

Summary of Doctoral (Ph.D.) Thesis

THEORY OF INTERNATIONAL LABOUR-FLOW AND TESTING THESE THEORIES ON A FEW EXAMPLES FROM THE EUROPEAN UNION

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1) Justifying the choice of topic and defining the topic

In the history of the European Union migration has remained a current issue from the beginning of the 1990s to the present day and the former Soviet bloc countries of Eastern Europe have come to play an important role in this story. Before the year of 2004, East-West migration became a scientifically cardinal question due to the Western European pessimism related to EU enlargement, viz. its member states feared that with opening the labour market the employees coming from the former Soviet bloc countries would emigrate to the West in huge waves.

The researchers were principally interested in the scale of migration, and in the second place its prospective economic and social effects. (Layard, et al., 1992), (Baldwin, 1994) (Walterskirchen & Dietz, 1998), (Boeri & Brücker, 2001). After 2004 they started to analyse the free movement of the citizens resulted by the enlargement and the first experience of the restrictions. (Brücker & Damelang, 2009), (Hárs, 2013), (Hárs & Simon, 2015), (Kahanec & Zimmermann, 2010)

From 2015 the influx of refugees fleeing from war and political reasons and economic migrants have become increasingly in the centre of attention. Meanwhile the derogation period introduced by the Western countries ended including that from 2011 the citizens of the Eastern European countries participating in the first round of EU enlargement should enjoy the rights of free movement of labour in the EU. The poll on the British exit from the 28-nation EU (Brexit poll) has become a delicate political issue, whose campaign topic of analysing the negative effects concerning migration is of great importance. From Hungary's own point of view, it can be stated that the number of Hungarian people deciding to emigrate is increasing with still knowing little of its magnitude and the composition of the migrants.

Migration has economic and non-economic aspects. Moreover, the two cannot be always separated from each other. How to determine, for example, when a political refugee starts to work? Is it a political, sociological, psychological or economic question when a migrant staying for the purpose of employment experiences racism? The aim of the research which serves as a base for my thesis is to analyse migration as an economic phenomenon focusing principally on revealing the economic patterns and applying economic models.

It should be noted that EU migration can be examined from various aspects. Even the same type of migration can be interpreted in different ways. For instance, with reference to the East-West migration the developed member states - being also the top destination countries for immigration - are interested mostly in the total effects regarding the processes of migration

from poorer countries. On the other hand, the country-specific characteristics of the movement of labour gain at least the same level of importance for the poorer (new) member states.

All regions and periods of time have their own migration tendencies. The processes of labour migration in today's Europe are determined by the EU principles (free movement of labour) being implemented by the expiry of the restrictions ending the transitional period and the debates about them (Brexit, refugee crisis).

2) Research objectives and applied methods

Migration is one of the central issues of the globalisation processes becoming more and more intense, and as such, it is a global phenomenon. However it has specific regional features, thus, besides maintaining the need for comparative analyses, it is worth examining the regional specificities as well. A Hungarian researcher finds EU membership, more precisely its antecedents (migration derogations) and consequences (free movement of labour) the most important regional potential. The author restricted his research to the previously mentioned area in the course of which he subordinated his research activity related to migration to three essential final aims:

1. He aimed to have a broad range of knowledge about migration estimates, and having carried out the synthesising analysis of the theories and models, to perform some own examinations. He originated from the presumption that the current East-West European migration processes concentrated on in the research:
 - a) bear common and generalizable features,
 - b) have country-specific features worth being emphasized and
 - c) cannot be described using one single model with full confidence.

The thesis lays much emphasis on a specific segment of the East-West European migration processes, namely the labour force migration of ECE8 to Great Britain. Based on the WRS¹'s databases, only the British statistics made it possible to get migration data quarterly. The database is available for the period of the 2nd quarter in 2004 to the 2nd quarter in 2011, i.e. it covers 28 quarters in total and allows us to carry out time series analysis.

¹ Worker Registration Scheme

2. Apart from the estimates the thesis focuses on the potential economic impacts of migration, primarily trying to draw a general conclusion from a theoretical point of view. The neoclassical model of factor flow justifying mobility with the inequalities in factor incomes is in the highlight of the analysis. The reason why this model was chosen to be the subject of the analysis is that the researchers analysing the East-West European migration processes explain the international mobility of labour force with the income inequality. In his thesis, the author also analyses to what extent the fundamental axioms of the neoclassical model of factor flow fulfil, or if they do not, what consequences they have concerning the applicability of the model.
3. One of the author's research objectives of high importance was to measure the Hungarian higher education students' intentions to migrate. Compiling, filling in and evaluating the questionnaires proved to be a demanding task, moreover, due to lack of financial resources both organising and evaluating tasks were time-consuming. In the chapter summarising the results of the questionnaires we concentrated on the factors that – along with the income inequalities - prove to be important motivating factors of migration. The questionnaire survey also names the most popular destinations among the students participating in the survey.

Obviously, the first pillar of the applied method in the thesis was the search and examination of the national and international scientific literature on the subject. Owing to its diffuse literature, summarising and synthesising the publications on the topic proved to be a serious challenge. The literature processed by the author can be divided into categories on the bases of the following topics:

- Fundamental research on migration theory. Categorizing migration, a comprehensive analysis of previous work results. (Castles, et al., 2014)
- Migration estimates. (Layard, et al., 1992); (Walterskirchen & Dietz, 1998); (Straubhaar, 2001)
- Neoclassical migration theory. The questions of migration and growth. (Krugman & Obstfeld, 2003); (Barro & Sala-i-Martin, 2004)
- Hungarian scientific literature on migration. (Blaskó, et al., 2014); (Hárs & Simon, 2015)

The first introductory literature review chapter of the thesis deals with the fundamental literature of the topic. Further readings on the theoretical approach of migration see: (Honvári, 2004a; 2004b; 2014).

The second element of the applied method during the research is an analysis using the statistics database (WRS) about Eastern European employees arriving at Great Britain, with the help of which the author examined the extent to which the income gaps between the Eastern European countries and Great Britain explain the differences among the countries regarding the migration rate per number of inhabitants calculated from migration statistics. The author confronts the results obtained with the conclusions of two other analyses relevant to the field. [(Barro & Sala-i-Martin, 2004); (Straubhaar, 2001)]

The third applied method is an economic model, of which base is the neoclassical theory of the free movement of labour between the two countries. (Krugman & Obstfeld, 2003) The author using the fundamentals of the model deduces and defines labour migration's effects on welfare combined with and without capital flow and gives a detailed analysis on them broken down by sector and country.

Finally, the fourth applied method is a primary research in the course of which a questionnaire of 37 questions was filled in by the students of seven Hungarian, previously selected higher education institutes. The 500 questionnaires sent out are equal to the proportion of the education programmes represented in the universities of the country (Economics, Law, Engineering, Arts, Health Care). This representativeness could only be realized with the original number of questionnaires sent out, the 324 filled-in forms I received did not show the original proportion. Thus, Law and Economics courses are slightly overrepresented while Engineering courses are underrepresented in the sample compared to the national data.

The main aim of using survey questionnaires was to survey higher education students' migration plans concerning study, employment and settling down, their motives, the direction of migration and its duration of time. A further objective was to find an answer for the question of whether there is any measurable tendency among migration willingness and the scope of training, year of education, age, region, financial situation, etc. Evaluating the answers, the author applied IBM SPSS Statistics 19 predictive analytics software to generate crosstab reports to check the strength of the relationships among the answers of the various questions with a Chi-square test. At the data where a significant relationship can be detected (providing the conventionally accepted significance level of 5%) Cramer's V is also given.

3) The structure of current doctoral thesis

The thesis consists of four main chapters:

In the first chapter, the scientific literature on treating labour migration as an economic question is explained in details. In the chapter the author paid serious attention to the presentation of migration estimate models.

In the second chapter, the author examines the common and the country-specific features of the East-West European labour migration through a specific example. The developed states of the EU, as the potential destination countries of migration, have handled the question of free labour movement with particular sensitivity. There are some of them (e.g. Great Britain) who opened their labour market on the day of the Eastern enlargement, while others (e.g. Germany and Austria) exercised their right to have a 7-year transitional derogation period after signing the Treaty of Accession. The first experience of the free movement of labour in Great Britain shows that although Eastern European migration reached extremely high levels, there are significant differences among the countries regarding mobility. It is therefore perfectly clear that migration prognostics using income and salary inequalities need completion, their explanatory power is questionable. The author pinpoints that the differences revealed by purchasing power parity GDPs per capita do not explain the migration processes of all the Eastern-Central European countries. In this chapter, beyond income inequalities, the author presents a more complex model integrating three more factors (unemployment, migration net and distance), especially drawing attention to the limits of applicability.

The third chapter analyses the economic effects of labour migration. By means of the neoclassical labour migration model it examines its welfare effects on migration countries and sectors in details. It also analyses the consequences of capital flow, and draws conclusions assuming the joint flow of the two factors of production. At the end of the chapter, the author mentions some questions concerning the free movement of human capital.

The fourth chapter of the thesis summarises the results of several survey questionnaires. Analysing migration intentions of labour and study was incorporated into a separate subchapter.

4) Dissertation hypotheses

This doctoral thesis examines 6 hypotheses, which are the following:

Hypothesis 1: The applicability of the models estimating East-West European migration are highly questionable, since their methodology, their scope of examination, as well as their results are different from each other to a great extent. This means, there is no single effective method or a general model to estimate the migration process.

Hypothesis 2: If we investigate the migration processes of the emissive countries, it is visible in the case of Great-Britain, which was among the first countries to ensure free labour-migration after the accession of East-European countries, that the income gap between these countries does not appropriately explain the discrepancy of the migration.

Hypothesis 3: The fundamental axioms of the neoclassical migration theory have become unrealistic in several cases endangering the general applicability of the model and drawing the consequences.

Hypothesis 4: Based on expanded analysis of the neoclassical migration theory, the derogation-request of the old EU member states aiming to restrict the free labour-movement is certifiable and defensible.

Hypothesis 5: Students of the Hungarian higher education system imply a serious migration potential; their migration willingness has increased in the period of 2006-2013.

Hypothesis 6: Regarding the foreign employment intentions the three most important target countries for Hungarian students are Austria, Great Britain and Germany.

Hypothesis 7: Regarding the labour migration it can be stated, that possessing the language skills of the target country is a determining factor for students, when choosing the destination country.

5) The new and novel results of the doctoral thesis

The first chapter of the thesis presents the methodological differences among the models estimating migration. Previous studies differ from each other not only regarding the applied method, but also their results give reasons to several debates, very often they do not even agree on the expected amount of migration. However, despite these debates, Hypothesis 1 was rejected. The fact itself, that the methodology and results of these models differs, do not necessarily certify the assumption, that there is no single effective way to estimate migration.

The second chapter of the dissertation analyses the migration data collected from the WRS database in details. The model of Barro and Sala-i-Martin (Barro & Sala-i-Martin, 2004) and other analyses consider income inequalities as the most important factor to make a decision concerning migration. Consequently, the examination of the extent to which the economic lagging articulated by the GDP per capita measured on purchasing-power parity explains the migration statistics of the individual countries proved to be a logical step. There can be presented a close relationship between the purchasing-power parity measured by the GDP differences per capita and the migration willingness to Great Britain. The countries with higher per capita income can be defined with lower emigration rates. On the other hand, not only income inequalities influence the migration decisions made by the employees. Taking the GDP per capita lagging (of purchasing-power parity) compared to Great Britain's into account, Hungary was the third in 2004-2005, the fourth in 2006 (tying with Slovakia), the fifth in 2007-2008, again the fourth in 2009, and repeatedly the fifth in 2010 in the rank of the 8 Eastern European countries. However Hungary is also ranked fifth in the migration rank compared to the total number of population, although it should either be in the second or the third place if GDP data were counted. The ratio of the Hungarian employees in Great Britain to the total Hungarian population was slightly more than one third of the average of the EU8 in the period of 2004-2011, approximately the three quarters of the Estonian data, which has more or less the same development level, and one quarter of the Slovakian migration, who are alternating being a bit ahead or lagging behind us in the development rank. Owing to the tightness of the GDP relationship, we receive results justifying Hypothesis 2 (see below). Chart 1 demonstrates how the lagging itself - in terms of their GDP indicated by their purchase-power parity - of the Eastern European countries being compared to Britain's GDP indicated by the purchase-power parity explains the (gross) migration rate per number of inhabitants to Britain. The chart below contains the correlation coefficient (r) indicating the closeness of relationships.

Chart 1. Correlation coefficients between the GDP/capita (PPP) and migration rate

	CZ	EST	HUN	LAT	LIT	POL	SK	SL	EU8
r	-0,67	-0,83	0,44	-0,22	-0,62	-0,71	-0,61	-0,13	-0,69

Source: own calculation

The chart uncovers that the relationships with the individual states of the EU8 lead to very different outcomes. In the case of Hungary even the presupposition of increasing the purchase-power parity GDP per capita will decrease migration does not fulfil. While regarding Slovenia and Latvia, only a very weak relationship can be detected between the variables based on the correlation coefficient values. Although in the case of Czechia, Estonia, Poland and Slovakia the correlation coefficient value along with the overall results refer to a tight relationship.

On the basis of the above mentioned the second thesis of the dissertation is:

Thesis 2: In the case of Great Britain, the aggregated migration data of EU8 compliances the prognosis based on income inequality, which means, the data is within the range estimated with the Barro-model. However, between the single countries, the differences within the population-proportional migration rates can not be significantly explained only by the income gaps.

The third chapter of the dissertation draws conclusions from the basic model of the neoclassical migration theory. Based on the model, the author defines nine simplifying conditions (two national models, status quo at the beginning, which suddenly changes, PPF curve depends on the supply of factors; two production factors out of which the capital is constant; different payments in the two countries; full employment in both countries; ignoring the impacts of the movement of goods and capital; perfect competition and information; homogenous production factors). Each model has conditions to simplify, but several of the basic axioms of the neoclassical migration theory are unacceptable, which generates Thesis 3:

Thesis 3: The basic axioms of the neoclassical migration theory are so unrealistic in several cases that they endanger the general applicability of the model and the possibility to draw a conclusion. Despite all of it, the neoclassical theory has a justification, as far as we intend to examine the extent and effects of international labour migration on a theoretical scale, within the framework of pure market economy.

Meanwhile, it is to be noted that despite its above mentioned limits the neoclassical migration theory is still relevant. After running and extending the model, the paradox of why the recipient countries enjoying the impacts of migration on welfare took the advantage of applying derogation can be resolved. The neoclassical labour-flow theory summarising the basics of economic migration (Krugman & Obstfeld, 2003) clarifies that the total impacts of migration on welfare are positive, from the point of view of the impact on GDP, the country to immigrate in wins and the country emigrated from loses. Yet during the accession negotiations, it were the countries theoretically having a winning situation - according to this theory – who asked for a seven-year transitional period to allow the free movement of labour, while on the other hand, from the point of view of the “losing” poorer countries the question was only important for being able to improve their bargaining positions in other areas due to migration derogation. The supposedly losing party became the winning one - they lost the battle but won the war. The paradox can be resolved if we look into the economic impacts of migration (impact on wages, income distribution and effects on labour market). The dissertation lays great emphasis on the analysis of the neoclassical migration theory from the above mentioned aspect and to complete it with new thoughts as well. As a result, thesis 4 can be formulated:

Thesis 4: Based on expanded analysis of the neoclassical migration theory, the derogation-request of the old EU member states aiming to restrict the free labour-movement is certifiable and defensible. These countries, although theoretically they gain from the free labour-movement (positive effect on GDP and GNI), they primarily used the temporary restricting tools from a political point of view, on account of the expected wage and labour market tensions.

The fourth chapter of the dissertation surveyed a number of higher education students' migration potential. The results supported Hypotheses 5-7, however, since the sample can not be considered as representative, these hypotheses were rejected even despite the fact, that the results were confirmed by statistical analysis.

6) Conclusions and suggestions

Following the logic of the research conception, the next step after the detailed critical analysis of the questions concerning numbers was to examine the expected economic impacts. Among the huge number of alternative methods available concerning the topic, the author selected the detailed model analysis of the neoclassical migration theory, which had several reasons:

First of all, teaching the neoclassical labour flow model is considerably widespread at the national (and international) universities and colleges of Economics. The previously mentioned work of Krugman and Obstfeld (Krugman & Obstfeld, 2003) is one of the most frequently used and maybe detailed international book on international economics in our national textbook market. However even this textbook, which can otherwise be utilized well in many aspects, cannot give proper answers for the questions emerged in the course of the research and articulated in the thesis. Therefore, based on the Hungarian teaching practice the author tried to give answers for the crucial and unavoidable dilemma with retaining its original frames but rethinking and extending the model itself.

Secondly, the theory of income inequality with neoclassical bases is the most popular one in migration research. In connection with the neoclassical migration theories several critical remarks can be issued. The conditionality of the model, articulated in Thesis 4 in the present dissertation, widely differs from the EU's migration conditionality in several cases. Thus we are right to call into question the accuracy of the conclusions drawn from the model in the case of such deviations. The author attempted to resolve the dilemma with adjusting the conclusions drawn from the neoclassical migration theory to the altered conditionality. As a result, he verified that the derogation request on free movement of labour of the old member states is not contradictory with the conclusions of the neoclassical model. It is worthwhile for further consideration why Germany, the country which used up all the seven years at its disposal to restrict Eastern European labour flow, inspires the mass immigration of refugees from the Middle-East and Africa.

The analysis of the higher education students' migration intentions is more topical than ever. On the one hand, it is one of the external impacts² of the much-discussed new Higher Education Act that the national higher education institutions need to compete - rather globally - for top students harder than ever. On the other hand, in 2011 the restrictions of the transitional period ended, the unified internal market of the EU became open for the Hungarian migrants, and it seems that despite the deceleration of the European economy and the Eurozone crisis, the wealthier member states still attract the Hungarian employees.

² I would rather not take sides whether we can talk about a positive or a negative impact.

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