to migrate from Romania is higher than the share of men, first due to the fact that women choose a wider range of specialties. According to research, women are more sociable, supportive and with a greater desire to succeed, being able to adapt more easily to a foreign country. The probability of migration turning into permanent migration is much higher for women.

All these characteristics that describe the physicians who consider migrating from Romania lead to the idea that they will not return to the country of origin and represent a loss of valuable capital for Romania. In this way, we will face a deficit of specialization and an aging of the medical staff.

The dynamics of physicians who wanted to migrate shows an increase, but since 2016 started to decrease. The decrease of physicians who wanted to migrate might be explained by salaries increased in 2016 and wages increased in 2018 in the health sector. Considering the financial factor is very important for the decision to migrate we can forecast the number of physicians who decide to migrate will decrease.

Even if the salaries of the physicians have increased, physicians need also attractive working conditions and a prospect of career development to remain in the origin country. In this way, migration from the health system can be reduced, and also helps to improve the national healthcare system, while achieving an efficient healthcare system.

These results should provide a basis for optimizing the figures of medical schools and specializations so that they are correlated with demand and availability in hospitals. It is very important to know the demand for specializations and volume of physicians, so that there is no surplus for a certain specialization, this fact encouraging the migration of physicians of some specializations. For this, policies are needed regarding the optimization of the offers of medical schools in Romania and regarding the working conditions, this factor significantly influencing the doctors' desire to migrate from Romania. For this, the health expenses should be increased and guided to the necessary equipment and consumables.

We also encountered limitations and difficulties in the analysis, related to the data availability and their present.

Further research aims to include other variables and time series, analyzing this phenomenon taking into account also the temporal component. In addition, depending on the possibilities of

accessing the specific data series, the study can also be applied for the all countries that import physicians from Romania.

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