INTELLECTUAL MIGRATION AS A STATISTICAL RESEARCH OBJECT

I. Romanenko
Kyiv National Economic University,
54/1, Peremohy Ave., Kyiv 03680 Ukraine,
Irina-romanenko@ukr.net

Abstract. The intensification of migration processes in Ukraine, as well around the world, results from the processes of world space globalization. Characteristic features of international migration are a steady increase of its scope involving the population of practically all countries throughout the globe into the international circulation, and the rapid growth of the intellectual migration share in such circulation. The research on various components of migration processes has been presented in both domestic and foreign research scientific literature. Although science has accumulated considerable knowledge of the migration issues, it still has a rough general theoretical and methodological concept of migration processes analysis, there is no in-depth statistical analysis of labor migration processes, including insufficient focus on the research on qualified migrant labor potential. The article examines the causes and effects of intellectual migration, defines the main trends of qualified labor migration, outlines the main challenges in the field of intellectual migration and suggests the ways of forming efficient well-balanced state migration policy.

Keywords: intellectual migration, qualified migrant labor potential, intellectual donor.

Introduction
In the times of political, economic, and social crisis, labor migration is gaining considerable scale. Nowadays, under the conditions of instability more and more labor force is forced to seek employment outside the national boundaries. According to unofficial data, approximately 7 mln. of the Ukrainians are employed in different spheres abroad. According to the data of the State Statistics Service of Ukraine, this amount is considerably smaller, 1 to 4 mln. of the Ukrainians are annually employed abroad. The International Organization for Migration estimates the amount of the labor migrants from Ukraine at the level of 2.5 mln. The current system of statistical analysis is not yet able to reproduce the actual scale of labor migration abroad.

To date, labor migration does not only reduce the labor supply in the Ukrainian labor market, but also reduces its quality. Since the conditions of development of international economic relations provide for the expansion of migration processes which characteristic feature is vested in intellectual potential. Intellectual migration is a particular threat to social and economic development of the state and sustainable development of the society since economic and social progress is largely based on the increase of the labor pool of scientific personnel, accumulation of intellectual potential, increase of scientific and technical potential of the country, as well protection and maintaining of qualified personnel.

Unfortunately, over 30% of the Ukrainian scientists are working nowadays to promote the development of the economies of foreign countries.

Intellectual migration is quite a pressing issue for the contemporary Ukraine, and the issues of primary importance are, firstly, detailed analysis of qualified labor migration reaching a massive scale under the globalization conditions, and, secondly, improvement of the process of state political trends regulation with regard to the decrease of intellectual migration scale in the future.

Method
The research methods are based on conceptual approaches to economics and statistical science principles. In the study, the following statistical methods were used: method of averages, variation method, dynamic model method, graphical method, and table method. The aforesaid methods have made it possible to analyze
the situation of intellectual migration of the population of Ukraine and identify priority areas of the public policy of migration processes control.

Results

Nowadays, intellectual migration is inherent to almost all countries, especially those in which the demand for specialists with higher education is significantly lower than their supply. The labor market is unable to provide skilled professionals with jobs since the development of the economy of the country does not ensure proper employment of specialists with higher education. In this case, such states become known as intellectual donors so far as many of their highly educated citizens tend to migrate to economically developed countries.

In the context of global integration, Ukraine takes one of the leading positions in the rating of donor countries supplying qualified intellectual labor resources and unqualified labor migrants. The scale of intellectual labor migration increases, and namely, it has significant impact on the development of education science, business, and economics of the country, as well sustainable development of the society.

Nowadays, the migration policy of many developed countries of the world is based on the principle of a migrant intellectual attractiveness. Highly developed countries of the world have come to the formation of the economic system by means of development of an intellectual product with advanced cognitive and analytical skills, ability to timely respond to current global development trends, with high level of self-organization, self-control, and morality. It is an intelligent personality that determines the competitiveness of economic systems, serves the basis of the wealth of nations and a key resource for their development.

The ability of the economy to create and efficiently use a highly developed personality increasingly determines economic development and living standards of a country and welfare of its citizens. Sociological and economic progress of any country depends on safeguarding necessary conditions for building up knowledge, ideas, and information, on the ability of national institutions to productively adopt them. That is why highly developed countries of the world see not only to the quantitative increase but also to the qualitative increase of their own intellectual capital by creating scientific and technological parks, and laboratories, investing in the development of educational and research institutions, but also to actively shaping the demand for foreign specialists.

Ukraine still has a very significant scientific and technical talent pool. But unfortunately, due to a number of political, economic and social issues, it has already lost about a third of its scientific potential and continues losing it. Lack of attention to the country’s government to the issue of preserving and restoring the scientific potential of Ukraine led to a 50% reduction of middle-aged scientists and almost 60% of junior research staff. In 2012, 0.26% of the total number of graduates having received a master’s, specialist’s and bachelor’s degrees, were employed to the positions corresponding to their profession.

Over 20 years of independence of dozens of thousands of scientific research professionals, most of them being of productive age, left Ukraine to permanently reside and work abroad.

During 2009-2013, 413 Candidates of Sciences and 70 Doctors of Sciences left Ukraine.

The number of intellectual migrants is steadily increasing. Such situation gives a reason to state that Ukraine is characterized by the signs of destruction of the intellectual potential of the nation.

Statistical analysis of the predicted number of migrants in 2014-2015 conducted by calculating the parameters of a linear trend provides the reasons to believe that Ukraine is undergoing annual loss of the national intellectual potential.

The predicted results indicate that provided the conditions remain unchanged Ukraine will lose 106 Candidates of Sciences and 19.4 Doctors of Sciences.

Under unchanged economic, political, social and other conditions, it is predicted that 113.8 Candidates of Sciences and 21.2 Doctors of Sciences will leave Ukraine. Such situation is disappointing since the brain drain results in the loss of the potential of the Ukrainian society, such loss, in its turn, affecting the development of the national economy.

The main reason of intellectual migration in Ukraine is a deep crisis of the national science concerned with the reduction in domestic expenditure on research and development; insufficient technical and logistic support of the research process; low material and moral assessment of the work carried out by scientists; low level of scientific and data support of theoretical research and development; the lack of modern scientific equipment, insecurity of property rights to an intellectual work product.
Intellectual labor travels beyond national borders not only in search of higher remuneration for their work, but also in search of better equipped laboratories, more comfortable living conditions, more rights and political freedoms, because of greater opportunities for creativity and self-development.

According to unofficial sources of statistical data, the annual intellectual emigration from Ukraine equals approximately 95,400 professionals, i.e. every 26th professional with higher education emigrates. During recent years about 5,500 scientists left Ukraine, this is equivalent to the loss of 4 bln. U.S. dollars. Pursuant to expert estimates, the cost of training one specialist with higher education makes about 20,000 U.S. dollars, meaning that every qualified migrant enriches their new country of stay for that amount.

The main target countries of external migration of qualified professionals are the USA, Russia, Germany, Israel, Canada and Poland.

To date, scientists cannot come to a single conclusion on the consequences of intellectual migration for intellectual donor countries. On the one hand, the drain of qualified professionals has a negative impact on the social and economic development of the country. On the other hand, the specialists returning home use the obtained advanced knowledge, skills and expertise in their scientific and technical professional activity, improve their professional skills due to the benefits won during their stay abroad.

Intellectual migration has a negative outcome for Ukraine since the scientific potential drain affects the labor resources of the country and its regions, reduces its intellectual potential; the national economy loses its most resilient and usually more competitive part of the talent pool, all this resulting in a change of the labor potential structure change. As a result, the country experiences deteriorating labor productivity decreasing the country’s competitiveness in the global market. The workforce is deteriorating and Ukraine is increasingly falling behind in its technological development.

Adverse effects of intellectual migration can also be noticed in the demographic perspective. Since mostly young and highly educated people leave Ukraine to seek employment abroad, the country is experiencing the aging of its nation, dramatic decrease of birth rate, increase of mortality rate, and the lack of the natural increase rate shaping a deep demographic crisis.

From an economic point of view, Ukraine suffers material damage due to the scientific potential emigration. Government expenditures due to the migration of scientists are about 36 bln. U.S. dollars, without taking into account the potential cost of what they could develop or invent.

Positive effects include the process of “brain circulation”, i.e. the use of an intellectual migrant’s knowledge and experience obtained during a business trip for the social and economic development for the country. Highly-skilled professionals migrating to developed countries further promote the inflow of investment, technologies, ideas and more efficient business development standards to their home-country. Moreover, trips made by students and scientists to take part in research and various projects facilitate the integration of Ukraine into the global scientific and technical, as well educational community.

Prolonged stay in developed countries also contributes to shaping a migrant’s experience in contemporary management, market mentality, and adoption of values and standards of a civilized society.

For recipient countries, positive and negative effects of intellectual migration can manifest themselves in different ways, depending on the period of stay.

The results of the research conducted using the data of the recipient countries are indicative of a positive economic effect of the use of foreign intellectual labor. Firstly, a migrant receives much lower social security payments compared to those obtained by the indigenous population, while paying more taxes and fees. Secondly, the state spends no funds on training a future scientist but immediately gets a direct economic effect from an intellectual migrant employment since the revenues created by intellectual migrant work considerably exceed the costs of maintaining such scientists. Thirdly, the involvement of cheap intellectual resources, compared to the local ones, lead to the reduction in expenditures on producing gross domestic product (GDP), effecting, in its turn, the production growth.

Overall involvement of qualified intellectual labor leads to the rapid development of the economy, the growth of innovation and intellectual spheres, and intensification of economic projects.

The loss of human capital by donor countries raises issues of national security. Minimizing the loss of intellectual potential requires an adequate response from the government by means of intensive application of mechanisms of migration flows management, through adjusting and taking into account the interests of all of the stakeholders of the global migration process, implementing the aforesaid process at three levels: national,
international and transnational, where control and management methods will be implemented by relevant authorities.

That is, an efficient migration policy should include the interests of nation states, international organizations, and international institutions. Altogether they form a global system of international migration management, being a part of global governance.

To implement the efficient functioning of migration policy at both the state and international level, an efficient mechanism of migration processes management should be formed with regard to the requirements of national security and national economies needs in the use of foreign labor.

The ultimate goal should be not the cessation of intellectual migration which is impossible in the globalization context, but the introduction of a mechanism for returning migrants to their home-countries, i.e. turning permanent migration into temporary one.

Discussion

Intellectual migration is a complex notion having controversial influence on the social and economic development of donor countries and recipient countries.

Nowadays, Ukraine takes one of the leading places at the international labor market amongst donor countries for intellectual resources and is actually taking part in the economic development of countries.

The current crisis of the national science is a major cause of intellectual migration affecting the development of the national economy, the quality of human capital, labor productivity, and population income level.

Intellectual migration as a contradictory and controversial phenomenon requires specific measures for its improvement to be carried out by means of international legal regulation of migration processes with account of the global interests of the international community, the objective possibilities of individual countries and the peculiarities of the population development in the current conditions.

To date, official statistical sources are not able to assess the real scale of intellectual migration due to the lack of a single unified methodological approach to measure the intensity of qualified labor migration. The aforesaid affects the possibility of assessment of quantitative and qualitative parameters of performance of intellectual migrants. Therefore, the first important step in public policy to improve the information level of statistical data is the introduction of advanced technologies of statistical data processing. It is also necessary to improve the monitoring of migration processes.

That is why Ukraine has only started forming a comprehensive, scientific evidence-based methodological and information balanced system of intellectual migration management. To date, the main goals of the state migration policy are to overcome the growing scale of intellectual migration, manage migration flows by introducing efficient tools of migration flows management.

To reduce the scale of intellectual migration, the government should target its policy at the development and efficient use of intellectual potential:

- to actively involve young talents into the scientific research activity;
- to safeguard the implementation of the Law of Ukraine “On Scientific and Research Organizational Activity” in the part of financing scientific spheres at 1.7% of the GDP;
- to provide for decent labor remuneration to the scientific potential of the country;
- to provide for updating material and technical basis of scientific research sphere;
- to introduce new approaches to shaping the talent pool by determining priority scientific spheres for the country to educate the scientific staff accordingly;
- to create favorable labor conditions with duly equipped laboratories, the aforesaid facilitating the fulfilment of the creative and intellectual potential;
- to increase the level of social security of the scientific staff;
- to encourage the national business to efficiently use scientific research results;
- to provide for closer cooperation of higher educational institutions with scientific research institutes;
- to provide for the participation in international programs for information exchange for advance training and intellectual potential growth of a scientist and researcher;
- to promote international cooperation sustaining a possibility to travel abroad on business.
The implementation of the above trends for intellectual migration management combined with market self-regulation processes are able to stabilize the situation on reducing intellectual migration, establish a system of personnel training and advance training in the priority areas of the economy, stimulate the development of national economy, and improve the quality of human capital, improve labor productivity, and increase the population income level.

References