



AN INCLUSIVE ANALYSIS OF DETERMINANTS OF INTERNATIONAL MIGRATION. THE CASE OF EUROPEAN RICH AND POOR COUNTRIES

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Abstract. This work aims to integrate defragmented migration perspectives in order to better understand and explain reasons of contemporaneous migration. Accordingly, international migration flows are explained with various socio-economic determinants which address different sources of migration, reinforced by the best-known theories and conceptual frameworks. A panel data analysis is performed at the level of rich and poor countries of the European Union to measure migration flows from the year 2000 until 2013. The results provide evidence indicating that there are some structural similarities and discrepancies between European rich and poor countries. These similarities (or discrepancies) make them responding similarly to certain economic conditions and changes. Thus, the association of earnings, inequalities (measured by the Gini Index) and poverty line could be positive or negative depending on wealth level of countries. Moreover, unemployment is a supply-push factor, but its importance is much higher in rich countries, diminishing in poorer countries. Economic freedom has a very strong positive effect on migration for all countries, but its relevance turned out to be the highest in the group of the poorest countries. Also, the association between Foreign Direct Investment and migration is negative, but it is more significant in the case of poorer countries.

Keywords: international migration flows, earnings, long-term unemployment, economic freedom, fdi, Gini index, poverty line

JEL Classification: F22.

Introduction

Birth, death and migration are the three fundamental demographic processes that determine population changes. The difference between births and deaths numbers constitutes the natural population change (i.e. natural growth). Recent demographic processes (reflected in Eurostat data) show a continuous decline of natural growth in majority of the European Union countries. Hence, the relevance of international migration for population growth in these countries remains unquestionable (Dobson, Sennikova 2007).

Moreover, Castles and Miller (1993) called the late twentieth century “the age of migration”. In the last 15 years of the new century migration processes have even intensified in Europe. Indeed, the sheer magnitude of migration flows that is reflected in the data seems to confirm it (Josifidis *et al.* 2014; Bonfanti 2015).

Despite the importance of the issue, however, theoretical explanations of international migration remain largely fragmented. According to Portes (1997) an attempt to develop a “grand theory of migration” is a futile task to perform.

Arango (2000) sought migration causes, noting that theorizing about migration usually takes the form of a string of separate, generally unconnected theories, models, conceptual frameworks and empirical generalizations. What it lacks, however, is sort of a cumulative sequence of contributions.

Furthermore, scholars are claiming that until now majority of analytical approaches in studying migration were lacking of multidimensional perspective. The lack of broader perspective in studying migration was criticized by numerous authors (Castles, Miller 1993; Arango 2000; King 2002, 2012).

In order to improve it a multi-dimensional perspective of complex migration processes should be taken into account (Skeldon 1997) to arrive at a more multifaceted picture (and thus more real) of a migration flow.

Hence the scientific problem of this paper is to find a solution that would help to integrate defragmented migration theoretical approaches in order to better understand and explain contemporaneous migration processes. It could be formulated with the following question: How could we explain contemporary migration flows from a multidimensional and integrative perspective?

Thus, this paper builds on the extensive and fragmented literature on migration socio-economic determinants (Stark, Taylor 1989; Jennissen 2003; Hatton 2005; Stark *et al.* 2009; Bonfanti 2015 etc.) dealing with the above-mentioned gap in the literature. However, implementation of such an analysis requires a set of pivotal variables measures, and a relevant data to best explore the above-mentioned complex, multifaceted and dynamic nature of migration processes (Castles, Miller 1993; de Haas 2010).

Furthermore, researchers and scholars usually study migration processes in a narrowed context (King 2002, 2012). In that sense, one can say that migration analyses are context-specific. Actually, one of the common practices is conducting a division into two or several groups. In other words, throwing all countries into one basket entails certain risks and researchers should also investigate causes of migration for a group of similar countries that characterize with similarities of a structural type (Massey 2002). These similarities (or discrepancies) could make them responding similarly to certain economic conditions and changes. Hence economics analyses use to compare economies whether between rich and

poor (Sauvant *et al.* 1993; Massey 2002). Therefore, a second question could be formulated: What socio-economic factors have an impact on international migration flows and how do they differ in rich and poor countries over recent years?

When theories show different determinants of migration and countries could have different reaction to changes in socio-economic conditions, the aim could be formulated as follows: To disclose the influence of relevant socio-economic factors on contemporary rich and poor countries over recent years.

Socio-economics factors were selected based on different theoretical approaches of migration, with the intention of integrating different theoretical approach. It includes: earnings, long-term unemployment, economic freedom (measured by the Index of Economic Freedom), income inequality (measured by the Gini coefficient), foreign direct investment (FDI) and the proportion of population below the poverty line.

The methodology consisted of panel data analysis. This method is most suitable for the analysis of migration processes at the level of the 28 countries of the European Union, and in turn allows performing divisions of the sample into groups, according to the wealth level.

Finally, the structure of this paper consists of: first, theoretical framework highlights the most relevant socio-economic determinants of migration from several theoretical perspectives. Second, an empirical analysis of the influence of such determinants on the international migrations flows in rich and poor countries. Third, discussion of results and conclusions.

1. Connection between relevant determinants from theoretical approaches and migration

Migration processes are explained in this paper with the data of crude rate of net migration which reflects the percentage of total population growth from which natural change figures are subtracted (the result is therefore expressed per 1000 persons). Normally, it proxies the difference between immigration and emigration. A major advantage of using net migration is that long time series are available for almost all countries. Therefore, net migration patterns can be used as a basic indicator to describe migration developments over time and across countries (Jennissen 2003).

The United Nations (1998: 1) views migration as “an event in which a person changes his or her place of usual residence”. In this context, the reason of migration is essential to properly address the nature and composition of international migration.

Teitelbaum (1989) indicated factors determining migration’s complexity. In practice, there is strong evidence demonstrating that there are numerous factors affecting migration flows. Thus, many scientists generally utilize different areas of science to explain the phenomenon of migration and migration trends. Migration study usually is of a multidisciplinary nature and an interdisciplinary character.

The main disadvantage of many approach lies in their unidimensionality. Recent theories rarely benefit from achievements of former theories, what causes, that scholars have to deal with multiplicity of disaggregated analyses. This means, that in order to create a coherent and modern theory that addresses a large number of migration processes occurring in contemporary world, there is a need to collect and integrate distributed observations that were yet conducted by researchers over the years (Kumpikaitė, Zickute 2012).

However, scientists are confronted with an “amorphous mass of data on migration” and various concepts that largely address only particular nation-states (Sanderson, Kentor 2009).

It seems that the first step to achieve this is to coordinate research on migration conducted by specialists representing different disciplines.

Based on King (2012) and Kumpikaitė and Zickute (2012) relevant migration approaches could be grouped as follows:

Neoclassical approaches to migration:

1. Push and pull (Lee 1966);
2. Economic equilibrium (neo-classical perspective) (Hicks 1932);
3. Keynesian economic theory (Hart 1975; Jennissen 2003);
4. Harris and Todaro rural-urban migration (Harris, Todaro 1970);
5. Dual labour market (Piore 1979).

New approaches to migration:

6. The new economics of labour migration theory (Stark, Taylor 1989);
7. Behavioural migration theory (Akerlof, Shiller 2009);
8. Motivation decisions (Sell, DeJong 1978);
9. Relative deprivation (Runciman 1966);

The man and migration:

10. The human capital theory (Bonfiglio 2011);
11. Migration systems (Mabogunje 1970).

International movement solvents:

12. Networks and migration chains (Massey *et al.* 1993; Massey 2002);
13. Circular cumulative causation (Myrdal 1957);
14. World systems theory (Bijak 2006).

Figure 1 summarizes the most relevant socio-economic factors that explain international migration taking into theoretical approaches.

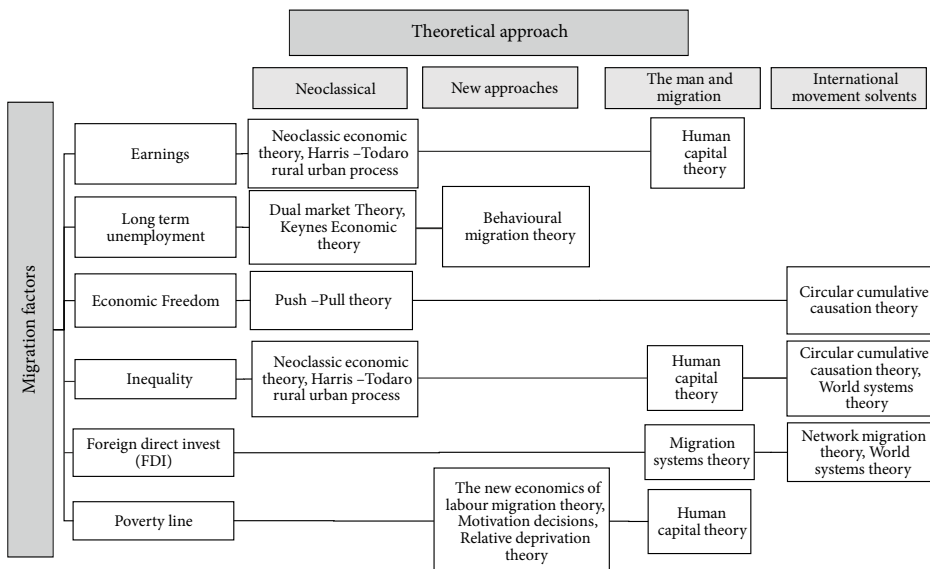


Fig. 1. Socio-economic factors of migration and from different theoretical approaches

1.1. Earnings and migration

The neo-classical economic migration theory posits that differences resulting from the earnings imbalances between countries are the main cause of international labour flows (Massey *et al.* 1993). Once these international flows of labour begin they should adjust the markets to “new international equilibrium”. Consequently, real earnings’ imbalance corrects itself, leading to the same level of earnings in all countries (Hicks 1932; Massey *et al.* 1993).

When it comes to neoclassical theory approach, it is scarcely possible not to mention its extension proposed by Harris and Todaro (1970). The model that they developed had modified migrants’ utility function. Essentially, as opposed to one of the neoclassical assumptions, migration was deemed to be the function of expected rather than actual earnings’ differentials. In that sense, migrants’ decision making processes were affected by earnings’ differentials.

From an individual-level (micro) perspective (Massey *et al.* 1993) the human capital model made two pivotal assumptions, namely, first which says that personal characteristics determine expected future earnings and second which relates the probability of migration with the personal income. Moreover, assuming that thousands and millions of individuals and households’ characteristics determine an expected-income function, expected- earnings differentials are taken to derive a migration function.

Given the magnitude of earnings differentials and the above-referenced findings regarding the responsiveness of migration processes to earnings differences between sending and receiving countries, one might expect to find that earnings differentials playing an important role in decisions about migration. Therefore, the Hypothesis 1 may now be formulated as follows:

H1. Income as proxied by annual net earnings (PPP-adjusted) has a positive effect on crude rate of net international migration of host country.

1.2. Long term unemployment and migration

Earnings differential is often combined with unemployment because they are both vital in impacting the future prospects of the economy and income levels (Harris, Todaro 1970; Josifidis *et al.* 2014). That is why the vast majority of works address both the income and unemployment jointly, treating them as inseparable and integral parts of migration processes.

The long-term unemployment refers to the number of people with continuous periods of unemployment extending for a year or longer, expressed as a percentage of the total unemployed.

Typically, it better addresses migration processes and the long-term elasticity is usually lower than the short term one. Also, potential migrants usually are pertaining to the group of unemployed who as a first step are looking for a job in their own country for a longer period of time. Only then, when a long lasting job-search brings no effects, they decide to emigrate. Therefore, migration might be perceived as a last resort that they turn to.

Hart (1975) argued that migration plays a key role as an equilibrium recovering mechanism by removing unemployment differential between different countries. In that sense,

Keynesian view advocated by Hart differs from the neoclassical one. The latter relates the recovery rather with the removal of the earnings differential. Yet in the current century, building on Hart's (1975), Jennissen (2003) emphasized that labour market disparities between sending and receiving countries can disappear through the elimination of differences in unemployment rather than the levelling of earnings.

Piore (1979) with his dual labour market theory pointed to the overall labour market conditions accentuated general labour shortages in the secondary segment as, inter alia, one of possible explanations for the demand for foreign workers.

According to behavioural migration theory, migration happens as a result of several economic mismatches in the labour market that cannot be solved through the markets, especially involuntary unemployment (Akerlof, Shiller 2009).

All in all, the hypothesis 2 may now be formulated as follows:

H2. Long term unemployment has a negative effect on crude rate of net international migration of host country.

1.3. Economic freedom and migration

Among the most pivotal motivations for migration Mansoor and Quillin (2006) enumerate several issues that are clearly attributable to economic and political freedom (i.e. Poverty, Unemployment governance, earnings imbalances, etc.).

There is a positive relation between economic freedom and growth (Ashby *et al.* 2013; Panahi *et al.* 2014). In turn, higher growth is usually perceived as a migration determinant (Vias 2010) and a pull factor (Lee 1966). If, then, higher economic freedom can be viewed as a direct cause of higher economic growth, which in turn positively impacts migration flow, then economic freedom also indirectly affects migration (Hall, Lawson 2014).

Several studies point to the economic freedom as an important determinant of migration processes.

Barkley and Macmillan (1994) studied rural-urban migration within 32 African countries. Their findings indicated the indirect role of economic and political freedom on migration processes. Turned out that civil liberties did not influence migration directly, however they did interact with economic incentives to change the rate of migration out of agriculture.

People usually migrate to these countries where their interests and preferences are best satisfied by local governments. Moreover, circular cumulative causation theory posits that reasons of migration are differences in living standards between different countries (Massey *et al.* 1993).

The economic freedom index was then used to assess how migration between different states depended on economic freedom. People move away from states with less economic freedom to states that have more economic freedom (Clark, Pearson 2007; Hall, Lawson 2014).

Ashby (2007) and Ashby *et al.* (2013) studied economic freedom across different neighbouring US states. He found that economic freedom and its variations were very useful in explaining interstate migration processes. In general, destinations with higher economic

freedom provide an incentive for potential migrants to move out there. In that sense, economic freedom works as a pull factor in Lee's (1966) terms. Moreover, freedom usually exerts some positive effects on earnings and employment growth.

To sum up, the hypothesis 3 can now be formulate:

H3. Economic Freedom Index has a positive effect on crude rate of net international migration plus statistical adjustment of host country.

1.4. Inequality and migration

Inequality addresses the distribution of economic metrics (e.g. income or wealth) among individuals in a group or among groups in a population (i.e. in a country, a.k.a. as within-country inequality). Scholars usually point to 3 different economic disparity metrics (i.e. inequality measures), namely to wealth, income and consumption (Piketty 2014).

The relative deprivation theory (Runciman 1966) argues that awareness about income differences in a sending society is an important factor with regard to migration.

The inequality is proxied by the Gini coefficient. Scholars have been trying to find some alternatives for the GDP for a long time. Since 80's the Gini coefficient has become very popular. It allows comparing the disparities between rich and poor people.

The most profound work was done by Stark *et al.* (1988). Stark *et al.* found an explanation for the positive relationship between inequality of earnings (reflected by higher Gini coefficient) and migration.

According to the human capital perspective migrants self-select themselves to increase their chances of success (Borjas 1987). Put differently, they are relatively more skilled than non-migrants.

Circular cumulative theory argued that people from societies that experience much economic (within-country) inequality also demonstrate greater propensity to emigrate (Stark, Taylor 1989).

Jennissen (2003) indicated the degree of inequality in a society as one of the most important social determinants of migration. He argued that within-country income inequality may initiate migration from a country.

Word systems theory addressed that interaction between different countries usually also causes some discrepancies in their economic conditions. As a consequence of that, countries with more prosperous economies pull migrants from countries with less vibrant economies (Bijak 2006).

The neo-classical theory conceives migration as a natural consequence of certain disequilibrium and inequality between different countries or regions (Bonfiglio 2011).

The differences of countries' mean income turned out to be the main cause for rapidly growing world inequality. Supposedly, they are also driving international migration.

H4. Inequality, measured by Gini coefficient, has a negative effect as on crude rate of net migration plus statistical adjustment of host country.

1.5. FDI and migration

Certain explanation regarding the role of the flow of capital investments and its association with migration processes provides the world systems migration theory (Wallerstein 1974) which posits that migration is a natural consequence of the evolutions of capitalism and advances of the global market (Bijak 2006). As far as the mineral raw materials in rich countries are beginning to run out and the labour costs go up, companies start looking for mineral raw materials and lower labour costs overseas. This actually leads to a flow of capital (i.e. partly in the form of FDI) to poor countries which in turn receive products from rich countries. As a natural consequence of that a migration of population in the opposite direction is triggered (Massey *et al.* 1993).

Typically, there is a two-way interaction between FDI and a migration flow (Sanderson, Kentor 2009; Mihi-Ramírez *et al.* 2016). First one is related with a direct impact of FDI on the labour market. In turn, second may result from the effect that FDI exerts on the growth first, with the latter leading to a significant change in a migration flow in the form of an indirect impact.

Networks theory pointed argued a higher emigration rate from any country (sending country) usually leads also to a higher FDI (inbound) resulting from such reasons as e.g. networking, social links, lower communication costs etc. (Gould 1994).

Migration systems theory also pointed to specific grounds or circumstances which call for the formation of links between both receiving and sending ends e.g. the existence of former metropolis and their colonies, international trade and investment flows (i.e. FDI) (Mabogunje 1970; Castles, Miller 1993).

Javorcik *et al.* (2011) examined the link between the presence of migrants in the US and US FDI in the migrants' countries of origin, taking into account the potential endogeneity concerns. The results showed that outward US Foreign Direct Investment is positively correlated with the presence of migrants from the host country in USA.

The world system theory argued that international migration is a consequence of certain structural labour market disruptions that result from an increase in export of manufacturing and agriculture and the flow of capital in the form FDI from developed to developing countries. Therefore, capital mobility factor is a pivotal in driving migration (Metelski, Mihi-Ramírez 2015).

Consequently, the Hypothesis 5 may now be formulated as follows:

H5. Foreign Direct Investment has a negative effect on crude rate of net migration plus statistical adjustment of host country.

1.6. Poverty line and migration

Myrdal (1957) argued that there are economies of two velocities: the periphery with its vicious cycle of poverty and the core region which is rich. Myrdal, who developed the circular cumulative causation theory, believed that once a differential occurs, it triggers some internal and external economic pressures that have a tendency to continuously repeat themselves and add even more to the “bipolar pattern” of economies.

The relative deprivation theory argues that awareness about income differences in a society is a pivotal factor with regard to migration (Runciman 1966).

The “poverty line” concept, which is used in the empirical part of this paper, concept implies an important assumption, that is to say, it posits that an individual himself/herself defines “which income level is minimal, in the sense that below that income the individual is not able to make ends meet”. Such an income is often referred to as the individual’s minimum income (y_{\min}), which is subjective and individual-specific in that it may depend on the individual’s personal circumstances (Colasanto *et al.* 1984). It may be subject to reference group influences, or it may depend on previous consumption levels.

According to human capital theory, migration is a selective process and the poor often cannot migrate or only for less remunerative jobs (Skeldon 1997). In that sense, the poverty might be perceived as a self-selection mechanism.

Incentive to emigrate will be higher in societies which experience much economic inequality and poverty (Stark *et al.* 1988).

The new economics of labour migration perspective addresses such aspects as collective action, income diversification, risk aversion, asset accumulation, social protection, education, social networks. It not only helps to explain migration but to a certain extent also helps to better understand poverty (Portes 1997).

Once emigration is initiated, further process of the development enables more and more people to migrate. It happens not only through the overall increase in wealth in the sending country but also because of migrant networks (de Haas 2010).

Motivations theory argued individuals usually move to places related to the highest sum of factors’ benefits (Sell, Dejong 1978). In this sense Haug (2008) pointed up the group of factors related to social issues. In this sense migration is positive because it means of escape from poverty.

All in all, the hypothesis 6 can be formulated, therefore, that poverty, measured by poverty rate proportion below “poverty line” has a negative effect on crude rate of net migration plus statistical adjustment.

H6. Poverty Proportion Rate below the “Poverty Line” has a negative effect on crude rate of net migration plus statistical adjustment of host country.

Figure 2 summarizes hypotheses formulation and the theoretical model.

In addition, scholars frequently show certain propensity to divide and compare economies whether between poor & rich (Sauvant *et al.* 1993; Massey 2002).

For example, Myrdal (1957) pointed to the existence of economies of two velocities, namely the poor periphery and the rich core region.

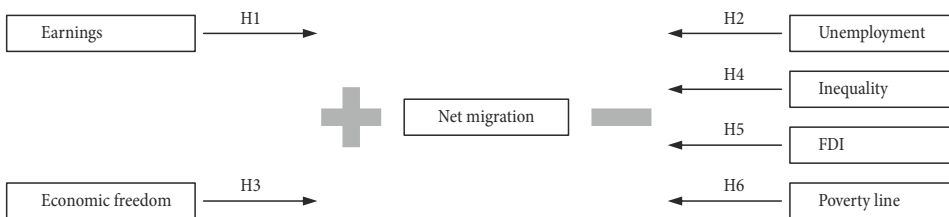


Fig. 2. Hypotheses formulation

Also, Lee (1966) with his push-pull theory perspective composes “dyadic frames” in which migration flows are largely polarized. Put differently, push and pull factors are largely mirror-images of each other, and they also contribute to deepening the bipolar pattern (de Haas 2010).

Faini and Venturini (1994) studied the propensity to migrate for two categories of countries: poor countries and rich countries. They came up with very interesting results, namely in a relatively poor sending countries, an increase of income had positively influenced the propensity to migrate.

Massey (2002) noted that whereas rich countries might be receiving migrants who are seeking better labour opportunities, the influx of migrants to poor countries might be a reaction to causes different than economic. That is also consistent with the neoclassical theory (workers voluntarily search for better opportunities, so does the capital).

Arguably, it is worthwhile to investigate whether there are any significant changes in the group of rich and poor countries (wealth-specific determinant) when explaining migration.

Therefore for the purposes of this research a division are conducted, taking into account the wealth level (i.e. rich and poor countries) (de Haas 2010).

2. Methodology

This research provides a set of econometric estimates in order to explain migration processes in European countries since the beginning of the 21st century. The flows of migration are explained by some typical socio-economic variables that were cautiously selected taking into account various migration theories and conceptual frameworks.

These are such variables as: PPP-adjusted earnings (denoted by ANEPPP), unemployment rate (denoted by LTUR), economic freedom index (denoted by EFI), inequalities of income (denoted by GINICOE), Foreign Direct Investment (denoted by FDI) and poverty proportion rate below “poverty line” (denoted by POVLINBEST). The outcome variable (i.e. endogenous variable) is the crude rate of net migration plus statistical adjustment, denoted by CRNMSA. To envision the data, see Table 1.

The data used in this dissertation allows to measure migration flows over the period of 14 years, spanning from the year 2000 until 2013. Actually, this is the most recent period which is long enough to conduct a panel analysis, on which this empirical study is based.

Table 1. Variables characteristics

Vars	Source	n	Mean	Sd	Median	Trimmed	Mad	Min	Max	Range	Skew	Kurtosis	Se
CRNMSA	EUROSTAT	392	1.86	6.45	1.75	1.75	3.34	-29.5	22.2	51.7	-0.24	4.13	0.33
ANEPPP	EUROSTAT	323	16356	7684.7	17518	16335	8834.1	312.9	31091	30778	-0.06	-1.01	427.59
LTUR	EUROSTAT	390	3.95	2.86	3.35	3.53	2.52	0.5	18.6	18.1	1.38	2.19	0.14
EFI	FRASER INSTITUTE	364	7.35	0.49	7.42	7.38	0.4	5.24	8.5	3.26	-0.98	2.07	0.03
GINICOE	EUROSTAT	342	29.38	3.92	29	29.27	4.52	22	38.9	16.9	0.23	-0.93	0.21
FDI	WORLD BANK WDI	347	151822	211700	55093	106244	70801.56	707	1147472	1146765	1.87	2.99	11364.7
POVLINBEST	EUROSTAT	286	24.99	4.19	24.9	25.1	3.78	0	40.4	40.4	-0.61	4.05	0.25

Panel data analysis is considered as the most adequate methodology that will allow for studying migration processes (Clark, Linzer 2015). This actually allows controlling much more carefully for destination countries' specific factors, identifying the effects of different determinants (such as income, unemployment, inequality of income among others, based solely on within-destination-country variation over time. Rich and poor countries are represented as panels and years as times. The results will later allow for contrasting the hypotheses and make some practical recommendations.

The vast majority of the data for the purposes of this empirical study were taken from the Eurostat database that is available on the European Commission Webpage (Eurostat 2015). Other data like the Economic Freedom Index were taken from The Fraser Institute's Webpage (Economic Freedom Network 2015). FDI data were taken from the World Bank database (World Bank 2015). Some data i.e. Annual Net Earnings and Foreign Direct Investment were transformed into logarithmic returns to better reflect the normality and provide more accurate results (Feridun 2007).

All analyses are conducted with the use of the STATA 13 software and double-checked later in R-STUDIO. The reason for that is to make sure that all standard errors of the panel data regressions' coefficients are estimated properly.

2.1. Results

The sample of 28EU countries are split into two groups based on the criterion of the GDP (USD), GDP (PPP-adjusted) and Annual Net Earnings. The median has been thought of as the splitting criterion, what facilitates reflecting the bipolar line-up.

Such a division is of binary type, that is to say, each of 28-EU countries is either rich or poor. Furthermore, the threshold that splits all countries into both groups (i.e. rich or poor countries) was defined as a median GDP value for each year. Hence, the median was different for 2000 and for each subsequent year. GDP is selected (and not any total assets value) because it better suits the expectations of potential migrants. Migrants go for a distribution of GDP rather (and not the assets) because they profit from their work. Therefore, GDP as a proxy of richness or poverty, better suits the investigated phenomenon.

Set out below, in the Table 3 is the summary for all panel analyses, which explicitly shows how particular variables are associated with the crude rate of net migration plus statistical adjustment (CRNMSA). As it turns out, the results are all in line with the six formulated in the subchapter 3.3 hypotheses, though not all results proved to be statistically significant at 5% level (the ones that are significant were marked with an asterisk- *).

Table 2 summarizes the decisions regarding model specifications.

Table 2. Selection of proper model specification (rich and poor)

	Pooled vs. Fixed; F test	Pooled vs. Random LM test	Fixed vs. Random Hausman test	Choice of the selection
POOR	Prob > F = 0.000; FE is better than OLS	chibar2(1) = 5.16 Prob>chibar2 = 0.0115 RE is better than OLS	chi2(6) = 13.97 Prob > chi2 = 0.0300 FE is better than RE	FE
RICH	Prob > F = 0.000; FE is better than OLS	chibar2(1) = 121.27 Prob > chibar2 = 0.0000 RE is better than OLS	chi2(6) = 4.16 Prob > chi2 = 0.655 RE is better than FE	RE

Table 3. Summary of analyses

Variable	POOR	RICH
Earnings (PPP-adj)	Positive	Negative „Crowding-out effect”
Unemployment	Negative**	Negative***
Economic Freedom	Positive*	Positive
Inequality	Negative	Positive*
FDI	Negative	Negative*
Poverty	Positive	Negative

2.2. Discussion of results

The rejection of Hypothesis H1 for rich countries can be interpreted as the “crowding out effect” taking place on the labour market, which occurs because of the local workforce characteristics. Simply, local nationals encouraged by higher income perspective begin to be more active on the labour market. Actually, this phenomenon occurs when immigrants’ jobs are taken back by local workforce (i.e. induced by higher wages and shifting towards even higher ones). All in all, the implications of the results in practical terms, indicate that people migrate (or they refrain from emigrating) because of gaps in expected earnings from one country to another.

The confirmation of Hypothesis H1 for poor countries can be interpreted as a weak support for the neo-classical economic migration theory. Reminding, the latter posits that differentials in earnings (relative earnings) between different countries make people move from a low-earnings country (sending country) to a high-earnings country (receiving country). The results of the performed models indicate that ANEPPP is a demand-pull factor, though the results for the poor countries were not significant at the conventional level of significance (5%).

In addition, the results are in favour of the Hypotheses H2. It is said that international migration removes unemployment differences (Hart 1975), and more specifically that unemployment is directly correlated with international unemployment differentials (Jennissen 2003). In turn, the dual labour market theory posits that migration processes are driven by labour market conditions (i.e. unemployment) at destination.

The coefficients estimates were statistically significant at all conventional levels for almost all models’ specifications. What is worth mentioning, however, is that unemployment is the most powerful and meaningful variable of all types; and irrespective of the model specification it never changes the sign for its regression coefficients, indicating the very supply-push nature of this variable as a migration determinant. There is no doubt that unemployment is a very strong supply-push factor (Jennissen 2003). Put differently, the unemployment is a much more relevant supply-push factor than the income is the demand-pull factor. The degree of its relevance (the responsiveness of LTUR) is much higher in rich countries with low variability of income, and diminishes as we move towards the countries with higher variability of incomes and poorer countries.

The results are also in favour of the Hypotheses H3. This actually indicates that “economic freedom” has a very strong positive effect on net international migration, for all countries, irrespective how they are categorized.

In general terms, for both investigated groups the degree of crude rate of net migration responsiveness to a one unit change of economic freedom was relatively high against the background of other variables included in the model. Its relevance turned out to be the highest in the group of the poorest countries due to its very high coefficient estimate (one unit of EFI's change leads to an increase in crude rate of net migration by +5.214 units), indicating that particularly in the poor countries group the economic freedom had more importance than in the others. How can we interpret these results? In economic terms, it might be justified with a higher marginal utility of economic freedom in poorer countries when compared with rich countries. To a certain extent this is similar to the case of the Heckscher-Ohlin theory which implies that comparative advantage is influenced by the relative factor abundance. More specifically, likewise capital (usually flowing from rich countries to poor countries) which is said to find better opportunities in poorer countries, some migrants still might find better opportunities for making their careers or running their businesses in poor countries (because definitely the traffic of migrants is not directed to these countries, what enhances the chances of success), though certain economic freedom conditions need to be put in place first (they must ensure that economic freedom conditions are in their favour). Yet another interpretation is that more freedom opens up more commercial and entrepreneurial opportunities for local nationals, leading to a decline in emigration numbers, with the effect that positively impacts the crude rate of net migration. In turn, its higher elasticity against the background of rich countries results from its greater sensitivity in the environment of poorer countries (i.e. freedom is relatively more valuable in poor countries, or, put differently, freedom component weights more in poor countries).

Therefore, policies related to economic freedom becomes crucial, such as (Friedman 1962):

- Free markets, limited interventions (if any);
- The control of money cannot be excessively big;
- The role of government has to be limited;
- If there are state legal monopolies, then private competition shall not be prohibited (some strategic areas could be an exception here). In general terms, any competition is good;
- Supplementing publicly operated schools with privately run but publicly funded schools;
- Social security and welfare programs have to be limited as they create the so called welfare dependencies;
- Welfare systems should be replaced with a negative income tax, meaning a progressive tax system in which the poor receive a basic living income from the government.

The results cannot confirm Hypothesis H4 in the case of rich countries. It is actually in line with Hatton's (2005) inference, namely that relative inequality had the largest effects on the declining net emigration of British citizens. Hatton's results indicated that Gini

coefficient (t-1; lagged) was positively associated with immigration, whereas its relation with emigration was negative. In total, Hatton's results provide supportive evidence that inequality (in the British context) constituted much rather a demand-pull factor than a supply-push factor.

Also, Stark *et al.* (1988) and more recently Stark *et al.* (2009) found explanation for the positive relationship between inequality of earnings (reflected by higher Gini coefficient) and emigration. Turns out that higher relative deprivation as inequality is sometimes termed provides an incentive for people to emigrate. The Gini coefficient and migration are positively associated, holding the population's income constant (Stark *et al.* 2009).

In general, inequality has a negative effect on crude rate of net migration and it was confirmed in the case of poor countries. In this case, there are relevant policies to minimize the rising economic inequality (Powell 2014):

- Increase the minimum wage;
- Expand the Earned Income Tax;
- Build assets for working families;
- Invest in education;
- Make the tax code more progressive;
- End residential segregation.

The results confirmed the Hypotheses H5, showing that Foreign Direct Investment has a negative effect on crude rate of net migration plus statistical adjustment (meaning substitutability).

According to Heckscher-Ohlin model foreign direct investment, trade and migration were perceived to be substitutes (Metelski, Mihi-Ramírez 2015; Mihi-Ramírez *et al.* 2016). There is a relative factor abundance (or a comparative advantage) that stems from reduced differentials in prices of international mobility factors.

Finally, regarding the hypothesis H6 for the rich countries, the results have confirmed the role of poverty as a supply-push factor. Migrants coming to poorer countries are probably self-selected in terms of the incentives (pull-factors) that attract them to these kind of destinations (i.e. it might be for climate reasons, health-care costs, purchasing power parity reasons, or they might be return-migrants etc.).

In the case of the poor countries, the hypothesis H6 cannot be confirmed. This might be actually in line with the consumption theory that was proposed by Wallace *et al.* (1997) or they (i.e. migrants) might be return-migrants (naturalized yet in some other countries). As opposed to traditional theories of migration, the consumption theory points rather to the utility maximization instead of income. Wallace *et al.* (1997) argued that the incentives for migration (the utility) are derived from “the consumption of generally-available goods on the one hand and from tangible and intangible location-specific goods and services”. Simply, impoverishment cannot go up without actually starting to decrease migration at some point. At some point, more poverty will translate rather into less migration as the impoverishment will also decrease the proportion of people who are able to assume the costs of migration and the risks that it entails.

Conclusions

The number of different sources of migration flows has grown substantially in recent decades (King 2012). As a result, it has grown increasingly difficult to explain contemporary international migration flows in neo-classical terms, spotting earnings differential as the only cause justifying migration processes (Javorcik *et al.* 2011). Therefore, in this paper different theoretical perspectives were analysed to obtain the most relevant socio-economic determinants of migration.

The overall results for rich and poor countries provides evidence for contemporary European (mostly globalized) economies, yet indicating that there are some structural similarities and discrepancies between certain groups of countries when countries are categorized according to a certain criterion. These similarities (or discrepancies) make them responding similarly to certain economic conditions and changes.

Unemployment is the most powerful and meaningful variable of all types; and irrespective of the model specification it never changes the sign for its regression coefficients, indicating the very supply-push nature of this variable as a migration determinant.

The economic freedom index (EFI) is a very strong demand pull-factor. In the poor countries group the economic freedom had more importance than in the others. In economic terms, it might be justified with a higher marginal utility of economic freedom in poorer countries when compared with rich countries.

The association between Gini coefficient and crude rate of net migration plus statistical adjustment is negative in the case of poor countries. However, in the group of rich countries, there is an inverse relationship between inequality and net international migration, so in this case it constituted much rather a demand-pull factor than a supply-push factor because a higher relative deprivation as inequality is sometimes termed provides an incentive for people to emigrate (Stark *et al.* 1988, 2009; Hatton 2005).

The association between Foreign Direct Investment (FDI) and crude rate of net migration plus statistical adjustment (CRNMSA) is negative. It is worth noting that this kind of relationship gains on its relevance as we shift more and more towards poorer countries. It can be argued that the rich countries import labour-intensive goods, which causes an increase in employment of unskilled workers in the poor countries. This also implies certain direct investments in these poor countries in the first place in order to adjust their production capacity to the growing demand for goods in rich countries. The greater demand for goods and higher FDIs usually lead to decrease the outflow of migrant workers from poor countries. The export of capital-intensive goods (and capital itself in the form of FDI) from rich countries to poor countries also equalizes income and employment conditions, thus also slowing migration. In either direction, this theory can be used to explain migration between countries that are geographically far apart (Jennissen 2003).

The association between poverty proportion rate bellowed “poverty line” and crude rate of net migration plus statistical adjustment is negative in the case of the rich countries. In a developed country, absolute poverty is generally very rare. However, relative poverty is a significant problem, so policies to reduce relative poverty in a developed economy are important.

Tough, it loses on its importance whenever we shift towards poorer countries. Thus, earlier migrants coming to poorer countries are probably self-selected in terms of the incentives (pull-factors) that attract them to these kind of destinations (i.e. it might be for climate reasons, health-care costs, purchasing power parity reasons, or they might be return-migrants etc.).

Disclosure statement

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References

- Akerlof, G. A.; Shiller, R. J. 2009. *Animal spirit*. Princeton, New Jersey: Princeton University Press.
- Arango, J. 2000. Explaining migration: a critical view, *International Social Science Journal* 52(165): 283–296. <https://doi.org/10.1111/1468-2451.00259>
- Ashby, N. 2007. Economic freedom and migration flows between U.S. states, *Southern Economic Journal* 73(3): 677–697.
- Ashby, N. J.; Bueno, A.; Martinez, D. 2013. Economic freedom and economic development in the Mexican states, *Journal of Regional Analysis and Policy* 43(1): 21–33.
- Barkley, A.; McMillan, J. 1994. Freedom and the response to economic incentives: labor migration in Africa, 1972–1987, *Journal of Development Economics* 45(2): 395–406. [https://doi.org/10.1016/0304-3878\(94\)90039-6](https://doi.org/10.1016/0304-3878(94)90039-6)
- Bijak, J. 2006. *Forecasting international migration in Europe: a Bayesian view*. The Springer Series on Demographic Methods and Population Analysis. Vol. 24. Springer Science + Business Media B.V. <https://doi.org/10.1007/978-90-481-8897-0>
- Bonfanti, S. 2015. Towards a migrant-centred perspective on international migration: the contribution of amartya sen's capability Approach, *Social Work and Society* 13(1): 1–20.
- Bonfiglio, A. 2011. *New approaches for researching the determinants of migration processes: ESF strategic workshop on migration research* [online], [cited 27 October 2014]. Available from Internet: <http://www.imi.ox.ac.uk/pdfs/new-approachesfor-researching-the-determinants-of-migration-processes>.
- Borjas, G. J. 1987. Self-selection and the earnings of immigrants, *American Economic Review* 77: 531–553. <https://doi.org/10.3386/w2248>
- Castles, S.; Miller, M. J. 1993. *The age of migration: international population movements in the modern world*. London: Macmillan.
- Clark, J. R.; Pearson, D. 2007. Economic freedom, entrepreneurship, migration and economic growth, *Clarion Business and Economic Review* 6(2): 10–23.
- Clark, T. S.; Linzer, D. A. 2015. Should I use fixed or random effects?, *Political Science Research and Methods* 3(2): 399–408. <https://doi.org/10.1017/psrm.2014.32>
- Colasanto, D.; Kapteyn, A.; van der Gaag, J. 1984. Two subjective definitions of poverty: results from the Wisconsin basic needs study, *The Journal of Human Resources* 19(1): 127–138. <https://doi.org/10.2307/145421>
- Dobson, J. R.; Sennikova, I. 2007. From fundamental freedom to political and economic “hot potato” in 50 years: labour mobility and migration within the EU, *Journal of Business Economics and Management* 8(2): 123–136.

- De Haas, H. 2010. Migration and development: a theoretical perspective, *International Migration Review* 44: 227–264. <https://doi.org/10.1111/j.1747-7379.2009.00804.x>
- Economic Freedom Network. 2015. *The Fraser Institute database* [online], [cited 07.03.2015]. Canada: The Fraser Institute. Available from Internet: http://www.freetheworld.com/datasets_efw.html
- Eurostat. 2015. *New Cronos database* [online], [cited 25.05.2015]. Luxemburg: Eurostat. Available from Internet: <http://ec.europa.eu/eurostat/data/database>
- Faini, R.; Venturini, A. 1994. Trade, aid and migrations. Some basic policy issues, *European Economic Review* 37: 435–442. [https://doi.org/10.1016/0014-2921\(93\)90032-6](https://doi.org/10.1016/0014-2921(93)90032-6)
- Feridun, M. 2007. Immigration, income and unemployment: an application of the bounds testing approach to cointegration, *Journal of Developing Areas* 41(1): 1–21.
- Gould, D. M. 1994. Immigrant links to the home country: empirical implications for U.S. bilateral trade flows, *Review of Economics and Statistics* 76: 302–16. <https://doi.org/10.2307/2109884>
- Friedman, M. 1962. *Capitalism and freedom*. Chicago: University of Chicago Press.
- Hall, J. C.; Lawson, A. L. 2014. Economic freedom of the world: an accounting of the literature, *Contemporary Economic Policy* 32(1): 1–19. <https://doi.org/10.1111/coep.12010>
- Harris, J. R.; Todaro, M. P. 1970. Migration unemployment and development: a two sector analysis, *American Economic Review* 60: 126–142.
- Hart, R. A. 1975. Interregional economic migration: Some theoretical considerations, *Journal of Regional Science* 15(2): 127–138. <https://doi.org/10.1111/j.1467-9787.1975.tb00915.x>
- Hatton, T. J. 2005. Explaining trends in UK immigration, *Journal of Population Economics* 18(1): 719–740. <https://doi.org/10.1007/s00148-005-0015-1>
- Haug, S. 2008. Migration networks and migration decision-making, *Journal of Ethnic and Migration Studies* 34 (4): 585–605. <https://doi.org/10.1080/13691830801961605>
- Hicks, J. R. 1932. *The theory of wages*. Macmillan, London.
- Javoricik, B.; Özdemir, Ç.; Spatareanu, M.; Neagu, C. 2011. Migrant networks and foreign direct investment, *Journal of Development Economics* 94(2): 231–241. <https://doi.org/10.1016/j.jdeveco.2010.01.012>
- Jennissen, R. P. W. 2003. Economic determinants of net international migration in Western Europe, *European Journal of Population* 19: 171–198. <https://doi.org/10.1023/A:1023390917557>
- Josifidis, K.; Supic, N.; Pucar, E.; Srdic, S. 2014. Labour migration flows: EU8+2 vs EU-15, *Journal of Business Economics and Management* 15(1): 45–55. <https://doi.org/10.3846/16111699.2013.841283>
- King, R. 2002. Towards a new map of European migration, *International Journal of Population Geography* 8(2): 89–106. <https://doi.org/10.1002/ijpg.246>
- King, R. 2012. *Theories and typologies of migration: an overview and a primer*. Malmö University.
- Kumpikaitė, V.; Zickute, I. 2012. Synergy of migration theories: theoretical insights, *Inžinerine Ekonomika-Engineering Economics* 23(4): 387–394.
- Lee, E. 1966. A theory of migration, *Demography* 3(1): 47–57. <https://doi.org/10.2307/2060063>
- Mabogunje, A. L. 1970. Systems approach to a theory of rural–urban migration, *Geographical Analysis* 2: 1–18. <https://doi.org/10.1111/j.1538-4632.1970.tb00140.x>
- Mansoor, A.; Quillin, B. 2006. *Migration and remittances. Eastern Europe and the Former Soviet Union*. [online], [cited 18 June 2015]. The World Bank. Available on the internet: http://siteresources.worldbank.org/INTECA/Resources/2578961167856389505/Migration_FullReport.pdf
- Massey, D. S.; Arango, J.; Hugo, G.; Kouaouci, A.; Pellegrino, A.; Taylor, J. E. 1993. Theories of international migration: a review and appraisal, *Population and Development Review* 19(3): 431–466. <https://doi.org/10.2307/2938462>

- Massey, D. S. 2002. A synthetic theory of international migration, in V. Iontsev (Ed.). *World in the mirror of international migration*. Moscow: MAX Press.
- Metelski, D.; Mihi-Ramírez, A. 2015. The economic impact of remittances and foreign trade on migration. Granger-Causality approach, *Inzinerine Ekonomika-Engineering Economics* 26(4): 364–372. <https://doi.org/10.5755/j01.ee.26.4.12464>
- Mihi-Ramírez, A.; Cuenca-García, E; Miranda-Martel, M. J. 2016. Is there a causality between emigration and other mobility factors? A panel VAR models approach for Baltic and Scandinavian countries, *Inzinerine Ekonomika-Engineering Economics* 27(3): 325–333. <https://doi.org/10.5755/j01.ee.27.3.14395>
- Myrdal, G. 1957. *Rich lands and poor*. New York: Harper and Row.
- Panahi, H.; Assadzadeh, A.; Refaei, R. 2014. Economic freedom and economic growth in MENA countries, *Asian Economic and Financial Review* 4(1): 105–116.
- Piketty, T. 2014. *Capital in the twenty-first century*. Cambridge: Harvard University Press. <https://doi.org/10.4159/9780674369542>
- Piore, M. J. 1979. *Birds of passage: migrant labour in industrial societies*. Cambridge, England: Cambridge University Press. <https://doi.org/10.1017/CBO9780511572210>
- Portes, A. 1997. Immigration theory for a new century: some problems and opportunities, *International Migration Review* 31: 799–825. <https://doi.org/10.2307/2547415>
- Powell, J. A. 2014. *Six policies to reduce economic inequality* [online], [cited 23 September 2015]. Berkeley: Berkeley Diversity. Available from internet: <http://diversity.berkeley.edu/6-policies-to-reduce-economic-inequality>
- Runciman, W. G. 1966. *Relative deprivation and social justice: a study of attitudes to social inequality in 20th century England*. Berkeley: University of California Press.
- Sanderson, M. R.; Kentor, J. D. 2009. Globalization, development, and international migration: a cross-national analysis of less-developed countries, 1970–2000, *Social Forces* 88: 301–26. <https://doi.org/10.1353/sof.0.0225>
- Sauvant, K. P.; Mallampally, P.; Economou, P. 1993. Foreign direct investment and international migration, *Transnational Corporations* 2(1): 33–69.
- Sell, R. R.; DeJong, G. F. 1978. Towards a motivational theory of migration decision making, *Journal of Population* 1(4): 313–335. <https://doi.org/10.1007/BF00972555>
- Skeldon, R. 1997. Rural-urban migration and its implications for poverty alleviation, *Asia-Pacific Population Journal* 12(1): 3–16.
- Stark, O.; Taylor, J. E. 1989. Relative deprivation and international migration, *Demography* 26(1): 1–14. <https://doi.org/10.2307/2061490>
- Stark, O.; Taylor, J.E.; Yitzhaki, S. 1988. Migration, remittances and inequality: a sensitivity analysis using the extended Gini index, *Journal of Development Economics* 28(3): 309–322. [https://doi.org/10.1016/0304-3878\(88\)90002-8](https://doi.org/10.1016/0304-3878(88)90002-8)
- Stark, O.; Micevska, M.; Mycielski, J. 2009. Relative poverty as a determinant of migration: evidence from Poland, *Economic Letters* 103(3): 119–122. <https://doi.org/10.1016/j.econlet.2009.02.006>
- STATA . Data Analysis and Statistical Software. [Software] Version 13. Texas, 2013.
- Teitelbaum, M. S. 1989. Skeptical noises about the immigration multiplier, *The International Migration Review* 23(4): 893–899. <https://doi.org/10.2307/2546467>
- United Nations. 1998. *World population monitoring 1997: International migration and development*. New York: United Nations Publications.
- Vias, A. C. 2010. The Influence of booms and busts in the U.S. Economy on the interstate migration system, *Growth and Change* 41(1): 115–135. <https://doi.org/10.1111/j.1468-2257.2009.00518.x>

- Wallace, S. B.; DeLorme, C. D.; Kamerschen, D. R. 1997. Migration as a consumption activity. *International Migration* 35(1): 37–58. <https://doi.org/10.1111/1468-2435.00003>
- Wallerstein, E. 1974. *The modern world system. Capitalist agriculture and the origins of the European world economy in the 16-th century.* New York: Academic Press.
- World Bank. 2015. *World Bank Open Data* [online] [cited 11 March 2015]. Washington: The World Bank. Available from Internet: <http://data.worldbank.org/>

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