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# The long-term effect of migration on economic inequality between EU Member States

Magdalena Ulceluse<sup>1</sup>

## Abstract

This paper explores the long-term effect of migration on economic inequality between the 28 EU member states, covering the period 1995-2017. The cross-national, longitudinal analysis demonstrates that migration has had a positive and significant effect on development and economic growth in 28 member states. However, the findings also indicate that some countries have benefitted from migration more than others. Specifically, for countries experiencing positive net migration the effect is disproportionately larger than for countries experiencing negative net migration. This seems to indicate that, while migration has indeed contributed to economic development in all member states over the period analysed, it has not necessarily contributed to decreasing economic inequalities between them.

**Keywords:** immigration, emigration, inequality, migration and development, EU

**JEL Classification:** F220; O150; O47

## 1. Introduction

Persistent economic inequalities between the EU member states is one of the most urgent issues confronting the European project today. From its very inception, the European Union has had the purpose of promoting economic growth and, eventually, economic convergence among its member states. This goal has been iterated time and time again in official documents, beginning with Article 130a of the Single European Act (1987), which states that “[...] *in order to promote its overall harmonious development, the Community shall develop and pursue its actions leading to the strengthening of its economic and social cohesion [...]*”. The article constitutes the legal basis for the creation of the European Structural Funds, and the foundation of the EU Cohesion

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Policy, both of which are intended to act against regional disparities by devising redistributive measures and by endowing poorer regions with the tools to enable their potential growth (Alcidi et al. 2018). The Lisbon European Council of the year 2000 marked a change of perspective in also recognizing the strategic goal of “*greater social cohesion*” alongside “*greater convergence*” and committing “*to make a decisive impact on the eradication of poverty*” (European Parliament 2000). Article 151 of the Lisbon Treaty states that the member states “*shall have as their objective the promotion of ... improved living conditions, so as to make possible their harmonization...*” (2007). More recently, the Five Presidents Report (Juncker et al. 2015) dedicates an entire chapter on the issue of economic convergence between Member States, towards the highest levels of prosperity and within European societies, to nurture the unique European model.

Migration has been put forward as a tool to promote development and by extension, reduce inequality between countries. Within a neoclassical framework, macrolevel imbalances between countries in the supply of and demand for labour will determine wage differences, which in turn will trigger migration (Harris and Todaro 1970). The theory perceives migration as a means to optimally allocate production factors, with benefits for both the sending and receiving countries (de Haas 2010), leading to a more balanced development. The receiving country benefits from economic growth, as the supply of labour brought about by immigration contributes to reducing wages, which further increases returns to capital (Martin 2015). The sending country is said to benefit from emigration, which raises the wages of those left behind and contributes to reducing unemployment, from remittances and from return migration, which should contribute to poverty reduction and economic growth (Perrons 2009). Capital is expected to move in the opposite direction of labour, leading to faster economic growth in sending countries and convergence with richer countries (Castles 2007).

Existing evidence suggests that migration has a positive effect on economic development, although most studies examine the impact of immigration alone and few include net sending countries. Winters et al. (2003) explore the effect of liberalizing the temporary mobility of workers, particularly low- and medium-skilled, between developing and developed countries. Their results suggest that a flow equivalent to 3 percent of developed countries' skilled and unskilled work forces would generate an estimated USD 150 billion worldwide. The effect on global between country inequality would be rather insignificant according to their estimates, however, since the gains are shared quite equally between developing and developed countries. Martin (2004) estimates that the movement of an additional 10 million migrants would raise world GDP by USD 260 billion, the equivalent of 1 percent, almost five times the annual amount of Official Development Assistance (ODA). He also notes, however, that since most of the economic benefits of migration accrue to migrants in receiving countries, international migration will not necessarily contribute to reducing inequalities between countries. Similarly, in a series of cross-national, longitudinal analyses, Sanderson (2013b) demonstrates that, although immigration has a positive, if small effect on development levels, it also presents a Matthew effect (Merton 1968). That is, immigration seems to disproportionately benefit higher-income countries, with the implication that migration is not a panacea for between countries inequality. An early World Bank (2005) report estimates that a rise in migration from developing countries that would raise the labour force of high-income countries by 3 percent, would increase the incomes of natives in high-income countries by 0.4 percent. Investigating the effect of international migration on world income distribution in 134 countries, Kapur and McHale (2009) find that international migration decreases the between-country component of world inequality by 2 percent. Investigating the effect of bilateral migration flows this time, between 14 OECD countries and 74 sending countries between

1980-2005, Ortega and Peri (2009) find that a 1 percent increase in immigration increases the total GDP by about 1 percent in the receiving countries, without affecting average wages or labour productivity. In an analysis of 163 countries, Felbermayr et al (2010) find that a 10 percent increase in a country's migrant stock results in a 2.2. percent per capita income gain. In perhaps the most comprehensive study to date, analysing 122 countries over 45 years, (Sanderson 2013a) finds that international migration increases economic development in host countries, raising income per capita by USD 13 to USD 25 on average, over a period of 10 years.

While the positive effect of migration on the economic development of receiving countries, even if this effect seems to be rather small, is more or less agreed upon, its effect on the economic development of sending countries is more contentious. Two main aspects of migration and development in sending countries have been extensively researched and have become especially relevant for policy-makers, namely, remittances and the phenomenon of brain drain.

Remittances are often believed to be crucial instruments for economic development through their impact on consumption, savings or investments. Indeed, in countries with a large share of emigrants, remittances amount to significant foreign currency transfers, while in countries with a large share of the population emigrating, remittances amount to a significant share of their GDP (Bastia 2013). There are numerous studies that show remittances to have a positive effect at the household level. Yet, their impact on economic development, and further on decreasing world economic inequalities is less explored and more controversial. In an early study of the impact of remittances on income and development, Glytsos (2002) finds that investments rise with the level of remittances for six out of the seven Mediterranean countries he analyses. Catrinescu et al. (2009) analyse 162 countries over a 34-year period and find a positive effect of remittances on economic growth. They also argue that the extent to which remittances impact economic development

depends crucially on the quality of political and economic policies and institutions. Fayissa and Nsiah (2010) explore the aggregate effect of remittances on economic growth for 36 African countries, between 1980-2004. They find that remittances have a positive impact on economic growth, as they provide an alternative way to finance investment and help overcoming liquidity constraints. Other studies (see Chami, Fullenkamp, and Jahjah 2005), however, find remittances to be negatively correlated with economic growth. They explore a sample of 113 countries over the period 1970-1998 and explain this result through the existence of a moral hazard – the income from remittances may disincentivise the receiving household from taking up employment, thus reducing overall productivity.

With human capital recognized as one of the most important factors determining economic development, is no wonder that the so-called “*brain drain*” phenomenon has become one of the most discussed aspects of international labour migration. At the heart of these debates is the view that skilled workers generate positive externalities for societies, which are then lost when they emigrate (Ozden and Schiff 2006). More recent literature has counteracted this concern by pointing out that brain drain can also produce gains, though, for instance, remittances, diaspora externalities, return migration, increasing return to education and the creation of businesses and investments among others (Docquier 2006). In one of the earliest studies on brain drain, Mountford (1997) argues that the interaction between human capital accumulation decisions, growth and income distribution can lead to the result that a brain drain may increase the long run income level in a small open economy, and under certain circumstances may even be preferable to a non-selective migration. Similarly, Stark (2004) argues that the behavioural response to the prospect of migration can create both a brain drain and a brain gain – as migration rewards those with education, more individuals will be incentivized to get an education – and that national policies

can utilize this gain towards creating economic development. After reviewing a number of research studies that focus on the gains and losses of brain drain, Docquier (2006) concludes that a skilled emigration rate between 5 to 10 percent is good for the economic development of the sending country. These gains, however, might not be enough to reduce inequality between countries. An analysis by Mountford and Rapoport (2011) concludes that through brain drain, globalization is making human capital scarcer where it was already quite limited, and more abundant where there was plenty already, contributing to increasing inequality across countries, including among the more developed ones.

Thus, even if the effects of emigration and immigration are positive on sending and receiving countries, respectively, this does not necessarily imply a reduction in economic inequalities between them. As Sanderson (2013b) notes, for receiving countries, which are usually richer, immigration will stimulate an already high-productivity level, as these countries can benefit from investments in innovation. On the other hand, for sending countries, although still positive, the effects of migration are likely to be dampened by the lower surplus value generating forms of economic production dominants in these countries. Already rich countries attract most immigrants, which reinforces the human capital of these countries, to the potential disadvantage of others (Perrons 2009). These internal dynamics are likelier to increase inequalities between countries, rather than assuage them.

In this context, this paper examines the effect of net migration on economic development in EU member states and asks whether migration has contributed to alleviate their economic differences. Investigating the effect of migration on inequality between the EU member states is essential, giving the importance of migration for economic growth and the EU's fundamental commitment of harmonizing the Union's level of economic development. A more equal Union

means a more stable Union (European Commission 2017). Conversely, economic inequalities between member states can negatively affect social cohesion within the Union and erode the citizens' (and countries') support for the EU's institutions. Moreover, inequality between member states may generate a perception of injustice: it is difficult to develop trust in others if they are seen as having unfair advantages (OECD 2017). Migration and socio-economic inequalities are among the top three challenges to the EU (the third being unemployment), as perceived by more than 8 in 10 Europeans (European Commission 2017). Lastly, analysing the role of migration on increasing or decreasing inequalities between EUs' member states will help frame the way we see the European Union project and our own place within it.

## **2. Migration and inequality in the European Union**

Migration has played a fundamental role in the development of European countries for the past half a century. After the Second World War, most European countries underwent an intense period of reconstruction and development, the labour demands of which soon exceeded the available labour supply in the countries. Some countries, like the United Kingdom, France, Belgium or the Netherlands, relied extensively though not exclusively, on immigration from their former colonies, while other countries, like Germany, Austria, Switzerland, Sweden, or Denmark initiated guest worker programs (Hansen 2003). Sending countries included Italy, Spain, Greece, Portugal, India, Pakistan, Congo, Algeria, Morocco, Turkey and Indonesia, among others.

The guest worker programs were effectively stopped by the early 1970s, following the oil crisis in 1973 and a fear that what began as temporary migration will become permanent. Migration to and within Europe, however, did not stop, but rather experienced a change of nature and patterns.



Former guest-worker countries continued to receive migrants through family formation and family reunification, at the same time as new destination countries emerged. Aided by economic growth, demographic decline and relatively open migration policies, Italy, Greece, Portugal and Spain transformed from net emigration to net immigration countries (Castles and Miller 1998). These patterns of migration continued until the early 1990s, when the Maastricht Treaty made intra-EU free movement possible. Today, for several countries including Austria, Germany, Lithuania, the Netherlands, Norway, Poland, Slovakia, and Denmark, intra-EU migration (both emigration and immigration) constitutes the largest share of migration movements (Van Mol and de Valk 2016). The 2009 recession, which affected the peripheral countries in particular, seems to have re-triggered emigration from countries such as Greece, Ireland, Italy, Portugal, and Spain (Van Mol and de Valk 2016).

Throughout this period, migration patterns generally confirmed neoclassical hypotheses, with most migration flows taking place from developing to developed countries. Countries with a growing economy, great demand for labour, and higher wages became attractive for migrants from countries with high unemployment rates, lower wages and stagnating economies (Fassmann and Munz 1992). It is important to note that while the general poor-to-rich countries' pattern held throughout this period, which countries were rich, and which were poor evolved over time. While in the 1960s, Ireland, Italy, Greece or Spain were net sending countries, in the 2000s they were the main destination countries for the new member states like Romania or Poland. Similarly, while the Eastern European countries were net emigration countries throughout the 2000s and 2010s, some are slowly becoming destination countries, attracting immigrants themselves. Poland, for instance, has leapt from middle-income to high-income status faster than any other country apart from South Korea (Ridao-Cano and Bodewig 2018) and now hosts an estimated 1.7 million Ukrainian nationals (Jaroszewicz 2018).

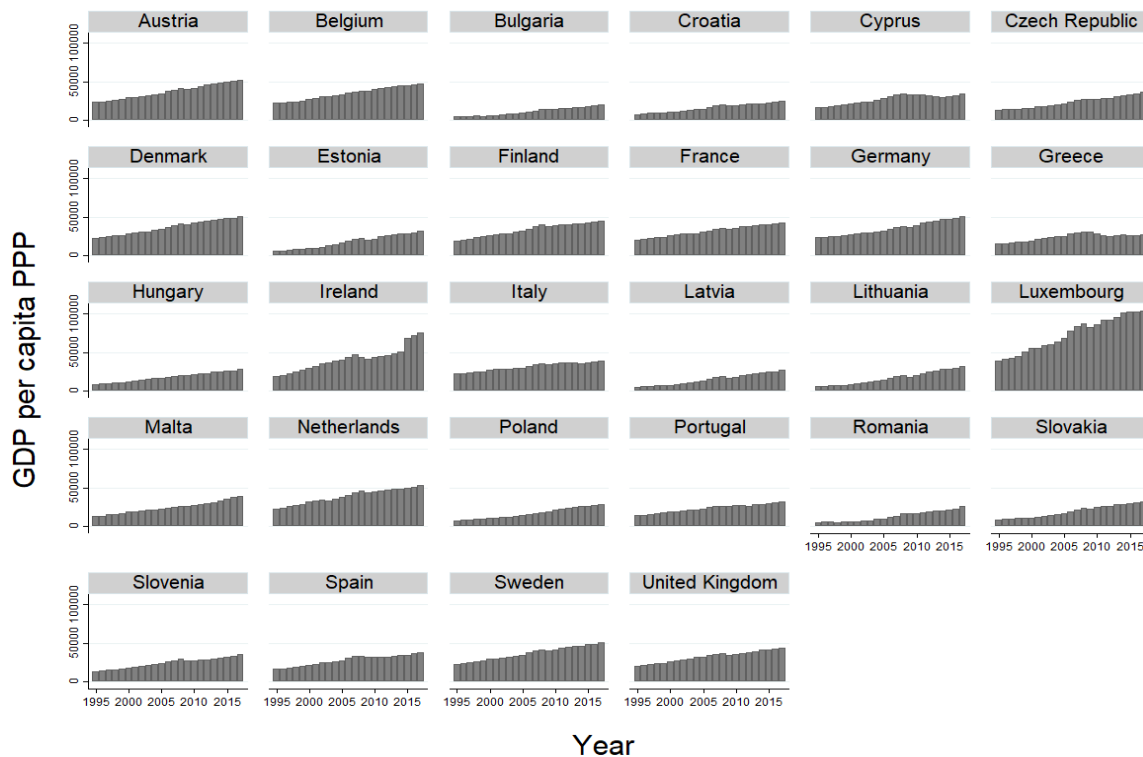
Reducing economic inequalities between EU member states was expected to occur automatically, through the process of economic cooperation and support from the EU cohesion funds (Vandenbroucke and Rinaldi 2015). The six initial EU member states, Germany, France, Italy, Belgium, the Netherlands and Luxembourg, were prosperous countries, with no significant differences in terms of economic development. The addition of Ireland in 1972 and later of Greece (1981), Spain and Portugal (1986), which were less developed, with about 60-70% of the EU average GDP per capita in purchasing power parities (Dauderstädt 2017), prompted the first versions of cohesion policies, to reduce economic disparities between all member states. The enlargement rounds of 2004, 2007 and 2013, enlarged even more the economic gap between the incumbent and the new members states. This time around, the GDP per capita in purchasing power parities of the new member states was only 30-50% of the EU's average (idem). In time, some of the new member states, Spain, Greece, Portugal, managed to catch up in terms of economic development, with some, like Ireland, even surpassing the level of development of incumbent member states. The Great Recession took a toll on economic growth as well as convergence across the EU countries, and although growth resumed in all EU countries (except Greece) by 2014, the process of convergence remains largely stalled (Inchauste and Karver 2018). An important reason for the persistence of economic inequalities between countries, despite the effect of the single market and the aid of cohesion funds, lies in the different levels of efficiency resulting from their factors of production. This in turn results in different levels of income and return on investment, which determine the competitiveness of those countries striving to catch up (Schmitter and Bauer 2001).

### 3. Data and methodology

#### 3.1 Key variables

The dependent variable is GDP per capita expressed in purchasing power parities, one of the most widely used measures of economic development. The assumption is that inequality between the EU member states is driven by relative rates of economic development, hence to study the effect of migration on inequality is to study the effect of migration on GDP per capita. The variable is obtained from the World Development Indicators database (World Bank 2018), and covers the period 1995-2017 for the EU28 countries. Figure 1 presents the variable's evolution during the period analysed, by country, simultaneously illustrating the significant differences in development levels within the EU.

Figure 1. The evolution of GDP per capita PPP, 1995-2017

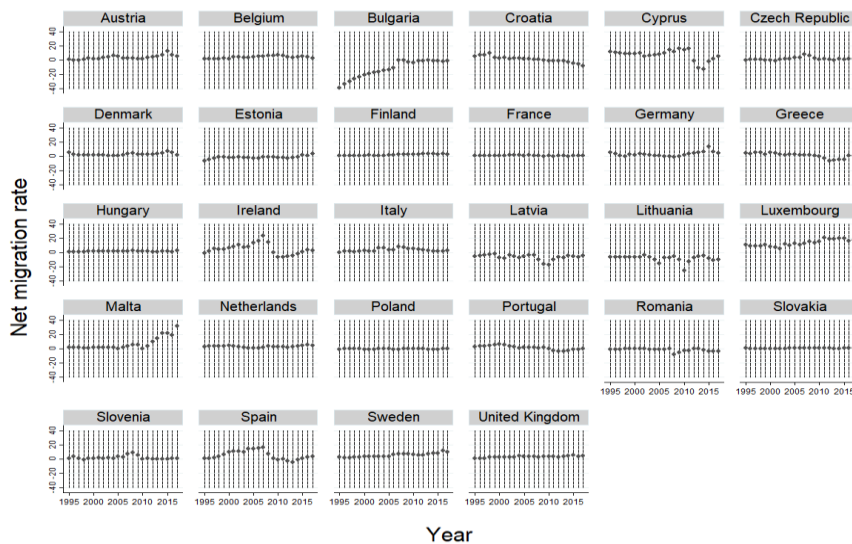


Source: World Development Indicators

The independent variable is the net migration rate, covering the period 1995-2017. The data on immigration and emigration are compiled from national statistical offices and Eurostat (see Annex 2 for more information). In the majority of the EU28 countries, migrants are identified based on the country of birth. By using the net migration rate, I want to reflect the complexity of the migration process, and the net effect it has - many of these countries receive non-EU migration, which contributes to sustaining their economy, while also sending migration to the EU (eg. Poland). There might be a compensation effect; immigration and emigration are two sides of a single process (two faces of the same coin)

Figure 2 presents the evolution of the net migration rate in all countries, across the period analysed. Although most countries seem to register a net migration rate close to 0, so quite balanced inflows and outflows, there are several countries that experience one pattern more prominently. Countries like Bulgaria, Latvia, Lithuania or Romania register visible negative net migration rates, while countries like Germany, Ireland, Malta and Spain, register positive net migration rates.

Figure 2. The evolution of the Net migration rate per country, 1995-2017



The model includes a sequence of control variables which have been shown to be related to economic development. Classical economic theory contends that economic development depends on the interaction between capital, labour and technological development (Lucas 2005). In the analysis, these factors are proxied through labour force participation, gross capital formation as a share of GDP and the number of patent applications to the European Patent Office (EPO). These three indicators are complemented by trade as a share of GDP, in an effort to distinguish the effect of migration from other international processes. The indicator is obtained from the World Bank database.

### *3.2 Empirical model and estimation techniques*

To determine the long-term relationship between GDP per capita and the net migration rate across the EU28 countries, I estimate the following model:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 Z_{it} + \varepsilon_{it}$$

where  $Y_{it}$  is the dependent variable, GDP per capita expressed in PPP,  $X$  represents the independent variable net migration rate with a 10-yr lag,  $\beta_1$  is its slope,  $t$  refers to the time unit – years,  $i$  to the cross-national units - countries, while  $\varepsilon$  is the error term.  $Z$  represents a vector of the control variables described in section 3.1.

I estimate the empirical model using a time series of cross-sectional data. By pooling multiple cross-sections over multiple years, the data incorporates variation across countries and over time, allowing the inclusion of unobserved factors (Sanderson 2013b), what is called unobserved heterogeneity. Unobserved heterogeneity refers to factors specific to each country that can affect the evolution on GDP per capita independently of migration patterns. Such factors

can be constant over time (e.g. geographical position) or can vary (e.g. party governance). Fixed and random effects estimations allow to correct for such heterogeneity bias, by controlling for within-country variation (fixed effects) or between and within country variation (random effects). In order to determine which estimation best suits the data, I perform a Hausman (1978) specification test. The test indicates that the fixed effects estimator is consistent ( $p=0.0000$ ). A Lagrangian-Multiplier test indicates the presence of serial correlation<sup>2</sup>, while a modified Wald test indicates the presence of heteroskedasticity. Given the deep economic integration that the EU has undergone for the past several decades, particularly in the eurozone area, I expect correlation to not only be present across time (serial correlation) but also across countries (cross-sectional correlation). A Breusch-Pagan Lagrange Multiplier test indeed indicates that the panels are cross-sectionally dependent ( $p=0.0000$ ).

To mitigate the effects of heteroskedasticity, serial and cross-sectional dependence, I employ a fixed effects regression with Driscoll-Kraay (1998) standard errors. Adjusting the standard error estimates in this way guarantees that the covariance matrix estimator is consistent, independently of the cross-sectional dependence dimension (Hoechle 2007).

A specific issue arises when analysing the relationship between migration and development over time and across countries, namely endogeneity. Does migration contribute to economic development, or does economic development contribute to migration? I overcome this problem by estimating the model with a 10-year lag between the dependent and independent variable<sup>3</sup>. By including time into the model, longitudinal models reduce the problem of endogeneity bias by satisfying the time order criterion of causality (Sanderson 2013b). The 10-

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<sup>2</sup> Serial correlation denotes that the error terms in two different time periods are correlated. In other words, the value of GDP per capita in year  $t$  is correlated with the value of GDP per capita in year  $t-1$ . Serial correlation is an issue because it inflates the  $t$ -statistics, which may lead to incorrect conclusions about the significance of the regression coefficients.

<sup>3</sup> The net migration rate is lagged by 10 years.

year lag has been used elsewhere (see Sanderson 2013a), while existing research has shown that the effects of migration are felt after approximately 10 years (Peri 2010).

## 4. Results

Table 1 presents the correlation matrix between GDP per capita and the net migration rate, with a 10-year lag, for the entire sample and individual countries. Net migration seems to be positively correlated with the level of GDP per capita across the entire sample, however, the picture changes when we look at individual country effects. While migration and development are strongly and positively correlated in countries such as Bulgaria, Belgium, Ireland or Hungary, they are negatively correlated in countries like Germany, Croatia or the Netherlands.

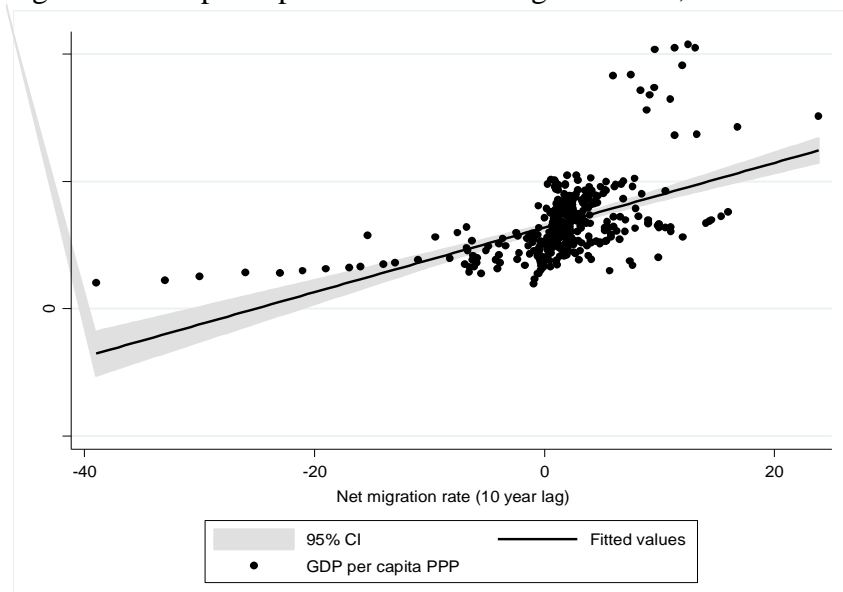
Table 1. Correlation between net migration rate (10-year lag) and GDP per capita, by country

Country	GDP per capita X net migration rate	Country	GDP per capita X net migration rate
Overall	0.53***	Italy	0.67**
Austria	0.75***	Latvia	-0.0003
Belgium	0.91***	Lithuania	-0.39
Bulgaria	0.98***	Luxembourg	0.28
Croatia	-0.66**	Malta	0.25
Cyprus	0.16	Netherlands	-0.63**
Czech Republic	0.76***	Poland	-0.36
Denmark	-0.48*	Portugal	-0.49*
Estonia	0.55*	Romania	0.58**
France	0.80***	Slovakia	0.45
Finland	0.78*	Slovenia	0.54*
Greece	0.36	Spain	0.76***
Germany	-0.68**	Sweden	0.83***
Hungary	0.85***	United Kingdom	0.78***
Ireland	0.91***		

Significance: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The value of GDP per capita is higher at higher levels of the net migration rate (figure 3).

Figure 3. GDP per capita PPP and net migration rate, 1995-2017



Source: Own computations

Tables 2-4 present the results of the analyses. Firstly, table 2 illustrates the effects of net migration rates on economic development in the entire sample. The effect is positive and strongly significant both without and with covariates, albeit it decreases in the latter case. Importantly, the effect of net migration is substantially higher than that of trade, recognized as an important factor for economic development.

Table 2. Effect of net migration on GDP per capita PPP – entire sample

VARIABLES	(1)	(2)
Net Migration rate (10-year lag)	578.6*** (120.6)	326.6*** (115.8)
Trade		198.8*** (36.67)
Labour force participation		521.1*** (129.5)
Patent applications to the EPO		-0.118 (12.16)
Gross Capital Formation % of GDP		-40.62 (67.55)



Constant	33,04*** (1,33)	-19,95*** (5,19)
Observations	364	364
Number of groups	28	28

Standard errors in parentheses. Significance at \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 3 distinguishes the effect on net migration on economic development in net sending and net receiving countries, to fascinating results. Models (1) and (3) show staggering differences between the magnitude of the effect in net sending versus net receiving countries, of more than three times as large in the latter. The inclusion of covariates in models (2) and (4) leads to the loss of significance in the latter and a decrease in magnitude in the former. For net receiving countries, net migration contributes up to three times more to economic development than trade, whereas in net sending countries, most of the variation in development is explained by the level of labour force participation. Moreover, if we ignore for a moment the significance levels in models (2) and (4), the effect of migration on economic development is more than 13 times larger in net receiving countries than in net sending countries.

Table 3. Effect of net migration on GDP per capita PPP – net sending vs. net receiving countries

VARIABLES	(1)	(2)	(3)	(4)
	<i>Positive Net Migration Rate</i>		<i>Negative Net Migration Rate</i>	
Net Migration rate (10-year lag)	910.5*** (223.5)	597.3*** (172.8)	237.0*** (65.65)	44.42 (61.23)
Trade		188.2*** (31.99)		143.8*** (31.09)
Labour force participation		149.7 (108.2)		1,482*** (248.9)
Patent applications to the EPO		-18.32 (15.38)		105.4* (51.78)
Gross Capital Formation % of GDP		6.780 (96.32)		-108.6* (58.21)
Constant	34,29***	5,42	22,39***	-78,16***

	(935.9)	(4,55)	(1,43)	(12,29)
Observations	282	282	81	81
Number of groups	22	22	9	9

Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 4 is in broad terms a re-iteration of table 3. It illustrates the effects of net migration on economic development, distinguishing between the EU15, richer, member states and then new member states joining the EU in 2004, 2007 and 2013, with significantly lower levels of economic development. The reason why this table is to some extent an iteration of table 3 lies in the fact that most EU13 member states are net migration sending countries, whereas the majority of the EU15 member states are net receiving countries. This fact is mirrored in the results, with the effect for net receiving countries, again, almost 13 times higher than for net sending countries (models (2) and (3)). This time too, for net receiving countries, migration contributes up to 3 times more to development than trade. For sending countries, the most important factor contributing to economic development is the extent of labour force participation, followed by the level of technological development, proxied by patent applications.

Table 4. Effect of net migration on GDP per capita PPP – EU15 vs. EU13

VARIABLES	(1) EU15	(2) EU15	(3) EU13	(4) EU13
Net Migration rate (10-year lag)	1,024*** (219.7)	643.7*** (191.1)	261.5*** (65.29)	50.13 (55.11)
Trade		234.2*** (47.86)		111.3*** (21.63)
Labour force participation		-450.4 (563.8)		1,213*** (155.3)
Patent applications to the EPO		-21.97 (24.35)		151.4*** (37.87)
Gross Capital Formation % of GDP		281.4** (121.6)		-193.1*** (53.11)

Constant	38,54*** (895.2)	38,33 (36,68)	24,31*** (1,46)	-57,52*** (7,68)
Observations	195	195	169	169
Number of groups	15	15	13	13

Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 5. Discussion and implications

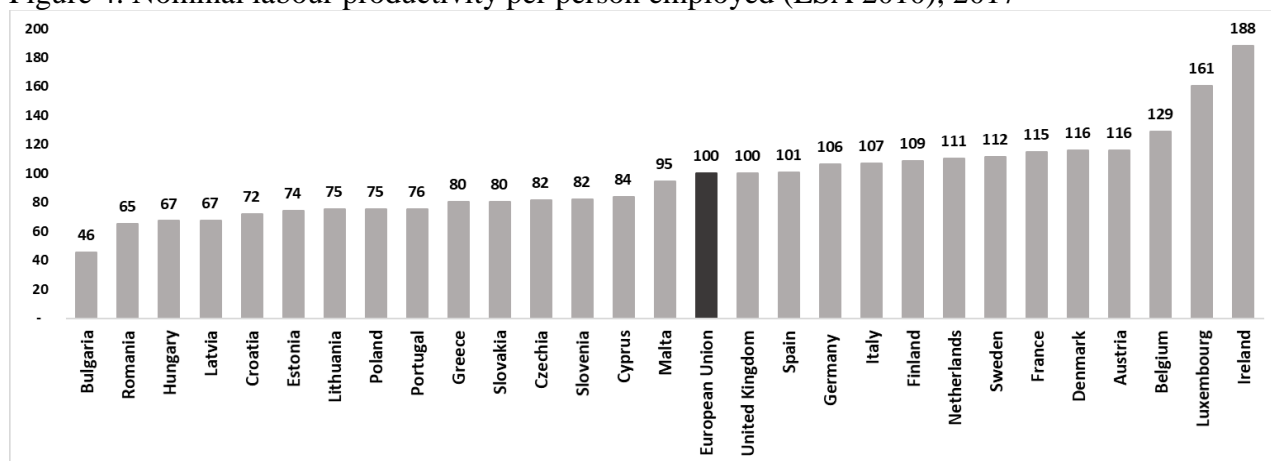
The paper investigates the effect of long-term migration on economic development in the EU and the extent to which migration can alleviate economic inequalities between member states. The results show that migration has had a positive effect of economic development across the EU over the period analysed. The effect seems to be uneven, however, when we distinguish between net sending and net receiving countries. Specifically, migration has a positive and highly significant effect on the development of net receiving member states, while the effect is substantially smaller, and non-significant in the case of net sending member states. Migration, thus, seems not only to not reduce inequality between the member states, but rather perpetuate existing patterns of unequal development.

What can explain these results? As previously mentioned, the interaction between labour, capital and technology is crucial for the economic development of a state. This interaction is best measured in terms of labour productivity, which depends critically on the level of technological advancement, on capital investments and the availability of human capital. That is, the more technologically advanced and capital-rich a country, the more use it will make of the available human capital, thus the higher it's labour productivity levels. Sending countries generally have lower levels of capital and are not as technologically advanced. Frequently, although employees

in sending member states work more hours than employees in the more developed states, they experience substantially lower levels of productivity (Dauderstädt 2017). Figure 4 illustrates the stark differences in terms of nominal labour productivity per person, where all the EU13 member states together with Greece and Portugal generate less than the average EU productivity levels. Immigration, a surplus of labour and human capital, will boost these existing differences, adding more value to countries already structurally advantaged. On the other hand, for sending countries, given the available capital and technology, most of the productivity increases will depend on its labour force, on the quality and quantity of individuals employed. This explains the importance of the labour force participation indicator for sending countries found in tables 2-3.

Because of these inherent structural differences, then, even though migration contributes to the economic development of both net sending and net receiving countries, it does not contribute to their economic convergence over time.

Figure 4. Nominal labour productivity per person employed (ESA 2010), 2017



Source: Eurostat 2019

These results, of course, have multiple policy and research implications. Persistent and perhaps increasing divergence between member states can undermine the very legitimacy of the European

Union (Vandenbroucke and Rinaldi 2015). Moreover, in an important sense, migration itself can be viewed as an institution that directly structures outcomes for different countries, alongside other national institutions (Black, Natali, and Skinner 2006).

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# Annex 1. GDP per capita and net migration rate, per country, 1995-2017

