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**The migration willingness of highly-skilled Hungarian workforce and student mobility
as a motivational factor**

Theses of Doctoral Dissertation

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Győr

September 2014

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The aim of the dissertation

The aim of my dissertation is to explore the theoretical system of two fields and with the help of which I can conduct empirical research. Firstly, I study the theoretical system of migration and then that of student mobility by seeking causal relationship between these two. Based on the theoretical system the aim of my dissertation is to explore the status of those migrant workers who have a higher education diploma in the field of economics and come from Győr-Moson-Sopron County. My aim is to receive answers to whether their participation and experience in mobility programs during their higher education studies motivated these workers to migrate and whether they could find a job that fits to their qualifications abroad. I also think that the exploration of personal path is of importance, since this way we can see whether those workers who began their foreign career in lower positions could make use of their qualifications gained at home by their efforts and opportunities. A scientific system of the classification of migration accepted by everybody does not exist since its aspects are diversified. However, *the research of migration as an independent scientific field* does exist; therefore it has theories and models as well. After the clarification of basic definitions I attempt to introduce the most important models and schools that are the bases of the research of migration; what is more the international mobility of nowadays can also be interpreted and subsumed with the help of these models.

Migration nowadays is a global process and is characterised as a kind of „turbulence” by Nikos Papaestergiadis (2000) cited by Róbert Balogh (2010): *“neither integrated within the spatial co-ordinates nor synchronized according to the temporal rhythms of the nation-state”*¹, thus the present world is characterised by migration processes that differ from previous ones based on their unstructuredness and their never-ending continuity. Earlier times characterised by large migration waves are rare nowadays, but there are constant and intensive mobility in the globalising world; in other words the more people participate in migration, the more its importance is in the world history. *„Migration is rarely based on individual actions. The migrant is led by familial and ethnical examples or by previously “trodden paths” to the new region. Experimental facts prove that the process is determined by more factors. Perhaps it*

¹ Source: Papaestergiadis, N (2000): The Turbulence of Migration. Globalization, Deterritorialization and Hybridity, Polity Press, Cambridge, p.20.

has something to do with the fact that migration process cannot be stopped like we can close a tap.²

The structure of the dissertation

The dissertation consists of three chapters. In the first part of the *first chapter* I analyse migration as a global societal phenomenon by reviewing those well-known migration models and theoretical systems that explain the current trends. In the second part of it I review the history of student mobility from the beginnings until now. I think the present tendencies can only be explored and interpreted with the analysis of the past events and interdependencies. *In the second chapter* I look for those interdependencies which are determinant, I think, between the processes of foreign employment and student mobility. I connect to this chapter a sample – a student survey – for the testing of mobility as an illustration of the chapter. (The sample is collected among the active full-time students of Széchenyi István University, Kautz Gyula Faculty of Economics in Győr.) *In the third chapter* I introduce the results of my empirical research, I prove or reject my hypotheses, and I also attempt to give answers to the explored system of problems and to define potential breakout points. With the help of the proved hypotheses of the empirical part I complement the theory of cumulative causation factors with a new variable. The complementation of the model gives a new scientific result, and it enables a wider analysis of the basic model in the scientific field of the research of migration.

The definition of migration is not evident, since we can find a multidisciplinary approach of it in the literature. First of all, we can talk about *intern* and *extern* migration. Intern migration means the migration within the same country e.g. from a village to a city³ or between the regions. Extern migration means international migration, where migration takes place between a host and a sending country (Cseresnyés 1996a). If we classify migration based on reasons, we can distinguish between *voluntary and forced migration*. Voluntary migration is the sovereign decision of individuals or groups to migrate, the reasons of which are mainly economic natured. *In the background of intent we can mainly find employment and/or study*. A kind of extern force can be observed in these cases as well, and these are mixed with individual motivations (Cseresnyés 1996b). By analysing migration from a legal aspect we

² Source: Rédei M. (2010): Amerikai migráció, Az Amerikai Egyesült Államokba történő bevándorlás In: Pap N. Bali L. Fejezetek Amerika politikai földrajzából, PTE, Pécs. p.78.

³ Migration from the village to the city is called as „logistics migration” by Lengyel- Rechnitzer (2004, 203) as the road does not lead directly to the final destination but this is only a stop of international migration.

distinguish *legal and illegal migration*, with the official existence of those travel documents that are necessary to travel between countries and that determine the conditions of staying in the given country. Mobility is a change of position between units in a determined system which can be social, geographical or regional. Mobility takes place between the determined elements of a system either we see it as the change of position of an individual or that of a group. We can talk about social mobility if the determined change of position consists of the elements of society. This definition is considered to be the most accepted since its creators (Mackensen- Vanber- Kramer 1975) analysed mobility as a displacement and migration as a wandering separately.

We cannot narrow the research of migration to one model, since subsystems would explore the diverse structures from different aspects. However, if we want to make some systematisation, I think *two basic types* can be highlighted: the first type raises questions regarding *the motivations of migration*, whereas the other type looks for *what effects and results are generated by migration*. I would also highlight two rivalling theoretical approaches, which are the *equilibrium tradition* (Ravenstein) and the *historical-structural school* (Wallerstein). Both can be interpreted with long-run analyses. The theoretical interpretations of the two basic types analysing causal relationships were classified by Massey (1993) based on which theories can explain the formation of migration and by which theoretical systems the explanations of the persistence of migration can be analysed.

Table 1: Theories and their researchers explaining the formation and persistence of migration

The theoretical models of the formation of migration	The theoretical models of the persistence of migration
<ul style="list-style-type: none"> • neoclassical economics macro theory (Ravenstein) • neoclassical economics micro theory (Massey) • theory of dual economy (Lewis) • segmented labour market (Piore) • world system theory (Wallerstein) • attraction-repulsion theory (Lee) • micro behaviourist model (Massey, Taylor) • system of social nets (Salt, Castles) • new economics of labour migration - NELM (Borjas Stark) 	<ul style="list-style-type: none"> • world system theory (Wallerstein) • institution theory (Scott) • network theory (Tilly) • social capital theory (Bourdieu, Tilly) • cumulative causation theory (Massey)

Source: Own compilation based on Massey et al. (1993)

If we want to formalise migration models, we have to indicate those focuses that determine them the most. Therefore migration decisions are determined by factors like economic, social and cultural factors. The analysis of *economic factors* is in the centre of most official migration models.

I believe it is the best to analyse the description of the analysis levels of migration theories by introducing the theoretical categories of Thomas Faist since its *micro-, mezo- and macro classification* (Faist 2000a) is the most suitable one which is preferred by experts as well.

The *micro-level* theoretical system examines the values, wishes and requirements of the individual. In this level the decision is determined by factors like the assurance of autonomy, status and fortune. This theory is based on cost-benefit calculations and according to its conclusions the costs of migration can also be counterbalanced by considering the attractive level of income and qualification of the target country (Massey et al. in Sık 2001a).

At *mezo-level* the social relations of immigrants and the power of connections give the bases of the system. Symbolical but more important factors like belonging to a community based on consanguinity, ethnicity, religion, nationality or politics can be determinant, but solidarity as a spiritual engagement can also link communities.

Faist analyses the processes in economic, political, international and transnational structures at *macro-level* by analysing the relation systems, which is built on these topics, between sending and host countries. Migration is an element of economic development. Intern migration is generated by spatial inequalities and the relation of supply-demand of labour market especially from the rural sector of traditional agricultural production to modern industrial cities. Capital accumulation has been growing in the modern industrial sector, and the positive wage difference attracts workers. According to this theory (Lewis 1954), this process will last until wages are equal. The main elements of macro-level analyses are the followings: the differences between income, wage and unemployment, the possibility of using the space or that of mobility and state measures supporting or impeding migration. Macro-level analyses are more nuanced by demographical problems or cultural environment, but mainly by phenomena regarding state policy, minorities and ethnicities. The systematisation of theories is hard task as some theories can be classified into more categories. However, if we want to systematise the diverse levels of analysis, we can get an understandable picture with the help of the categorisation of Faist. Fortunately, the systematisation of migration

theories is not determined by a rigorous method, but researchers can use more types of systematisation. As for me, *I use four main categories* from which I choose the most appropriate model or models that can be used for the empirical part of my dissertation. The four main categories are the followings:

1. The analysis of *traditional migration theories* like the basic direction of the research of migration in which clear empirical forecasts determine interdependencies by comparing real regression models and statistical data.
2. The analysis of *micro-behaviourist models* puts the emphasis on individual decisions by assuming a rational cost-benefit calculation from the individual. The theories give a high priority to the risk elements appearing as plus factors; and place the explanations of migration decisions on a sociological bases by emphasising the importance of human capital and social capital.
3. *The models of the modern economy-based approach of migration* also enable aggregated analysis; and their basic thesis is that mobility between countries does not only caused by income differences. They recognise the effects resulting from other risk factors e.g. the insufficiency or the failure of capital market or insurance market (e.g. unemployment insurance). These market insufficiencies influence international migration in a way that they cause and maintain a continuous flow of international workforce.
4. *Pluralist models* focus on that the immigrants could maintain their ethno-cultural characteristics, and that these differences could embed in the society as multicultural colour. Besides these, migrants can have the same rights as the host society has; it is not a requirement from them to assimilate, but they have to accept the basic values of the society, they have to keep the norms compulsorily.

In the migration theory part of my dissertation I study these four models by analysing the theoretical systems that fit to the models.

Analysing the cause-effect system of the migration of young graduated people, we cannot avoid the question of *student mobility*. Although there were/have been some pieces of research about the migration effects of student mobility, based on my research I found that mainly they do not focus on the studies temporarily continued abroad, but they mostly

analyse, as the main motive of the phenomenon, those factors of the diploma gained abroad that encourage migration (Pusztai- Nagy 2005). Although, only a relatively small segment of Hungarian students and those who want to study have the chance to spend the whole period of their studies abroad and get a diploma abroad, the expanded chance to *study abroad* temporarily is *more available* to the students of every Hungarian higher education institution *within the frames of student mobility programs* that are for semesters and called for by the universities.

As a result of my research I found that international student mobility is more and more related to international migration in the knowledge-based society of nowadays. More and more literature is published about international migration and higher education; however, there are still no studies explaining the relationship of the relation between international student mobility and international migration. This statement of mine is proved by my research, but it is also strengthened by the statements of the researchers of this field as well; e.g. the statement of Kemal Guruz: „*However, there is still no study on the relationship between international student mobility and international migration. No published information exists, for example, on the numbers of returnees and their contributions to the countries of origin.*”⁴

I drafted the answers to my hypotheses by analysing the system of student mobility from peregrination to the present days and by putting its elements into the chosen migration models as well as by comparing the primary and secondary analyses.

The system of hypotheses

I draft five hypotheses in my dissertation to prove or to reject them.

H1: The migration trends of the Middle-East European countries formed after the transformation of the system cannot be inserted into the frames of any migration model.

H2: The employment profile of a highly-skilled worker who works abroad strengthens the brain waste tendencies abroad, whereas emigration causes crisis in the domestic labour market.

⁴ Guruz, Kemal (2011): Higher education and international student mobility in the global knowledge economy. State University of New York Press, Albany. US. p. 313.

H3: The willingness of highly-skilled people to return is low, negative migration balance is permanent, they want to realise their long-run plans in the host country.

H4: Temporary student mobility is a cumulative causation factor inserted into a migration theoretical system; which potentially determines the migration willingness with the aim of employment in the future.

H5: Temporary student mobility provides an international skill which can be converted into a labour market advantage both at home and abroad.

Research methodology

During the exploration of the topic of migration I mainly put the emphasis on foreign literature, therefore I explored international tendencies, but considering that I conducted my surveys focusing on domestic processes, I also reviewed domestic literature. I mainly used the theoretical approaches and empirical works of domestic authors to connect the migration effects of student mobility. My main source was the *Library of Széchenyi István University*, where I could read the literature of other libraries with the help of its workers. In the summer of 2011 I had the chance to review the literature in the *Harvard Kennedy School Library & Knowledge Service* with a temporary Harvard admission ticket, as well as in *Boston Public Library*, where I could read books that are not available in Hungary or that are available in a limited number or cost a fortune. In May 2012 I had the chance to review literature in the library of the *University of Glasgow*. *The theoretical part of my dissertation mostly includes these references.* To explore actual tendencies I used article databases from the internet, e.g. *MATARKA, JSTOR, ProQuest Central*. The databases of *TÁRKI, KSH, MIGRINFO, NEMZETI FOGLALKOZTATÁSI SZOLGÁLAT* and *EUROSTAT, EURYDICE, EDUCATIO* cannot be missed from a dissertation written in this topic; and the results of international projects (e.g. *SEEMIG*) also helped elaborate the topic in a wider way.

The empirical research of my dissertation is organised based on two main definition groups: migration willingness and student mobility. The clarification of the scientific conception background and that of relating definition system takes place by focusing on these two topics, by elaborating the relating literature and mainly by looking for the linking points, the effects and the cause-effect relationships between these two.

A neuralgic point of data collection in connection with migrant population is the question of basic population. The representativeness of sampling is definitely impeded by factors according to which we do not always have the criteria that would be necessary to choose a frame. There is no complete list available about the members of target groups; therefore ***I cannot apply probability sampling***. (Scientific research groups with more extended and significantly greater financial resources report the same problems, thus I do not consider this situation as a deficiency or a fault of my dissertation, but rather a fact limited by opportunities⁵).

The sampling of target groups is the following:

1. The survey of individuals who work abroad, derive from Győr-Moson-Sopron County, have gained their diploma in the field of economics (BSc, MSc) in Hungary and who participated during their higher education studies at least once and for three consecutive months in a student mobility program supported by their parent institutions by researching their migration motivations. In their case I mainly looked for the answer whether temporary student mobility was a motivating factor in their decision to work abroad later. Furthermore, in their case I was also wondering whether their employment abroad fits to their qualification (brain waste?); I also consider important the willingness to return. Sampling took place with “snowball” method by focusing on people deriving from Győr-Moson-Sopron County. According to the technique I chose the individuals belonging to the group, and through them I could reach newer and newer people. Considering that in the time period of my survey I could only reach these people abroad I asked them to fill in an online questionnaire, but in more cases paper-based questionnaires were filled in as well and I also received a lot of questionnaires sent from personal email addresses consequently I guaranteed anonymity to them. I wanted to keep the diversification of the sample thus I attempted to do “snowball scrolling” up to maximum three contact people. Data collection took place between January and August 2012 and based on the defined criteria it included 407 members (It also means the number of appreciable questionnaires.)

⁵ Feleki Gábor Attila- Vincze Anikó (2010): A sikeres integráció feltételeinek feltárása. Zárótanulmány. EIA/2009/3.1.8.2. Dél- Alföldi Regionális Társadalomtudományi Kutatási Egyesület, Szeged. p.23.

2. Parallel to this, I conducted a survey among full-time students of Széchenyi István University, Kautz Gyula Faculty of Economics. These students have not participated in mobility programs yet and from this viewpoint I analysed their migration willingness, so I did not link migration willingness to student mobility. This latter is important since I want to measure to what extent mobility programs affect migration. The student survey is a mobility test which is *a kind of illustration to the 2nd chapter of the dissertation*, since it is not linked to any of the hypotheses due to its characteristic, place and sample size. I conducted the query among third-year BSc students, assuming that they are the target group in which the students are informed about career opportunities and their experience and information make them capable of framing more definite future directions. Questionnaires were filled in three times in the autumn semesters of 2010-2012. In this case I conducted a student motivation research since none of the students has participated in mobility programs thus its effects could not influence their answers. During the mentioned period I received 853 appreciable questionnaires based on a survey of standard questionnaires. I personally looked for potential respondents during this time. The questionnaire contained only closed questions. I surveyed with my questions the opinions regarding the labour market value of their future (economic) diploma as well as their expectations of employment opportunities, their career strategies and last but not least their migration motivations.

In case of social science surveys, especially in case of research with low budget, it is an accepted method that the researcher is allowed to choose those who can well represent the opinion of the basic population. The responses of the chosen individuals enable to make conclusions regarding the opinion of the population as well.

Referring to financial limitations and a sample size which is perceived to be sufficient can make the researcher think that the survey is representative. A sample is representative if its cumulative features are close to the same cumulative features of the basic population. If every member of the basic population has the same chance to be a member of the sample, the survey is representative. In this case applying probability theory, with the help of probability sampling it can be estimated that to what extent the results reflect the basic population. The sum of elements available at the time of selection give the sampling frame which also gives a

confidence level referring to how likely it is that the estimation based on the sample will be true for the basic population as well.

Considering the above-mentioned it became evident that I cannot apply probability sampling during the survey of Hungarian workers working abroad because the members of the sample are not chosen randomly from the basic population. Considering that my research targeted a population that can be reached very hard, the applied technique was the *non-probability sampling method*. With the help of “snowball” or in other words “scrolling” method, the respondents, by knowing the conditions of being a member of the sample, forwarded the questionnaire to other potential participants, then I found the planned number of the sample enough when I received *407 appreciable questionnaires*. *My research findings cannot be considered representative; my aim was rather to make an exploratory survey that can be the basis for future research.*

The elements of the sample were not chosen on probability basis. The chosen method was attractive due to its cost-effectiveness; however, I was naked since I did not have any influence on the scrolling of the snowball. The question arose what sample size is considered to be “sufficient”? I knew that I would not be able to make a representative survey, yet a scientifically-based justification is needed to accept the results deriving from the small sample size.

My justification system for the small sample size (n=407) is the following:

- a greater degree of homogeneity can be assumed from the viewpoint of analysed variables, like:
 - *an individual working abroad,*
 - *deriving from Győr- Moson- Sopron County,*
 - *having an economic diploma,*
 - *and who participated in student mobility program during its higher education studies.*
- my research strategy is rather intensive than extensive,
- the targeted population is hard to reach.

So that the results could be evaluated, I consider the analysis of county-level labour market important since every respondent is a migrant worker deriving from Győr- Moson-Sopron County.

The mobility test linked to the 2nd chapter, the student survey allowed more space. Although I had the chance to evaluate *853 appreciable questionnaires*, representativeness did not materialise. Query took place in one higher education institution, thus it cannot be said that it would reflect the basic population. Nevertheless, the exploratory feature may provide appropriate answers so that certain correspondence could be defined and then considered further.

I think it is necessary to explore, in our narrower environment, the migration willingness of young people who have not participated in mobility programs yet and who have not had any (or just a little) experience in labour market, because one of the most alarming results of the Omnibusz survey of TÁRKI from March 2012⁶ is that the highest willingness to migrate (48%) was measured among youngsters aged under 30 from those groups of the society who have higher than average migration willingness among those who plan to move abroad.

The evaluation of hypotheses

The objective of Europe 2020 strategy is an intelligent, sustainable and inclusive growth. Within the frames of this its aim is to raise the employment rate of population aged between 20 and 64 to 75%. In the objective the emphasis is put on the labour market integration of the younger generation, the elders and the low-skilled workers. The materialisation of the objective is possible with the improvement of qualification level, with the support of continuing studies and with the raise of the number of those having higher education diploma. To do so, a kind of planned immigration, *the materialisation of directed migration* is needed, which can be formed within the frames of a coordinated economic and employment policy. Migration can provide the filling of gaps arouse from demand-supply mismatch like shortage of professionals or the possibility of transnational workflow for multinational companies. The distribution of domestic population and migrants based on their qualifications is an important

⁶ TÁRKI (2012): Csúcson a migrációt tervezők aránya. Felmérés eredményei 2012.március.
http://www.tarki.hu/hu/news/2012/kitekint/20120523_migracio.html Downloaded: 09-11-2012.

strategic question. Its analysis would be needed with the help of discrepancy index which shows the differences. If the qualification of migrants is lower, the host country is “matured” for human resource development, labour markets have to be modernised by creating workplaces built on new skills. If the qualification of migrants is higher than that of the domestic population, this means a rise in human capital for the target country. This qualification-based reception can create such *Win-Lose situations*, the typical phenomenon of which is Brain drain, but there can be *Win-Win situation* as well, when emigration lowers the unemployment in the country of origin, it also alleviates social burdens, and their skills also create development in the target country (Rédei 2005).

From the elaborated theories, I found relations between my research and the cumulative causation system of Massey. From these I firstly want to highlight the theory of *human capital distribution* which summarises the social-economic factors like variables affecting migration. Migration is a selection process which first choose the skilled workers, thus two processes prevail. In the process of negative selection the best ones have to be selected based on the principal of „best of the worst”. In case of skilled workers a positive process prevails based on the principle of „worst of the best”, thus reception is supported. As networks expand cost and risk reduction reduces the selection process. Therefore migration results economic development in the host country, human capital accumulates, and further migration processes live in the country of origin. Here the statement of Borjas (1994), according to which if a highly-skilled worker enters the labour market, at the beginning there is no experience linked to knowledge, however, the years spent in labour market strengthen his/her support and then he/she has a head start in foreign labour market, is linked to the research findings of my dissertation. The mobility of skilled talents generates advantages of regional competitiveness like the formation of international relations and research cooperations between institutions (Rédei 2011).

I drafted five hypotheses in my dissertation, for the evaluation of which I tried to elaborate literature in a wide way and conduct secondary analyses and a focused empirical research. *For the evaluation of hypotheses I also conducted statistics-based control*, to which I compared my own research and I worded my answers to the hypotheses based on these. According to my intention I looked for the correspondence between *student mobility* and the later *migration with the aim of employment*. In my pieces of research I found proves for *brain waste* tendencies as well. Based on the analysis of Hungarian migration of nowadays it

can be stated that most of the surveys focus on brain drain tendencies and they analyse the neuralgic point of the migration of skilled workers. The demographic aspects of the migration of young generation and the human resource crisis caused by emigrants from special fields (e.g. health care) push important categories out of focus. With my dissertation I want to draw the attention to the fact that there is a phenomenon the harmful elements of which require solutions both at decision-making and social level; furthermore their wider scientific analysis is justified beyond a doctoral dissertation as well.

H1: *The migration trends of the Middle-East European countries formed after the transformation of the system cannot be inserted into the frames of any migration model.*

Middle-East European countries cannot be inserted into any migration model. There is no unified “Eastern trend”, because there are differences between the mobility waves of Poland, Romania, Hungary and Slovakia. We can use the statements of more models which can explain the migration trends of these countries. We could choose from the types of Tilly (2000) but not only one. Based on this from the five types three can be linked to Middle-East European trends in some certain points. We can observe *circular migration*, when migrants keep their domestic bonds, they undertake work abroad periodically, remittances are significant and remigration willingness is strong-minded. I found examples of this in case of Romanians, Polish people and Lithuanians. Polish is traditionally a migrant nation; their mobility with the aim of employment has history. Another feature is *chain migration*, when migration takes place along family or household contact chains. In this case I want to emphasise the Romanian example. Finally, here I list *career migration*, which is definitely the feature of the individual who grab the opportunity. Its two strong examples are Czech and Hungarian migration. New form of mobility are similar, but analysing the migration trends of each country *the Middle-East European large region rather shows a heterogeneous feature* because it is a migration area that cannot be described by common characteristics. The emigration trends of countries analysed in country studies show diverse orientations and intensity especially if we analyse the past twenty years. It can be clearly proved if we compare the low Czech migration to the high Slovakian migration. We analyse two countries with common history and traditions. Their migration trends are definitely different, so traditions do not explain either low or high migration willingness; it can be rather explained by the diverse development path after the separation of the two countries. A unified East-European migration trend cannot be shown, thus as a result of my analysis *I accept my first hypothesis*.

According to my second hypothesis (H2) *the employment profile of a highly-skilled worker who works abroad strengthens the brain waste tendencies abroad, whereas emigration causes crisis in the domestic labour market.*

According to the hypothesis, rather brain waste tendencies affect highly-skilled Hungarian workers working abroad (and mainly the analysed target groups) than brain drain. According to the most recent pieces of research (McHugh-Batalova-Morawski 2014) migrant workers aged 25 or older and having BSc diploma are the most affected by brain waste tendencies. Those (BSc) migrants who appear in the labour market of the United States, approximately 7,2 million people from whom 23% (1,6 million people) is the “victim” of brain waste. Some pieces of research strengthen that this exposure affects 26% of workers born and gained a BSc diploma abroad (in their home) in a way that they are either underemployed or unemployed. 20% of those migrant workers who gained a foreign university diploma are underemployed, while this number is 12% in case of domestic (aboriginal) workers with BSc diploma.

This situation is usual according to a research about EU8 as well. Anderson and Currie (2006, 2008 then 2010) analysed the eight post socialist countries who joined to the EU in 2004 and found that highly-skilled migrants undertake positions that do not fit to their qualifications and skills in West-European labour markets, what is more they are not only underemployed but underpaid too. According to the statement of Currie 72% of the highly-skilled emigrants of EU8 are affected. It can be said that this number is high; however, the statement is based on a survey among more than 784 thousand respondents.

As the underemployment of migrant workers can be proved from international pieces of research as well, my statements were established regarding *brain waste tendencies*. Based on my own research I state the strong exposure of my respondents in underemployed categories, because their gained diploma is not utilized in positions undertakes abroad. Therefore the development and fulfilment of basic acquired skills do not take place. Respondents do not meet novelties at professional level, their professional development stalls, their knowledge is not taken away and used in other national economies but they lose it periodically or forever. The unused knowledge fades, becomes obsolete, thus it is very hard to return to the left specialty. The general phenomenon of the unemployment of migrant graduates proves that it is hard to find breakout points. It is also a general phenomenon that individual attempts do not lead to success; the respondents stay, years later, in the same position in which they began

their migration being. ***I consider brain waste tendencies more dangerous*** than brain drain, because this latter does not disappear but is utilized in another country. In this case at least there is a chance that if the individual returns, he/she will do it with real professional development. If return is profession-specific, it also means labour market integration as the acquired knowledge is utilized at the level of national economy. Both my target group and the secondary sources prove my hypothesis; ***the general problem of European migrant intellectuals is underemployment. Brain waste is clearly harmful***, nobody enjoys the acquired knowledge, and thus it disappears and checkmates the career dreams of the migrant. With this statement ***I consider the first half of the second hypothesis to be proved.***

The second half of the hypothesis, the crisis of human resources should be handled in a more cautious way. According to the data of KSH⁷ after 2010 the number of unfilled jobs requiring higher education diploma and offered in the national economy has raised: in 2010 40,2%, in 2011 43,2%, in 2012 43,7%, but this growing trend turned in 2013 and shows a diminishing 41,7%. Although the number of unfilled intellectual jobs is high, there is demand in labour market. The areas of concern are still the fields of health care and education, and the demand is high in the fields of information, communication and banking professions. Considering these and the earlier findings of the dissertation, the harmful effects of emigration in Hungarian labour market can only be linked with precise numbers to the field of health care with precise numbers; therefore I cannot prove clearly that migration causes a general crisis of human resource, thus ***I reject the second half of my second hypothesis.***

According to my third hypothesis (H3) the willingness of highly-skilled people to return is low, negative migration balance is permanent, they want to realise their long-run plans in the host country. Return migration has been in the centre of several pieces of research recently. While some studies (e.g. Galor and Stark, 1990, 1991) analyse the consequences of return migration in a way that they assume it is externally determined (e.g. contractual migrants), other studies consider it as endogenous. The best example of this is Dustmann (1997), who developed a stochastic life cycle model in which individuals make their consumption and migration decisions at the same time. The comprehensive effect of uncertainty on optimal migration period cannot be described undoubtedly, since optimal migration period depends on the magnitude of pay gaps as well as on the relative risk of

⁷ http://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_qli044a.html downloaded: 11-08-2014

domestic and host labour markets. Dustmann (2003) developed a model regarding optimal migration period, and according to this model the foreign stay of migrants can be shortened if economic conditions are more favourable in the host country than in the country of origin. This result derives from the assumption that migrants prefer domestic consumption to foreign one and that they move within a finite limit. Consequently the net increment of foreign stay grows from the viewpoint of income gained through the whole life, but over time it diminishes, because as time passes away, the cost of foreign stay grows (e.g. foregone domestic consumption). Thus although salaries are higher abroad than at home, a moment may come in the life of the migrant when he/she decides to return. This happens when the costs and increments of foreign stay are equal.

In the works of Dustmann (1999, 2000) we can find empirical proof for this theory, since we can find the theoretical usage of the consequences of return migration regarding the human capital accumulation and assimilation of migrants in the host country. According to my best knowledge the only study that deals with return migration together with the option value theory of migration is the study of O'Connell (1997). The author found that if we consider expensive return migration, the effect of uncertainty on return decision depends on whether we examine salaries from a local or a global aspect. In the previous case e.g. when the individual cannot observe the salaries in the host country, the higher uncertainty causes a speculative behaviour, which is called "try your luck" by the author.

In the latter case e.g. when foreign salaries can be observed from home as well, the result of the optional value is the following: higher uncertainty diminishes the probability of migration, because the individual prefers the behaviour of "wait and look". This study is extremely important for the third hypothesis of my dissertation since it uses an easier frame but I can see the ambiguous sign of uncertainty in the value of mobility, which is driven by asymmetry between costs of moving. I argue that uncertainty about the costs of education and the opportunity to return are two characteristics which must be displayed in a model rationalising the mobility of students. I conducted my research in a sample narrowed based on different specificities by unifying the aspects of elaborated literature and the secondary results.

It is true for the plans of underemployed graduated respondents that they plan their life in lower positions just for a short time, but this period means 4-5 years. Yet they undertake underemployment, because *those foreign (mainly financial) conditions that they receive and*

require could only be realised at home later. Both the secondary analyses and the findings of my own research show that return migration is not an insignificant phenomenon; however, problems begin with reintegration and it generates remigration tendencies due to reasons described previously. We can exclude the return of migrants planning for short time, although the media has intensively started to ring alarm bells in the past 1-1,5 years, and politics is not without exaggerated dramatic overtones, *we cannot talk about the mass and final exodus of Hungarian workers.*

Seeing the rate of East-European citizens living in EU member states compared to population, it can be stated that analysing ten countries⁸, Hungary is the penultimate with a rate of 1,70% in 2010. Only the rates of Czech Republic are lower (1,01%). But other tail-enders show much higher rates than our country, Latvia 3,62%, Slovakia 3,14%. The highest numbers can be seen in case of Romania (10,56%) then comes Bulgaria (6,25%), and the Polish, who are „legendarily” respondent to migration, in the mid-field with 4,07% (Sik- Szalai 2013). Hungarian migration has been much lower since 2010 than that of other postsocialist countries, thus we cannot talk about new Hungarian exodus. To sum up secondary data, the literature and the results of my research *I think my third hypothesis cannot be proved, so I reject it.*

According to my fourth hypothesis (H4) temporary student mobility is a cumulative causation factor inserted into a migration theoretical system; which potentially determines the migration willingness with the aim of employment in the future.

To verify my assumption I conducted a wide literature review by knowing as detailed as possible the migration theories. By analysing thoroughly the wide scale of theories I found that in the history of the research of migration there is no model dealing with temporary student migration with relation to the later emigration with the aim of employment. *The exploration of interdependences and the verification of data took place at international level*, and were published in the research of OECD Education at Glance 2011 International Student Mobility Highlights.

⁸ (Romania, Bulgaria, Éstonia, Lithuania, Poland, Slovenia, Slovakia, Latvia, Hungary, Czech Republic)

Studying and intellectual capital formation provides the valid ticket for this mobility, it is its precursor. This factor is not included in any migration theoretical system in the literature. I wanted to fill this obvious gap, therefore I found it was necessary to conduct an empirical research which responds to the question whether this correspondence is true or not. Both secondary analysis and my own research clearly proved my assumption, ***student mobility, even if it is temporary, potentially strengthens migration willingness.*** Murphy-Lejeune (2002) use the so-called **mobility capital** definition, according to which, those students who periodically continued their studies abroad and worked as well during their studies (e.g. student work) show a much higher and more confident willingness to work abroad after they finish their studies. This idea is also supported by the European Commission (2010), which states the interdependences between student mobility and foreign work. Every significant international survey shows that the great majority of mobile students undertake jobs abroad or they originally went to work abroad (Maiworm and Teichler 1996, Teichler 2002, Bracht et al. 2006). Maiworm and Teichler (1996) see that 38% of those graduated students who were mobile during their studies undertake a foreign job within 5 years after their foreign experience. 19% of students work abroad almost immediately (within 1 year) after graduation and mainly in that country where they continued their Erasmus studies (Maiworm-Teichler 1996b). In my own research I analyse the effects of mobility programs (Erasmus) on subsequent work abroad. Student mobility is a determining factor of subsequent migration with the aim of employment, thus „*student mobility is the predictor of the mobility of skilled workers.*”⁹ I recognised that this relationship cannot be treated as an independent model, but to my mind within the system of micro behaviourist models ***cumulative causation system is suited to complete the existing feedback pillars with this variable created by me.*** Thus temporary student mobility is a social-economic factor that potentially affects migration in a kind of cumulative form. I state that this positive feedback creates aptitudes which enable migration willingness to further stimulate the process this way. I must emphasise that my statements are in connection with temporary student mobility, since other researchers have already stated the brain drain effect of long-term foreign studies (graduation there).¹⁰ Based

⁹ Rédei, M. (2009): A tanulmányi célú mozgás. Reg-Info Kiadó. p.25.

¹⁰ Rédei, Mária (2009b): A tanulmányi célú mozgás. Akadémiai Doktori Értekezés. Reg-Info Kft. Budapest p.103. „*Experience gained during studies – especially if the „levy of multinationals” is successful – include the immigration risk of the future as well. The students know the new environment, the language and they also make relations. This way they arrive to „crossroads”. Those students who plan scientific career and their foreign study is the result of a well-thought, conscious decision stay permanently or forever in the host country. In this case foreign experience is a preceding station of settling down.*”

on these, *I accept my fourth hypothesis*, and I complement the cumulative causation system of Massey with new, eighth variable called *temporary student mobility*.

According to my fifth hypothesis (H5) *temporary student mobility provides an international skill which can be converted into a labour market advantage both at home and abroad.*

The increments of foreign studies are the enhancing of language and professional knowledge and the gaining of international skills, which can be *labour market advantage* both at home and abroad. The interpersonal relations of those participating in mobility programs strengthen, which may lead to the formation of a new European identity. The acquired experience, the local knowledge, the language knowledge and the established relations show that the individual is willing to return with the aim of employment to the place (at least to the country) where he/she stayed during his/her studies. 79% of my respondents (323 people) said that they returned to the country where they had studied and only 21% of them (84 people) did not return to the country where they had continued their studies. The most popular mobility and employment target countries are overrepresented here as well; in Germany 138, in Austria 94 and in the United Kingdom 65 people work who had continued their studies there. The return of student mobility is very important but cannot be measured precisely at social level.

It can only have a domestic yield if the student utilises his/her experience, knowledge and skills in the domestic labour market. It can be said about those participating in mobility that they become more extroverted, their cooperative and communication skills develop as well as their intercultural competence. Students gaining experience in foreign programs can find jobs faster than the average, and mainly they can find jobs with the quality and salary of which they can be more satisfied. A mobile student thinks flexibly and is innovative. It can also be observed that in the past years study abroad experience (at best, combined with work experience) has been rather a requirement than an advantage in high standard and better paid domestic posts. Those students who spend their professional practise in a foreign company may know new techniques and methods which are valued by domestic companies. VALERA project (Professional Value of Erasmus Mobility 2006) conducted surveys about the employment opportunities of students participating in Erasmus programs. This survey also

shows that students receiving scholarships can find jobs faster, they are more satisfied with their jobs and their employers also appreciate their foreign experience. Participation in mobility programs means the importance of added value. These are proved by the results of my and other international surveys; therefore *I accept my fifth hypothesis.*

Besides the evaluation of hypotheses here comes *the evaluation of my research questions.*

Table 2: The system of the evaluation of research questions

Research question	Answers
I./1. Can foreign studies be converted into labour market advantage?	The increments of foreign studies are the enhancing of language and professional knowledge and the gaining of international skills, which can be <i>labour market advantage</i> both at home and abroad.
I./2. Can the burdens of the plus costs of mobility programs generate a new social selection, thus talented but poor students are left out of this “possibility”?	The first difficulty of mobility programs is the plus costs according to both Hungarian and international surveys. Deriving from this <i>a new type of social selection</i> deriving has appeared as a danger and as a <i>real problem</i> as well.
I./3. To what extent the conditions of return migration are provided?	I think that the reception conditions of return migration are not fully provided in Hungary. Although the call of home of decision makers is loud, <i>the conditions cannot fulfil without the expansion of a real and long-term employment growth and economic development.</i>
II./1. A lower level of foreign work compared to qualification does not fill the western-European “servant industry” (domestic servant, maid, waitress, nurse, courier, etc.) with Hungarian graduates?	The <i>underemployment</i> of migrant graduates is a real problem within the whole EU. Comparing international surveys to domestic ones, unfortunately it can be stated that our affected migrants work in the lower positions of service sector.
II./2. Can we talk about polarised migration in case of Hungary? Do definitely highly-skilled or low-skilled workers join usually to migration processes?	In case of Hungary <i>we cannot talk about polarised migration</i> , the migration opportunities of definitely low-skilled workers are narrow, thus mainly skilled and highly-skilled workers appear in foreign labour market.
II./3. The general foreign work of higher education students shortly after their graduation is not massive so far, but are there any areas of concern nowadays besides the field of health care where we can experience a higher migration?	We must accept that Hungary is the part of migration processes that are globally intensive. Certain temporary crisis of human resource has to be calculated according to our demographic data, and the joining of young graduates to the process is perceivable, but <i>there is no new Hungarian exodus yet.</i>

Source: own research

Conclusions, limitations, future directions of the research

The new variable of the model created by the fulfilment of the fourth hypothesis requires further research as a scientific result, and the reaction of those dealing with the research of migration is also needed. A successful path can be drawn up with the fulfilment of parameters waiting to be resolved and worded in the dissertation as well as with the analysis of the effect of *temporary student mobility*.

In the future I plan to conduct a survey regarding the situation of those affected by return migration as I consider it important. In my research I made the conclusion that Hungarian workers do not leave the country with the aim of a final migration but with the aim of making a more stable living. In spite of the fact that the migration trends of the world (in which four fifth of the participants are unskilled or low-skilled and only one fifth of them are highly-skilled (BSc, MSc, PhD)) show a continuous dynamism, we have to take it into consideration that once everything may become saturated. It was worded by Robert Samuelson (2005): „*No society has a boundless capacity to accept newcomers, especially when many are poor and unskilled capacities.*”¹¹

The recall of skilled workers requires such economic changes that we cannot expect in the short-run that is in the next 3 years. After the crisis the need for a stability-oriented economic policy is stronger and stronger. The basic economic debate deals with the way how to reach it: whether economic policy with restrictions or economic policy encouraging growth is better and what are the appropriate Hungarian tools? Investment decisions permanently determine the path of a country. Hungary as a country with high debts produces an impaired growth. ***The solution is an employment-friendly system which is combined with wide and sustainable economic growth stimulation.*** The fulfilment of this can be imagined at the level of small- and medium-sized enterprises with the help of loans given to them. Growth stimulation can cause the enlargement of employment this way.

The export-oriented model of Hungary falters and intern consumption does not promise significant growth in the short-run. In the mid-run growth can be raised by productive investments. Not only foreign direct investment and the foreign sale of domestic

¹¹ Cited by: Buchanan, Patrik (2006): State of emergency. Thomas Dunne Books. New York. p.19.

manufactured products are important but the domestic sale of domestic services to foreigners as well since it can be a breakout point. ***Our return migrants could join to this service system and they could take advantage of their international skills possessing the possible path drawn up.*** The background of a supportive business environment and the attraction of western savings is the growth stimulating real economy. We must not forget about those with special skills and qualifications, ***if there is appropriate development, expats come as well.*** With an appropriate country image, with western-level infrastructure, with competitive services and last but not least with good marketing this can be the success story of our country in the next 5-10 years.

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