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Doctoral School**

THESES OF THE PhD DISSERTATION

of

József Golovics

**Economics of Migration:
an Institutional Approach**

Supervisor:

**Rosta Miklós PhD
Associate professor**

Budapest, 2019

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1. Research Background and Justification of the Topic

International migration is a phenomenon deeply incorporated into our everyday life and has had an overwhelming presence throughout the history of mankind and according to our present knowledge it will have been known as the greatest challenge of all times. Among its consequences, both positive and negative ones can be listed. Out of the previously mentioned, it can be emphasized that along with the possibility of migration, from a macro-economic point of view, the market can efficiently allocate labor force across the borders, which can ameliorate the welfare on individual level as well. The downside of all of this can be significant in the country of origin where it leads to the deterioration of demographics and innovation potential, labor shortage and fiscal losses when it comes to brain drain. (Golovics, 2015, 2019).

The variegation of impacts makes the comprehension and reveal of the drivers and causes of migration exceptionally significant. In line with this, disciplines of social science conquered the field of setting up theories of migration (for comprehensive overviews see Bauer & Zimmermann, 1995; Hagen-Zanker, 2008; Massey et al., 1993). The neoclassical macroeconomic approach to migration at high averages explains well the direction and approximation of migration, but it does not address the issue of selection, which is why some people from the same country choose to emigrate while others choose to stay. The neoclassical microeconomic (human capital) theory of migration has sought to answer this question, but despite its indisputable merits, this approach is open to more criticism. These models are based on the postulate of perfect rationality, which, among other things, assumes complete information and optimization-based decision-making, which is highly questionable from a realistic point of view. In addition, it treats the individual without a social context, and thus does not take into account social relationships (such as family relationships) or the institutional environment surrounding the individual. In this context, neoclassical human capital theory largely ignores the achievements and theories of emerging schools of recent decades' economic science, such as institutional and behavioral economics. Other approaches in migration research, such as push-pull theory, new economics of migration, theory of migration networks, and other sociological and behavioral approaches, as well as empirical evidences, could help fill these gaps. However, they have not been integrated into the microeconomic theory of migration, or only partially - that is, not through the use of economic concepts (Hagen-Zanker, 2008).

The need for theoretical progress can also be justified from an empirical point of view. One of the most important issues to be "solved" in migration research is the puzzle of staying in place. This is derived from the fact that, based on the implication of existing economic

theories, migration would be a rational decision for a significant proportion of the world's citizens, but most of them do not migrate (Borjas, 2014; Faini & Venturini, 2010). This phenomenon highlights the fact that there must be a number of previously neglected factors that significantly influence an individual's willingness to migrate.

Our dissertation intends to make progress along the above outlined points. Our goal is to build a micro-level model that provides an economic explanation of what influences an individual's willingness to migrate. While drawing up this model, we build and rely on the results of the theory of human capital, but, using empirical results from other disciplines, complement it with some of the achievements of new institutional economics and behavioral economics. In our view, this paints a more realistic picture of the factors that influence an individual's migration decision. The institutional and behavioral economics approach, in contrast to earlier economics literature, not only shades the assumptions related to the actors of the model, but also embeds them in a social context rather than a vacuum; into an environment, where social relationships are important and valuable in besides the external environment - and the institutional approach allows for this in combination with formal model building. This does not mean, of course, that we would like to refer to our model as "exclusive" or "universal". In that respect, however, our model can be regarded as 'inclusive' that it integrates and synthesizes a range of knowledge external of the neoclassical economics that could have previously only be found in the literature of previously existing schools and disciplines. Thus, the theoretical contribution of our dissertation is an institutional economics based model of migration.

In view of this, we seek to answer the question of what institutional factors and behavioral motives, besides those considered in the neoclassical economic approach to migration, influence the individual's willingness to migrate. For our research question, the following hypotheses are given:

- H1: *The quality of countries' institutional systems influences an individual's willingness to migrate. The good institutional system of the country of origin is a 'pull factor', while the bad institutional system is a 'push factor' on potential migrants.* It is now almost commonplace in economics that institutions matter (North, 2011). Although this fact has been noticed in the migration literature (see, for example, Bertocchi & Strozzi, 2008), a comprehensive individual-level theory, based on the achievements of institutional economics, has not yet been outlined.
- H2: *The amount of transaction costs an individual faces in searching or migrating affects the willingness to migrate. There is a negative relationship between transaction costs and the willingness to migrate.* Although neoclassical economic models are always on the ground of perfect rationality, there is no doubt that the rationality

postulate cannot be practically proven, which justifies the use of the concept of bounded rationality in migration models. One of the most important consequences of this is the "appearance" of transaction costs (Coase, 1937). Although earlier literature has regularly discussed certain transaction-cost factors among the influencing factors of migration (see, eg, Sik, 2012), in the present dissertation, we intend to provide a unified theoretical framework using the achievements of institutional economics.

- H3: *The existence and extent of specific investments influence the individual's willingness to migrate. There is a negative relationship between the level of specific investment and the willingness to migrate.* The extent of relationship-specific investment has a decisive influence on the durability of a relationship (Williamson, 1985). The existence of specific investments can, in the extreme, be able to "link" business partners. In our view, a similar phenomenon may exist between the individual considering migration and his country of origin.
- H4: *The existence and extent of the psychic costs of an individual's altruism influence the willingness to emigrate. There is a negative relationship between altruistic relationships and the resulting psychic costs and the willingness to emigrate.* In addition to the rationality postulate, other basic behavioral assumptions of neoclassical economics, self-interest, have been the subject of much criticism in recent decades. From an empirical point of view, the existence of altruism is hardly an issue. Although people tend to reject the possibility of migration because of their attachment to their family or their country (see, for example, Zaiceva & Zimmermann, 2008), various disciplines of the social sciences have already outlined several aspects, but we believe that using altruistic behavior may prove to be suitable for being incorporated into an economic model.

In our research we follow a deductive logic: in our dissertation we provide theoretical grounding to our hypotheses formulated in this paper, and then test them in an empirical research. The first step in this is to construct a theoretical model using the basic achievements of institutional and behavioral economics. Thus, our model is based, among other things, on the concept of bounded rationality by Simon (1987) and on the institutional theory of North (2010). We also rely heavily on the idea of positive transaction costs, which Coase (1937) introduced into economic thinking. We also use the concept of asset-specificity, which is the central element of the new institutional economics school, marked by Williamson (1985). This is complemented by Becker's (1976) interpretation of altruism, which is linked to Hirschman's (1995) concept of loyalty. As it can be seen, in our Hypotheses H1, H2 and H3, we linked the most important concepts of institutional economics with migration. Moreover, their appearance in the model can be traced back to the recognition of the limits of rationality.

Incorporating altruism (H4) also means modifying the behavioral assumption of the model. All in all, it can be said that the deviation of the implication of our model from the neoclassical one is fundamentally related to a change in behavioral assumptions. We test the "appropriateness" of our theoretical model through empirical research. However, based on the empirical results, we do not intend to estimate the migration potential or expected migration trends of the sample countries. Thus, our theoretical model can be regarded as an analytical model, not a historical one, and its empirical testing can be considered as an application.

2. Model

Our theoretical model was basically based on the neoclassical microeconomic approach to migration (DaVanzo, 1981; Sjaastad, 1962), but in addition to it, partly on the basis of other approaches, we supplemented it with the achievements of institutional and behavioral economics. As a result, we have built a coherent, economically based, institutionalist approach to migration theory. The actor of our model is intended to be rational, but in fact he is somewhat limited (Simon, 1987, 1997). Because of the limitations of his cognitive abilities, he does not know reality in its entirety, so he has to explore possible alternatives and information about them, which entails transaction costs. However, this information gathering is not an optimization process but a heuristic search process (North, 2010). From the options he explores, he ultimately chooses the one that, according to his subjective assessment, offers him the best, that is to say, the highest level of utility among the possible alternatives. In choosing this best alternative, the individual is driven by self-interest, but if his preferences are interdependent (Becker, 1976), which is allowed in our model, therefore he may show altruistic attitudes.

Institutions influence individuals' migration intentions. On the one hand, they can shape the net benefits of the emigration alternative, and on the other hand, given that their basic function is to reduce uncertainty (North, 2010), they fundamentally determine the extent to which citizens feel their future predictable in their country of origin. If institutions fulfill their function of reducing uncertainty, then people will trust them (Györffy, 2012), which may encourage them to stay at home.

Migration decision is influenced by factors other than those identified in the neoclassical microeconomic approach (utilization of human capital abroad and home; costs and benefits, see Sjaastad, 1962). These are the transaction costs of searching, which essentially determine how much time an individual spends on the search and thus find an alternative. In addition, during his or her previous life, the individual made, either intentionally or unintentionally, numerous country-, place-, and relationship-specific investments (such as buying real estate; building personal or work relationships; learning about local conditions, etc.) that would become a sunk cost in the case of migration.

(Williamson, 1985). The existence of these can thus discourage people from migrating. The existence of an altruistic attitude can also have a similar effect. Altruism links the well-being of potential migrants and relatives, creating a kind of loyalty-based relationship (Hirschman, 1995). Thus, in the case of migration, the altruistic individual would feel dependent on his or her own utility to do so, to the detriment of his or her relatives.

Based on the above, in our dissertation we formally described what kind of payments the individual can expect in the case of the emigration and the alternative of staying, and in this form we deduced the direction in which the factors included in our hypotheses may influence the likelihood of migration.

3. Data and Methodology

We tested our theoretical model and hypotheses empirically. For this, Eurobarometer data on migration intentions were used. We have discussed in detail and proved that, although the expression of the intention to migrate is of course not the same as the actual migration, the use of data concerning the former can be considered as common in migration research (Zaiceva & Zimmermann, 2008); among other things, because the socio-demographic characteristics of people who express a willingness to migrate are very similar to those of actual migrants (Sik & Szeidl, 2016).

The empirical testing was performed in two rounds of surveys using the Eurobarometer 2008 Eurobarometer 70.1 (Oct-Nov 2008) and 2010 Eurobarometer 73.3 (Mar-Apr 2010) respectively (European Commission, 2012a, 2012b). Our study focuses on which variables have a significant effect that increases or decreases an individual's willingness to migrate. As the result variable of our model, that is, the willingness to migrate is a binary variable, we used logistic regressions (logit models) instead of the standard OLS technique. The empirical models were also evaluated in a variety of specifications, using sub-samples, using purified migration potential, and involving country dummies to check robustness. Their fit and the various model diagnostic aspects were checked by means of relevant statistical indicators and tests.

In the logistic regression of empirical studies, the individual's willingness to emigrate was estimated using the explanatory variables in *Table 1*.

Table 1: Explanatory variables used in empirical research

| Study 1. | | Study 2. | |
|---|---------------------|---|---------------------|
| Variable and Content | Link. hypothesis | Variable and Content | Link. hypothesis |
| Network_experience: lived abroad | H2 | Network_relative: have relatives abroad | H2 |
| Internet: Internet access | H2 | Network_friendly: have friends abroad | H2 |
| Language1, Language2: lack of language skills as a barrier | H2, H3 | Network_work: worked abroad | H2 |
| Real Estate: own property | H3 | Network_School: studied abroad | H2 |
| Partner: lives with a partner | H3 | Network_Life: lived abroad | H2 |
| Single: single | H3, H4 | Network_Freedom: spends holiday abroad on a regular basis | H2 |
| Divorced: divorced | H3, H4 | Internet: frequency of Internet use | H2 |
| Widow: widow | H3, H4 | Language: foreign language skills | H2, H3 |
| Children: number of children under age 15 | H3, H4 | Real Estate: own property | H3 |
| Gender: gender | | Partner: lives with a partner | H3, H4 |
| Age: age | | Single: single | H3, H4 |
| Village: lives in a village | H2, H3 | Divorced: divorced | H3, H4 |
| Small town: lives in a small town | H2, H3 | Widow: widow | H3, H4 |
| School: age of completion daytime education | | Children: number of children under age 15 | H3, H4 |
| Self-employed: self-employed | H3 | Gender: gender | |
| Employed_blue-collar: blue-collar worker | H3 | Age: age | |
| Unemployed: unemployed | H3 | Village: lives in the village | H3 |
| Pensioner: retired | H3 | Small town: lives in small town | H3 |
| Student: student | H3 | School: age of completion daytime education | |
| Trust_Law: trust in the legal system of your country | H1 | Self-employed: self-employed | H3 |
| Trust_General: trust in institutions in your country | H1 | Employed_blue-collar: blue-collar worker | H3 |
| Institutions_Informal: adapting to different informal institutions as a barrier | H1 | Unemployed: unemployed | H3 |
| Psychic costs: lack of relationship with relatives as a barrier | H4 | Pensioner: retired | H3 |
| Dissatisfaction: satisfaction with life | | Student: student | H3 |
| | | Financial: have financial problems | |
| | | Loyalty_country: attachment to country | H4 |
| | | Loyalty_settlement: attachment to settlement | H4 |
| | | Relative: subjective relative position in society | |
| | | Minority: belongs to a minority | H4 |
| Variables defining reference groups: married, metropolitan, white-collar employed | | | |

4. Results and Contribution

According to Hypothesis H1, institutions influence the migration intentions of individuals through their quality and functioning. In the first study, we tested this by proxying

trust in institutions and the differences between informal institutional systems. Our expectations of institutional trust were confirmed: those who trusted the institutions of their country of origin *ceteris paribus* showed a lower willingness to migrate all specifications. The results on the role of informal institutions are also nearly as robust, although their significant impact on the subsample of the new Member States and on the purified migration potential could not be demonstrated. In the former case, this may be explained by the fact that, in this group of countries, other factors - modeled or not examined - are the dominant determinants of migration intentions. The purified migration potential covered only a smaller group of potential migrants - those who had a genuine intention to migrate – the variable have lost their significance as well. Thus, it can be presumed that differences between informal institutions at the level of high averages may indeed be a source of uncertainty for those considering migration, but no longer have a significant impact on plans for individuals with a strong intention. On this basis, *we can reject the counter-hypothesis that the quality of the institutional system of the country of origin does not influence the individual's willingness to migrate.*

Hypothesis H2 suggests that those who face more transaction costs during migration and prior search will also be less likely to migrate. Given that the extent of these transaction costs was influenced by migration networks, access to ICT capabilities, and language skills, variables related to these were included in both studies. The results confirmed the hypothesis in all three groups of variables and were robust in most cases. The results of both studies showed that the existence of migration networks has a significant positive effect on the formation of emigration, and in the case of nearly two dozen specifications only one case - that a total of seven related variables - lost its significance. The same applies to the role of language skills and internet access, and the empirical evidence regarding them. Thus, overall, although the factors mentioned above are proxy for different variables in the two studies, the results obtained are consistent and point towards the support of our transaction cost hypothesis. Based on all of these, *we can also reject the counter-hypothesis that the level of transaction costs an individual faces does not influence the willingness to migrate.*

Dummies, indicating the type of respondent's place of residence, are intended to proxy part of the transaction costs and part of the idiosyncrasy, but in both cases the relationship is only indirect. However, our models clearly show that residents of villages are significantly less likely to migrate than people in metropolitan areas. However, for the inhabitants of smaller towns, this was largely supported by the results of the first survey. Thus, the results of the settlement type, through their indirect effects, only partially support the H2 and H3 hypotheses.

The empirical picture on the role of specific investments in H3 hypothesis is nuanced. One sign of this is that the significant counter-incentive effect of own real estate, defined as a site-specific asset, on migration was only proven by the second study, albeit robustly. In contrast, the *Real Estate* variable of the first survey, constructed on the basis of the same question, proved to be significant in only a few cases, and still only with a 90% confidence interval. The reason for this difference is not clear in the studies performed, but the degree of seriousness of the intentions (i.e. the question used to construct the outcome variable of the first study related to a stronger migration intention) may provide a possible explanation. The same pattern between studies was also observed for the *Child Number* variable. There were, of course, reservations about the choice of variables itself: the idiosyncratic nature of the relationship with children could only theoretically counteract emigration if the former remained in the country of origin, and if the purpose of emigration is not precisely the care of the family through remittances. However, these objections can only explain the mixed results in the first study, and not in the second study, where the results are absolutely robust. Thus, the differences between the two studies - beyond coincidence - can also be explained by differences in the seriousness of the intention. At the same time, there is greater agreement between the results of the two studies regarding marital status. Our models have proved almost without exception that persons living in a relationship, and in particular in its institutionalized, thus even more idiosyncratic, form, are less likely to migrate, which coincides with the hypothesis. Here too, the role of foreign language skills is worth mentioning as it is an indicator of the country-specificity of human capital. As we have already indicated, the results in this regard have largely supported our expectations.

In addition, aspects of specificity may be related to labor market status. These are mostly supportive but mixed patterns in the studies outlined as well. A common point is that *Unemployed* and *Student* dummies were found to be significant with a positive mark in most of the specifications in both studies. In addition to the standard income incentive, the lack of relational-specific investments in the workplace (as a disincentive) may also play a role. However, with regard to further dummies, the two studies show a different picture. In the first study, the majority of self-employed workers and in the second, blue collar workers produced significant results. The interpretation is complicated by the fact that both groups showed a greater willingness to be mobile than the white collar workers used as a reference group. Overall, taken both interpretations into account, it can be deduced that the real "boundaries" are not set by our categorization, and that there are significant differences, for example in terms of specificity, between those who are in employment and those who are not. Finally, it should be noted that retirees only showed significantly more immobility in the second study (though there in almost every specification). However, these significant effects

are likely to be explained not by any aspect of specificity but by other features of retirement. On this basis, *we can reject the alternative hypothesis that the existence and extent of specific investments do not influence the willingness to migrate.*

Hypothesis H4 states that individuals with altruistic attitudes also care about the well-being of others, which creates a loyalty manifestation that may be counterproductive to emigration. This was tested in different ways in both studies, and the results of the variables *Psychic Cost*, *Loyalty_Country*, *Loyalty_Settlement* provided robust support for our claim. Our variables referring to family relationships, also referred to as the source of altruism, as we have summarized, showed mixed results but were mostly consistent with our expectations. However, the *Minority* variable has produced an unexpected result, but it is rather indicative of a poor proxy choice. Although literature and theoretical assumptions have expected this variable to bear a negative sign, contrary results have pointed out that there are several other factors associated with minority status that dominate the counter-stimulus effect of altruism. Based on all this, *we can reject the counter-hypothesis that the psychic costs of altruism do not influence the individual's willingness to migrate.*

Other control variables regarding gender, age, education, and financial status of the individual show a consistent picture in both studies: the signs of the variables are consistent with those expected based on theory and historic evidence in literature, and are proved to be significant with only one or two exceptions. Of these, the age variable can be highlighted for our study, as the individual makes more and more specific investments as they age. Of course, we cannot claim that this relationship dominates or overwrites the additional effects of aging that we have discussed based on previous literature, but the results do not contradict our hypothesis.

Our work made important contributions, additions and implications for both practice and science.

Our literature review provides a significant contribution to migration research. We have overviewed migration theories in a novel structure, on a broad basis, with a focus on truly current approaches today. Such an overview was needed, in comparison with our own work, because of the "template" found in the literature. It is a recurring element in migration research that a significant proportion of them rely solely on Massey et al. (1993). Although the study cited has unquestionable virtues, it also "binds" the hands of some researchers with regard to the structure and literary base of theories. In addition, the work was created more than a quarter of a century ago, which necessarily lacks the achievements that have been born since then, nor does it reflect the fact that certain approaches have been disregarded by scientists.

We have also provided a comprehensive and thorough review of the empirical literature for testing theories. Thanks to our systematic and well-structured organization, this is a point of reference and thus provides a "map" for further research. By addressing this separately from the theoretical literature, we have also highlighted the problematic nature of differences in levels of analysis, which may also serve as a model for future research.

The model of institutional economics we have built has important implications both from the point of view of economics and migration studies. From the former point of view, it conveys a message about the applicability of institutional economics. This approach is one of the most dynamically developing schools of economics. In this dissertation, we have demonstrated that the achievements of institutional economics can be successfully applied in a new field, besides explaining business relationships, the way transactions are organized, the effects of political structure, or the determination of economic performance, on factors influencing migration decisions.

The novelty of this in the context of migration research is that we have described an individual's decision to migrate using an approach not previously used in this context. This set of concepts, in addition to integrating previously scattered literature from other scientific disciplines into a single economic model, also provided new insights into the nature of migration intentions.

Although a large part of economics nowadays seems to be a commonplace that institutions matter, economic approaches to migration has not previously attempted to interpret the impact of institutions on individual-level migration decisions. We have undertaken this in the theoretical model of the present dissertation. We did the same in the empirical analysis. In contrast to earlier examples, which tried to examine the role of institutions with macro-level analysis indicators, we have tested this in a novel way with the help of a micro-level factor, institutional trust. In doing so, we focused on the impact of the institutions' actual insecurity-reducing function on the willingness to migrate.

Through the interpretation of institutional trust in the context of migration, we extended the model of Györffy (2012). While the latter implied a closed system in which malpractice was the most extreme response to bad institutions, our dissertation pointed out that dysfunctional institutional functioning may, in an open context, lead to emigration and exit from a given institutional environment.

Our findings regarding the substantive role of institutional quality also have implications for public policy. They point out that governments in countries of origin which are negatively affected by migration are not only able to counteract this by improving the real economy, such as wage convergence. Creating an institutional environment that promises a

more predictable future and is considered more trustworthy by the citizen can also slow down the process.

With the approach of institutional economics, we have built an integrative model that combines statements that were previously incompatible with one another or not in the language of economics into a single framework. Our model therefore integrates results from economics, but also from other disciplines. The transaction costs of migration were decoupled from other standard migration costs in accordance with the criteria of conceptual accuracy required by institutional economics. With this, and the two-step model we have built, we have been able to compactly operationalize effects previously understood by other disciplines (existence of migration networks) or simply quasi-commonplace evidence (internet usage, foreign language knowledge).

Similar contributions can be made to the concept of specificity. Using it, we were able to formalize and interpret factors (such as real estate ownership or family ties) in the language of economics that were considered to be important in previous literature, but according to Spence (1971), it was impossible to add them to the economic model based on the traditional cost-benefit logic, so they were mostly blamed for unexplained differences. In addition, by adding the country-specific dimension of human capital, we deepened the ideas of the original human capital theory.

By incorporating loyalty through altruistic attitudes into the model, we provided genuine, novel content for psychic costs that were so important in the migration literature, but were not formalized and were not considered a real resource cost. The modeling of these using interdependent preferences has never been described in the literature, although this approach also provides an opportunity to interpret individual affinities in different situations. In our model, it is the same concept of altruism that explains why an individual is deterred from emigrating by the spiritual pains of his or her relatives, just as if one chooses to migrate just to provide his or her loved ones with extra resources. We have also linked this with the Hirschman loyalty concept, the formalization of which as such is also a novelty in the migration literature.

At the same time, it also served to add to the puzzle of staying in place, thus mitigating the shortcomings of the neoclassical approach. The factors identified by us as a deterrent, in addition to reducing the propensity to emigrate *ceteris paribus*, have highlighted the channel through which certain characteristics may render certain social groups irrelevant to migration.

Our model also transcends the traditional approach of economics in that it interprets migration from thought to act as a process rather than at the same time a point-based, discrete decision. Although examples of such two-stage models can be found in other disciplines

(Carling & Schewel, 2018; Speare, 1974), this can be considered novel in formalized microeconomic models.

Our empirical study followed standard procedures in the literature. At the same time, we included variables (trust in institutions; attachment to a country or city, fear of informal institutional differences, and the appearance of psychological costs) that did not appear in this form in previous studies. And, as we have already described in more detail in the current chapter, we have filled up a number of previously used variables with novel meaning.

Last but not least, the systematic presentation of data challenges and dilemmas can be considered as an important contribution. In fact, our discussion can serve as a starting point for beginners in migration research, as it guides the reader through the challenges and opportunities associated with each step of the empirical analysis.

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