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European economic integration and migration in Romania

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ABSTRACT
Considering the recent debates on the benefits of European economic integration, the purpose of this paper is to assess the impact of EU membership on the migration process in the case of Romania. The paper focused on two directions of research: comparisons with neighbouring countries that are not member or candidates for EU and the explanation of the remittances based on the economic situation in the destination countries. The approach based on comparisons used difference-in-difference estimator as quantitative method, while the approach based on economic factors in destination countries employed mixed-effects models. The results based on these two approaches indicated that Romania did not send more migrants abroad in the period 2002–2017 compared to Ukraine and Republic of Moldova due its EU membership. On the other hand, Romania gained around 2.5 percentage points more remittances due its EU membership compared to Republic of Moldova and Ukraine. However, the unemployment and the GDP per capita in the destination countries are more important determinants of remittances rather than EU membership in the period 2010–2017. The results reveal that the remittances of Romanian migrants are conditioned by labour market issues in the destination countries, the unemployment in host country having a greater impact on remittances compared to GDP per capita and EU membership. It is expected that a future economic crisis will reduce remittances gained by Romania from other EU countries.

1. Introduction
The free movement of workers inside the European Union is one of the consequences of European economic integration of countries (Guild, 2017). Initially, the regulations on the free movement of persons and the right of residence for workers and their families established in 1968 and related only to persons who pursued an economic activity. The Single European Act has extended these rights to all citizens of the Member States, independently of an economic activity. The Treaty on the European
Economic Community is the official document stating that any EU citizen may move freely within the Union and may reside in any EU Member State. An immediate consequence of this provision is the rapid increase of intra-EU migration in the 1960s. At that time, many Italian workers migrated to other countries in the Community. Even in the context of the free movement of EU citizens within the Community, the flows from third countries were higher than intra-Community flows (Dunlevy & Hutchinson, 2001).


Nowadays, after the integration of New Member States, the migration flows oriented from these countries to old member states mostly for jobs and for a high standard of life. The developed EU countries usually attract more immigrants than developing EU member states, because higher GDP per capita and employment opportunities for higher salaries compared to developing countries motivate better the immigrants from poorer EU countries. The increasing share of immigrants in a country labour market tends to raise serious concerns regarding the effects of immigration on economic conditions which mainly involve GDP per capita and unemployment rate (higher GDP per capita is associated with lower unemployment). On the other hand, the remittances in the destination country might contribute to the prosperity of the origin country supposing a higher GDP per capita. The remittances might negatively affect the GDP in the host country, but usually their impact on GDP per capita is low. Better economic conditions in the destination country might increase the incentives to migrate and reduce the concern between opportunities of the labour market for native-born and migration. However, an empirical assessment is required to establish if remittances negatively affect the economy in the destination country. Without such evaluation, the increase of the number of immigrants coming from Central and Eastern Europe in the last years determined the UK citizens to vote for Brexit. Romania is one of the states that send many migrants in the developed countries of the European Union. However, a statistical evaluation of the impact of EU membership on migration (number of migrants, remittances) is necessary to conclude that Romania took advantage of its integration in the EU in terms of people mobility.

Romania lost 17% of its population because of Romanians emigration, most of them being located in other countries of the EU. In the first few years after communism fall, the emigration was mainly determined by ethnic reasons (Pirvu, Badarcea, Manta, & Florea, 2018). After these years, Romanian people chose as destination countries America (Canada and United States), Spain and Italy. Emigration intensified after Romania joined the EU, main host countries being Italy, Germany, Spain and Hungary.

Since Romania’s entrance in the EU zone, the number of legal Romanian migrants in Spain almost doubled. Nowadays, the largest Romanian community situated abroad is located in Italy. Half of the Romanian migrants in Italy work in tertiary
sector (family care, restaurants and hotels), a third in building sector and a fifth in agriculture (Koehler, Laczkó, Aghazarm, & Schad, 2010). During the recent economic crisis, emigration slowed down in Romania, while circular and return migration intensified (Zaiceva & Zimmermann, 2016).

A consequence of emigration is represented by the remittances sent by Romanians migrants to their origin country. In Romania, the remittances are considered financial transfers that compensate the human capital loss and brain-drain because of emigration (Hărău, 2011). De Sousa and Duval (2010) explained that remittances in Romania increased proportionally with the territorial distance. The remittances received after 2002 by Romania contributed to the economic development (Silasă & Simina, 2008), but only on short-run. Moreover, this result is also supported by Mansoor and Quillen (2007) who showed the role of remittances in decreasing the poverty and in supporting saving. On long-run (1990–2015), Haller, Butnaru, and Butnaru (2018) showed that remittances did not ensure economic growth, but stimulated households final consumption and income inequality. Moreover, the remittances in Romania negatively affected exports’ competitiveness and the motivation to work.

Starting with 2000, the level of remittances increased in Romania, this country being among the states that received the highest volumes of remittances. The remittances have grown till 2008 representing 3.3% of GDP, while a low decrease was observed in 2009 because of the economic recession. The period 2009–2012 is characterised by a slow increase in remittances in Romania without reaching the level achieved in 2008. After a decline in 2015, the remittances have slowly increased.

The literature on emigration process in Romania treats different topics, including the economic and social effects of emigration, the remittances, the profile of the migrants from demographic point of view, brain-drain, circular and return migration, etc. (Goschin, 2018). The empirical studies for Romania identified few determinants of emigration: poverty growth in Romanian regions, higher salaries and better social and economic environment in the destination countries compared to Romania, less risk of unemployment abroad, the perception of less corruption and better business opportunities in the destination countries, positive career expectations etc. (for example, De Sousa & Duval, 2010; Goschin & Roman, 2014; Roman, 2011; Simionescu, 2016). More than 70% of the Romanian people chose Italy and Spain as destination countries. Even if some macroeconomic determinants of emigration in case of Romania were considered in the previous studies, as we showed before, none of the researches focussed on the EU membership as a determinant of emigration in the case of Romania. Therefore, this study brings as a novelty for the literature the consideration of the EU membership among the determinants of emigration and remittances in Romania. The EU membership is seen in its bilateral vision: Romania’s EU membership as a determinant for sending more migrants abroad and the EU membership of some countries that send remittances to Romania compared to others that are not EU member state, but sent a rather big volume of remittances in Romania. Moreover, the consideration of the EU membership as a determinant for migration and remittances is not analysed in an isolated context with a traditional regression with data only for Romania. The contribution of EU membership to emigration in Romania is analysed by comparison with other neighbouring countries that
are still not EU member states (Ukraine and Republic of Moldova), an approach based on difference-in-difference estimator being employed. Moreover, the effect on remittance for EU membership or not of countries sending remittances in Romania is considered under the framework of particular models with mixed effects.

In this context, the aim of this paper is to assess the impact of EU membership on the number of Romanian emigrants by comparisons with other neighbouring countries that did not enter the EU (Republic of Moldova and Ukraine). We will focus on the migration from economic issues since it is the most important in all these countries, political reasons having a limited significance in the decision to migrate. A particular attention is assigned to remittances since these benefits are sent to a part of Romanian population and compensate the loss of labour force. The approach based on difference-in-difference estimator was implemented to check the impact of the Romania’s integration in the EU on the number of emigrants by comparisons with other countries. The impact of EU membership on remittances received by Romania is assessed using various econometric models (Poisson models with mixed effects, linear generalised model with mixed effects). This type of evaluation is a novelty for literature, since most of the studies provided just a theoretical presentation of the benefits of EU integration for Romania without supporting their observations on empirical evidences based on econometric models.

Having in mind the aim of this paper, the paper continues with the presentation of the theoretical background from literature related to the effects of European economic integration on migration. The next section presents the results of the evaluation based on empirical data. Last part of this paper concludes.

2. Literature review

The scientific literature studying the relationship between European economic integration and migration in the case of new member states focussed, mainly, on few directions of research:

- Political concerns regarding the migration of citizens from new member states (NMS) to old member states (OMS);
- Economic effects of migration from NMS in the destination countries and in the origin countries;
- Common EU and national migration policies.

This paper will focus more on the economic effects of emigration from NMS to OMS that will be treated from theoretical point of view, but also on empirical basis, providing results of previous studies. Following this research direction, the paper will bring as a novelty for literature the empirical evaluation of the effects of European economic integration on migration in the case of Romania, a new member state that joined the EU in 2007.

The Treaty of Lisbon introduced the co-decision procedure in the case of legal migration, but also another legal foundation for the integration of migrants. The goals of free movement within the EU are not only professional or personal, but are
also related to the development of cultural and social interactions, economic benefits for consumers and businesses, including for them in the country of origin (Hampshire, 2016). In the long and medium term, the European Commission pursues four objectives: reduction of the factors that stimulate clandestine migration, stricter border control for security and life-saving, development a common asylum policy, and development of a new legal migration policy by improving the ‘Blue Card’ regime (Simionescu, Bilan, & Mentel, 2017).

Prior to the EU’s enlargement to Eastern European countries, there were negotiations on the background of political pressure to accept the free migration of citizens from these countries for only a limited period of seven years (Simionescu, Bilan, Smrčka, & Vincúrová, 2017). The politicians concerned about the large flow of migrants from Central and Eastern Europe that could damage the welfare of Western European countries. The recent enlargement of the EU (since 2004) has increased the political and academic interest in the causes and consequences of migration between Central and Eastern Europe (CEE) and Western Europe.

The entry of CEE countries has received negative attention because of their economic situation. The very fast increase of the EU population from 104 million to 500 million has raised many concerns as well (Dobson, 2009; Juncos & Borragán, 2013). Emigration to the old EU Member States increased in each new wave of accession (in 2004, with the accession of eight countries: Estonia, Latvia, Lithuania, Hungary, Poland, the Czech Republic, Slovakia and Slovenia), in 2007 (by the accession of Romania of Bulgaria) and 2013 (by integrating Croatia into the EU). Nearly half of these emigrants headed to Italy, Spain and Germany. The Czech, Polish, Latvian and Hungarian migrants generally have higher education, and fewer emigrants with higher education are in the case of Croatia and Romania (Poprawe, 2015). Migration from NMS to OMS also alleviated the issue of demographic ageing of the population in the destination countries. Using fixed-effects models for regional data, Jauer, Liebig, Martin, and Puhani (2019) showed the similarity between the migratory reaction to unemployment shocks in Europe and United States. Considering the migration due only to work purposes, almost a quarter of asymmetric shock on the labour market would be absorbed by migratory flows in one year. Huber (2018) showed that the adjustment of labour markets in the EU after 2004 is mainly explained by mobility of high-skilled human capital rather than the mobility of unskilled labour force. On the other hand, circular and temporary migration intensified after enlargement due to physical proximity and lower transport costs (Strockmeijer, de Beer, & Dagevos, 2019). For example, in Austria, a large group of migrants works in seasonal industries and in zones that are close to their origin countries (Schmieder & Weber, 2018). The recent economic crisis that strongly affected EU-15 countries put the return migration up to discussion. In this context, Saar (2018) suggested that the return decision is based on comparisons between host and origin countries in terms of temporal, social and intra-subjective factors.

The United Kingdom has been one of the supporters of the EU enlargement since 2004 and has been among the few countries that have not imposed too many restrictions on receiving migrants from the CEE states (Cini & Borragán, 2013). Prior to EU enlargement in 2004, migration policies of the United Kingdom were
characterised by a positive attitude towards migrants, but have changed because of the integration of CEE countries (Geddes, 2003). A small restriction was imposed by the United Kingdom: the registration of immigrants according to the scheme for registration of the workers’ office until one year after their establishment in the country. The purpose of this scheme was to measure the impact of these immigrants on the British economy (type of occupation, period of their stay in the UK). In May 2011, this restriction was removed altogether. In fact, the UK government was supportive of EU enlargement in 2004, but not the British public (Dursun-Ozkanca, 2011). The number of immigrants established in the UK since the EU enlargement in 2004 and 2007 was much higher than expected which determined tensions that ended with Brexit.

The increase in migration from NMS to OMS after the accession to the EU in 2004 determined a large increase in remittances to NMS. Langer and Tetenyi (2018) studied jointly the effects of remittances and migration on the integration of EU economies. The authors showed that the remittances boost economic convergence between EU countries.

The effects of the economic integration of the new EU Member States on the labour market of the old Member States depend on the structure and magnitude of immigration. The consequences of the EU enlargement on trade and labour market were analysed by Caliendo, Opremolla, Parro, and Sforza (2017) using a multi-country dynamic general equilibrium model. The enlargement in 2004 brought benefits for NMS, especially for unskilled workers in these countries that established in the EU-15 countries, while the OMS registered lower welfare when changes in trade policy were not made. The net benefits or costs of immigration for the economy as a whole are not yet clear. The results of the empirical evaluations vary according to the applied methodology, the period under consideration and the assumptions on which the methods are based (Simionescu, 2018). However, there are studies that identify positive migration effects for destination countries. Thus, León-Ledesma and Piracha (2004) identified positive effects of the migration from the new EU Member States on labour productivity in destination countries. In the case of France, Mitaritonna, Orefice, and Peri (2017) found that immigration increased the local productivity. The OMS have benefited from highly qualified workforce, but also from unqualified workforce in areas lacking indigenous labour resources. For a group of developed European countries, D’Amuri and Peri (2014) showed that immigrants often posses manual skills, stimulating the domestic workers towards jobs requiring complex skills. In this context, immigrants from NMS replace ‘tasks’ and not local workers and contribute to the increase in native employment at national level. On the other hand, highly skilled migrants might induce positive externalities that positively contribute to long-run economic growth and ensure gains throughout the economy (Peri, 2014). The emigration of skilled workers lowered the total factor productivity in 10 NMS in the period 2004–2014, as Giesing and Laurentsyeva (2018) showed.

The contribution of immigrants to public finance was assessed for some developed EU countries. In a study that assesses the effect of immigrants on public finance, Brucker et al. (2002) showed that in some EU countries (Nordic countries, France, Austria, Netherlands, Belgium), the immigrants tend to receive more welfare benefits
compared to natives, especially in the form of unemployment benefits. This result is confirmed by Chojnicki et al. (2010) in the case of France when controlling for education level and family size. On the other hand, in other countries migrants received less social benefits compared to natives: 16 EU member states in the study of Huber and Oberdabernig (2016), the UK and Ireland in the studies of Dustmann and Frattini (2014) and Barrett and McCarthy (2008). For the UK, Dustmann and Frattini (2014) analysed more the economic impact of the immigrants from new Eastern European member states. The authors showed the positive impact of the European immigrants on public finance (1995–2011). Collado, Iturbe-Ormaetxe, and Valera (2003) showed the positive contribution of immigrants to the Spanish welfare system. For other countries, no significant differences between immigrants and natives were found in terms of social benefits (Germany, Greece, Portugal, Spain and the UK in Brückner et al. (2002); Germany in papers of Riphahn (2004) and Castronova, Kayser, Frick, and Wagner (2001)).

Migration has often been considered as a factor influencing trade flows between states (Dunlevy & Hutchinson, 2001; Girma, 2017; Gould & Findly, 1994; Parsons, 2005). There are two channels where immigration influences trade flows: immigrants’ preference for products in the origin country and the reduction of transaction costs by immigrants. The smaller the distance between the origin country and the destination country, the greater the impact of migration on trade is. Ghatak, Silaghi, and Daly (2009) showed, based on an extended gravity model, that between 1996 and 2003, the UK immigrants from some CEE countries had a positive and significant impact on trade flows with the destination country. According to the IMF Commercial Division, the share of trade made by CEE states in total EU trade exceeds 50%. According to Ghatak et al. (2009), if we analyse countries according to the average share of trade with the United Kingdom versus total trade with the rest of the EU, we have the following top countries: Latvia, Estonia, Lithuania, Romania, Bulgaria, Hungary, Slovakia, the Czech Republic, Poland and Slovenia.

These aspects, combined with free movement of people within the EU, have generated a cheap foreign labour force that can at any time give birth to national workers’ unions and put pressure on state wealth, causing social dumping (Alber & Standing, 2000). Another concern in the public opinion is the impression that immigrants could take jobs from natives, reduce their salaries and negatively affect public finances (Edo, Ragot, Rapoport, Sardoschau, & Steinmayr, 2018). Peri (2010) showed that only in the short-run, immigration in the developed countries of the EU could reduce average wage and native employment, because a simultaneous economic adjustment is not possible. There are few studies in literature that evaluated the impact of immigrants in recent decades on natives’ wage changes from: France (Edo & Toubal, 2015), Denmark (Brücker, Hauptmann, Jahn, & Upward, 2014), United Kingdom (Manacorda, Manning, & Wadsworth, 2012), Germany (D’amuri et al., 2010). In this context, Brücker et al. (2014), Manacorda et al. (2012), and D’Amuri et al. (2010) showed the existence of an imperfect degree of substitutability between immigrants and natives. On the other hand, Edo and Toubal (2015) found that natives and immigrants with the same experience and level of education have the tendency to be perfect substitutes. For all these empirical studies, the long-term simulations showed no
effect of immigration on the average salary of nationals. However, specific groups of national labour force could be negatively affected by migration from NMS. For France, Ortega and Verdugo (2016) examined the effects of immigration on the labour market outcomes of blue-collar domestic workers across locations. The average wage of domestic workers decreased because of the migrants’ entrance on this segment of labour market. A similar result was obtained by these authors also for workers in construction sector, which make us to conclude that immigration in the EU developed countries mostly affects the salaries of domestic workers with similar skills like migrants.

The immigrants’ skill composition might also influence the salaries of domestic workers. In Denmark, immigration brought a higher increase in the supply of low-skilled workers compared to highly skilled labour force. As a consequence, the immigration intensified the wage gap between highly and poorly educated domestic workers. In France and Germany, the number of highly skilled workers has disproportionately increased since the 1990s because of immigration, which reduce wage inequality between domestic workers having high and poor education (Edo et al., 2018). In the case of the UK, the migrants are more educated than domestic employees and salary effects are negative and larger for university workers. Therefore, the conclusion would be that wage effects caused by immigration are dependent on the skill structure of the migrants.

Emigration might ensure benefits for migrants’ origin countries. The emigrants bring remittances to the countries of origin. By remittances sent, the investments might be stimulated in the origin countries. Bilateral remittances into the countries of Southeast Europe and CIS (Community of Independent States) countries, but also in Italy, Austria, Germany were significant. In countries that depend on remittances, these supported financial growth (the percentage of private credit or deposits in GDP), but also the private sector activity. As emigrants become permanent, the positive effects of remittances reduced (Simionescu, 2016). Moreover, Vogler and Rotte (1998) consider that trade liberalisation and greater openness to FDI can contribute to the development of these countries. The positive effects were targeted at migrants from Eastern, Central and South-Eastern Europe (EESE countries), but also across the EU. Economic migration driven by individual choices is an important part of economic development. Migrants go to other countries looking for a better standard of living for them and for their relatives that remained in the country (Simionescu, Bilan et al., 2017).

However, migration also had negative effects on migrants’ countries of origin. Emigration of skilled labour reduces labour productivity in migrants’ countries of origin and increases tax burden. Lack of highly qualified workforce cannot be counterbalanced by poor governance, which affects long-term economic growth (Ariu & Squicciarini, 2013). The high corruption was, actually, one of the reasons for qualified workforce migration from the Baltic countries, Romania, the Czech Republic, Poland, Hungary, Slovakia to Western European countries (Poprawe, 2015). Moreover, return migration is limited to these countries. Less than 5% of emigrants from the Baltic and Southeast Europe returned to their origin countries in the period 1998–2013 from Western Europe and the USA (Poprawe, 2015). They may return after retirement, but then their transfer of knowledge to their country of origin will be limited.
The negative effects in the origin countries also affect the remittances. Although these have diminished poverty, they have also contributed to increasing income inequalities in the new EU member states and have reduced government initiatives to undertake structural reforms. According to Estevão and Tsounta (2011), the receipt of larger remittances is associated with a lower probability of insertion into the labour market. The authors have shown that the increase in the share of remittances in GDP by one percentage point brings an increase in the rate of inactivity by 3 percentage points in Romania, Hungary, Poland, the Czech Republic and Slovakia and by 2 percentage points in the countries of the Southeast Europe.

Other negative effects for origin countries are also presented in the theoretical model of learning presented by Dustmann, Fadlon, and Weiss (2011). This model has shown output losses in migrants’ origin countries, but significant gains for host countries. The losses in output are also confirmed by Barrell, FitzGerald, and Riley (2007) for countries that have joined the EU since 2004. By externalities, large-scale migration has slowed convergence in GDP and growth rates (Atoyan et al., 2016). With the massive departure of skilled workers, the size of the labour market has diminished, as well as the labour productivity in migrants’ origin countries. The competitiveness of the economy and the structure of the budget are also affected, which contributes to slowing economic growth. Differences in income and institutional quality between the old Member States and the new EU Member States tend to persist in the long run, which also reduces income convergence.

The negative effects of emigration in the new EU Member States, which will persist (reduction in GDP per capita, economic convergence, labour productivity) require active labour market measures, but also transfers from the EU to countries that send migrants (Simionescu, Bilan, Smrčka et al., 2017).

Considering the negative effects of emigration for origin countries, some migration policies have to be implemented in migrants’ origin countries:

- strengthening economic policies and institutions to support the return of migrants, diminishing emigration and attracting highly qualified workers from other countries;
- efficient use of existing workforce to increase productivity and participation in the labour market;
- use of remittances, especially for investments, to the detriment of the consumption;
- mitigating the adverse tax effects of emigration (Atoyan et al., 2016).

With the removal of barriers to labour migration, Boeri and Brücker (2000) consider migration from the new EU member countries to the old countries to be stimulated by slow convergence in GDP. The authors predict that migration will only reach the maximum level after 30 years of integration of new EU members, but migrants in these countries will not exceed 1.1% of the EU-15 population. This migration limitation from the newly integrated countries to the old integrated countries is also supported by Sinn (2000), who considers migration to be temporary, because of the high living costs in developed countries and the high cost of returning
to the countries of origin. Considering the globalisation process and ageing populations in developed countries where emigrants were set up, contrary to the expectations of researchers before the accession of the new EU countries, we believe that demand for foreign labour will continue to grow.

In this context, common EU policies are also needed to address the reduction of the negative effects of emigration on economic convergence in the EU and on economic growth. External policies and EU programmes for reducing the tensions of migration must have as objectives the creation of new jobs, the reduction of poverty, the consolidation of democracy and the better economic situation of the EU Member States (Simionescu, Bilan et al., 2017). In addition to the limitation of illegal immigration, a better social insertion of immigrants in destination countries, as well as control of trafficking in human beings are also required. Cities across Europe could play an important role in ensuring national integration policies and funding plans (Hooper, Desiderio, & Salant, 2017).

Mulvey and Davidson (2019) showed that the actual migration crisis is a part of neoliberalism crisis in the capitalist structure. The anti-migrant sentiment is associated to the disagreement with social consequences of neoliberalism.

According to Engbersen (2018), the local policies and national strategies should focus on: prevention of migration by offering a flexible infrastructure of education, housing, and health care; lack of discrimination and application of an equal treatment by controlling abusive landlords, unfair treatment and exploitation at work; incorporation by developing integration programmes for EU mobile workers and language courses.

The greatest challenge for economic and social policy-makers remains to develop common EU policies that promote remittances, while reducing their adverse effects. Each EU member state has own priorities for employment and migrants’ integration policies, but the EU should support the migrants integration through soft instruments that follow common policy directions, exchange between stakeholders and corresponding funds for supporting migration. Entrepreneurship could be a successful solution for the economic and social integration of new immigrants that do not have enough resources in their origin countries (Hooper et al., 2017). Migrants’ entrepreneurship could be a useful tool for their integration on labour market.

3. Methodological framework

As the focus is to explain the number of Romanian emigrants and their remittances based on the EU membership, the collected data refer to the following variables:

- The number of emigrants from Romania and the neighbouring countries that are not EU members (Republic of Moldova, Ukraine), the data being provided by the offices of statistics from these countries for the period 2001–2017 (National Institute of Statistics from Romania that provides Tempo-online database (http://statistici.insse.ro:8077/tempo-online/), State Statistics Service of Ukraine that provides a special section of data for Demographic and social statistics/Population and migration (https://ukrstat.org/en/operativ/menu/menu_e/ds.htm) and National Bureau of Statistics of the Republic of Moldova that presents the data in Statistical
The remittances received by Romania, Republic of Moldova and Ukraine (mil. Dollars, constant prices of 2010), data being provided by World Bank database for the period 2010–2017 (https://data.worldbank.org);

The remittances received by Romania from 19 countries around the world, data being provided by World Bank for the period 2010–2017 (https://data.worldbank.org);

GDP per capita (dollars, constant prices of 2010) of the 19 countries in the sample, data being taken from World Bank database for the period 2010–2017 (https://data.worldbank.org);

Unemployment rate (% ILO estimate) of the 19 countries in the sample, data being taken from World Bank database for the period 2010–2017 (https://data.worldbank.org);

We chose the comparison with other ex-communist countries (Ukraine and Moldova) since these countries are non-EU member states and have the same border with Romania. We were not particularly focussed on the comparison with other EU countries since the quality of EU member state is better explained by comparison with countries that do not have this quality. In a future research, a comparison with new EU member states (for example, Poland, Bulgaria) will be made.

The periods considered in the analysis are conditioned by the data availability for these variables. There are two directions of research and two associated methods. The first approach focuses on the comparison with the neighbouring countries of Romania that are not EU member states and neither on the list of candidates. The suitable method for this type of comparisons is based on difference-in-difference estimator and starts from the following regression model:

$$Y_{it} = \alpha + \beta_1 \text{intervention}_{it} + \beta_2 \text{time}_{it} + \beta_3 \text{intervention}_{it} \cdot \text{time}_{it} + \epsilon_{it}$$

(1)

$Y$ - dependent variable (number of emigrants, remittances)

$\text{time, intervention}$ - dummy explanatory variables

The variable $\text{time}$ takes the value 0 before 2007 and the value 1 from 2007, when Romania joined the EU.

The variable $\text{intervention}$ takes 1 if the country is an EU Member State and 0 if it is not EU country.

$i, t$ - indexes for cross-sections and years

The second direction of research focuses on the explanation of remittances based on the economic situation of the destination countries of Romanian migrants. In this context, a Poisson model with mixed effects and a linear generalised regression model were employed on panel data.

Poisson regression with mixed-effects is employed to model the expected number of values in a certain period when some events took place $(t_{ij})$:

$$E(y_{ij}) = \mu_{ij} = t_{ij} \exp[\beta_{ij} \beta + \beta_{ij} \theta_i]$$

(2)

$i = 1, 2, \ldots, N$ units from the second level (in the case of clusters)
\( j = 1, 2, \ldots, n_i \) units for the first level (for multiple observations)

- \( y_{ij} \) – number of events (dependent variable)
- \( t_{ij} \) – offset variable (period in which events are registered)
- \( t_{ij} = t \), if the observations refer to the same period when the number of events are of interest
- \( t_{ij} \) – varies when the observations refer to the periods that vary
- \( x_{ij} \) – covariances for the first level, second level or interactions at transversal level; it may include dummy variables, interactions
- \( \beta \) – parameters for covariances
- \( z_{ij} \) – variable/variables for random effects, which may be intercept for time and clustered data and intercept for cros-section data
- \( \vartheta_i \) – random effects for normal distribution of null average and matrix of variance-covariance \( \Sigma_{ij} \)

The Poisson regression with mixed effects without offset variable is expressed as:

\[
\log(\mu_{ij}) = x'_{ij} \beta + z'_{ij} \vartheta_i
\]  

(3)

If an offset variable is included, then:

\[
\log(\mu_{ij}) = \log(t_{ij}) + x'_{ij} \beta + z'_{ij} \vartheta_i
\]  

(4)

The Poisson multilevel model was selected in this case, because the cross-units represented by the sample of 19 countries could be divided in two groups: EU member states and non-EU member states. It was necessary to consider both EU and non-EU countries in this research, according to the method hypothesis. The Poisson multilevel model assesses the impact of the EU membership on remittances under the assumption that we have countries that fulfil this criterion (EU member state) and countries that do not fulfil it (non-EU member state). The effect of EU membership on remittances is actually assessed by comparison with the situation of countries that are not EU member states.

4. Results and discussion

The impact of Romania’s EU accession on the number of emigrants and on their remittances compared to the Republic of Moldova and Ukraine during the period 2001–2017 is evaluated. Data on the number of emigrants in the Republic of Moldova are obtained from the Labour Force Survey published by the National Bureau of Statistics. Data on the number of migrants in Ukraine are provided by the Migration Data Portal of the International Organization for Migration (https://migra-

...
Considering the remittances provided by the World Bank, Table 2 indicates that Romania gained more remittances in the period 1994–2017 due to its EU membership compared to Ukraine and the Republic of Moldova.

The difference between the remittances received by Romania and the group of non-EU countries (Ukraine and Moldova) is statistically significant. If Romania had not entered the EU, the remittances would have been on average by almost 10.1 percentage points higher than those of Ukraine and Moldova in the period 1992–2017. The expected change in the average remittances before Romania’s entry into the EU was different between the two groups of countries. After Romania’s accession to the EU, this country has attracted 12.68 percentage points more remittances than Ukraine and Moldova. All in all, Romania gained around 2.5 percentage points more remittances due its EU membership compared to Republic of Moldova and Ukraine.

Remittances sent by Romanian migrants to Romania during 2010–2017, taken from the World Bank database, are explained based on a Poisson model with mixed effects. The countries where the migrants were established are 19 countries: UK, US, Turkey, Sweden, Switzerland, Spain, Netherlands, Italy, Israel, Ireland, Hungary, Greece, Germany, France, Czech Republic, Canada, Belgium, Austria, and Australia. These countries were selected in the analysis since these are the countries that concentrate more than 80% of the Romanian emigrants and the Romanian communities in these countries are among the largest.

A Poisson model with mixed effects is shown in Table 3 to explain the remittances sent to Romania by migrants, but more appropriate would be a linear model, which is presented in Table 4.

As can be seen from Table 3, GDP per capita and the unemployment rate of countries of the destination countries for Romanian migrants have a negative impact on remittances sent by them to Romania. On the other hand, the EU membership of the destination countries has no significant impact on the volume of remittances. As the rate of unemployment increases in destination countries, the remittances sent to the origin country are lower. The rise in unemployment can be associated with the economic crisis and post-crisis period, but also with a decrease in migrants’ income that forces them to send less money to their relatives or friends in the origin country. As GDP per capita in the destination country increases, the remittances reduced, but very little. The results reveal that the remittances of Romanian migrants are conditioned by labour market issues in the destination countries. Therefore, the low flexibility of the labour market in destination countries influences the level of remittances sent by Romanian immigrants to their origin country. Unlike previous studies in the literature (Hall et al., 2018), this research considers the economic situation in the destination countries of the Romanian immigrants.

Table 1. Impact of Romania’s EU integration on the number of emigrants compared to states that are not EU members (Ukraine and Moldova) (2001–2017).

| Variable                  | Coefficient | t-stat | p > |t| |
|---------------------------|-------------|--------|-----|---|
| Time                      | 5325.897    | 0.76   | 0.451 |
| Intervention              | 13234.55    | 1.61   | 0.115 |
| Time × intervention       | 14288.37    | 1.90   | 0.110 |
| Constant                  | 21128.35    | 4.10   | 0.000 |

Note: Prob. > F = 0.000; N (number of observations) = 17 × 3 = 51 observations.
Source: authors’ calculations.
According to the model in Table 4, EU membership of the countries of destination of Romanian migrants appears to have a positive effect on the volume of remittances sent to Romania, as most Romanian emigrants settled in other EU countries. However, the result is different from that based on the previous model. One explanation could be the fact that Romanian migrants prefer some EU destination countries even before EU enlargement due to factors related to distance, language or culture. After EU enlargement in 2007, most of the Romanians prefer the EU countries with large Romanian communities using the networks created in these countries. The high unemployment on the labour market of destination countries reduced the level of remittances, fact that was well observed during the recent economic crisis. For example, Spain labour market was highly affected by economic crisis and the number of Romanian immigrants in this country reduced as well as their remittances. Moreover, the high unemployment reduced the income and consequently the remittances sent by the Romanian migrants.

Compared to previous studies in literature that highlight the theoretical advantages of EU membership (Dustmann, Casanova, Fertig, Preston, & Schmidt, 2003; Geddes

### Table 2. Impact of Romania’s EU integration on the remittances compared to states are not EU members (Ukraine and Moldova) (2001–2017).

| Variable               | Coefficient | t-stat | \( p > |t| \) |
|------------------------|-------------|--------|-------------|
| Time                   | 10.141      | 3.78   | 0.000       |
| Intervention           | 15.088      | 4.05   | 0.000       |
| Time × intervention    | 12.68       | 3.90   | 0.000       |
| Constant               | 5.994       | 3.74   | 0.000       |

**Source:** authors’ calculations.

**Note:** \( \text{Prob.} > F = 0.000; N = 17 \times 3 = 51 \) observations.

### Table 3. Poisson regression model with mixed effects to explain the remittances sent by Romanian migrants from 19 countries to Romania (2010–2017).

| Variable               | Coefficient | Robust standard error | \( Z \) | \( p > |z| \) |
|------------------------|-------------|-----------------------|--------|-------------|
| GDP per capita         | −0.00001    | 8.17 \cdot 10^{-6}    | −2.02  | 0.043       |
| Unemployment rate      | −0.024      | 0.005                 | −4.74  | 0.000       |
| EU membership          | 0.438       | 0.665                 | 0.66   | 0.510       |
| Constant               | 4.846       | 0.633                 | 7.65   | 0.000       |
| Random effects parameters | Estimate | Standard error        |        |             |
| country: identity      |            |                       |        |             |
| standard deviation (constant) | 1.343 | 0.218                 |        |             |

**Note:** \( N = 18 \times 19 = 342 \) observations.

**Source:** authors’ calculations.

### Table 4. Linear generalised regression model with mixed effects to explain the remittances sent by Romanian migrants to Romania (2010–2017).

| Variable               | Coefficient | Robust standard error | \( Z \) | \( p > |z| \) |
|------------------------|-------------|-----------------------|--------|-------------|
| GDP per capita         | −0.00007    | 0.001                 | −0.40  | 0.686       |
| Unemployment rate      | −6.182      | 4.224                 | 1.46   | 0.000       |
| EU membership          | 131.143     | 53.941                | 2.43   | 0.510       |
| Constant               | 53.014      | 103.465               | 0.51   | 0.000       |
| Random effects parameters | Estimate | Standard error        |        |             |
| country: identity      |            |                       |        |             |
| standard deviation (constant) | 282.931 | 17.347                |        |             |

**Note:** \( N = 18 \times 19 = 342 \) observations.

**Source:** authors’ calculations.

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According to the model in Table 4, EU membership of the countries of destination of Romanian migrants appears to have a positive effect on the volume of remittances sent to Romania, as most Romanian emigrants settled in other EU countries. However, the result is different from that based on the previous model. One explanation could be the fact that Romanian migrants prefer some EU destination countries even before EU enlargement due to factors related to distance, language or culture. After EU enlargement in 2007, most of the Romanians prefer the EU countries with large Romanian communities using the networks created in these countries. The high unemployment on the labour market of destination countries reduced the level of remittances, fact that was well observed during the recent economic crisis. For example, Spain labour market was highly affected by economic crisis and the number of Romanian immigrants in this country reduced as well as their remittances. Moreover, the high unemployment reduced the income and consequently the remittances sent by the Romanian migrants.

Compared to previous studies in literature that highlight the theoretical advantages of EU membership (Dustmann, Casanova, Fertig, Preston, & Schmidt, 2003; Geddes
Scolten, 2016; Kahanec & Zimmermann, 2010, 2016), this research brings as a novelty in the field the evaluation of these effects on empirical basis. Moreover, specific quantitative methods were applied on the empirical data (difference-in-difference estimator and mixed-effects models).

Romania received more remittances than these countries due to its integration in the EU. One explanation could be related to the fact that most of the Romanian migrants are located in the EU countries. If the remittances are considered according to the most chosen destination countries, the economic status of these states influences the volume of remittances. Issues on host countries labour market influenced more the level of remittances sent by Romanians to their origin country compared to EU membership of the destination countries. Our results are in line with the observation of Zaman (2015) that showed the recent economic crisis influenced the migrations flows, but also the remittances sent by Romanians to their origin country.

5. Conclusions

This paper highlights the advantages of the EU membership for Romania compared to other ex-communist countries that have not already joined the EU (Ukraine and Republic of Moldova). The results suggested that Romania did not have significant more emigrants compared to Republic of Moldova and Ukraine in the period 2001–2017 due to its EU membership. The emigration for labour is intensive in Romania as well as in Republic of Moldova and Ukraine. Even if the last two countries are not part of the European Union, after getting the independence, emigration has accelerated. The main cause for emigration in these countries is related to economic reasons. Republic of Moldova is the poorest country in the Europe with the lowest monthly average income (Cajka, Jaroszewicz, & Strielkowski, 2014) while Ukraine is also recognised among the poorest countries in Europe. Moreover, Cajka et al. (2014) explained that most part of emigrants from Ukraine and Republic of Moldova chose the EU member states as destination countries. Probably, the emigration is not intensive as expected because Romania has not joined yet the Schengen passport-free zone like other EU countries. Romania agreed to support the recent European Parliament reforms that focus on a fair distribution of migrants among the EU member states. Even if Romania is seen as a transit country for migrants that try to reach the Western Europe, it should develop also migration policies in line with acuity communautaire to face any potential influx (Vasile & Androniceanu, 2018). On the other hand, Romania is a country that sends many emigrants abroad, having a deficit of labour resources. Its migration policies should also focus on the opportunities for Romanian migrants to come back in their origin country like higher salaries, better conditions of living, etc.

Our study indicated that the Romania’s integration in the EU did not imply significant more emigrants compared to Ukraine and Moldova. This result suggests that economic reasons are more important for migrants than a favourable political context for emigration. On the other hand, Romania received more remittances than Moldova and Ukraine due to EU membership, but the volume of remittances is sensitive for all countries to economic conditions in the destination countries. Various
shocks of the labour market in the receiving countries of the migrants influence the volume of the remittances sent in the origin countries. A future economic crisis in the EU-15 countries that host migrants from Eastern Europe will lower the level of remittances in Romania, but also in Ukraine and Republic of Moldova.

The issues associated to immigration and the integration of immigrants are quite new for Romania, since it is considered mainly a country of emigration. The immigrants in this country might be voluntary (students, businessmen, economic migrants with their families, Third Country Nationals coming to Romania due to its economic revival and to free access to labour market) or forced. There are refugees and asylum seekers who migrated in Romania after 1990 and are considered forced migrants.

The Cameroonian and Congolese refugee communities considered that their integration into Romanian society was conditioned by: citizenship, knowledge of Romanian language; finding work; the support offered by Romanian state and the African community; marriage with Romanian citizens. The deficit of labour force in Romania could be covered by immigrants, but they could be attracted if the migration policies would be more flexible in terms of ensuring a medium level of salary, cheaper accommodation, etc.

The research is limited by the short data set, because its short availability. In this case, in a future research we could extend the panel of countries for explain the number of emigrants from Romania, making comparisons with Ukraine, Republic of Moldova and other non-EU countries from Eastern Europe. Moreover, comparisons with EU countries could be made in terms of migrants and remittances. We limited to the comparison with non-EU countries to explain the number of Romanian emigrants. A comparison with other EU countries would be useful in order to assess the progress of Romania in intensifying migration process due to its EU membership. Bulgaria and countries that joined the EU after 2004 could be examples of countries for comparison.

**Disclosure statement**

The author has no any competing interests in the manuscript.

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