THE ANALYSIS OF HIGHLY-QUALIFIED MIGRATION PROCESSES IN MODERN EUROPE: BRAIN DRAIN OR BRAIN CIRCULATION?

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Abstract: *the article describes the operationalization and interpretation of highly-qualified migration, as well as new statistical indexes of modern research which demonstrate the tendency of migration process in modern Europe. The operationalization and interpretation of such concepts as "brain drain" and "brain circulation" allow to analyze the type of highly-qualified migration in modern Europe. We conclude on the base of theoretical analysis of research papers that brain drain is prevail in modern Europe while brain circulation is more typical for Asian countries.*

Keywords: *highly-qualified migration, brain drain, brain circulation, factors of migration, types of migration.*

АНАЛИЗ ВЫСОКОКВАЛИФИЦИРОВАННОЙ МИГРАЦИИ В СОВРЕМЕННОЙ ЕВРОПЕ: УТЕЧКА МОЗГОВ ИЛИ ЦИРКУЛЯЦИЯ МОЗГОВ?

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Аннотация: *в статье проводится интерпретация и операционализация понятия высококвалифицированой миграции, приводятся актуальные статистические показатели современных исследований, которые демонстрируют процессы миграции в современной Европе. Операционализация и интерпретация понятий «утечка мозгов» и «циркуляция мозгов» позволяют анализировать характер высококвалифицированной миграции в современной Европе. На основании проведенного теоретического анализа научной и научно-исследовательской литературы сделан вывод о преобладающем характере утечки мозгов из стран Европы, в то время как для стран Азии характерна циркуляция мозгов.*

Ключевые слова: *высококвалифицированная миграция, утечка мозгов, циркуляция мозгов, факторы миграции, типология миграции.*

Nowadays, there is a process of increasing internalization of higher education, which causes an existence of the competitions for talented persons on a global economic level. Countries and institutions from all over the world are interested in offering favourable conditions and opportunities for education and scientific research for knowledgeable and skilled peoples. Knowledge and skills are supposed to be main recourses for modern economic systems. The process of globalization develops such thing as personal mobility because of (programs of academic mobility, Internet, access to information…). The migration of skilled persons has attracted abundant attention in recent years. This skilled migration from developing to developed countries, which has often stimulated by different state-programs, can be called "brain drain". However, today emerging high-level opportunities are seen to be driving migrant students to return upon completion of studies in developed countries. This directs scholars to the idea that brain drain is giving way to "brain circulation".

A talent is becoming one of the most valuable resources in modern economies in most of countries. Different companies and governments of all continent states in industrialized societies recruit and retain skilled individuals from all over the world to face up to the shortage of specialized workers.

Recent data of the migration process, which was collected by Docquier and Marfouk (2006) [13] reveals that, during the 1990s, the number of higher educated migrants living in OECD countries increased by 8 million (40% of total migrants arrived in that period). The essence of brain drain flow seems to be exceptionally broad in recent years.

According to the theoretical literature on highly skilled migration there have been four important typologies of migration. First of all, highly skilled professionals, who move from developed countries to other developed countries in the 1960s. Second, highly skilled migrants in developing countries moving to developed countries for the sake of investment in their human capital or to seek better career opportunities. Third, employees, who work within large and medium sized global transnational organizations and are seconded to other countries as 'internal company transferees'. Fourth, highly skilled migrants, who come back to their home countries, either because of

different factors such as visa restrictions and unemployment trends, or as a result of individual factors such as joining family and friends, investment and job opportunities, or for retirement.

Brain drain can be understood as the emigration of highly trained or educated workers from a particular country. The current literature views brain drain as being destructive to sending economies. Docquier and Marfouk (2000) [12] and Beine et al (2008) [5] suggest that educated individuals are more probably inclined to emigrate.

Moreover, if migrants present a greater share of human capital per worker than the population left behind, then the stock of human capital per worker decreases. Both in the case of short-run adjustment costs and externalities, this fall generates a welfare loss. However, a new wave of dynamic models raises the possibility of benefits from skilled migration for developing countries. Mountford [24] shows that opening a country to skilled migration produces an incentive to invest in education that, if it is large enough, can result in a lift in the human capital ex-post in the presence of doubtful emigration prospects. The main idea is that some of those who invest in education to take the opportunity to migrate, sojourn in their native country. Checchi et al. [8] consider that skilled migration does not increase enrolment into secondary or higher education.

Reasons for brain drain can been explained by a "push" element, consisting of an undesirable mixture of political, economic and social problems in developing countries, which drives students, scientists and professionals to be forced to the prospect of better education, scientific probabilities, careers, wages and living conditions, democratic regimes and personal freedom in developed countries.

It is usually proposed that low salaries, rigid regulations, bureaucracy leading to nepotism, as well as lack of career opportunities and institutions for advanced graduate studies and research, pulled students and professionals from developing countries look for better opportunities (economic as well as educational) in developed countries. Also, political instability and corruption in their Motherland make them seek those countries where there are stable governments and functioning democratic political systems. Better economic and political environment in developed countries are presented as providing good prospects for improved living standards, not to mention the glamour and desire of an easy, comfortable and prosperous life.

Skilled worker migration also affects sending economies through other channels. Worker remittances is one of them. It is not clear whether skilled migrants send more remittances to their home country than non-skilled migrants. Cinar and Docquier [9] emphasize the positive effect of remittances in the case of liquidity constraints for education; in this case, a brain drain can enlarge human capital in the country, if it reduces these limitations. In the same time, Faini shows that when there is a high proportion of skilled individuals among emigrants, there is a low volume of remittances to the home country, therefore, remittances cannot compensate for the negative effects of brain drain.

Different FDI and trade linkages were created by the formation of migrant networks which help strengthen the profits from trade and the propagation of knowledge, which ultimately stimulates growth in the sending economy. Networks or co-called diaspora externalities come out as a consequence of a decline in transaction and other information costs associated with the commitment problem that is inherent in agency relationships. For example, in business-related services operating at distant locations, diaspora creates or sometimes even replaces a weak international environment based on trust and punishment mechanisms that prevent opportunism and contract violation among individuals belonging to the same community. Moreover, information on market is related issues are easier to get in the existence of ethnic networks. For example, emigrants have more information on consumer preferences, product providers, fees and charges, and business ethics in both receiving and home countries, which in fact reduces transaction costs, facilitates exchange in goods and services and creates business opportunities. Relevant references with respect to trade networks are Gould [18], Rauch and Trindade (2002) and Rauch and Casella [25], none of whom consider educated migrants separately from total migrants.

Thus, the literature review suggests several potential channels through which skilled migration can affect welfare and growth in sending countries; the most controversial of which is the effect on human capital, which is also likely to be the most important, but there are also other elements to take into consideration when evaluating the impact on welfare of human capital flight.

So, the concept of brain drain means that highly-skilled persons, such as students, professors, scientists and others, leave their place of birth to another countries searching for better life conditions. It is a type of co-called "one-way" migration. People don't want to return back.

On the other hand, there is approach of brain circulation. The foregoing clearly links into the circulationist approach, globalization phenomena and transnationalism. On Gaillard and Gaillard opinion [16], it is necessary to focuse on such circulatory flows, which were described as being polycentric, temporary, subject to exchange phenomena, and characterized by return flows of talent. The globalization of economy has an impact on appearing such phenomenon as brain circulation – a cycle of study and work abroad is often continued by a return to the home country to take advantage of emerging high-level opportunities (Cao 1996; Johnson and Regets 1998; Wadhwa 2009).

Some scholars highlight the difference between brain circulation and return migration. Brain circulation describes skilled migrants who move between their host, home and other countries for business, work and investment purposes. While return migration describes people who initially emigrate to a host country and at a later date return to their home country.

Saxenian [30] believes that the same individuals who left their home countries for education and gaining work experience abroad were returning home to set up business organizations or to start new companies. Many developing countries have been experiencing economic growth with liberalization of their economy and investment

in high technology such as information technology, nanotechnology and biotechnology. They have been engaged in creating policies to allure and cling to their technical talent producing a set of opportunities as research and business opportunities, tax breaks, new education funds, family benefits and so on (Glanz 2001; Lieberman 2004).

It is argued that the return of migrants with new ideas, skills ambitions and motivation conduce to have a major positive impact on developing countries' economic growth and social structure (Appleyard 1989). According to Dumont and Lemaitre [14] migrants transfer money to their home countries, which, as well as other things, results in providing much-needed foreign exchange. Beine et al. [6] think that human capital increases in the home countries with brain circulation. An indirect but substantial investment in additional education and training in their home countries can be result of individuals returning to their home countries and they often value education more highly. Saxenian [30] argues that returned migrants have been instrumental in technology transfers from developed countries to their home countries. Wadhwa et al. [34] claim that because of return migration countries like India and China are experiencing an entrepreneurship boom as they are learning to innovate just as Silicon Valley does. Arora and Gambardella [3] consider that the growth of the software industry has provided in a nontrivial way to the growth of India as a whole and has handed over the basement for the growth of a new entrepreneurial model. Varma [33] says that even without return migration, immigrant scientists and engineers are networking, communicating and collaborating with their peers and colleges at home. Wadhwa et al. [34] argue that the United States has admitted record numbers of international students and highly educated foreign workers on temporary visas, but did not convert their temporary status to permanent status, leading them to return to their home countries to explore opportunities there. The circulationist paradigm holds that migration flows are increasingly transitory and apt to return and circulation phenomena.

To summarize, modern theories on high-skilled migrants have shifted from brain drain to brain circulation. Unlike the earlier notion of brain drain, which considered the negative effects of skilled immigration, the emphasis is now on the benefits and opportunities available to developing countries. Brain circulation is seen as a brain gain for developing countries and a loss for developed countries. The brain drain theory portrays one-way migration of students whereas the brain circulation shows two-way migration.

The phenomena of the brain drain and the brain circulation is connected to labor flows directly. In my opinion, it is interesting to give examples of one of the most economic-developed European country and country, which has economic problem.

The first case is the UK. The problem of brain drain appeared in the UK in 1960s. Most of British scientists went to the USA. Then, the policy to attract researches was accepted with an estimated annual investment of no less than 62 million pounds in foreign students and 254 million pounds in local students, a more than respectable ratio of 1:4. These initiatives did not, however, entirely curb the flight of British talent, so much so that in 2008 an OECD study showed that 1.1 million British high-level graduates were living abroad. Also, more than one million foreign talents have gradually replaced the British that have left, such that the damage caused by the British brain drain has been partially contained and the shortage of highly-skilled personnel has been redressed. In the OECD, 80% of foreign students are concentrated in 5 countries: the US (34%), the United Kingdom (16%), Germany (13%), France (11%) and Australia (8%). Also, More than 1,300 academics from the European Union have left British universities in the 2016 year, prompting concerns of a Brexit brain drain. A recent analysis by the Russell Group, which represents 24 of the UK's leading universities, found that there are 24,860 members of staff from other EU countries at UK universities, making up 23% of all academics. For example, more than a third of the students in Coventry came from outside the UK. This is the highest proportion among UK Cities and reflects the attractiveness of Coventry as a place to study. In many cases, British expatriates had no intentions of returning to the UK. Researches show that highly skilled British expatriates are contributing more towards a brain drain than brain circulation.

The second case is Italy. Avveduto and Brandi [1], working from ISTAT data relating to the removal of Italian graduates from the residency register, calculated that between 1996 and 1999, the number of graduates who had themselves removed from the register never fell below 2,000 in any year and that it exceeded 4,000 in 1999. Becker et al. [4], working on data from the Registry of Italians Residing Abroad (AIRE), calculated that over the course of the 1990s, the human capital level (measured in years of education) of Italian emigrants was increasing. Thus, even if the rate of brain drain has decreased, those who emigrated were increasingly more skilled and relatively better educated than those who remained arrived at a similar finding for the major European countries. OECD figures also estimate that the proportion of graduates among Italians in other OECD countries is 12.4%. There are around 300 thousand highly-skilled Italian workers living abroad in OECD countries. Of these, 45% are located in North America, namely, 32% in the US (approximately one third of the total) and 12.6% in Canada. 40% remain in Europe, where the preferred destinations are France (9.3%), the United Kingdom (8%), Switzerland (6.9%), and Germany (6.2%). Outside Europe, the country which draws the most Italians is Australia (with 13.6%, it is the second most popular destination), whilst the Asian countries taken into account by the OECD (Japan, South Korea and Turkey) only attract 0.6%. According to European Union figures (DG Research, 2003), there are around 34 thousand Italians employed in science and technology in other European countries, for whom the preferred destinations are Germany (15 thousand), France and Belgium (more than 5 thousand) and the United Kingdom (over 4 thousand). The biggest problem for Italy is therefore the negative net flows between incoming and outgoing talent, exacerbated by the high qualification levels of those leaving the country compared to those arriving.

The motive to leave a country often precedes the search for a new job and skilled migrants will move either because they are forced to through push factors, or because they experience a 'shock' such as a family illness,

which forces them to reconsider moving country (Griffeth et al., 2000; Tharenou and Cauldfield, 2010). This is also characterize Europe case because push factors such as the 2010 sovereign debt crisis will arguably force many skilled professionals from European countries which have been particularly affected by central government debt such as Greece, Italy, Spain and Portugal to move to other countries less affected by the global economic crisis. In contrast, the 2011 'Arab Spring' protests and demonstrations will arguably force many migrants to flee their home countries and move to Europe.

Governments have started to recognize and attempt to harness the resource of highly skilled migrants. Ong gives as examples China, India and Singapore, which have established offices in Silicon Valley to entice their foreign born scientists, engineers and entrepreneurs back [28]. Many of the brain circulation successfull attempts have come from countries such as China and India that have demonstrated rapid economic growth or potential for growth [30]. Also, there is successful efforts in a small number of other countries such as New Zealand where the national government has been actively encouraging brain circulation [22].

In conclusion, it is obvious that such phenomena as the brain drain and brain circulation are modern lineament of globalized and multinational society. Especially it can be noticed in industrialized or post-industrialized (informational) countries. The brain drain, which is understood as migration of highly-skilled people for better work conditionals, is giving way to the brain circulation, which assumes getting international skills, knowledge and experience and returning back in a home country. Nowadays, however, we can see that European countries face to brain drain. The phenomenon of the brain circulation exists in most of developing countries in Asia, India and others.

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