

IMPACT OF MIGRATION UPON A RECEIVING COUNTRY'S ECONOMIC DEVELOPMENT

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<p>Please cite this article as: Manole, S., Pănoiu, L. and Păunescu, A., 2017. Impact of Migration upon a Receiving Country's Economic Development. <i>Amfiteatru Economic</i>, 19(46), pp. 670-681</p>	<p>Article History: Received: 30 March 2017 Revised: 18 May 2017 Accepted: 28 May 2017</p>
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Abstract

Economic growth regarded as a mechanism to ensure a long-term balance through the optimal use of available resources, through the development of innovative potential, the creation and development of instruments generating economic growth and also an adequate distribution of income is influenced by many factors, including migration.

This paper aims at highlighting the effects of migration upon the economic development of EU Member State receiving countries, starting from economic and social facts indicating a migration phenomenon that is ever increasing.

In this regard, it has been thought appropriate to perform an analysis on how the migration phenomenon is perceived and an empirical study on the economic impact of migration on receiving countries of the European Union. Thus, a linear model has been used with panel data with specific fixed effects for cross section units, and the database has been made up of the values recorded for GDP per capita influence factors in the 28 EU Member States in the period 2008-2014. The results show that migration has positive effects upon economic development. We have chosen to use GDP per capita as a measure of economic growth starting from the EUROSTAT indicator system used to measure sustainable development, and also from the fact that the National Institute of Statistics in Romania uses GDP per capita as one of 18 indicators measuring the knowledge and economic and social development society.

Keywords: migration, legal migration, receiving country, fixed effects panel data model.

JEL Classification: J61, C33, C55, F22, R232, O15.

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Introduction

Globalization seen as the integration of countries and their populations as a result of a significant reduction in transport and communication costs and removing artificial barriers in the way of the movement of goods, services, capital, their knowledge and (to a lesser extent) people among countries (Stiglitz, 2005), generates a series of positive and negative effects, both macro-economically and micro-economically. In fact, one estimates that the process concentrates power and marginalizes the poor defined as countries or people, generating their desire to turn to other countries, to migrate. Political and socio-cultural intolerance, the failure of home country (source country) governments, human rights violations have spurred international migration. Migration is one of the most controversial and disputed contemporary issues (Kim et al., 2010) and it is defined by the International Organization for Migration as the movement of one person or group of people either over an international border or within the same country, which may include any kind of movement of people, regardless of its duration, composition or causes. The term migration considers the migration of refugees, displaced people, economic migrants and people travelling for other reasons, including for family reunification. Migration is seen as a phenomenon that involves moving people from one area to another in order to generate increased employment opportunities (Contreras, 2016).

At present, this phenomenon is caused by social disparities in certain regions of the world and the labour market in industrialized countries. People choose to immigrate in order to protect themselves and their families, escaping from a less favourable economic situation their home country is in. Migration is perceived as a rational process by which “a person seeks to maximize their usefulness or accomplish their aspirations” (De Jong and Sell, 1977). People who are immigrants are both a mechanism allowing for the regulation of structural imbalances in the home country labour market, and a palliative for the labour market within it (Ivanov, 2006), and the decision to move depends on the net utility gain for the family as a whole rather than for an individual (Lalonde and Topel, 1997). *Home countries* of migration, or *source countries* are actually the countries where migrants originate. Countries migrants move to are called *host* or *receiving countries* as far as international migration is concerned.

One also notes that at the conceptual level, the United Nations Organization performs some discrimination based on the timeframe between temporary migration (people move elsewhere for more than three months but less than one year) and permanent migration generated by people who choose to leave their home countries for more than a year. The International Organization for Migration Report (Organisation Internationale pour les Migrations - O.I.M) issued in 2015 shows that in a very large number of cities such as Sydney, London and New York, immigrants are more than one third of the population, whereas in others such as Brussels and Dubai, they are more than half of the population. The IOM Report estimates that in 2015 there were 232 million of international migrants and 740 million internal migrants, and almost half of them (namely international migrants) live in 10 countries: Australia, Canada, the USA, Germany, Spain, France, England, the Russian Federation, Saudi Arabia, the United Arab Emirates.

At European level, free movement of workers within the EU was achieved in 1968 and acts as one of the four pillars of the EU Single Market (Holland et al., 2011). Addressing migration issues in the European Union requires some clarification on EU citizenship and rights granted. Thus, a person who holds citizenship of one of the EU Member States is

automatically a citizen of the Union, which does not replace national citizenship. The Charter of Fundamental Rights in Title V sets the rights of citizens, one of which is freedom of movement and residence according to which any citizen of the Union has the right to move and reside freely within the territory of Member States. This right is granted in accordance with the Treaties of third countries legally resident in the territory of a Member State (European Union, 2010).

A consolidated version of the European Union Treaty lays down in Article 77 that the Union shall develop a policy aimed at: eliminating any form of control when it comes to crossing internal borders. The Treaty analysis, the consolidated version, has enabled the identification of the purpose of immigration policy, namely ensuring efficient management of migratory flows, ensuring equal treatment for all third-country nationals in the Member States, and preventing and fighting illegal migration and human trafficking (European Union, 2012). Freedom of movement and residence in the European area is ensured in all EU Member States and also in the Azores, Madeira (Portugal), the Aland Islands (Finland), the Canary Islands, Ceuta and Melilla (Spain), the French overseas departments, Gibraltar.

One can note that in the European Union, given the importance assigned to migration, in 2003 they started discussions on the establishment of a European Migration Network ("EMN"), with the objective of ensuring the access of the Community and Member States to objective reliable and updated information on migration, such a network having existed since 2008. Legal migration and illegal immigration have always been the concern of Europe but they have become more pronounced as global events, such as those in Syria, have generated an influx of illegal migrants and asylum seekers. At European level, there have been developed a series of strategies and policies aimed at managing migration as accurately as possible:

- the year 2011 emphasizes the need for a consistent policy on migration and culminates with the adoption of the general framework for EU relations with third countries called "Global Approach to Migration and Mobility" (European Commission, 2011);
- in 2014, the strategic guidelines on migration were defined;
- in 2015 the European Agenda on migration was issued that stipulates immigration as a priority for the EU, with the Commission focusing on four areas: reducing the factors generating the migration phenomenon, providing and implementing a proper policy on asylum, developing a legal migration policy (European Commission, 2011);
- in 2016 the paper called "Opportunities to Reform the Common European System for Endorsement and Improvement of Legal Migration Channels" which defines the major axes of legal migration.

All these orientations are supported by a coherent legislative set which pursues legal migration, illegal immigration and integration, some constantly updating legislation in relation to social and economic facts. It is also noted that the 2020 Europe Strategy defines as a priority the provision of adaptable, competent workforce able to cope with economic and demographic developments, so that migration and workforce mobility can influence the accomplishment of a competitive Europe through the redistribution of income of residents in receiving countries, and also by raising the standard of living for the families of those that have left.

Achieving such goals on migration and labour mobility has also been possible by the funding provided by the EU since 2005, namely about 800 million Euros has been allocated to projects on migration. In addition, (EU) Regulation no. 516/2014 of the European Parliament and of the Council dated 16 April 2014 lays down the Asylum, Migration and Integration Fund whose goal is to provide contribution in the effective management of migration flows, strengthening and developing a common policy on asylum, subsidiary protection and temporary protection, and a common policy in the field on immigration. The authors meant to capture how the impact of migration has been assessed on receiving countries in specialized literature and at the same time to analyze this impact through a panel data model with fixed effects for 28 EU Member States.

1. Brief overview of specialized literature

The paper uses as research methodology qualitative research by presenting and interpreting results in specialized literature regarding the model subject to analysis and also quantitative research by collecting data on migration and a country's economic development and analyzing such phenomenon based on estimating a panel data model. The input information has been obtained by the authors through researching the reports published by institutions and bodies that monitor economic development such as the World Bank and EUROSTAT, the processing being carried out in Eviews.

Economic development is analyzed by EUROSTAT through GDP per capita and some labour market indicators. On the basis of such elements, the revision of specialized literature has concerned studies that pursued the effect of migration on GDP and on the labour market. The work is topical as it captures a phenomenon that affects all countries economically and socially and is at the same time feasible as there are data that can be collected and interpreted. Migration generates diverse economic and social effects on the receiving countries, on the one hand generating economic growth, and thus economic development, by added value brought by migrants, and on the other hand generating an increase in spending of receiving countries, especially those concerned with social security. Migration determines a loss of economic, scientific, technical, innovative potential (Berzinskiene et al, 2014).

There are numerous surveys that try to exemplify the impact of migration upon receiving countries' markets by emphasizing the effects on labour markets and by enhancing migration as imbalance (Harris and Todaro, 1970). The theory suggests that the effects of migration on GDP per capita in a destination country depend on the disparities between natives' and immigrants' skills, the scale effects and the responsiveness of factor and output markets (Fry, 2014). Lalonde and Toppe (1997) use an econometric model that shows that immigrants have a slight impact upon labour markets of receiving countries, but can influence tax earnings (Colado et al., 2004), which also depend on the contribution to the social security system (Ratha et al, 2011).

D'Auria et al. (2004) show that reducing restrictions on the movement of workers generates benefits on capital and goods markets. In their opinion, the impact of migration is generated by the economies' ability to react, by the qualification of native population and migrants, but also the migration level. Thus, macro-economically, countries may report earnings, but individually, there can be loss of incomes for low-skilled workers in receiving countries and for those with medium to high skills in their home countries. Lemos and Portes (2008)

use an econometric model trying to capture the impact of migration of works in the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia upon the UK labour market. The model developed uses as input information input unemployment rate and employment and identifies the impact of migration on salaries and distribution of earnings. The survey conclusions show that there is no negative impact of migration upon the UK labour market, as the labour market in this country has the ability to quickly adjust to new changes. Wu (2011) uses a Computable General Equilibrium model for migration labour analysis and shows that increasing migration labour has positive effects on GDP growth in the UK. He believes that the impacts of different skilled types of immigration labour on UK economy are mainly reflected in the macro-economic performance, labour market, production sectors and domestic institutions.

Pouliakas et al. (2008) analyzed the effects of migration on economic activity of three EU countries, namely, Scotland, Greece and Latvia, using CGE (computable general equilibrium) models. They showed that the unskilled labour migration has the largest positive effect on GDP growth of Greece and the smallest positive effect on Scotland and the skilled labour migration has the largest effect on Scotland and the smallest effect on Greece. Nana et al. (2009) used a CGE model to analyze the macroeconomic impact of migration on the economy of New Zealand, and the simulation results showed that increasing the inflow of immigrants has the effect of an increase in real GDP per capita.

Levine et al. (2003) established a theoretical framework for a study of the economic impact of East-West European migration, namely, a general equilibrium two-bloc model of the European economy that incorporates the growing integration of labour, capital and goods markets. The research developed by Holland (2011) aims at evaluating the macro-economic impact on both host and home countries of the increased labour mobility that has resulted from the two recent EU enlargements, as well as emphasizing the destination of migration flows. The study shows that for receiving countries there is a low impact of migration on GDP. The survey results capture different effects for home countries and receiving countries. Thus, home countries are faced with reduced production capacity, reduced labour force, and with an increase in funding meant for those left behind that can counter only on short-term the effect of reduced production capacity. The impact of migration upon GDP in home countries is less important than the impact on total growth since migrating population envisages those who are legally aged to work. The survey shows that for receiving countries there is a low impact of migration on GDP.

Drinkwater et al. (2002) review the different models that are used and identify three ways that highlight the impact of immigration on the growth of a receiving country: capital accumulation (e.g. Reichlin and Rustichini (1998)), human capital accumulation (e.g. Haque and Kim (1995) or Beine et al. (2001)) or innovation and technology (e.g. Bretschger (2001) or Chellaraj et al. (2008)). At the same time, there are surveys that try to emphasize the effects of migration at socio-economic level. Thus, Roman and Voicu (2010) show by using multiple linear regression that migration generates positive effects on the incomes of migrants, but such effects are directly proportional to their level of education, work experience, computer knowledge. Kim et al. (2010) are developing a model that attempts to identify who loses and who wins in the migration process between home countries and receiving countries, defined as East and West, by using three production factors: skilled labour force, unskilled labour force, material capital (physical capital). The simulation results show that the impact of migration in receiving countries is the result of

conflicting forces (Dustmann, 1997). Generally, it is shown that those who suffer are unskilled workers, with migration of inexperienced persons being in a downward trend, while the migration of qualified people is increasing.

Specialized literature includes analyses and modelling of the impact of psycho-social factors on migration (Băbăiță and Roșca, 2010) by using econometric modelling. The model seeks to quantify the relationship between corruption level and net migration, and the relationship between corruption level and net mobility, and it shows that the analyzed factor has a significant impact on migration and labour mobility. Other factors regarded relevant in terms of the size of migration are salary differences, working conditions measured by double-log multiple linear regression models (Son and Noja, 2012), migration being sometimes seen as a last resort solution to those that are directly involved (Cristian and Bărăgan, 2015).

The survey developed by Kahanec et al. (2014) is also interesting showing, through a model using as input to EU countries in 1995-2010, migration rate, the number of migrants, GDP per capita, unemployment rate, neighboring, linguistic proximity, the difference between the capitals of the home country and the receiving country, that if the two countries have flexible payroll systems, migration generates their equalization in case of some crises, whereas in countries with less flexible payroll systems, migration generates the trend to find jobs in a country less affected by the crisis.

2. Methodology

To study the influence of migration on economic development of receiving countries, we used a model with panel data. The model was estimated based on the values of development indicators from 2008 to 2014 for all 28 EU Member States in 2014. We chose this period to have a better freedom of movement between the 28 countries (Romania and Bulgaria joined in 2007 and only Croatia joined in 2013). On the other hand, for 2007 and 2015 several values of the indicators taken into account were not available, so we had to limit the period to 2008-2014.

Panel data models allow control of country-specific variables that cannot be observed or measured and that do not vary over time (such as institutional features, specific business practices, cultural features, etc.). The presence of specific cross-sectional effects can be evidenced by fixed effects or random effects. The difference between fixed and random effect models is due to the way in which heterogeneity is captured. The methods for estimating models with panel data provided by EViews are: Panel Least Squares – for fixed effects and Panel Feasible Generalized Least Squares – for variable effects. Choosing the appropriate model is done with the Hausman test. Since GDP measures the output, we believe that a significant indicator for economic development is GDP per capita.

The variables used in the model are

- *gdp_cap* – gross domestic product per capita in Purchasing Power Standards (PPS) expressed in relation to the European Union average (% of the EU-28 average, EU-28 = 100);
- *migr* – total number of long-term immigrants arriving in a receiving country;
- *unemp* – unemployment rate;

- labour – the total labour force;
- infl – inflation as measured by the consumer price index;
- trade – sum of imports and exports of goods and services as a percentage of GDP.

For the total number of long-term immigrants arriving into the receiving country and for GDP per capita in purchasing power standards in relation to the European Union, we used data from the Eurostat Database. The data source for the other four indicators (unemployment rate, total labour force, inflation and trade) was World Bank World Development Indicators Database. Except for the total number of long-term immigrants arriving in the receiving country, the 2008-2014 data for all 28 EU Member States in 2014 are available for the other indicators. There are no data for Belgium in 2008 and 2009, Bulgaria for the years 2008, 2009, 2010 and 2011, as well as Croatia for the years 2008, 2009 and 2010.

The analysis of the impact of migration on the economic development of receiving countries is based on estimation of panel data regression. The data are specified as a panel with a cross-sectional unit – Country (with identifiers assigned by alphabetical ordering: Austria – 1, Belgium – 2 etc.) and time units – Year (2008, 2009, ... , 2014).

Therefore, panel data model to be estimated is the following form:

$$gdp_cap_{i,t} = a_1 + a_2 migr_{i,t} + a_3 unemp_{i,t} + a_4 labour_{i,t} + a_5 infl_{i,t} + a_6 trade_{i,t} + \delta_i + \varepsilon_{i,t},$$

$$i = 1, 2, \dots, 28, t = 2008, 2009, \dots, 2014 \tag{1}$$

where:

- a_k = equation coefficients to be determined, $k = 1, 2, \dots, 6$;
- δ_i = specific (random or fixed) effects for cross-sectional units;
- $\varepsilon_{i,t}$ = residual variable.

3. Results and discussions

First, we present information about the distribution of data series used in the model (Table no. 1).

Table no. 1: Variable Descriptions

Variable	Observations	Maximum	Minimum	Mean	Median	Std. Dev.
gdp_cap	196	244.3000	30.40000	86.48112	82.60000	35.76272
migr	183	884893.0	3731.000	92414.23	34337.00	136826.2
unemp	196	26.10000	3.700000	9.244388	8.100000	4.147142
labor	196	42213451	164195.0	7216013.	4314614.	8746818.
infl	196	15.43052	-4.479938	2.399377	2.200386	2.383792
trade	196	374.1478	45.60911	117.4507	102.7671	61.96140

In order to estimate the regression model (1), we used the Panel Least Squares with fixed effects in EViews. As Baltagi (2008) mentioned, the first step when working with panel data is to decide whether the regression model is a panel data regression model or ordinary regression. In this regard, we use Redundant Fixed Effects Tests (Table no. 2). The two tests (“Cross-section F” and “Cross-section Chi-square”) evaluate the joint significance of the cross-section effects, using sums of squares (F-test) and the likelihood function (Chi-square test). The p-values associated to the F-statistic and the Chi-square statistic are both

0.0000, suggesting that the null hypothesis that the individual effects are redundant should be rejected. Therefore, we accept the presence of individual effects.

Table no. 2: Redundant Fixed Effects Tests results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	864.951202	(27,154)	0.0000
Cross-section Chi-square	940.260302	27	0.0000

The next step is to decide between fixed and random effects. To this end, use Hausman test, whose null hypothesis is that random effects model is preferred to alternative with fixed effects (Greene, 2008, pp. 209). Basically, it tests whether the unique errors are correlated with the regressors. The null hypothesis is that they are not (Torres - Reyna, 2011). Table no. 3 displays the coefficients estimates from both the fixed effects model, as well as random effects model, along with the variance of the difference and the associated p-values for the hypothesis that there is no difference. Since the probability associated with the chi-square test is less than 0.05 (0.0124), we reject the null hypothesis, which means that the fixed effects model would be most appropriate.

Table no. 3: Hausman test model results

Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		14.563562	5	0.0124
Variable	Fixed	Random	Var(Diff.)	Prob.
migr	0.000008	0.000008	0.000000	0.4558
unemp	-1.000722	-1.008642	0.000052	0.2739
labor	0.000002	0.000001	0.000000	0.2553
infl	-0.460383	-0.467863	0.000014	0.0476
trade	0.159679	0.167550	0.000015	0.0443

As the cross-sectional units are countries, we expect to have fixed effects since they have a certain specificity, which varies from country to country, but is fairly stable over time. The regression results are shown in Table no. 4.

Table no. 4: Regression results

Method: Panel Least Squares				
Periods included: 7		Cross-sections included: 28		
Total panel (unbalanced) observations: 187				
F-statistic		1251.784	Prob(F-statistic) 0.000000	
Dependent Variable: <i>gdp_cap</i>				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	62.55528	10.36873	6.033069	0.0000
migr	8.38E-06	4.21E-06	1.990550	0.0483
unemp	-1.000722	0.082106	-12.18825	0.0000
labor	1.96E-06	1.14E-06	1.721357	0.0872
infl	-0.460383	0.103931	-4.429685	0.0000
trade	0.159679	0.017757	8.992649	0.0000

The results obtained show a strong relationship between migration and economic development. The lack of a small number of data for three countries on the number of

immigrants (the unbalanced panel data) insignificantly affects the coefficients of the model, which makes the model valid.

Coefficients of unemployment rate (unemp), inflation (infl) and trade (trade), and constant are significant at 0.001 level. Although the number of migrants (migr) has significant coefficient at 0.05 (0.0483), and labour coefficient is significant at 0.10 level (0.0872), we can accept that model parameters are significantly different from zero. Since the significance level of the F-test is less than the 1% threshold, the model is significant as a whole. At the same time, the signs of the coefficients of the explanatory variables are consistent with economic theory. Thus, the number of migrants, labour and trade have positive effects on GDP per capita, and the impact of unemployment rate and inflation is negative.

Regarding the impact of migration on economic development, it can be said that each immigrant to an EU-28 country, through their economic contribution, determines an increase in the per capita GDP of that country by $8.38 \cdot 10^{-6}$ compared to the EU-28 average. In order to have a better picture of the magnitude of this impact, we can multiply by 100,000 (possibly by modifying the units of measurement) and it follows that if the number of immigrants increases by 100,000, then the per capita GDP of the receiving country would increase by 0.838% compared to the EU-28 average. Obviously, this assessment is of an average nature, because specific effects occur.

The high value of the above percentage has a possible explanation in the fact that most immigrants carry out activities that require a low level of qualification and receive salaries that are below the average wage level in that country. As a result, immigrants contribute to increasing the value of goods and services produced in the receiving country, i.e. GDP growth.

Conclusions

This paper analyzes the dependence between GDP per capita (in Purchasing Power Standards expressed in relation to the European Union average) and the number of migrants arriving in the receiving country using data from the 28 EU countries (in the composition before Brexit) during 2008-2014. The analysis was carried out on the basis of a panel data model with fixed effects. For choosing the appropriate model, the Hausman test was used. The study shows that migration has a significant positive impact on economic development, namely, an increase in the number of migrants by 100,000 determines an increase in the GDP per capita of the receiving country by 0.838% compared to the EU-28 average.

In order to assess the size of the migration phenomenon in the EU-28 countries, we have not found any more suggestive indicators than the total number of long-term immigrants arriving in the receiving country. We also had the stock of international immigrants available, but this is only registered every five years, which is why its use in regression models would create some problems. We also opted for gross domestic product per capita in purchasing power standards expressed in relation to the European Union average because the study is conducted at the level of the EU-28 Member States. A drawback for this study is the reported period. Unfortunately, we cannot choose a longer time because of a lack of data and country membership data. At the same time, between 2008 and 2014, the period of global economic and financial crisis also affected the accuracy of evaluations through

disturbances of different intensities from one economic indicator to another which it produces.

Since for the total number of long-term immigrants arriving in the receiving country we have data over a longer period of time in developed countries in the EU, we intend to analyze the impact of migration on economic growth only for these countries. A further asset to achieving a viable model would be that for the determinants of economic growth, the time series available covering longer periods in those countries.

However, the economic effects of immigration topic is complex and controversial. Thus, some researchers show that migration has positive economic effects for receiving countries (Huber și Tondl, 2013; Kahanec et al., 2013; Kim et al., 2010), while others find that migration has a negative economic impact for receiving countries (Guner and Yaliniz, 2013).

References

- Baltagi, B.H., 2008. *Econometric Analysis of Panel Data*. Chichester: John Wiley & Sons Ltd.
- Băbăiță, I. and Rosca, D., 2010. Modelarea impactului psihosocial asupra migrării și mobilității forței de muncă: cazul Uniunii Europene 27. *Analele Universității "Constantin Brâncuși" din Târgu Jiu, Seria Economie*, 4, pp.124-133.
- Beine, M., Docquier, F. and Rapoport, H., 2001. Brain drain and economic growth: theory and evidence. *Journal of development economics*, 64(1), pp.275-289.
- Berzinskiene, D., Butkus, M. and Matuzeviciute, K., 2014. Modelling of the Impact of Emigrants' Qualification Structure on the National Economic Growth: the Case of Lithuania. *Engineering Economics*, 25(3), pp.333-340.
- Bretschger, L., 2001. Labor Supply, Migration, and Long-term Development. *Open Economies Review*, 12(1), pp.5-27.
- Chellaraj, G., Maskus, K.E. and Mattoo, A., 2008. The contribution of skilled immigration and international graduate students to U.S. innovation. *Review of International Economics*, 16(3), pp.444-462.
- Collado, M.D., Iturbe-Ormaetxe, I. and Valera, G., 2004. Quantifying the impact of immigration on the Spanish welfare state. *International Tax and Public Finance*, 11(3), pp.335-353.
- Contreras Lisperguer, K.J., 2016. *We asked for workers, but we got labor instead: Modelling labor market effects of migration*. Master's thesis. Universitetet I Oslo.
- Cristian, E.R. and Bărăgan, C., 2015. Identification of main economic and social causes of romanian migration. *ECOFORUM*, 4(2), pp.164-169.
- D'Auria, F., Mc Morrow, K. and Pichelmann, K., 2008. Economic impact of migration flows following the 2004 EU enlargement process: A model based analysis. *European Economy - Economic Papers*, 349, pp.1-34.
- De Jong, G.F. and Sell, R.R., 1977. Population redistribution, migration, and residential preferences. *The Annals of the American Academy of Political and Social Science*, 429(1), pp.130-144.
- Drinkwater, S., Levine, P., Lotti, E. and Pearlman, J., 2002. The Economic Impact of Migration: A Survey, *Second Workshop of the Fifth Framework Programme Project*

- European Enlargement: The Impact of East West Migration on Growth and Employment*, 6-7 December, Vienna. [online] Available at: <<http://www.eastwestmigration.org/migsurvey6.pdf>> [Accessed 15 February 2017].
- Dustmann, C., 1997. Return migration, uncertainty and precautionary savings. *Journal of Development Economics*, 52, pp.295-316.
- European Commission, 2011. *Global Approach to Migration and Mobility*. [online] COM, Bruxelles. Available at: <<http://eur-lex.europa.eu/legal-content/ro/TXT/?uri=CELEX:52011DC0743>> [Accessed 1 March 2017].
- European Commission, 2015. *European Migration Agenda*. [online] COM, Bruxelles. Available at: <https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-migration/background-information/docs/communication_on_the_european_agenda_on_migration_ro.pdf> [Accessed 10 March 2017].
- European Union, 2010. *Charter of Fundamental Rights of the European Union*. [online] Available at: <<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:083:0389:0403:ro:PDF>> [Accessed 8 January 2017].
- European Union, 2012. *Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union*. [online] Available at <<http://eur-lex.europa.eu/legal-content/RO/TXT/?uri=celex%3A12012E%2FTXT>> [Accessed 10 March 2017].
- Fry, J. 2014. *Migration and Macroeconomic Performance in New Zealand: Theory and Evidence*, New Zealand Treasury - Working Paper 14/10. Wellington: New Zealand Treasury.
- Greene, W.H., 2008. *Econometric analysis*. 6th ed. New York: Prentice Hall.
- Guner, U. and Yaliniz, M., 2013. Immigration and Economic Growth in Europe and Their Spatial Allocation. *Actual Problems of Economics*, 150, pp.373-80.
- Haque, N.U. and Kim, S., 1995. Human Capital Flight: Impact of Migration on Income and Growth. *IMF Staff Papers*, 42(3), pp.577-607.
- Harris, J. and Todaro, M., 1970. Migration, Unemployment and Development: A Two-Sector Analysis. *The American Economic Review*, 60, pp.126-142.
- Holland, D., Fic, T., Rincon-Aznar, A., Stokes, L. and Paluchowski, P., 2011. *Labour mobility within the EU – The impact of enlargement and the functioning of the transitional arrangements - Final Report*. Study for the DG Employment, Social Affairs and Inclusion, European Commission. London: National Institute of Economic and Social Research.
- Huber, P. and Tondl, G., 2012. Migration and Regional Convergence in the European Union. *Empirica*, 39(4), pp.439-460.
- Kahanec, M., Pytlikova, M., and Zimmermann, K.F., 2016. *The free movement of workers in an enlarged European Union: institutional underpinnings of economic adjustment. Labor Migration, EU Enlargement, and the Great Recession*. Springer: Berlin Heidelberg.
- Ivanov, S., 2006. Labour Migration - Factors and Alternatives. *Russia in Global Affairs*, 4(4), pp.84-97.
- Kim, Y.B., Levine, P. and Lotti, E., 2010. Migration, skill composition and growth. *National Institute Economic Review*, 213(1), pp.5-19.

- LaLonde, R.J. and Topel, R.H., 1997. Economic impact of international migration and the economic performance of migrants. In: M.R. Rosenzweig and O. Stark (eds.) *Handbook of population and family economics*. Amsterdam: Elsevier. pp.799-850.
- Lemos, S. and Portes, J., 2008. *The impact of migration from the new European Union Member States on native workers*. IZA Discussion Paper no.3756. Bonn: The Institute for the Study of Labor.
- Levine, P., Lotti, E., Pearlman, J. and Pierse, R., 2003. *The economic impact of East-West migration in an enlarged European Union*. Flowenla Discussion Paper no.19. Hamburg: Institute of International Economics.
- Nana, G., Sanderson, K. and Hodgson, R., 2009. *Economic Impacts of Immigration: Scenarios Using a Computable General Equilibrium Model of the New Zealand Economy* - Economic Impacts of Immigration Working Paper Series. Wellington: Department of Labour
- Oneaşcă, I., Ungureanu, D. and Popa, M., 2013. *Politica de migrație a Uniunii Europene – implicații pentru piața muncii*. București: Alpha MDN.
- Organisation International pour les Migrations, 2015. *Etat de la migration dans le Monde. Les migrants et les villes: de nouveaux partenariats pour gérer la mobilité*. [online] OIM. Available at <<https://publications.iom.int/fr/books/etat-de-la-migration-dans-le-monde-2015-les-migrants-et-les-villes-de-nouveaux-partenariats>> [Accessed 8 January 2017].
- Pouliakas, K., Roberts, D., Balamou, E. and Psaltopoulos, D., 2009. *Modelling the Effects of Immigration on Regional Economic Performance and the Wage Distribution: A CGE Analysis of Three EU Regions*. IZA Discussion Paper no. 4648. Bonn: The Institute for the Study of Labor.
- Ratha, D., Mohapatra, S. and Scheja, E., 2011. *Impact of Migration on Economic and Social Development. A review of Evidence and Emerging Issues*. Policy Research Working Paper. Washington, DC: World Bank.
- Reichlin, P. and Rustichini, A., 1998. Diverging Patterns with Endogenous Labor Migration. *Journal of Economic Dynamics and Control*, 22(5), pp.703-728.
- Roman, M. and Voicu, C., 2010. Câteva efecte socioeconomice ale migrației forței de muncă asupra țărilor de emigrație. Cazul României. *Economie teoretică și aplicată*, 7(548), pp.50-65.
- Son, L. and Noja, G.G., 2012. Analiza macroeconometrică în panel a factorilor modelatori ai emigrației forței de muncă la nivelul Uniunii Europene. *Economie teoretică și aplicată*, 11(576), pp.12-27.
- Stiglitz, J., 2005. *Globalizarea, Speranțe și deziluzii*. București: Ed. Economică.
- Torres - Reyna, O., 2011. *Getting Started in Fixed/Random Effects, Using R*. [online] Princeton University. Available at: <<https://www.princeton.edu/~otorres/Panel101R.pdf>> [Accessed 10 March 2017].
- Wu, Y., 2011. *Economic impacts of different skilled levels of immigration labour: a CGE assessment for the UK*. Doctoral dissertation. Middlesex University.