

The 3<sup>rd</sup> International Conference on Economics and Social Sciences  
**Innovative models to revive the global economy**  
October 15-16, 2020  
Bucharest University of Economic Studies, Romania

**Romanian Business Students' Migration Intentions.  
An Empirical Analysis of Perceptions and Motives**

George ȘERBAN-OPRESCU<sup>1\*</sup>, Liana BADEA<sup>2</sup>, Isabel NOVO-CORTI<sup>3</sup>,  
Mihaela Roberta STANEF<sup>4</sup>, Silvia IACOB<sup>5</sup>, Laurențiu Gabriel FRANCU<sup>6</sup>

DOI: 10.2478/9788395815072-013

**Abstract**

*Skilled labour mobility is one of the most acute problems in the European Union and especially in Central and Eastern European countries including Romania. Adjacent to positive effects, it is becoming increasingly clear that the migration of young graduates of tertiary education produces negative effects on the structure of the labour market, which is reflected in the ability to increase the competitiveness of the national economy. In this context, policies for the retention of highly qualified young people are more than mandatory for every country facing a massive migration phenomenon. This sort of policy could be effective only if it takes into account the motivations, interests and expectations of young people who are considering seeking employment abroad. Along these lines, the present study focuses on the analysis of students' opinion on the intention and reasons for migration. Analysing data from a survey (N = 429 students) our research attempts to reveal the differences in perception among young people about the peculiarities and opportunities of the labour market in Romania and abroad (wage, job accessibility, tax facilities, social incentives, etc.). The analysis also seeks to identify the most important incentives that influence young people's decision to seek employment abroad. The analysis reveals that reasons related to the opportunities they can find on the labour market and the feeling that the labour market is much more mature abroad are important. Moreover, the study shows that a number of small changes in public policy (providing economic and social incentives) can influence young people's decision to emigrate.*

**Keywords:** labour migration, brain drain, incentives, tertiary education.

**JEL Classification:** I25, J61

---

<sup>1</sup> Bucharest University of Economic Studies, Bucharest, Romania, george.serban@economie.ase.ro.

\* Corresponding author.

<sup>2</sup> Bucharest University of Economic Studies, Bucharest, Romania, liana.badea@economie.ase.ro.

<sup>3</sup> Universidad de Coruña, La Coruña, Spain, isabel.novo.corti@udc.es.

<sup>4</sup> Bucharest University of Economic Studies, Bucharest, Romania, mihaela.stanef@economie.ase.ro.

<sup>5</sup> Bucharest University of Economic Studies, Bucharest, Romania, silvia.iacob@economie.ase.ro.

<sup>6</sup> Bucharest University of Economic Studies, Bucharest, Romania, laurentiu.franco@economie.ase.ro.

## **1. Introduction**

The term "brain drain" was coined by the British Royal Society in the 1960s to describe the phenomenon of highly skilled labour migration, with clear mention of the migration of British researchers and technicians to USA and Canada (Cervantes and Guellec, 2002). Currently, the migration of highly skilled labour is a major challenge, particularly for developing countries, as the brain drain limits the ability of a weak economy to maintain and increase its human capital stock, which is essential for growth economic. For instance, Docquier et al. (2010) constructed and calibrated an overlapping generation model (OLG) of the world economy, divided into 10 regions, in order to observe the brain drain effects in the countries of origin. They noted that the main impact generated is the loss of the innovation capacity of nations that provide highly skilled labour for others (Docquier et al., 2010).

On the other hand, it has also been reported over the years that developed countries actively implement policies that attract highly skilled labour. For example, Canada and Australia have applied policies to attract immigrants based on skill level and adaptability to the work environment (Commander et al., 2003). A series of studies indicate that currently almost one in four adults with higher education, born in an underdeveloped or developing country, lives in the developed world (Docquier and Iftikhar, 2019). This means that the country of origin has been deprived of the resources needed to stimulate healthy economic growth. At the same time, destination countries benefit from increased mobility of skilled workers, but the biggest beneficiaries of the brain drain phenomenon are nevertheless skilled migrants (Gibson and McKenzie, 2010).

A significant series of scholars consider that "almost all models [related to migration potential] discussed in the empirical literature explain migration through income and employment opportunities in those countries and take into account a set of institutional variables that should capture different types of restrictions on migration and [...] country-specific elements, such as geography, language and culture "(Alvarez-Plata et al., 2003). At the same time, experts are trying to find different types of explanations regarding the causes, effects, externalities and characteristics of this phenomenon that has become very important in size specifically in the last century (Pociovălișteanu and Badea, 2012).

In recent years the migration of young people and Romanian skilled labour has increased, amid imbalances in the labour market and economic outlook. Usually, migrants are looking for better living conditions and real opportunities for professional assertion. The phenomenon of labour migration began lightly in the first half of the 1990s, grew steadily in the second half of the decade and exploded after 2000 (Pociovălișteanu and Badea, 2012). A turning point in the evolution of external migration was represented by the year 2002, which marked the beginning of the free movement of Romanians in the Schengen area. It is associated with a much more dispersed migration than in the past, with flows directed to more destinations and with a much more balanced share of the different currents within the total emigration (Pociovălișteanu and Badea, 2012).

Along these lines, the present study focuses on the analysis of Romanian business students' opinion on the intention, incentives and reasons for migration. Using survey data (N = 428 students) the current research attempts to explore and reveal the opinions of young people on the peculiarities and opportunities of the labour market in Romania and abroad (wage, job accessibility, tax facilities, social incentives, etc.). More importantly, the analysis seeks to identify the most notable reasons and potential benefits that influence young people's decision to seek employment abroad.

## **2. Literature review**

There is a significant body of research which reveals that the brain drain phenomenon can be viewed from several perspectives. Thus, a more recent part of the literature has identified positive spin-offs of skilled emigration, focusing on issues related to education, remittances or externalities related to the diaspora (Docquier and Rapoport, 2012).

Several studies so far focused on the link between brain drain and economic development. Thus, among the pioneers in the field, in the 1960s we can mention the research conducted by Grubel and Scott (1966) or Berry and Soligo (1969), which concentrated on the implications that brain drain might have on the countries of origin. The theory of the 1970s and 1980s focused mainly on the negative effects resulting from the actual loss of highly qualified human capital. Period-specific research has focused on the analysis of fiscal and aggregate productivity losses (Bhagwati and Hamada, 1974; Bhagwati and Rodriguez, 1975; Rodriguez, 1975; McCulloch and Yellen, 1977; Miyagiwa, 1991; Haque and Kim, 1995). Studies in the mid-1990s already nuanced the implications of the phenomenon, focusing on ambiguous effects (Mountford, 1997; Stark et al., 1998; Beine et al., 2008) and highlight a number of externalities due to the presence of the diaspora in developed countries (Docquier and Rapoport, 2012).

Moreover, authors highlighted, among other things, the fiscal imbalances that the brain drain could generate. As over 70% of the costs of education in developing countries are financed from public sources (World Bank, 2009), one can notice that the decision to invest in human capital is not completely private, and the loss of human capital generates externalities. If the government finances education hoping to increase its future tax base and possibly increase funding for education in the future, then emigration clearly leads to a loss of future government revenue and a reduction in funding for future public education. Based on such considerations, Bhagwati and Dellalfar (1973) proposed a special income tax imposed on migrants by their countries of origin to compensate for this tax loss. Following this argument, Desai et al. (2009) examine the tax loss generated by the brain drain in the IT sector of India, being chiefly concerned about the loss of government revenue due to a low tax base. The study concludes that the loss is between 0.5 and 1% of India's gross national income (Desai et al., 2009). Additionally, Zhang (2001) quantifies the size of the brain drain effects on China's economy and shows that it lost about \$ 4-5 billion annually due to the high emigration rate from 1978-1997.

Going further, Gibson and McKenzie (2010) conducted a study targeting 5 countries with high emigration rates and showed that individuals invest in skills that can help them emigrate in the future. In Ghana, for example, individuals enrol in English language courses and SATs and change their school curricula to increase their chances of working or studying abroad. In the same spirit, Shrestha (2011) uses a natural experiment, resulting from the change in policy by the British army that established a minimum level of education for recruits in Nepal, to study the effect of increasing the prospects of emigration of skilled workers on investment in education. The author finds a 30% increase in school years or an average increase of 1.1 years (Shrestha, 2011).

The empirical analysis conducted by Docquier and Iftikhar (2019) suggests that the emigration of the highly qualified increases their income and formal level of employment, while the welfare of those with a low level of qualification decreases, welfare losses being extremely heterogeneous between countries. This heterogeneity is largely governed by differences between countries in training technology and the relative productivity of the informal sector (Docquier and Iftikhar, 2019).

A very important issue, studied in the literature, concerns the factors that influence brain migration. Thus, Borjas (1994) and Hatton and Williamson (2005) include among the determining factors: the wage gap between the source country and the destination country; poverty, inequality and demographics in the source country; cultural similarity and geographical proximity between the source country and the country of destination.

On the other hand, one should bear in mind that the migration of highly skilled labour goes together with gains for the country of origin. As shown by Beine et al. (2008), migration prospects increase expected returns on investment in human capital. Kugler and Rapoport (2007) find evidence that networks of highly skilled immigrants promote foreign direct investment, and Lodigiani (2008) finds that they facilitate the diffusion of technology. Moreover, Li and McHale (2006) argue that those in the diaspora facilitate the implementation of institutional reforms. Fan and Stark (2007) show that brain drain can be really harmful to the country of origin in the short term, but these costs can be offset by the long-term benefits. Cinar and Docquier (2004) show that remittances sent by migrants to their countries of origin are of considerable size. At the same time, among the advantages we can observe: additional knowledge and skills brought by returnees in the country of origin (Dos Santos and Postel-Vinay, 2003), intensification of trade relations by creating new business networks (Mesnard and Ravallion, 2001), increased foreign investment etc. We must not forget the effects that this phenomenon has on host countries. Thus, negative effects can be observed such as the agglomeration of good universities in the host country or the emergence of linguistic and cultural barriers between people born in the host country and immigrants. Among the positive effects are the intensification of research and development, the intensification of economic activity due to additional resources of highly qualified work, know-how transfers, the development of study programs by enrolling a large number of students (Regets, 2007).

### **3. Research Methods**

The analysis of the literature reveals that brain drain migration is the result of a complex decision-making process that depends on a series of dynamic factors of an objective and subjective nature. In this context, the current study aims to explore, on the one hand, migration incentives for students and, on the other hand, the reasons behind the decision to migrate for Romanian students. Given the objective of the study, the analysis is based on two major research questions: (1) To what extent do students consider the possibility of migration? and (2) What are the factors of an objective and subjective nature that influence the decision to migrate?

The empirical analysis is based on survey data which were collected via an online questionnaire randomly administered to students from the Bucharest University of Economic Studies. Respondents were allowed to opt out of filling the questionnaire and no incentives were offered for contributing to this study. Moreover, the respondents were informed that the data provided is used to examine students' migration intentions and incentives. The total number of respondents who contributed in this survey is 429 bachelor and master students, which provides a maximum margin of error of approximately 5% ( $p < 0.05$ ) to the total reference population (27598). While this analysis is rather exploratory and primarily aims to detect significant trends, we consider that the sample is suitable to provide an understanding of students' migration intentions and motives.

The study uses the following metrics: (1) the potential intention to migrate; (2) the impact of studies for better job opportunities abroad; (3) the impact of studies for better job opportunities in Romania; (4) 8 metrics that assess the main incentives to seek a job abroad (higher revenue, higher economic standards; higher purchasing power; better quality of life; higher social security; better healthcare; better work environment, job market flexibility); (5) 8 variables that evaluate the potential benefits of migration (easy social integration, more efficient use of abilities and skills, higher professional opportunities, higher personal opportunities, better social behaviour, better compliance to rules and regulation, better social attitudes, more efficient society overall).

For optimum comparability and easy use of data, it was used a 5 point Likert scale with values from 1 ("Not at all") to 5 ("To a great extent") for all variables. The confidence and internal consistency were validated through the Cronbach alpha coefficient, whose value (0.83) is above the accepted level (0.7). In addition we used a variable that assesses the extent to which the decision to migrate could be influenced by an increase in potential revenue level (the following values were used: 25%, 50%, 75%, 100% or 150% increase from current level)

Descriptive statistics of the collected data are presented in Table 1.

**Table 1. Summary statistics of variables**

	Variable	Obs	Min	Max	Range	Mean	SD	VAR	Kurtosis	Skewness
V1	potential intention to migrate	429	1	5	4	2.84	1.16	1.35	-0.78	-0.03
V2	impact of studies for better job opportunities abroad	429	1	5	4	3.69	1.00	0.99	0.31	-0.73
V3	impact of studies for better job opportunities in Romania	429	1	5	4	3.87	0.95	0.91	0.64	-0.84
V4	Potential incentives to seek a job abroad									
V4.1	higher revenue	429	1	5	4	4.26	0.82	0.67	2.88	-1.42
V4.2	higher economic standards	429	1	5	4	4.12	0.83	0.68	2.12	-1.18
V4.3	higher purchasing power	429	1	5	4	3.84	0.91	0.83	0.48	-0.70
V4.4	better quality of life	429	1	5	4	4.17	0.93	0.87	1.84	-1.30
V4.5	higher social security	429	1	5	4	3.90	0.97	0.94	0.14	-0.75
V4.6	better healthcare	429	1	5	4	4.10	0.93	0.87	0.98	-1.05
V4.7	better work environment	429	1	5	4	3.70	1.05	1.11	-0.09	-0.60
V4.8	job market flexibility	429	1	5	4	3.93	0.92	0.85	0.69	-0.86
V5	Potential benefits of migration									
V5.1	easy social integration	429	1	5	4	3.27	1.01	1.02	0.64	-0.69
V5.2	more efficient use of abilities and skills	429	1	5	4	3.64	0.96	0.92	1.04	-0.76
V5.3	higher professional opportunities	429	1	5	4	3.92	0.96	0.92	1.49	-1.05
V5.4	higher personal opportunities	429	1	5	4	3.71	1.08	1.17	0.81	-0.97
V5.5	better social behaviour	429	1	5	4	4.03	0.98	0.97	2.01	-1.30
V5.6	better compliance to rules and regulation	429	1	5	4	4.10	0.90	0.81	2.39	-1.28
V5.7	better social attitudes	429	1	5	4	4.00	0.93	0.86	2.07	-1.20
V5.8	more efficient society overall	429	1	5	4	4.11	0.84	0.71	2.77	-1.26
V6	potential revenue level	429	0	5	5	2.34	1.40	1.96	-0.56	0.06

Source: Authors' own calculations

## 4. Findings

The primary analysis based on descriptive statistics provides a basic understanding of the main trends on students' migration and allows us to have a first overview of some interesting results. First of all, one can notice that the intention of Romanian students to migrate (at least when they participated in the study) slightly exceeds the average. It is worth mentioning that this result seems to contradict to some extent the popular perception according to which the majority of young Romanians are determined to emigrate, as well as previous results that supported this idea. At least, in the case of brain drain as part of the migration phenomenon, it is perceptible that there is a balanced opinion among students in favour of looking for

a job abroad. On the other hand, in terms of public policies and national economic competitiveness, this result is not necessarily promising. The fact that the opinion in favour of labour migration is slightly above average shows that there are potential risks for these opinions to materialize, which would affect the national economy. As previously mentioned in the literature review, the migration of the skilled youth can have negative effects on productivity (Haque and Kim, 1995), but also fiscal imbalances (WorldBank, 2009).

Going further, the study explores the students' opinion about the potential correlation between the level of education and finding a better job. The opinion of the respondents is quite clear: the education level enhances the opportunity to find a better job both in the country and abroad. This result confirms previous studies that show a positive correlation between human capital investment and labour market success (Kugler and Rapoport, 2007) and reinforces the idea that there is a constant need to invest in human capital. It seems that young people are aware that success in the labour market depends directly on investing in human capital, and the high level of education contributes to getting a better job. Another interesting result from the analysis is that it seems that students are convinced that their level of education contributes more to finding a better job in the country than abroad. This result is encouraging as it reveals that the Romanian labour market is perceived by young people as a market in which a high level of acquired skills and abilities is needed.

Our study also investigates potential reasons that may influence the migration decision of Romanian students. According to the literature review, 8 potential reasons were analysed: revenue, economic standards; purchasing power; quality of life; social security; healthcare; work environment and labour market flexibility. It should be noted from the start that all the previously mentioned reasons seem to be important in the decision to emigrate (in all eight cases the average value is above 3). As expected, the main reason for the migration decision is the opportunity to earn a higher income. This result confirms both popular opinion and a number of previous studies that show a strong correlation between income levels and migration of skilled labour (Alvarez-Plata et al., 2003; Docquier et al., 2010). In addition, a higher economic standard is also a strong reason for the decision to migrate. Moreover, just as important as the material aspect seems to be the one that refers to the quality of life. Respondents identify the potential for a higher quality of life as a reason as important as income or a high standard of living. To the quality of life is added the potential to benefit from a better health system as an important reason in the decision to emigrate. The reason that matters less seems to be the one related to the work environment. This result can be explained by the fact that respondents do not seem to be convinced that the work environment is better abroad than in Romania.

In terms of potential benefits that may influence the migration decision of Romanian students, our study identifies and analyses 8 potential benefits of migration that respondents may perceive: easy social integration, more efficient use of abilities and skills, higher professional opportunities, higher personal opportunities, better social behaviour, better compliance to rules and regulation, better social attitudes, more efficient society overall. As previously observed, in this

case the results emphasize that students' perception related to what they can acquire via emigration plays an important role in the decision to emigrate. First, respondents reported a positive perception of how society works as a whole abroad. This positive attitude plays an important role in the decision to emigrate. It seems that Romanian students are interested in working in an environment where the social attitude is positive, people behave civilly and the rules are followed. In the respondents' view, these reasons matter more than the more efficient use of abilities and skills or higher professional / personal opportunities. These results send a clear signal to policymakers: the brain drain phenomenon can be stopped when young people perceive a change in society and feel that the Romanian society as a whole is at the same standards as those abroad.

Since, as previously shown, the main reason for the migration decision is the opportunity to earn a higher income, our study investigates the extent to which an increase in potential income earned in Romania could change the decision to seek employment abroad. The results obtained are more than interesting and can provide a starting point in formulating economic policy on the labour market. It seems that, on average, a 75% increase in income compared to the current one will determine half of the students who are thinking of emigrating to give up this decision. We believe that this result is significant because it provides an important anchor for framing future labour market policies.

The primary analysis was based on a correlation analysis which follows the connection between the desire of Romanian students to migrate and the reasons that determine this desire. The results of the correlation analysis are summarized in Table 2.

**Table 2. Correlations between intention to migrate and potential reasons for migration**

	V1	V4.1	V4.2	V4.3	V4.4	V4.5	V4.6	V4.7	V4.8
V1	1								
V4.1	0.17	1.00							
V4.2	0.16	0.72	1.00						
V4.3	0.12	0.59	0.63	1.00					
V4.4	0.19	0.63	0.71	0.55	1.00				
V4.5	0.11	0.50	0.61	0.53	0.61	1.00			
V4.6	0.18	0.57	0.67	0.49	0.64	0.74	1.00		
V4.7	0.12	0.41	0.46	0.37	0.48	0.55	0.55	1.00	
V4.8	0.12	0.53	0.54	0.48	0.52	0.52	0.57	0.70	1.00

*Source:* Authors' own calculations

The results reveal moderate positive correlations between the intention to emigrate and the reasons that may determine this decision. This shows that each of the reasons analysed weighs in the decision, but none of them in a decisive way. These findings emphasize that the potential intention to emigrate is the result of a complex of motives that act concurrently and are not caused by a single reason. This impression is further supported by the strong correlations between potential



incentives, which shows that respondents tend to consider them together when making the decision to emigrate. If, however, we were to highlight in particular one of the reasons stated, this would be the one related to the quality of life: it seems that the desire to obtain a better quality of life is most strongly correlated with the intention to emigrate and seek a job abroad. This conclusion is in line with previous studies that identify higher quality of life as a main driver for migration.

Furthermore, our investigation focuses on the correlation analysis between the desire of Romanian students to migrate and the perceived advantages that may determine this desire. The results of the correlation analysis are summarized in Table 3.

**Table 3. Correlations between intention to migrate and potential advantages**

	V1	V5.1	V5.2	V5.3	V5.4	V5.5	V5.6	V5.7	V5.8
V1	1								
V5.1	0.29	1.00							
V5.2	0.35	0.49	1.00						
V5.3	0.39	0.43	0.62	1.00					
V5.4	0.37	0.44	0.50	0.70	1.00				
V5.5	0.24	0.38	0.41	0.43	0.44	1.00			
V5.6	0.22	0.34	0.37	0.38	0.36	0.73	1.00		
V5.7	0.21	0.38	0.38	0.43	0.44	0.58	0.60	1.00	
V5.8	0.37	0.31	0.45	0.54	0.52	0.62	0.64	0.69	1.00

*Source:* Authors' own calculations

In this case it can be easily seen that the correlations between the perceived benefits of migration and the intention to migrate are stronger than in the case of potential reasons. It is clear that the decision to emigrate is contingent to the projection that each respondent makes in relation to the benefits acquired as a result of this decision. It seems that all the potential benefits identified in the analysis are strong arguments in the decision to emigrate. If, however, we were to highlight in particular some of the potential advantages, these would be higher professional / personal opportunities. Moreover, a primary analysis of the correlations between the identified potential benefits shows that they can be clustered into two broad categories: professional benefits and social benefits. In any case, both categories of benefits seem to weigh significantly in the respondents' decision to look for a job abroad.

In the end, as expected, the correlation analysis further confirms the strong connection between revenue and skilled labour migration. Our data show a strong positive correlation (0.38) between the intention to migrate and the potential revenue level.

## 5. Conclusions

The results of the study are interesting since they contradict, to some extent, the widely spread perception according to which the majority of young Romanians wish

to emigrate. However, the opinion in favour of labour migration is slightly above average which is not necessarily an encouraging result. In this context, our findings emphasize that the Romanian economy is still facing the potential risk of brain drain, which could hinder the economic and social competitiveness. On the other hand, our study, besides confirming the link between the level of studies and better job opportunities, also reveals that students perceive the Romanian labour market as being highly qualified, which is a promising result.

Nonetheless, our analysis mainly focuses on identifying the main determinants that may influence young people's decision to seek employment abroad. In this context, two main categories of determinants were identified and analysed: potential reasons for migration and potential perceived benefits of migration. As expected, the main reason for the migration decision is the opportunity to earn a higher income. However, a better quality of life as well as better healthcare are identified as important arguments in the decision to emigrate. Moreover, our findings show that that the potential intention to emigrate is the result of complex and simultaneous motives and are not caused by a single one. In terms of potential benefits that may influence the migration decision of Romanian students, it seems that all the potential benefits identified in the analysis are strong arguments in the decision to emigrate. However, respondents are particularly interested in working in an environment where the social attitude is positive, people behave civilly and rules are followed.

However promising the results are, one could easily notice that the research focused on analysing data collected within the Bucharest University of Economic Studies, not taking into account students from other universities. A future study that extends the sample to ensure the inclusion of additional groups of respondents could provide a more in-depth understanding of this complex topic.

## Acknowledgment

This work was supported by research project titled *Increasing the competitiveness of the national economy through retention and return strategies for young graduates of tertiary education in Romania* funded by the Bucharest University of Economic Studies.

## References

---

- [1] Alvarez-Plata, P., Brücker, H., Siliverstovs, B. (2003). *Potential migration from Central and Eastern Europe into the EU-15 – An update*, Berlin, DIW.
- [2] Beine, M., Docquier, F., Rapoport, H. (2008). Brain drain and human capital formation in developing countries: winners and losers. *Economic Journal* 118, pp. 631-652.
- [3] Berry, R. A., Soligo, R. (1969). Some welfare aspects of international migration. *J. Polit. Econ.* 77 (5), pp. 778-794.
- [4] Bhagwati, J., Hamada, K. (1974). The brain drain, international integration of markets for professionals and unemployment: a theoretical analysis. *J. Dev. Econ.* 1 (1), pp. 19-42.

- [5] Bhagwati, J., Rodriguez, C. (1975). *Welfare-Theoretical Analysis of the Brain Drain*. Working papers from Massachusetts Institute of Technology (MIT), Department of Economics, No 158.
- [6] Bhagwati, J., Dellarf, W. (1973). The brain drain and income taxation. *World Dev.* 1 (1-2), pp. 94-101.
- [7] Borjas, G. (1994). The economics of immigration. *Journal of Economic Literature* 32, pp. 1667-1717.
- [8] Cervantes, M., Guellec, D. (2002). The Brain Drain: Old Myths, New Realities, *OECD Observer*, nr. 230.
- [9] Cinar, D., Docquier, F. (2004). Brain drain and Remittances: implications for the source country, *Brussels Economic Review*, 47(1), pp. 103-118.
- [10] Commander, S., Kangasniemi, M., Winters, L. A. (2003). The brain drain: Curse or boon? *IZA Discussion Papers 809*, Institute for the Study of Labor (IZA) June.
- [11] Desai, M. A., Kapur, D., McHale, J., Rogers, K. (2009). The fiscal impact of high-skilled emigration: Flows of Indians to the US. *J. Dev. Econ.* 88 (1), pp. 32-44.
- [12] Docquier, F., Iftikhar, Z. (2019). Brain drain, informality and inequality: A search-and-matching model for sub-Saharan Africa, *Journal of International Economics* 120 (2019) 109–125, <https://doi.org/10.1016/j.jinteco.2019.05.003>.
- [13] Docquier, F., Marchiori, L., Shen, I-L. (2010). Brain drain in globalization: A general equilibrium analysis from the sending countries' perspective, *CEPR Discussion Papers 7682*, C.E.P.R. Discussion Papers February.
- [14] Docquier, F., Rapoport, H. (2012). Globalization, brain drain and development. *J. Econ. Lit.* 50 (3), pp. 681-730.
- [15] Dos Santos, M. D, Postel-Vinay, F. (2003). Migration as a source of growth: The perspective of a developing country, *Journal of Population Economics*, Springer, vol. 16(1), pp. 161-175.
- [16] Fan, C. S., Stark, O. (2007). International migration and "educated unemployment". *Journal of Development Economics* 83, pp. 76-87.
- [17] Gibson, J., McKenzie, D. (2010). The economic consequences of brain drain of the best and brightest: microeconomic evidence from five countries, *Policy Research Working Paper Series 5394*, The World Bank August.
- [18] Grubel, H., Scott, A. (1966). The international flow of human capital. *Am. Econ. Rev.* 56 (1/2), pp. 268-274.
- [19] Haque, N. U., Kim, S.-J. (1995). Human capital flight': impact of migration on income and growth. *Int. Monetary Fund Staff Papers* 42 (3), pp. 577-607.
- [20] Hatton, T.J., Williamson, J.G. (2005). Global Migration and the World Economy: Two Centuries of Policy and Performance. *The MIT Press*, Cambridge, MA.
- [21] Kugler, M., Rapoport, H. (2007). International labour and capital flows: complements or substitutes? *Economics Letters* 94, pp. 155-162.
- [22] Li, X., McHale, J. (2006). Does Brain Drain Lead to Institutional Gain? A Cross Country Empirical Investigation. *Mimeo*, University of British Columbia, Vancouver, BC.
- [23] Lodigiani, E. (2008). Diaspora externalities and technology diffusion. *Economie Internationale* 115, pp. 43-64.

- [24] McCulloch, R., Yellen, J. L. (1977). Factor mobility, regional development, and the distribution of income. *J. Polit. Econ.* 85 (1), pp. 79-96.
- [25] Mesnard, A., Ravallion, M. (2001). Is inequality bad for business: a non-linear microeconomic model of wealth effects on self-employment, *Research working paper*, WPS no. 2527.
- [26] Miyagiwa, K. (1991). Scale economies in education and the brain drain problem. *Int. Econ. Rev.* 32 (3), pp. 743-759.
- [27] Mountford, A. (1997). Can a brain drain be good for growth in the source economy? *J. Dev. Econ.* 53 (2), pp. 287-303.
- [28] Pociovalișteanu, D. M., Badea, L. (2012). Some aspects concerning the Romanian labour market in the context of emigration, *The Annals of the „Stefan cel Mare” University of Suceava. Fascicle of the Faculty of Economics and Public Administration*, 12 (1), pp. 24-31.
- [29] Psacharopoulos, G., Patrinos, H. A. (2004). Returns to investment in education: a further update. *Educ. Econ.* 12 (2), pp. 111-134.
- [30] Regets, M. C. (2007). Research issues in the international migration of highly skilled workers: A perspective with data from the United States, *Working Paper*, SRS 07-203.
- [31] Rodriguez, C. (1975). On the welfare aspects of international migration. *J. Polit. Econ.* 83 (5), pp. 1065-1072.
- [32] Shrestha, S. A. (2011). Human capital investment responses to skilled migration prospects: Evidence from a natural experiment in Nepal, *Mimeo*, National University of Singapore November.
- [33] Stark, O., Helmenstein, C., Prskawetz, A. (1998). Human capital depletion, human capital formation, and migration: a blessing or a ‘curse. *Econ. Lett.* 60 (3), pp. 363-367.
- [34] The World Bank. (2009). *EdStats: Public expenditure database*. <http://ddp-ext.worldbank.org/ext/EdStats>.
- [35] Zhang, K. (2001). Human capital investment and flows: A multiperiod model for China. In: *6<sup>th</sup> International Metropolis Conference*, Rotterdam, The Netherlands November 26-30.