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## The impact of remittances on economic development in the Central and Eastern European Countries\*

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### **Abstract**

*Emigration flows and their relations with economic development can be observed through different aspects, where one of the important questions is the role of the remittances, and transfer of foreign money to home countries. The objective of this study is to investigate the impact of remittances on economic development in Central and Eastern European countries. A review of previous research on the role of emigration and the impact of remittances on economic development is presented in the first part of the paper. This is followed by panel data analysis. The analysis covers the period after the enlargement of the European Union (EU) in 2004 till the nowadays. The results confirm the positive and statistically significant influence of personal remittances on the economic development of the new EU member states, as well as the positive and statistically significant influence of final consumption, gross fixed capital formation, external trade balance, and foreign direct investments. The positive influence of remittances on economic development should be observed with caution, regarding that remittances are the results of emigration and also are connected with the unfavourable effects of emigration. This study adds to previous research about the significance of remittances in the economies of the new EU member states.*

**Key words:** *migrations, remittances, economic development, Central and Eastern European Countries*

**JEL classification:** *F22, F24, O10, O15, O52*

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## 1. Introduction

Waves of the EU enlargements in 2004, 2007, and 2013 enable the free movement of people in the entire EU, among many other benefits<sup>3</sup>. This includes the possibility of finding a job in another EU member state, taking advantage of a social security system, and having the same rights and obligations as the domestic population in the labor market. The group of new EU member states (NMS) is lagging in economic development in comparison with the EU-15(14) (*old member states*), which can be confirmed through different socio-economic indicators. The workers in NMS are faced with a lower standard of living, difficulties with finding a job, lower salaries, and high corruption, which enable them to think about migration to some high-developed EU member states. The emigration from EU NMS (EU-13) in the period 2004-2020 counted more than 9 million people, where the majority of them emigrated from Poland (2.9 million) and Romania (2.7 million) (Eurostat, 2022a). In 2020, 447.3 million inhabitants were living in the EU, and 13.7 million persons, living in one of the EU Member States with the citizenship of another EU Member State (Eurostat, 2022c).

The emigration flows and their implications can be observed from different aspects: from the determinants of migrations (Bunduchi, et al., 2019; El-Sakka and McNabb, 1999), migration flows as a source of economic growth, their effects on convergence, gross domestic product (GDP) per capita, productivity, the labor market in emigrant and immigrant countries (Rausser et al., 2018; Tolmacheva, 2020; Bayar, 2015; Barbone et al., 2012), the role of remittances from workers in reducing poverty (Butkus et al., 2020), etc. Emigrations from NMS are very often seen through their unfavorable influence on home (emigrant) countries. Remittances can also represent a significant part of incomes in emigrant countries and even reduce unfavorable trends seen through other indicators (e.g. balance of payments, lower level of development, underdeveloped factors of growth, etc.). But, this should be observed by the fact that higher remittances mean also lowering the labor force and risk of permanent emigration.

Previous researches about the influence of remittances on economic development give diverse conclusions and some of them highlight that these effects differ because of socioeconomic development differences (Meyer and Shera, 2016; Kabat et al., 2020). In this paper, we will focus on the remittances from abroad and their impact on the economic development of receiving (emigrant) Central and Eastern European countries. The main hypothesis of the research is that personal remittances have a

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<sup>3</sup> EU-15 member states were afraid of large immigrations from East European countries and some of them have introduced the so-called transition period in a maximum of seven years (“2+3+2”) in which they continue to apply the (rigid) regulation of employment of workers that come from the mentioned countries that was conditioned by having a residence or work permit.

significant influence on the economic development of the new EU member states. We will include the data for the period 2004-2020 (as the first big eastern enlargement happened in 2004) and we will focus on the EU's new member states, EU-11 (EU 13 without Cyprus and Malta). Panel data analysis will be applied to estimate this influence. The novelty of this research is considering the impact of remittance flows of the group of new EU member states starting from the EU enlargement (that gradually enable more internal mobility) till the nowadays, while most of the studies cover one or a smaller sample of them and/or previous periods.

The paper is structured as follows: after the introduction, a literature review is given in the next section, followed by the methodology in the third section, and empirical data and analysis in the fourth section. The results of the panel data analysis with discussion are presented in the fifth section before the final concluding remarks.

## **2. Literature review**

Free movement of people and migration issues represents important themes in investigating (European) integration. The migration issue in the economic theory can be explained from the neoclassical point of view with the combination of new economic geography. Both approaches deal with the changes in the physical amount of labor or the relation of labor to capital supply that is the result of i(e)migration (Badinger et al., 2004; Barro, 2015; Barro and Sala-i-Martin, 2004; Bouayad-Agha and Védrine, 2010). Incaltarau et al. (2021) explain that the migration inflows decrease the capital stock relative to workers and that this can lead to catching up in income per capita. This may be connected to further adjustments at the level of wages, employment, and unemployment between the source and destination country. According to the new economic geography models, an increase in wages will attract larger flows of migrants, which can enforce a cumulative causation mechanism (Baldwin, 1999; Krugman 1991).

By focusing on remittances, micro and macroeconomic dimensions can be implemented. While the first one comprises the personal income and its positive impact on the consumption of receiving household in the home (emigrant) country, the macro-economic approach includes different variables for measurement of the bi-directional impact of the remittances on the economic activity (balance of payments, wages, etc.) in both the home and host countries (Stark and Bloom, 1985; El-Sakka and McNabb, 1999; Buch and Kuckulenz, 2004). On the macro level, the relationship between remittances and national characteristics like government expenditures and the GDP of immigrant and emigrant country are also researched (Hathroubi and Aloui, 2016; Akkoyunlu and Kholodilin, 2008; Vargas-Silva 2008; Šimková and Langhamrová, 2015). Furthermore, the authors in this domain investigate the determinants of remittances and their impact. Kapur (2004)

indicates the importance of remittances as a source of external development finance for developing countries by comparing them with other external financing sources. Mexico, whose case has often been researched in the literature (Amuedo-Dorantes and Pozo, S, 2006; Taylor et al., 2005), is one of the countries with the highest receipt of remittances, and its case.

Within Europe, Central and Eastern Europe entered into the EU (during the beginning of the transition process in the 1990s) and consequently, with their increase in remittances, have faced a progressive emigration process. Butkus et al. (2020) researched the impact of remittances on poverty reduction in seven Central and Eastern European countries within the period 2006-2015. They applied panel data analysis (pooled OLS, fixed effects, random effects, and 3-stage least squared estimators) and came to the results that remittances have a significant positive impact on poverty (on three out of four measures). Rausser et al. (2018) found that remittances had a positive impact on economic development in Lithuania, Latvia, and Estonia. Meyer and Shera (2016) performed the panel data analysis (fixed, random effects, pooled regression, where fixed effects were used for the final interpretation) covering six Balkan countries during the period 1999–2013 and they confirmed that remittances have a positive impact on economic growth in mother countries.

Kabat et al. (2020) also researched the remittance inflows in Visegrad countries. They performed the analysis in the period 2000-2018 searching for the impact of remittances on the GDP per capita and GDP per capita growth, where the results show a positive impact on GDP per capita, while their impact on GDP per capita growth was not found. Kajdi and Ligeti (2020) studied the remittances in Hungary with two intentions: to provide empirical evidence for the major factors that determine the remittance propensity (probit regressions) and to introduce variables that are associated with money transfer (OLS regressions). Their approach is based on the characteristics of the senders and they found that older men with vocational school education have the highest remittance propensity, and the likelihood of sending private support is higher among short-term migrants. Barbone et al. (2012) found that the remittances in Poland strongly increased from 0.5 to 1.5 % of GDP from 1995-2011, peaking at 2.5 percent of GDP within the period 2006-2007. That influenced the increase in GDP growth and has contributed to welfare for some segments of the Polish population. Bayar (2015) researched the sample of Central and Eastern European countries in the period 1996-2013 by applying the causality test. The results indicate unidirectional causality from remittances and foreign direct investment inflows to economic growth. Gjini (2013) analysed the impact of remittances on economic growth in 12 Central and Eastern European countries, in the period 1996-2010, by using a fixed effects model with heteroscedasticity to correct the standard error. By applying the model where other sources of economic growth were included, gross capital formation, foreign direct investment, and openness of the economy, he found that the remittances have had negative effects on growth.

Romania became an EU member state in 2007, and at that time, it was one of the two least developed countries in the EU (another one is Bulgaria). Its GDP per capita (in PPP terms) in 2007 was at the level of 44% of the EU average<sup>4</sup> (Eurostat, 2022b). Because of this, accession to the EU opened a great opportunity for the Romanians to apply for jobs in the developed EU members and to emigrate. Bunduchi et al. (2019) researched the macroeconomic determinants of remittances in Romania, by using panel data analysis. Simionescu (2019) compared the emigration flows of Romania (an EU member) and Moldova and Ukraine which are not EU members. She found that Romania, which lost 17% of its population, received 2.5 percentage points more remittances than the other two countries. This huge amount of money is analysed by many authors. E.g. Silași and Simina (2008) found that remittances had contributed to economic development in the short run. Goschin (2013) applies the OLS methodology and found a positive impact of remittance inflows on the economic growth in Romania over the 1994-2011 period. Niță (2018) determined that remittances have a positive impact on Romanian economic development. Mansoor and Quillin (2007) additionally explain that remittances positively impacted the decrease of poverty and supported saving. The inflow of remittances in the emigrant country may have different implications for the domestic country and that depends on the way of using this money. If they are used for investing in the production process, they will have a substantially positive impact, while if they are mainly absorbed in consumption, they will boost imports and the positive impact will be omitted. It is possible that the effect on economic growth will just be in a short period. In the long run, remittances did not ensure economic growth but stimulated households' final consumption and income inequality (Haller et al., 2018). Blouchoutzi and Nikas (2010) made an econometric analysis (time series analysis) of the impact of remittances on the consumption, investment, and imports of Romania, Bulgaria, and Albania. Their results indicate the positive impact of remittances on all three variables and confirm the crucial role of remittances.

In the next section, the influence of remittances on the economic development of the Central and Eastern European countries after the enlargements will be tested.

### **3. Methodology**

The impact of remittances on economic development in the sample of the 11 EU NMS will be estimated below. This group of countries differs from the old member states, while the opportunity to migrate to more developed EU countries was recognized especially after their EU accession in 2004, 2007, 2013, so the period chosen for the analysis is from 2004–2020. In the group of the 13 NMS, Cyprus and Malta were not included regarding data limitations.

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<sup>4</sup> In 2020, the Romanian GDP per capita reached a level of 72% of the EU average.

The panel data methodology will be employed due the sample is characterised by the longitudinal dimension (represented by a time series ( $t = 2004, \dots, 2020$ ) and cross-sectional dimension (represented by countries ( $i = 1, \dots, 11$ )). Selection of panel data analysis relies also on literature review presented in the previous section, where it can be seen that papers which deal with the similar aims, the influence of remittances on economic growth and development of the group of countries use this methodological approach. The following relationship will be estimated to determine the impact of remittances on economic development:

$$Y_{it} = \beta_1 X_{it} + \alpha_i + u_{it} \tag{1}$$

The dependent variable ( $Y_{it}$ ) is GDP per capita in the country  $i$  ( $i = 1, \dots, 11$ ),  $t$  denotes year ( $t = 2004, \dots, 2020$ ) while  $X_{it}$  includes independent variables (see table 1 for detailed explanation on the variables included). Vučković and Škuflić (2021) have used the same equation in investigating the effects of emigration on financial and social system sustainability in the 11 NMS. The relationship in their paper is estimated with the fixed effects model (they have used country-specific effects to avoid biased estimates and robust standard errors clustered by country because of heteroscedasticity and correlation). Dependent and independent variables in our analysis are chosen regarding the previous studies, the characteristics of open economies in the group of the Central and Eastern European countries and the main aim of this research. Variables are presented below.

Table 1: Variables used in the analysis and databases

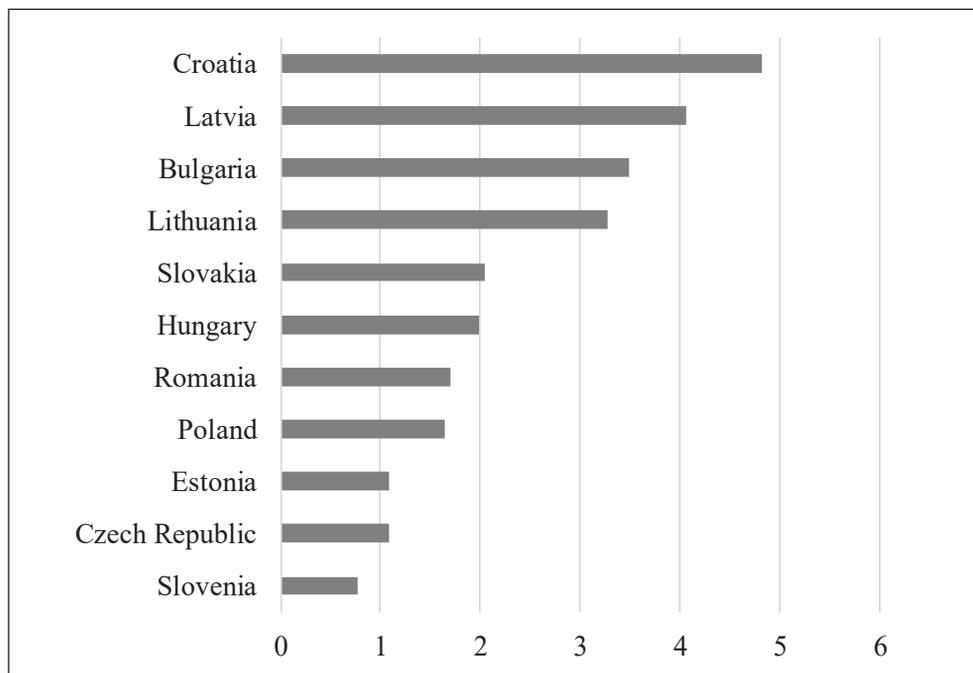
Variable	Description	Database
GDP per capita	GDP per capita (EUR)	Eurostat (2022d)
Consumption	Final consumption per capita (EUR)	Eurostat (2022b)
Gross fixed capital formation	Gross fixed capital formation (% of GDP)	Eurostat (2022b)
Government spending	Government spending (% of GDP)	Eurostat (2022b)
Trade balance	External trade balance (mil. EUR)	Eurostat (2022b)
FDI	Foreign direct investments per capita (EUR)	WIIW (2022)
Personal remittances	Personal remittances (% of GDP)	World Bank (2022)

Source: Authors' compilation

#### 4. Empirical data and analysis

According to World Bank (World Bank, 2022) “personal remittances comprise personal transfers (all current transfers in cash or in kind made or received by resident households to or from non-resident households) and compensation of employees (income of border, seasonal, and other short-term workers who are employed in an economy where they are not resident and of resident employed by non-resident entities)”. Figure 1 presents the share of remittances in GDP for the analysed NMS.

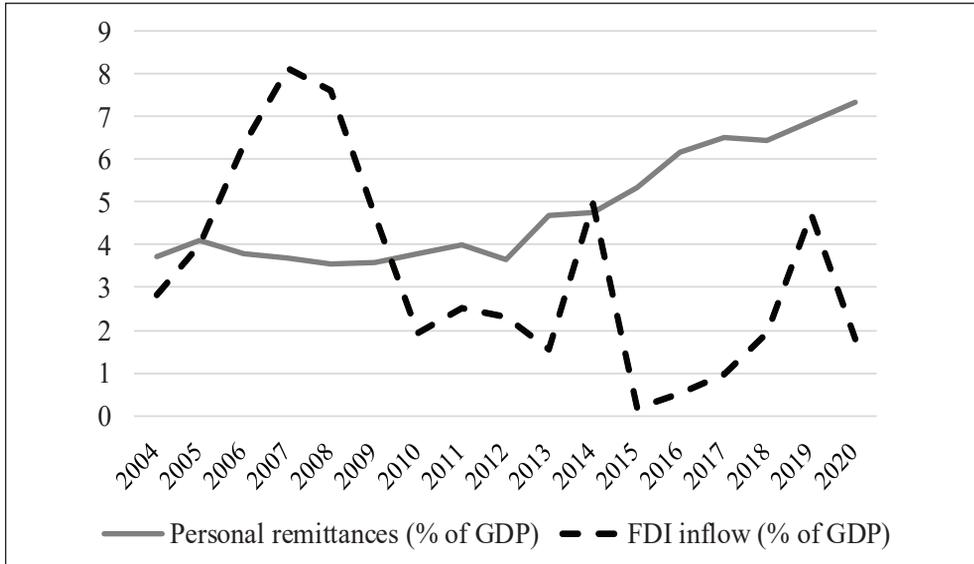
Figure 1: Share of personal remittances in GDP in 11 Central and Eastern European countries (in %), average 2004-2020



Source: Authors' compilation based on World Bank (2022)

As presented in Figure 1, in the group of the 11 NMS, countries with the highest share of personal remittances of GDP are Croatia, Latvia, Bulgaria, and Lithuania. If we look in more detail at the case of Croatia and compare the data about the share of FDI and remittances in GDP, it can be seen that in some periods, the share of personal remittances in GDP in Croatia is higher than the share of FDI in GDP. Also, there can be seen an increasing trend in the share of personal remittances in GDP after the EU accession (Figure 2).

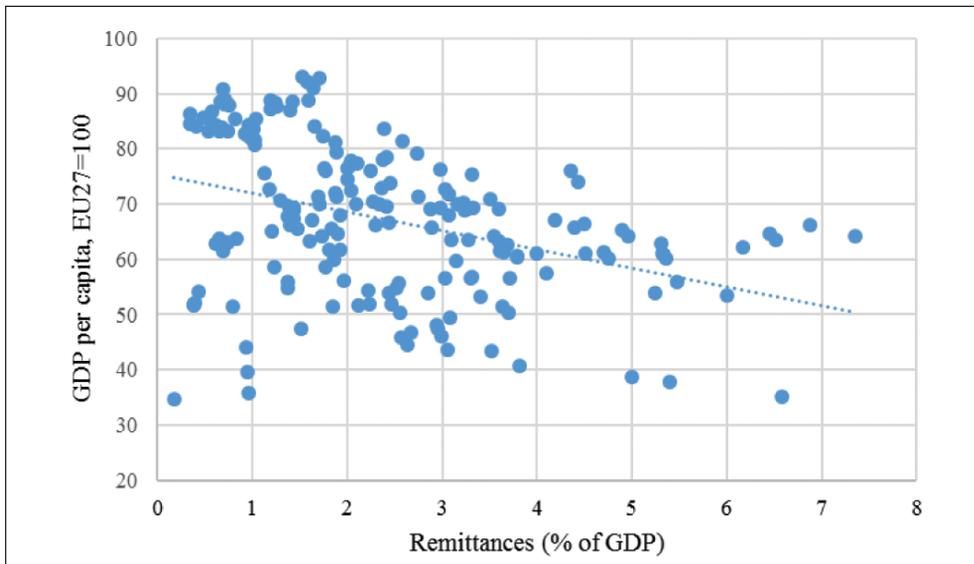
Figure 2: Share of personal remittances and FDI in GDP in Croatia (in %), 2004–2020



Source: Authors' compilation based on WIIW (2022) and World Bank (2022)

Figure 3 presents the relationship between personal remittances and GDP per capita for the 11 NMS.

Figure 3: Remittances and GDP per capita in the EU NMS, 2004-2020



Source: Authors' compilation based on World Bank (2022) and Eurostat (2022d)

The importance of remittances is decreasing with the higher level of development (GDP per capita). The importance of remittances is highest in the countries with lower GDP per capita in comparison to the EU average.

Diverse opinions on the impact of remittances on economic development can be expected according to previous studies and observed possible relations. The contribution to growth can be seen through a positive influence on consumption, savings or accelerating investments, development of financial institutions that handle remittance payments and it can help reduce debt and poverty problems. The effect on consumption depends also on the structure of consumption (in countries that depend on foreign goods the effect on productivity, growth, and development can be lower than expected or negative). A similar can be connected with the structure of investment (only productive investments will lead to positive effects). The positive impact of remittances on the balance of payments is especially important for countries with significant imports. But, remittances can influence the appreciation of the real exchange rate in the recipient countries, which can have implications for trade and competitiveness. The improvement of the current account balance, which also leads to an appreciation of the domestic currency, loss of competitiveness and a fall in exports represent signs of a *Dutch disease*<sup>5</sup>. In the long term, high remittances can have unfavourable effects also because of the loss of population, demographic, labour force potential which is a precondition for the development. Based on the given explanations, it is interesting to estimate the effect of remittances on the economic development of the NMS. The further section presents the results of the static panel data analysis, while implications for further studies that will include additional aspects are given in the final elaboration.

The results of the econometric panel data analysis, using the fixed effect estimator, are presented in Table 2. The model was estimated by using the fixed-effects estimator, additionally confirmed by the Hausman tests. Based on the interpretation given in Gujarati and Porter (2009), the results of the Hausman test in our study implied that the null hypothesis is rejected, so we can conclude that a fixed effect model is preferred to a random effect model (which is another panel data estimator used in case if the random effects are correlated with one or more regressors). Clustered robust standard errors are applied to control for the heteroscedasticity across the panels and autocorrelation within the panels (confirmed by the Wald test for heteroscedasticity and the Wooldridge test for autocorrelation).

<sup>5</sup> Polat and Andrés (2019: 60) explained that “...adverse effect of large inflows of foreign currency on the appreciation of real exchange rates is known as the “Dutch Disease”, a term originally coined in *The Economist* (1977) in reference to the adverse impact on the competitiveness of the Netherlands’ traditional tradable sector, of windfall revenue from post-1960s natural gas exports”.

Table 2: Results of the estimation – the influence of personal remittances on economic development of the Central and Eastern European countries

Variable	Estimation results (fixed effects)
Dependent variable: GDP per capita	
Explanatory variables	
Constant	-0.0132005 (0.1492397)
Consumption	1.002166* (0.0189276)
Gross fixed capital formation	0.1402424* (0.0387031)
Government spending	-0.0648489 (0.0457686)
Trade balance	0.0111181** (0.0034355)
FDI	0.0032428** (0.0013376)
Personal remittances	0.0294189** (0.0091092)
Observations	88
R-squared	0.98

Standard errors are cluster robust (presented in parentheses), \*, \*\*, \*\*\* refer to significance at the 1%, 5% and 10% levels. All variables are included in logs.

Source: Authors' calculation

The results presented in Table 2 confirm the hypothesis that personal remittances have positive and the statistically significant influence on the economic development of the 11 NMS in the analysed period 2004–2020, after their accession in the EU.

## 5. Results and discussion

From the results presented above, we can see that the policymakers in the group of countries observed should be aware of all possible influences that the strong dependence on remittances can have. Different researchers confirm and very often discuss the role of the FDI in the EU's new member states, especially in the EU member states that have high emigrations, including also the movements in the period after the EU enlargements.

The results of the analysis are in line with the research presented in the theoretical part of this paper that explains possible positive channels of remittances' influence in countries that have strong emigrations and that can use remittances to solve some other economic problems. Regarding that, the role of remittances as an important economic factor here must be highlighted in addition to these total macroeconomic effects, there is the need to investigate in more detail the direct and indirect significant influences which can be the results of the higher remittances and that in the long-term can lead to undesirable effects, e.g. on the labour market, for the entrepreneurship and further development. Empirical results (for example, World Bank Group (2016)), confirm that immigration can bring benefits to receiving country economies, depending on the extent the immigrant skills are complementary to the existing workforce, which is also interesting to investigate in more detail, as well as other specificities of the receiving countries that were not the primary aim of this research. Specific direct and indirect remittance channel effects can/must be a part of future studies because direct and indirect growth effects can differ and hide some negative effects that are not seen when observing the influence of remittances on the economic development of national economies (especially across different countries). The quality of transferring institutions and good governance institutions are also important here (as mentioned in Kabat et al., 2020). Some studies highlight the relationship between corruption behaviour and remittances and this possible problem should be observed in the NMS. Estimation also shows that positive and statistically significant influences in our sample have: final consumption, gross fixed capital formation, external trade balance, and FDI, while government spending is not statistically significant and has a negative impact. The negative impact of government spending can be connected with the structure of spending. On the sample of selected Central and Eastern European countries Radulescu et al. (2019) have determined the negative impact of government spending on the GDP per capita because of non-productive public expenses, which can be one of the reasons for our results.

## **6. Conclusions**

This study confirms the main hypothesis of the paper with the presented positive and significant influence of personal remittances on the economic development of the observed NMS, based on the analysis after their EU accession. Even though there can be expected that this will partly contribute to their convergence with the developed member states and can reduce the problems these countries are facing (e.g. debt, imports, poverty, household problems, etc.), this positive sign must be interpreted with caution and further investigated because higher remittances for the countries that have significant emigrations can influence on the characteristics and motivations of their labour force, exchange rate appreciation, competitiveness. This study adds to previous research about the contribution of emigration to home

countries and to discussions about the significance of remittances in the new EU member states. With the option to have longer time series, there is the possibility to use other methods of estimation of the considered influence. Relatively short time series and a small number of units had an influence on the decision about the panel-data estimator which should be highlighted as one of the constraints of this study. In future studies, besides that it would be interesting to include other indicators that are connected with the economic development (as the dependent variable) and to analyse the effects on the economic growth of the recipient countries, it is also necessary to estimate the influence of remittances on selected demographic variables, indicators that describe labour markets and entrepreneurial activities as well as to further develop statistics that will determine their formal and informal channels and the usage of remittances. The resilience of remittances during a COVID-19 pandemic can be a part of future estimations. Policymakers should analyse different approaches and possible effects before making recommendations connected with migration and other policies that deal with personal remittances and direct remittances towards productive investments.

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## Utjecaj doznaka iz inozemstva na ekonomski razvoj zemalja srednje i istočne Europe

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### **Sažetak**

*Povezanost emigracija i ekonomskog razvoja može se sagledati prema različitim pristupima, gdje je jedno od bitnih pitanja uloga doznaka iz inozemstva, odnosno utjecaj priljeva sredstava iz inozemstva u zemljama emigracije. Cilj ovog rada je istražiti utjecaj doznaka iz inozemstva na ekonomski razvoj zemalja srednje i istočne Europe. Pregled dosadašnjih istraživanja o ulozi emigracija i utjecaju doznaka iz inozemstva na ekonomski razvoj prikazan je u prvom dijelu rada. Slijede rezultati panel analize. Analiza obuhvaća razdoblje nakon proširenja EU 2004. Rezultati potvrđuju pozitivan i statistički značajan utjecaj doznaka iz inozemstva na ekonomski razvoj novih zemalja članica EU. Utvrđen pozitivan utjecaj doznaka iz inozemstva potrebno je promatrati s oprezom, s obzirom na to da su doznake iz inozemstva rezultat emigracija te također mogu biti povezane s negativnim učincima emigracija. Rad doprinosi dosadašnjim istraživanjima o utjecaju doznaka iz inozemstva u novim zemljama članicama EU.*

**Ključne riječi:** *migracije, doznake iz inozemstva, ekonomski razvoj, zemlje srednje i istočne Europe*

**JEL klasifikacija:** *F22, F24, O10, O15*

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