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European economic migration flow, earnings and unemployment in decade of 2000

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Abstract

This research analyses how emigration and immigration in the European Union are linked to variations in earnings and unemployment along the last decade. A correlation analysis throughout several years has revealed that changes of the level of earnings and unemployment cause changes of emigration and immigration. Thus when unemployment increases it encourages emigration and also immigration decreases. Results have also indicated that lower earnings imply higher emigration. It depends on imbalances of earnings and unemployment during the economic growth or downturn.

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1. Introduction

International migration flows between unrestricted mobility regions such as the European Union should be studied more precisely (Cushing & Poot, 2004). Fluctuations in emigration and immigration in the European Union are numerous over the last decade, especially during different periods of economic downturn and growth. However, the use of push - pull perspective could be useful in such cases (Zimmermann, 1996). However, a question if emigration and immigration are linked to changes of levels of unemployment and earnings should be discussed.

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With the enlargement of the European integration in the last decade this question has become extremely important both in public and academic circles since economic integration is considered as an important factor for the European growth (Martinoia, 2011; Heitmueller, 2004). Several researches addressed economics factors as the main reason of international migration flow (Mihi-Ramírez, A. & Kumpikaitė, 2013; Vojtovich, 2013; Heid & Larch, 2012; Schulzek, 2012), especially due to variations of levels of earnings and unemployment that act as push-pull factors (Mihi-Ramírez, 2013; Arah, Ogbu, & Okeke, 2008; Zimmermann, 1996). Further, emigration and immigration differ in European Member States due to important regional disparities in terms of earnings and unemployment rates. There is a strong pressure to move from countries with a lack of employment and low earnings to those countries where a higher probability of finding a job and bigger earnings is expected (Cattaneo, 2008).

Effective migration policies in Europe request the policymakers to know the context of the imbalances in levels of earnings and unemployment pertinent for economies of European countries (Arah *et al.*, 2008). Still empirical studies about European data are scarce (Boman, 2011).

In this sense, the contribution of this study is to present empirical evidence at level of the European Union about potential effects of earnings and unemployment on emigration and immigration during the last decade. Thus, the aim of this research is to analyse the relation of earnings and unemployment with emigration and immigration in the European Union in the last decade. The paper presents the theoretical background where relevant literature is reviewed. The next part describes definitions of analysed variables and presents the methodology used. Further on, the correlation analysis of earnings, unemployment, emigration and immigration in the European Union during three different periods, i.e. 2002, 2006 and 2010, under different economic circumstances is presented as the empirical study. The results are explained and discussed, by means of including a comparison “draw-up” over time and lead to the provision of the conclusions of the research.

2. Theoretical framework

Growing international migration flows that are very selective of countries and regions, have been known almost everywhere since the 1980s (Cushing & Poot, 2004). Economic factors have been significant determinants of this situation. Thus, the persistent lack of employment in several countries, extended to high percentage of seasonal works, has encouraged emigration to countries with lower unemployment (Martinoia, 2011; Cattaneo, 2008). Likewise, different levels of earnings together with their low growth in sending countries are also determinants of emigration (Cattaneo, 2008). Yet, low unemployment and relatively high earnings encourage immigration (Heitmueller, 2004).

Individuals aim to increase their income and improve well-being by moving to countries where earnings are higher. Therefore, the imbalance of earnings and a higher probability to find a job over time would drive a migration flow from low earnings countries to countries with high earnings. This process stops when the imbalance of earnings is reduced (Cushing & Poot, 2004). Hence, lower wages and higher unemployment could reduce the expected gains from immigration, and higher earnings where the unemployment is high could retain valuable workers (Heitmueller, 2004).

Therefore, this works like a cost-benefit process where expected benefits are compared with costs (Sjaastad, 1962).

In this sense, immigration and emigration would be perceived as an investment, since the expected earnings or better probability to find a job would be a positive increment of the incomes of migrants. Consequently a bigger gap of earnings would increase migration, and higher unemployment would cause emigration (Sjaastad, 1962).

Likewise, the neo-classical approach shown a decreasing unemployment in the destination country and an increasing level of earnings encourage emigration (Martinoia, 2011).

Heid & Larch (2012) also observed that immigration would be higher into countries with lower unemployment rates. This fact would fit into the perspective to consider such movements in terms of push factors (due to inactivity at home) or external pull factors (the expectation of a better future in host countries). Even though temporal economic opportunities would pull individuals away from countries with better attributes, they may come back there (Cushing & Poot, 2004). This exemplifies that migration could not only happen once in the lifetime. Locations are adjusted in response to the variation of economics factors such as earnings and unemployment levels due to life-cycle changes (Polachek, 2007). Not only earnings and unemployment are determinants of immigration, but also the

boost of emigration. It affected prosperous countries, although it occurs in more depressed countries too, where labour mobility is very restricted and results in economic gaps (Cattaneo, 2008). Moreover, relatively developed countries may not have right policies and working conditions necessary for retaining high-skilled workers (Boman, 2011).

3. Methodology

The purpose of this study is to analyse the link between earnings, unemployment and emigration and immigration in Europe. The analysis addressed 28 countries of the European Union: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom. Many features of migration cannot be fully understood without a comparison over time (Cushing & Poot, 2004), therefore the analysis included three different moments of the last decade:

- 2002, the last world economic recession of the 20th century;
- 2006, a period of stabilisation;
- 2010, the global financial collapse of the 21st century.

The approach demonstrates the change of the migration flow according to different economic situations in a highly developed political and economic region with close relationship between countries.

3.1. Definitions of Variables

According to the Official Journal of the European Union (2007), immigration is defined as a situation when the residence in the territory of a country of the European Union changes for at least 12 months. Emigration could be defined as a situation when a resident in the territory of the European Union ceases to have his or her usual residence in a member state country for a period of at least 12 months.

Regarding earnings, the average gross annual earnings have been examined and include remunerations before taxes and social security contributions (Eurostat, 2013).

Unemployment might be described as context where all persons between 15 and 74 years are employed during the reference week, and actively seek for work during the past four weeks and are ready to begin working immediately or within two weeks (Commission Regulation No 1897/2000).

3.2. Statistics

Data was obtained from the statistical office of the European Union (Eurostat, 2013). However, certain discrepancies between emigration and immigration national records exist due to the fact that few countries provide accurate data (Heid & Larch, 2012). In addition, different classifications and methods used to measure migration flows have caused several difficulties with respect to international comparison of migration data (Kupiszewska & Nowok, 2005). Consequently, to facilitate the comparison of migration data taken from the Eurostat an adjustment factor has been used to enhance and harmonise the data about emigration and immigration (Beer, Raymer, Erf, & Wissen, 2010; Poulain, 1999). Bearing in mind the fact that there is no data about illegal migration, this type of information has not been used in this study (Heid & Larch, 2012).

The approach applied in this research focuses on the analysis of earnings and unemployment and the way they affect emigration and immigration in the European Union, with an aim to compare the results between the countries of the time given. The data have been contrasted by means of correlations analysis.

Correlations analysis have been commonly used for the purposes of analyzing the migration flow, i.e. a study conducted by Vojtovich (2013) where correlations were employed to analyze GDP, unemployment and emigration in Slovakia. Schulzek (2012) studied the impact of welfare on humanitarian immigration in 16 OECD countries between 1985 and 2002. Chun & Griffith (2011) relied mostly on the annual United States interstate emigration. Dreher & Poutvaara (2005) studied emigration of students in United States. In addition, Zimmermam (1996) analyzed push and pull immigration in Europe.

3.3. Results

First, correlations coefficients for the year 2002, 2006 and 2010 were calculated with an aim to examine to what extent the predictors (Arah *et al.*, 2008), i.e. earnings and unemployment are associated with endogenous variables, i.e. emigration and immigration. Results are presented in Table 1. It is obvious that in 2002 emigration is positively associated with immigration ($r = 0.752$, $P < .001$) and unemployment ($r = 0.584$, $P < .001$), and negatively associated with earnings ($r = -0.524$, $P < .005$). This suggests that when earnings increase, emigration decreases and vice versa.

Whereas, immigration is negatively associated with unemployment ($r = -0.604$, $P < .001$), and higher unemployment would imply lower immigration.

In comparison with the year 2002, in 2006 the data about emigration provides evidence of a bit lower correlation with immigration ($r = 0.690$, $P < .001$) and a stronger association with unemployment ($r = 0.789$, $P < .001$). In turn, immigration is strongly and negatively associated with unemployment ($r = -0.639$, $P < .001$).

In 2010, correlation coefficients show that emigration has the strongest links with immigration ($r = 0.824$, $P < .001$) and with unemployment ($r = 0.883$, $P < .001$). Immigration is also strongly and negatively related to unemployment ($r = -0.839$, $P < .001$). However, it should be noticed that during all the periods that have been selected for the analysis there is no significant evidence of links between earnings and unemployment (see Table 1).

Table 1. Significant correlations: 2002, 2006, 2010

	emigration			immigration			earning			unemployment		
	2002	2006	2010	2002	2006	2010	2002	2006	2010	2002	2006	2010
emigration	2002			0.752**			-0.524*			0.584**		
	2006				0.690**			-0.276			0.789**	
	2010					0.824**			-0.185			0.833**
immigration	2002	0.752**					0.359			-0.604**		
	2006		0.690**					0.222			-0.639**	
	2010			0.824**					0.341			-0.839**
earning	2002	-0.524*					0.359				-0.128	
	2006		-0.276					0.222				-0.318
	2010			-0.185					0.341			-0.099
unemployment	2002	0.584**							-0.128			
	2006		0.789**							-0.318		
	2010			0.833**							-0.099	

** Correlation is significant at the level of 0,01 (bilateral)

* Correlation is significant at level of 0,05 ((bilateral)

3.4. Discussion

The examined periods yield evidence of emigration and immigration to be associated and the evidence proved to be statistically more significant in 2002 and 2010, i.e. the time of economic recessions (Table 1). Therefore, the migration flow revealed evidence of certain differences in economic growth and decline phases. Thus, the link between emigration and immigration is more intense when the economy falls and people move to more prosperous regions. Yet, this also happens during a period of the economic upturn, when immigrants return their countries (Vojtovich, 2013). This depends on the variation of regional imbalances of earnings and unemployment (Zimmermam, 1996). The relation between unemployment and emigration is stronger over time. In the case of unemployment and immigration it is also stronger but negative association. This means that changes in unemployment because the opposite effect on immigration and vice versa.

In terms of earnings, it might be stated that earnings are closely related to emigration in the period of 2002 when the financial crisis came to the end and there was enough time to adjust earning. However this could not happen in the year 2006 and 2010. Thus, in 2002 the reduction of earnings was related to increasing emigration to richer regions and vice versa.

This reveals that unemployment acted as increasing economic pull and push factor over time and the evidence of earnings as pull-push factor in the year 2002 has been shown above.

Secondly, the Eurostat data in figures 1, 2 and 3 have been examined as well. Figure 1 refers to the year 2002 and depicts the final period of the economic crisis with a higher level of unemployment, especially in Germany, Poland and France. Therefore, in line with the statistical analysis, there was an increasing number of emigrants in these countries. Earnings were higher in the United Kingdom, Germany and France, therefore, the number of immigrants was also relatively higher in these countries as well as in Spain and Italy, with immigration from countries with worse economic situation such as South America and Africa (Mihi-Ramírez, 2013). In general, emigration in Europe exceeded immigration during the year.



Fig. 1. Emigration, Immigration, Unemployment and Earnings in Europe, 2002

According to Eurostat, in 2006 the level of immigration massively increased in the South of Europe due to relatively low unemployment (Mihi-Ramírez, 2013). Emigration increased in Eastern countries due to their incorporation into the European Union in 2004 (Mihi-Ramírez, & Kumpikaitė, 2013) (see Figure 2).

In general, immigration in Europe exceeded emigration in the year 2006.



Fig. 2. Emigration, Immigration, Unemployment and Earnings in Europe, 2006

According to figure 3, in 2010 unemployment increased and was more severe in countries such as Spain, Greece, Italy and France. Therefore, in these countries immigration reduced and emigration started to increase for the first time during the analysed period. Countries with better economic conditions such as the United Kingdom, Sweden, Denmark and Finland experienced the increase of immigration with immigrants from Southern and Eastern countries. Yet, the levels of earnings in Europe demonstrated a discrete growth. In general, the increasing immigration in Europe turned to decrease and emigration started again, even in traditional host countries in 2010.

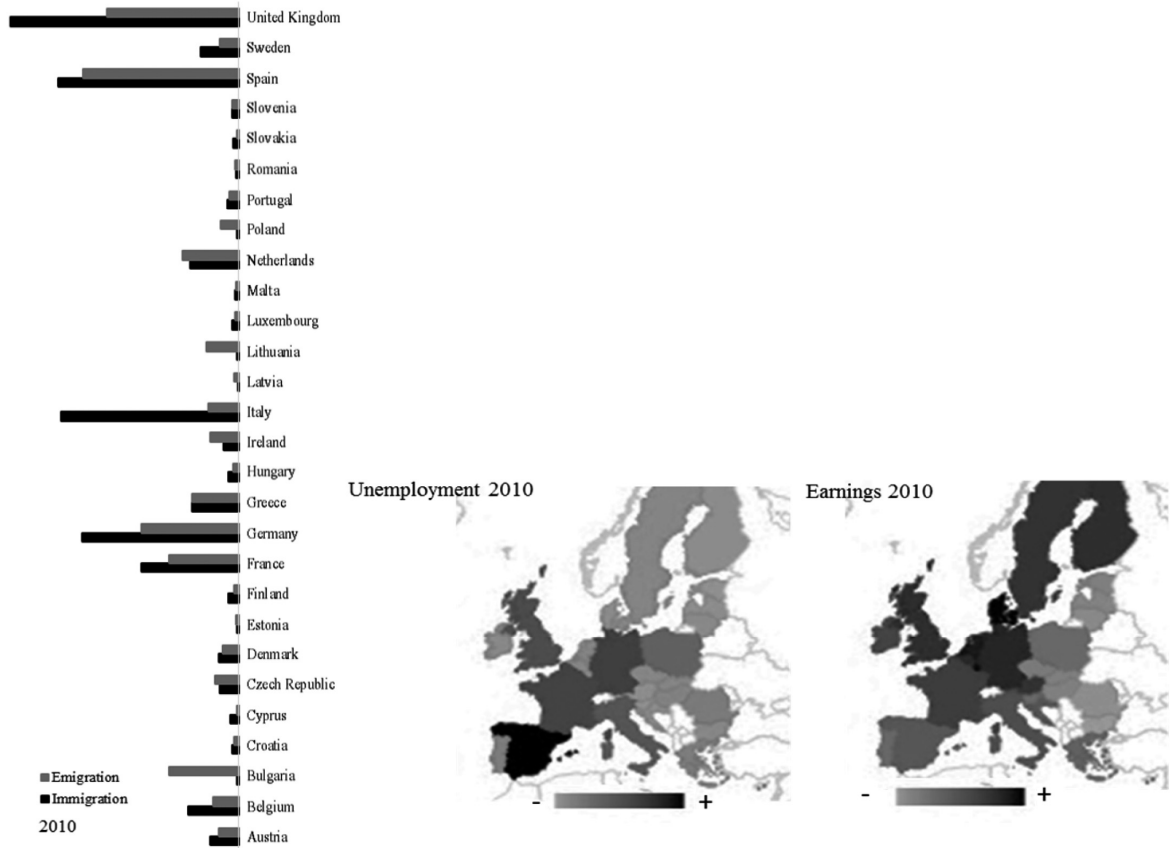


Fig. 3. Emigration, Immigration, Unemployment and Earnings in Europe, 2010

4. Concluding remarks

This research has tackled the issue of emigration and immigration in the European Union in relation to changes of in the gross annual earnings and unemployment at the end of the economic downturn in the year 2002; 2006 during the period of economic growth; and the period of the last economic recession in 2010.

The results demonstrate that emigration and immigration are correlated but there is evidence of certain discrepancies according to periods of economic growth and collapse. Hence during periods of economic recession emigration increases towards more prosperous economies. And in periods of economic wealth immigrants could return to their native countries. Such a situation depends on imbalances of earnings and unemployment. Thus, unemployment and emigration are significantly related. The higher the unemployment is the higher emigration becomes and vice versa.

In the case of immigration there is a negative correlation, therefore, when unemployment increases immigration decreases and vice versa.

The results have also shown that in 2002 earnings and emigration were negatively correlated, so lower earnings implied higher emigration.

Unemployment and earnings are important economic factors of emigration and immigration of Europe in the last decade, thus in 2002 countries with higher employment such as Germany, Poland and France had an important emigration and those countries with higher earnings such as the United Kingdom, Germany and France witnessed the increase of immigration as well.

Further, in 2006 immigration greatly augmented in the South of Europe due to relatively low unemployment. At the same time emigration also increased in Eastern countries after they joined the European Union.

Finally, in 2010 with growing unemployment immigration decreased in Southern countries and emigration started again, even in traditional host countries to those countries with better economic conditions.

A restricted availability of data and the existence of different classifications and methods related to the study of the phenomenon of the migration flow restricted and limited this research work. Yet, in future research works more explanatory variables could be analysed in order to obtain more detailed results and better comparisons. Like other international research works, other limitation was the cross-sectional data, although it could help to draw inferences at international levels, but results at national level was not avoided. Thus, future multi-levels study could also be adequate.

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