

On Sustainable Development under the Conditions of Human Capital Migration: A New Agenda for External and Internal Population Displacement

O zrównoważonym rozwoju w warunkach migracji kapitału
ludzkiego: nowy program na rzecz zewnętrznych i wewnętrznych
przesiedleń ludności

Nataly Martynovych¹, Igor Britchenko², Lesya Kolinets³,
Yuliia Popova⁴

¹University of Modern Knowledge, Kyiv, Ukraine

E-mail: vasilchuk_80@ukr.net, ORCID: 0000-0001-9884-6052

²University of the National Education Commission, Krakow, Poland,

E-mail: ibritchenko@gmail.com, ORCID: 0000-0002-9196-8740

³Vilnius Gediminas Technical University, Vilnius, Lithuania,

E-mail: lesya.kolinets@vilniustech.lt, ORCID: 0000-0002-7005-0519

⁴State University of Infrastructure and Technologies, Kyiv, Ukraine,

E-mail: yuli-p@ukr.net, ORCID 0000-0002-5246 -1349

Abstract

The article examines the relationship between the migration of human capital and the sustainable development of socio-economic systems. The evolutionary role of migration and its dual nature are substantiated. It has been proven that, on the one hand, the influx of migrants creates a burden on social protection systems; on the other hand, developed countries that receive the main migration flows show a fairly high degree of socio-economic sustainability and compete for high-quality human capital. An analysis of the quantitative and qualitative characteristics of human capital migration was carried out. The main reasons for external and internal population movement in the EU countries and Ukraine, the directions of trends, the intensity of migration and emigration in the EU countries are identified. Socio-demographic portraits of migrants from the EU countries and Ukraine were formed before and after the start of a full-scale war in Ukraine. The benefits of losses, risks, opportunities for migration of human capital and sustainable development are identified and compared. The consequences of migration for the implementation of Sustainable development goals of host countries and donor countries are identified.

Key words: sustainable development, internal and external population movement, migration, emigration, human capital

Streszczenie

W artykule zbadano związek pomiędzy migracją kapitału ludzkiego a zrównoważonym rozwojem systemów społeczno-gospodarczych. Udowodniono ewolucyjną rolę migracji i jej dwoisty charakter. Udowodniono, że z jednej strony napływ migrantów stanowi obciążenie dla systemów zabezpieczenia społecznego; z drugiej strony kraje rozwinięte, do których trafiają główne przepływy migracyjne, wykazują dość wysoki stopień stabilności społeczno-gospodarczej i konkurują o wysokiej jakości kapitał ludzki. Przeprowadzono analizę ilościowych i jakościowych cech migracji kapitału ludzkiego. Zidentyfikowano główne przyczyny zewnętrznych i wewnętrznych przepływów ludności w krajach UE i na Ukrainie, kierunki trendów, intensywność migracji i emigracji w krajach UE. Portrety społeczno-demograficzne migrantów z krajów UE i Ukrainy kształtowały się przed i po rozpoczęciu wojny na pełną skalę na Ukrainie. Identyfikuje się i porównuje korzyści wynikające ze strat, ryzyka, możliwości migracji kapitału ludzkiego i zrównoważonego rozwoju. Zidentyfikowano konsekwencje migracji dla realizacji celów zrównoważonego rozwoju krajów przyjmujących i krajów-darczyńców.

Słowa kluczowe: zrównoważony rozwój, wewnętrzne i zewnętrzne przepływy ludności, migracje, emigracja, kapitał ludzki

1. Introduction

Migration of human capital is a determining factor for the social, economic and environmental components of sustainable development. Almost all states involved in these flows in one way or another face the direct or indirect impact of the consequences of migration movements on the functioning of their society. Focusing on the relationship between the migration of human capital and the sustainable development of socio-economic systems, it must be said that due to their work, income received, and remittances, external and internal displaced persons contribute to poverty reduction by providing essential services and supporting families and communities in countries of origin, transit and destination, contributing to the GDP of host countries and, at the same time, creating a number of challenges related to the safety of displaced citizens (United Nations Network on Migration, 2021). Modern global challenges faced by humanity, are forcing the population to move in one way or another in search of better socio-economic and safe conditions. These challenges include COVID-19, which has shown the critical importance of migrants in keeping diverse societies functioning, while highlighting the need to build more equitable and inclusive relationships that can be resilient in the face of future pandemics. According to the UN report *Global agenda issues. Migration*, COVID-19 and subsequent measures taken by governments to prevent its spread have significantly disrupted human mobility, with expected growth slowing by 27% as of early 2021, contributing to lower GDP growth and creating labor shortages in key sectors of the economy (UN *Global agenda issues. Migration*, 2020).

Protracted displacement as a result of Russia's aggression against Ukraine in February 2022 has become the second global challenge since the COVID-19 pandemic. In the migration context, the war led to unprecedented levels of forced displacement, which at the beginning of 2023 was considered the largest in the world. Of the estimated 14 million internally displaced people, including those forcibly displaced to Russia, about 8 million required protection abroad and another 6 million sought refuge in Ukraine, many facing harsh living conditions comparable to a humanitarian crisis.

Thus, the intensification of migration flows in the modern world, caused primarily by the war in Ukraine and political conflicts, sufficiently determines the progress in achieving the goals of sustainable development in many countries of the world.

The authors of the article adhere to the opinion of the world scientific community that migration, together with a number of other factors, can be considered a tool for influencing the achievement of Sustainable development goals. Their rationale is as follows. Migration in the modern world is becoming a structure-forming element of the economic system of the information society and significantly influences the formation and functioning of the labor market. Based on this, migration movements should be considered primarily as a movement of human capital which is one of the most important factors of economic utility and social value.

Migration processes influence the formation, distribution and use of human capital, as well as the labor market conditions of both the receiving country and the donor country. Migration has an ambiguous impact on the formation of the gender, age, educational and professional structure of human capital, the demographic situation, reducing or increasing the population, changing the conditions of its reproduction and life, etc. The consequences of these processes have both positive and negative effects on the achievement of Sustainable development goals, which are discussed in more detail in the main part of this study.

Based on the fact that more than 258 million people are international migrants (DESA United Nations, 2017), human capital migration can be seen as a global phenomenon that affects the lives of most people. Moreover, in our increasingly interconnected world, millions of other people are affected by migration through family, cultural and economic exchanges. All the above arguments suggest that migration is a powerful factor in sustainable development both for migrants themselves and for their communities in countries of origin, transit and destination (Migration and the 2030 Agenda). Thus, the listed arguments allow us to assert that the study results presented for consideration are relevant and timely.

The purpose of the article. Based on the analysis of the specifics of internal and external movement, the purpose of this study is to determine the characteristic features of the new sustainable development agenda in the context of migration of human capital.

2. Methodology

The fundamental basis of the modern theory of human capital and migration is the scientific works of representatives of classical and neoclassical economic theories D. Ricardo, W. Petty, A. Smith, I. Fisher, A. Pigou, G. Becker, J. Mincer, B. Chiswick, T. Schultz, R. Goldscheid. The econometric foundations of research in the field of human capital and migration are presented in the works of Nobel laureates: D. McFadden, J. Heckman, S. Long and others. Key insights regarding migration, social transformation and development in countries of origin and destination are based on research by Greg Madison (Madison, 2006) Hein de Haas, Mathias Czaika, Marie-Laurence Flahaux, Edo Mahendra, Katharina Natter, Simona Vezzoli and María Villares-Varela (Hein de Haas, 2011, Chaika, Hein de Haas, 2017).

Key conclusions regarding sustainable development in the context of migration of human capital were based on the analysis of the works of Douglas S. Massey Jorge Durand, Nolan J Malone, Petronela Daniela Feraru, who devoted their research to migration in the era of integration, while identifying fundamentally new manifestations and characteristics in migration processes (Massey, Durand, Malone, 2002; Feraru, 2015).

To assess the intensity of human capital migration and its impact on achieving Sustainable development goals, analytical, comparative, and statistical methods of analysis were used, the applied aspects of which are reflected in the works of

scientific practitioners V. Gimpelson, R. Kapelyushnikov, A. Marshal, L. Abalkin, G. Ashirov, V. Weisbor, N. Shulga, R. Ehrenberg and others.

To determine the quantitative and qualitative characteristics of migration flows, two fundamentally different approaches were used: assessment of the level of migration based on actual data from statistical reporting and assessment based on the results of sample sociological surveys of the population, which allows us to establish the level of potential migration, that is, the potential ability for this kind of change (Shulga, 2002).

The binary approach to determining the quantitative and qualitative characteristics of migration flows is explained by the fact that government statistics reflect the scale of movements of only a certain category of migrants – those leaving on an official basis. Citizens whose declared purpose of travelling abroad was, for example, tourism, visiting relatives, etc., but in fact for the purpose of employment, remain unattended. This problem is common to almost all countries of the world both in relation to internal and also external migration. Therefore, sample surveys become an alternative source of information on migration.

To assess the scale and nature of human capital migration, its analysis and forecasting, the study used direct and indirect methods, including a number of general and special indicators, such as: migration flow upon arrival - number of arrivals (I); migration flow after departure - the number of departures (E); volume of migration – the sum of arrivals and departures ($Q = I + E$); migration balance (the effectiveness of migration movement, an indicator of the result of territorial movements) - the difference between the number of arrivals and departures ($S = I - E$); gross migration - the totality of migrants in a given territory for a certain period; migration flow - a set of migrants who have common areas of arrival and departure during a given period of time (Population of Ukraine. Labor emigration in Ukraine, 2010; Razumova, 2000).

The values of these indicators were determined by calculating the intensity coefficient upon arrival, which is the ratio of all arrivals to the population of the territory $K_{arr.int.} = \frac{I}{P}$; intensity coefficient for departure, calculated as the ratio of all those who departed to the population of the territory $K_{dep.int.} = \frac{E}{P}$; migration intensity coefficient, reflecting the ratio of the volume of migration and the population of the territory $K_{migr.int.} = \frac{I+E}{P}$; migration efficiency coefficient $K_{effect.} = \frac{I-E}{P}$. In addition, the article presents the migration structure by age, gender, level of education, professional training, reasons for migration, directions of migration movement.

The feasibility of labor migration is reflected by the net present value of the benefits from migration NPV_M , which allows us to reflect the current value of earnings in a new place minus relocation expenses (form 1) (Population of Ukraine. Labor emigration in Ukraine, 2010; Bochkov, 2010):

$$NPV_M = \sum_{t=1}^T \frac{(B_{1t} - B_{0t})}{(1+r)^t} - C, \quad (1)$$

where

B_{1t} – benefits in the new job per year, t ;

B_{0t} – benefits in the old job per year t ;

C – costs from migration;

r – discount rate;

T – expected employment time.

The information base of the study results was composed of official data from the state statistics service for countries of the world, materials from international organizations, in particular, the United Nations, which is the leading intergovernmental organization supporting humane and orderly migration to ensure the common good, and the International Organization for Migration (hereinafter referred to as IOM).

3. Findings and Discussion

3.1. The role of human capital migration in sustainable development

Modern scientific discourse notes the evolutionary role of migration, its dual nature, increasing influence on the economy, sustainable development of countries, stability, solving demographic problems, and turning into a development resource. Therefore, in the research of Petronela Daniela Feraru, the author substantiates the hypothesis that migration is not always a threat factor, if studied more deeply. Proving that if the European Union member states shift the focus of European migration policy and consider migration integration more as a factor of socio-economic territorial development and less as a factor of destabilisation and insecurity, both the host country and the emigrant will benefit, which will have a positive impact on the sustainable development of the host territory (Feraru, 2015).

In the article of M. Melnykova, Ye. Gradoboieva, T. Mirzodaieva, N. Ragulina, dedicated to the comprehensive modernization of public infrastructure as a factor in the sustainable development of cities in Ukraine, the authors address the issues of internal migration and prove its positive impact on the development of the receiving territory (Melnykova, Gradoboieva, Mirzodaieva, Ragulina, 2020), while the authors also note that at the international level it is becoming increasingly difficult for states to respect the rights of immigrants, implement social and political integration, and overcome xenophobia.

An analysis of previously published research results by authors from various countries and periods led to the conclusion that economic efficiency often does not coincide with social efficiency. This is noted in the studies of N. Martynovych, E. Boichenko, M. Dielini, (Martynovych, Boichenko, Dielini, 2023). Therefore, in this context, there is still an active discussion in scientific circles, including in relation to migration, as well as its impact on economic and social efficiency, the latter in turn depend on the reasons for migration, which are also the subject of discussion.

Summarizing existing opinions about the benefits and costs of relocation processes, we can name the most common reasons that contribute to the movement of citizens, including: increasing the level and quality of life, improving working conditions and wages, moving due to family circumstances, obtaining an education, the presence of vacant jobs in the specialty, the presence of social guarantees, migration due to war, ethnic or religious conflicts, as well as random circumstances.

As the results of regular research by the authors have shown, eleven out of seventeen Sustainable development goals reflect migration issues.

The full list of sustainable development goals is as follows (United Nations, 2015):

Goal 1. End poverty in all its forms everywhere.

Goal 2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

Goal 3. Ensure healthy lives and promote well-being for all at all ages.

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Goal 5. Achieve gender equality and empower all women and girls.

Goal 6. Ensure availability and sustainable management of water and sanitation for all.

Goal 7. Ensure access to affordable, reliable, sustainable, and modern energy for all.

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Goal 10. Reduce inequality within and among countries.

Goal 11. Make cities and human settlements inclusive, safe, resilient, and sustainable.

Goal 12. Ensure sustainable consumption and production patterns.

Goal 13. Take urgent action to combat climate change and its impacts.

Goal 14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.

Goal 15. Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation, and halt biodiversity loss.

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Thus, goals 4, 5, 8, 10 16 and 17 make connections with migration, including student (educational) mobility, gender aspects, the rights of migrant workers, human trafficking issues, as well as promoting orderly, safe, regular and responsible migration and mobility of people, including through the implementation of a balanced migration policy. Goals 3, 1, 13 and 11 also include migration issues reflected in key aspects of development, which involve creating conditions to facilitate migration and its consequences as a choice rather than a forced necessity (articles of the authors).

It should be noted that human capital is one of the components of a country's national wealth. This can be explained by the fact that it is the most important condition for increasing the competitiveness of a country, region, as well as any enterprise. Human capital is a set of qualities that influence labor productivity and are sources of income for an individual, family, enterprise and society. Such qualities are usually considered to be inborn aptitudes, knowledge, abilities, skills acquired through formal training or education or through practical experience of a person, creative abilities, as well as moral, psychological and physical health, motives for activity that provide the opportunity to generate income.

The modern economic view of a person as a carrier of capital means defining one's abilities in a new understanding of the concept of *capital*, that is, a value that gives income, without which the potential may not be realized. This specificity lies in the recognition of the elements of human capital, in its needs, desires, behavior, abilities, manifested in the ratio of investment results. The value of the category *human capital* for socio-economic development and scientific research is explained by the following reasons: in the concept of human capital, a person is considered in the unity of the economic, social and individual aspects; a view of human health, knowledge and abilities as profit-generating capital, scientifically substantiates and proves the need and economic feasibility of investing in people in various directions and at all levels; the concept of *human capital* characterizes a free person who is an equal subject in the labor market; the concept of human capital is the economic basis of the general humanitarian concept of human development (Bakhov, Boichenko, Martynovych, Nych, Okolnych, Vinnychenko, 2020).

The creation and use of high-tech production, knowledge-intensive products, digitalization of almost all spheres of life from the production sector to culture and art, the development of new forms of employment, methods of providing services, etc., place increased demands on the formation and development of human capital, the key components of which are knowledge and intelligence. It should be noted that it is precisely such qualities as knowledge and intelligence that are formed from the birth of a person and are accumulated in the process of one's life, as well as require special conditions for their production.

The foundation of human capital theory was laid in the second half of the twentieth century, but the fundamental concept of human capital was introduced by Adam Smith, who in his fourth definition of capital noted: *The acquisition of such talents, by the maintenance of the acquirer during his education, study, or apprenticeship, always costs a real expense, which is a capital fixed and realized, as it were, in his person. Those talents, as they make a part of his fortune, so do they likewise that of the society to which he belongs* (Smith, 1776). Subsequently, the phrase *human capital* is found in the

works of Arthur Cecil Pigou (Pigou, 1928) and Irving Fisher, which is also noted in the studies of C. Goldin (Goldin, 2014). But the term only found widespread use in economics after its popularization by economists of the Chicago School, in particular Gary Becker, Jacob Mincer, and Theodore Schultz. After the idea of the priority of human development received scientific justification and recognition of society (for the creation of the foundations of the theory, T. Schultz in 1979 and G. Becker in 1992 were awarded the Nobel Prize in Economics), it began to be implemented in national development programs and projects international cooperation. The subsequent evolution of this theory ensured that science, education, high technology and healthcare were recognized as key factors in sustainable development in the new millennium.

The study of the scientific basis for achieving the goals of sustainability of socio-economic systems shows that the concept of *sustainable development* is broadly interpreted as harmonization, balanced development of economic, social and environmental subsystems (Skowroński, 2003; Pawłowski, 2013, 2015; Boichenko, Martynovych, Shevchenko, 2021). It is important to note that the sustainable development paradigm is based on the postulates of the theory of equilibrium, according to which any development should be aimed at achieving a state of equilibrium. It can also be said that any activity of economic entities must be ensured through a harmonious combination of a state of equilibrium, which provides for stability, on the one hand, and a state of change, which ensures development, on the other hand. Consequently, the state of sustainability can be expressed in the form of an equilibrium state, the achievement of which is facilitated by the processes of change and development (Boichenko, Martynovych, Shevchenko, 2021).

In the context of migration flows, *sustainable development* was declared after the report of Secretary General Kofi Annan *International Migration and Development*, delivered on June 6, 2006. The adoption of 2030 Agenda for Sustainable Development followed in September 2015, containing 17 Sustainable Development Goals (SDGs) and 169 associated targets (2030 Agenda). In the context of existing interregional differences consisting in the uneven development of states both economically and socially, military conflicts, lack of democracy, gender inequality, poor quality of education and medical care, and other reasons, migration is given the role of a key factor in improving the quality of life of people. Thus, the considered ideology of human capital development, its reproduction, quantitative and qualitative potential, can rightly be considered a condition and basis for the goals of sustainable development.

3.2. Analysis of external and internal population movements

3.2.1. EU countries

The International Organization for Migration (IOM) defines a migrant as *any person who is moving or has crossed an international border or is present in a State other than his or her usual place of residence, regardless of: the person's legal status; whether the movement is voluntary or involuntary; reasons for displacement; length of stay. IOM deals with migrants and migration-related issues and, in agreement with relevant states; migrants in need of international migration services* (Migration and Agenda 2030).

The International Organization for Migration notes that as of 2021, migrants made up 3.6% of the world's population, while they produce more than 9% of global GDP, which is about \$3 trillion more than if they stayed at home (Report on migration in the world, 2022, IOM). *Migrants often bring significant benefits to their hosts in the form of skills, new knowledge, a stronger workforce, investment and cultural diversity. They also play a role in improving the lives of communities in countries of origin through the transfer of skills and financial resources, contributing to positive development outcomes. However, if poorly managed, migration can also have a negative impact on development; Migrants may be exposed to risk and communities – to stress, which may have a negative impact on development gains* (Migration and the 2030 Agenda).

In this regard, migration can have both positive and negative impacts on the socio-economic development of countries. This thesis is also confirmed in the 2030 Agenda for Sustainable Development, which recognizes the positive contribution of migration processes to sustainable development (2030 Agenda). Based on the above, there is a need to analyze migration flows in the EU countries, which will make it possible to determine the directions of migration and emigration trends, thereby forming an analytical basis for the further development of regulatory measures for migration movements of human capital.

Table 1 presents the trend model of migration flows by EU countries for the period 2016-2021. This is due to the fact that Eurostat presents data on migration flows of the population until 2021, as well as due to the start of a large-scale war of the Russian Federation against Ukraine, which made significant adjustments to migration processes and starting from 2022, according to the authors of this article, subsequent periods should be attributed to the *new agenda of internal and external population movements*.

The presented trend model allows us to state that during the analyzed period, in countries such as Austria, Belgium, Bulgaria, Denmark, the Netherlands, Poland, Finland, Croatia, Estonia there was a positive trend for arrivals, while in Hungary, Germany, Greece, Ireland, Spain, Italy, Cyprus, Lithuania, Latvia, Luxembourg, Malta, Portugal, Romania, Slovakia, Slovenia, France, the Czech Republic, Sweden there was a downward trend. At the same time, in Austria, Belgium, Bulgaria, with a positive trend for arrivals, a negative trend for departures has been established. A similar trend has been established in Denmark, the Netherlands, Poland, Finland. Countries such as Croatia and Estonia had a positive trend in both immigration and emigration. While in Germany, Greece, Ireland, Italy, Cyprus, Lithuania, Latvia, Portugal, France, the Czech Republic, a downward trend was observed for both arrivals and departures. The level of migration intensity is presented in more detail in the table 2.

Table 1. Dynamics of migration flows in the countries of the European Union for the period 2016-2021, source: calculated by the authors, based on Eurostat

Country	Immigration (entry)		Emigration (departure)	
	Trending model	Trend direction	Trending model	Trend direction
Austria	$y = 2956x^2 - 22868x + 148236; R^2 = 0,885$	↑	$y = -215,32x^2 + 1642,5x + 63508; R^2 = 0,091$	↓
Belgium	$y = 812,6x^3 - 9954,2x^2 + 37664x + 92205; R^2 = 0,268$	↑	$y = -1467,9x + 94782; R^2 = 0,104$	↓
Bulgaria	$y = 3850,6x + 18381; R^2 = 0,919$	↑	$y = -790,61x^2 + 3043,7x + 29459; R^2 = 0,204$	↓
Hungary	$y = -2842,3x^2 + 24528x + 32119; R^2 = 0,865$	↓	$y = 6422,1x + 29698; R^2 = 0,895$	↑
Germany	$y = -38585x + 17606; R^2 = 0,5591$	↓	$y = 3808,5x^3 - 42331x^2 + 133273x + 436061; R^2 = 0,313$	↓
Greece	$y = -5755,8x^2 + 29638x + 86797; R^2 = 0,869$	↓	$y = -764,02x^2 - 914,56x + 109016; R^2 = 0,890$	↓
Denmark	$y = -2622,9x + 74136; R^2 = 0,681$	↑	$y = -2402,1x^2 + 15534x + 37695; R^2 = 0,845$	↓
Ireland	$y = -1008,8x^2 + 5712,7x + 78967; R^2 = 0,213$	↓	$y = -188,23x^2 - 517,92x + 63040; R^2 = 0,494$	↓
Spain	$y = -33191x^2 + 246186x + 198050; R^2 = 0,597$	↓	$y = 8929,2x^2 - 65558x + 415911; R^2 = 0,264$	↑
Italy	$y = -2775,5x^2 + 13727x + 306595; R^2 = 0,139$	↓	$y = -1499,4x^2 + 11728x + 142834; R^2 = 0,265$	↓
Cyprus	$y = -690,27x^2 + 6244,5x + 11642; R^2 = 0,981$	↓	$y = -14,554x^2 + 1199,4x + 13104; R^2 = 0,659$	↓
Lithuania	$y = -255,14x^2 + 7580,8x + 10248; R^2 = 0,931$	↓	$y = -5801,1x + 54978; R^2 = 0,867$	↓
Latvia	$y = -37,75x^2 + 801,56x + 8087,4; R^2 = 0,392$	↓	$y = -1612,2x + 21253; R^2 = 0,905$	↓
Luxembourg	$y = -196,46x^2 + 1620,7x + 21708; R^2 = 0,208$	↓	$y = 494,57x + 12882; R^2 = 0,821$	↑
Malta	$y = -1405,5x^2 + 9381,4x + 9405,6; R^2 = 0,489$	↓	$y = 357,16x^2 - 1309,8x + 8975,7; R^2 = 0,833$	↑
Netherlands	$y = 836,84x^3 - 8705,7x^2 + 29491x + 164857; R^2 = 0,269$	↑	$y = 503,54x^2 - 4227,3x + 115508; R^2 = 0,364$	↓
Poland	$y = 1146,3x^2 - 2869,3x + 211010; R^2 = 0,606$	↑	$y = 5865,5x^2 - 51170x + 288233; R^2 = 0,854$	↓
Portugal	$y = -2931,2x^2 + 26950x + 188,7; R^2 = 0,726$	↓	$y = -2484,3x + 38830; R^2 = 0,913$	↓
Romania	$y = -2901,2x^2 + 26595x + 122594; R^2 = 0,299$	↓	$y = -3007,2x^2 + 17690x + 203504; R^2 = 0,257$	↑
Slovakia	$y = -70,429x^2 + 171,83x + 7408,6; R^2 = 0,902$	↓	$y = -144,51x + 3801,1; R^2 = 0,347$	↑
Slovenia	$y = -1656,8x^2 + 14162x + 1382,5; R^2 = 0,773$	↓	$y = 602,64x^2 - 3361,1x + 19399; R^2 = 0,746$	↑
Finland	$y = 646,32x^2 - 4174,3x + 38112; R^2 = 0,910$	↑	$y = -356,57x^2 + 1620x + 16405; R^2 = 0,851$	↓
France	$y = -3095x^2 + 8314,2x + 374460; R^2 = 0,425$	↓	$y = -5465,9x^2 + 12646x + 280421; R^2 = 0,481$	↓
Croatia	$y = 4997,6x + 9611,7; R^2 = 0,814$	↑	$y = -281,25x^2 + 1416x + 38963; R^2 = 0,081$	↑
Czechia	$y = -1965,4x^3 + 18227x^2 - 42578x + 87061; R^2 = 0,355$	↓	$y = -3461,8x^2 + 23532x + 7674; R^2 = 0,207$	↓
Sweden	$y = -16131x + 177966; R^2 = 0,933$	↓	$y = 649,09x + 44965; R^2 = 0,843$	↑
Estonia	$y = 282,51x^3 - 3061,3x^2 + 10192x + 7323,7; R^2 = 0,841$	↑	$y = 240,57x^2 - 1798,9x + 15037; R^2 = 0,412$	↑

The presented trend analysis of migration until 2022, despite the European migration crisis that arose in the fall of 2015 due to a multiple increase in the flow of refugees and illegal migrants from the countries of North Africa, the Middle East and South Asia, as well as the unpreparedness of the EU countries to receive and distribute them, despite the intensification of migration flows in 2020 due to the escalation of the conflict in Syria, indicates a relatively stable and predictable situation with both external and internal migration in the EU. Beginning in 2022, following Russia's full-scale invasion of Ukraine, the European Union faced its highest level of migrant influx since 2016, including some 330,000 illegal migrants, up 64% from 2021 (Cedos).

It should be noted that in addition to the increase in the migration flow, including those displaced from Ukraine, the portrait of those entering has also changed. Thus, according to research by the International Organization for Migration, Europe has been and remains the largest destination for international migrants, with 87 million migrants (30.9% of all international migrants) (IOM, 2022). Europe accounted for the largest share of intra-regional migration - 70% of all migrants born in Europe lived in another European country. At the same time, there was a predominant excess of men among international migrants to Europe before the start of the war in Ukraine, usually refugees from Syria, Afghanistan, Africa, of working age, without qualifications, education, most of whom received asylum in Germany, Great Britain, Northern Ireland, France. At the beginning of 2022, international migrants made up 15% of the total population in high-income countries, compared to less than 2% in middle- and low-income countries (International Migrant Stock, 2022). However, with the beginning of a full-scale war between Russia and Ukraine, along with the problems that existed, an additional stream of displaced people from Ukraine poured into Europe. According to the results of an analysis of forced migration during the war, which is carried out by the public organization *Center for Research on Society*, as well as based on Eurostat data 33 per cent of temporary protection beneficiaries were children under the age of 18, 60.4 per cent were aged between 18 and 64 and 6.6 per cent were over 65 (Fig. 1).

Table 2. Level of migration intensity in the EU countries for the period 2016-2021, source: calculated by the authors, based on Eurostat

Country	The amount of migration, people	Trend direction		Balance migration, people	Migration intensity level, %
		Immigration	Emigration		
Austria	185810	↑	↓	51212	2,07
Belgium	227015	↑	↓	52471	19,54
Bulgaria	66216	↑	↓	12706	0,97
Hungary	148470	↓	↑	12472	1,53
Germany	1417529	↓	↓	331205	1,70
Greece	136716	↓	↓	-22476	1,31
Denmark	107497	↑	↓	19481	1,83
Ireland	133161	↓	↓	28303	2,63
Spain	909642	↓	↑	148070	1,92
Italy	476678	↓	↓	160054	0,81
Cyprus	42411	↓	↓	5591	4,69
Lithuania	70063	↓	↓	19653	2,49
Latvia	25664	↓	↓	-286	1,37
Luxembourg	41294	↓	↑	9376	6,39
Malta	31657	↓	↑	4639	6,08
Netherlands	324447	↑	↓	103763	1,84
Poland	442711	↑	↓	39521	1,18
Portugal	75800	↓	↓	25642	0,73
Romania	411503	↓	↑	-22219	2,16
Slovakia	9128	↓	↑	2338	0,17
Slovenia	44768	↓	↑	2480	2,13
Finland	49823	↑	↓	22905	0,89
France	513426	↓	↓	159370	0,76
Croatia	76336	↑	↑	-4512	1,98
Czechia	87990	↓	↓	50730	0,84
Sweden	138915	↓	↑	42347	1,33
Estonia	32005	↑	↑	7043	2,40

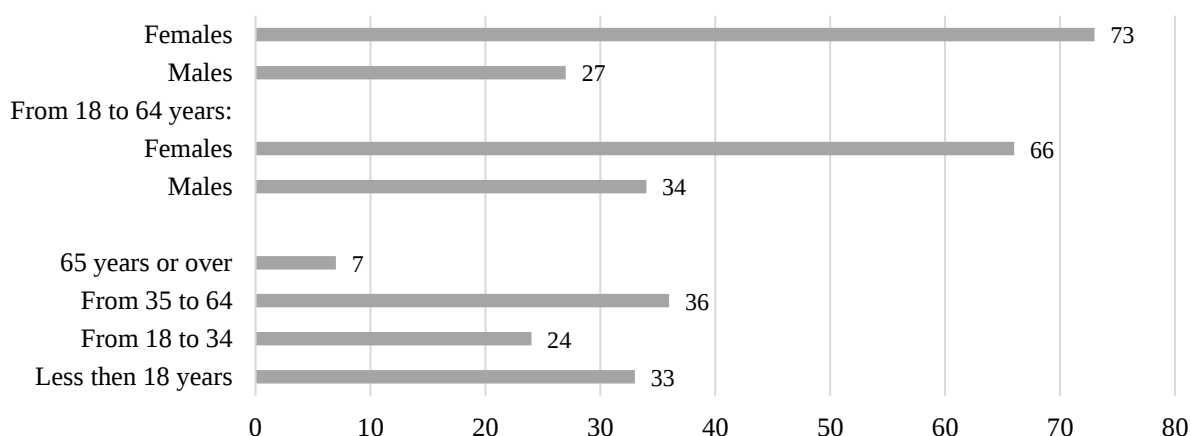


Figure 1. Demographic composition of Ukrainian recipients of temporary protection in the EU area in 2022, sources: compiled by the authors based on data from (Eurostat, Cedos, 2022)

By gender, 34.2 per cent were men and 65.8 percent women. It is worth noting, however, that about half of the Ukrainian male refugees were children under the age of 18. Thus, when considering the working population aged 18 to 64 years old, it was revealed that only 26.7% were men and 73.3% were women.

All of the above confirms the hypothesis about a change not only in the level of intensity of the migration flow, but also in its *qualitative* composition, which shifts the poles of the problem of internal and external movement, thereby forming a new agenda for sustainable development in the context of migration of human capital for European countries. Since today the war in Ukraine continues, and the flow of immigrants from African and Asian countries does not stop, there is a high probability of another migration crisis, for which Europe may also not be ready. To minimize the risks associated with internal and external movements, it is necessary to continue to monitor migration flows in order to respond in a timely manner through the development of regulatory measures and incentives for internal and external migration. One

cannot say that such activities are not taking place. On the contrary, having analyzed analytical studies, reports of international organizations, foundations that monitor the issue of human capital migration, we came to the conclusion that the analytical results on international migration are sufficiently presented.

In addition, understanding the seriousness of the emergence of another migration crisis on December 20, 2023, the European Union agreed on new rules for the reception of migrants, which contribute to a more even distribution of asylum seekers across European countries. According to the New Pact on Migration and Asylum, EU countries will have a single database on migrants called Eurodac, where all new arrivals will be entered. This database, containing biometric and other personal data, will be used to weed out those previously denied asylum by Europe (Council of the EU and the European Council, 2024). However, Ukraine is poorly represented in migration reports until 2022 due to the absence of mass population movements, therefore additional research is required and in this regard the results of regular research by the authors of the article on internal and external migration in Ukraine are presented below.

3.2.2. Ukraine

First of all, it must be said that the study of migration in the pre-war period was a complex process. Currently, due to the martial law in the country, state statistical bodies do not always have the opportunity to conduct planned surveys and publish statistical information. Based on this, the results presented below are partly based on official statistics, partly on expert opinions and visible sociological surveys. In particular, the authors relied on research from the M. V. Ptukha Institute of Demography and Social Research of the National Academy of Sciences of Ukraine, the Institute of Sociology of the National Academy of Sciences of Ukraine, the Razumkov Center, the International Organization for Migration, the Ministry of Social Policy of Ukraine, the State Border Service of Ukraine, the State Employment Service of Ukraine, the UN Refugee Agency, according to which the current conditions for the development of Ukrainian society can be described as difficult in the recent history of not only Ukraine, but also Europe.

Russian military aggression has led to fatal consequences in all spheres of life of Ukrainian society. This also applies to the critical changes that have occurred in the national socio-economic system, thereby forming a new agenda of internal and external displacement, overcoming which requires significant efforts on the part of the state, regions and territorial communities. First of all, the main and determining risk of a full-scale war for Ukraine was the loss of human capital, which occurred as a result of the powerful migration flow of Ukrainians both abroad (external movements) and within the country (internal movements).

Internal displacement (IDP). Thus, according to estimates by the International Organization for Migration (IOM), the number of people considered internally displaced (IDPs) as of mid-May 2022 was approximately 7.1 million. The Ministry of Social Policy in early May reported more than 2.7 million people registered and received the status of IDPs (Ministry of Social Policy, 2022, 2023). At the end of 2022, their number decreased to 2.3 million, and in 2023, more than 2.5 million IDPs were registered who received a living allowance, for a payment in the amount of 73.3 billion UAH. At the same time, most of the IDPs came from the eastern regions, the share of which was (55%) of the total, from the southern regions - 13%; their share continues to increase. Meanwhile, the share of IDPs from Kyiv and the northern regions decreased significantly compared to the first month of the full-scale war and amounted to 16% and 12%, respectively. The number of people returning after internal displacement, according to IOM estimates, varies between 4.5 million people (IOM, 2023).

It should be noted that at the beginning of 2024 there is no reliable data on the number of people who have lost their jobs. Indicators from the State Employment Service do not show an increase in the number of unemployed, as might be expected. In particular, this situation arose due to the fact that some enterprises are idle, when they formally maintain labor relations with employees, but do not pay wages and do not guarantee that the enterprise will resume work. Also, until recently, IDPs did not have the opportunity to terminate their employment contract at their previous place of residence (State Employment Service). Therefore, a survey was used to estimate the number of people who lost paid employment. Among internally displaced people who had jobs before the full-scale war, nearly two-thirds (64%) lost their jobs, according to an IOM survey in May 2022. More than half (52%) of them were looking for a job in the places where they had moved and the vast majority of those looking for a job were men of working age. According to the report, some IDPs did not plan to look for a job in the near future, which can be explained, in particular, by the expectation of resuming work upon returning home.

External movement. According to the State Border Service of Ukraine (SBSU), during the first half of 2022, more than 5.2 million people left Ukraine, the vast majority of whom are citizens of Ukraine. According to the United Nations Refugee Agency (UNHCR), as of June 9, 2022, there were more than 4.9 million refugees in European countries who fled Ukraine due to the war, while 3.2 million refugees from Ukraine were registered in Europe to obtain temporary protection or similar status. Among the European countries where displaced persons from Ukraine were most often registered are Poland (1.1 million), Germany (565 thousand), the Czech Republic (366 thousand), Spain (118 thousand), Bulgaria (113 thousand) and Italy (97 thousand). As of May 19, 2022, 31,699 people have sought refugee status (UNHCR, 2023).

According to the UNHCR survey, starting from May 2022, a change in the February trends of internal and external displacement from Ukraine was recorded. It was found that, on average, more people entered rather than left Ukraine. Thus, data from the State Border Guard Service showed that in the first half of 2022, more than 2.2 million citizens entered Ukraine. Some of these people never left again, and some returned for a short period, presumably to pick up their things and leave. According to a survey by Gradus Research, 77% plan to return to Ukraine when occasion offers, while

13% do not plan to return at all (Gradus Research, 2023). At the same time, as a survey by the UN Refugee Agency showed, most of the respondents returned to Lviv, Kyiv, Odessa and Ivano-Frankivsk regions, as well as to the city of Kyiv (UNHCR, 2023).

According to the results of a survey by the Razumkov Center of displaced people returning to Ukraine, there were almost two thirds (63.4%) of those who left with children, however, returning respondents with children accounted for 44.8%. This may mean that people with children are more likely to stay abroad for a long period, as children have gone to local schools and have been able to partially integrate into local communities. At the same time, it has been established that these are usually families from Lviv, Transcarpathian, Kyiv, Odessa regions, whose men had work abroad before the full-scale invasion (Razumkov Center, 2024).

Thus, it is possible to form a portrait of those displaced within Ukraine and those who went abroad after the start of the full-scale war between Russia and Ukraine. The portrait of an IDP is as follows: these are usually families or men of working age, with high, medium and low incomes, who lived mainly in the eastern and southern regions of Ukraine (Donetsk, Kharkiv, Dnipropetrovsk, Zaporizhzhia, Kherson, Odessa, Mykolaiv), who moved to Kyiv, Lviv, Ternopil, Ivano-Frankivsk, Khmelnytskyi, Transcarpathian and Chernivtsi regions. The main reason for the displacement is the intensification of hostilities in the territory of permanent residence, which resulted in the loss of work or the relocation of the main place of work to safer territories. As a rule, more mobile groups of the population went abroad, mainly women with children, including those who had a higher education, spoke foreign languages, had a high and average level of income before the start of a full-scale war, planned to emigrate before February 24, 2022, those who worked abroad seasonally or permanently. The main reason for leaving was the war.

Nevertheless, in order to finally formulate a new agenda for external and internal population movement in the context of sustainable development under the conditions of migration of human capital, the basic portrait of a Ukrainian migrant in the pre-war period was examined. According to the research by the M. V. Ptukha Institute of Demography and Social Research and the Institute of Sociology of the National Academy of Sciences of Ukraine, for over 2.5 decades human capital migration flows from Ukraine were divided almost in half between Russia and Europe, and the exchange of labor with Russia had a pronounced circular nature, while the majority of Ukrainian workers in European countries tried to stay there, if not forever, then at least for a long time. The percentage ratio by gender and age varied within 50:50, while as a rule, men of working age and retirement age went to Russia, and middle-aged men and women went to Europe. The main motive was the desire to earn more, as well as the desire to avoid conscription into the armed forces of Ukraine (Russia's invasion of Donbass and annexation of Crimea in 2014), the latter reason is still relevant today. The vast majority of Ukrainian citizens were accepted by countries such as Poland, the Czech Republic, Slovakia, which initially focused on experienced qualified workers (except for cases when unskilled labor was needed), and over time they even began to agree to training / retraining at their own expense within 1–2 months (Libanova, 2018).

As a result, changes in the portrait of external and internal population movements are a determining factor in the formation of a new agenda not only for the migration of human capital, but also for sustainable development, creating certain benefits, losses, risks and opportunities (Tables 3, 4).

Table 3. Benefits, losses, risks and opportunities for internal and external movements of human capital for sustainable development of the territory: for countries of entry, source: compiled by the authors

GAIN	LOSS
Migration becomes a demographic and economic resource that fills labor shortages. Migration ensures an influx of young people. Migrants increase purchasing demand and strengthen financial standing. The influx of highly qualified workers improves the quality of human capital. Opportunity to obtain specialists of the required level of education and qualifications without additional costs. Reducing the cost of attracting highly qualified labor. Using migrants of working age, reduce the demographic burden on the economically active part of the population. Provide an expanded type of population reproduction. Reduce the rate of population aging. Reduce the burden of older age groups on economic growth rates and budget sustainability. Filling by arriving migrants of <i>non-prestigious</i> vacancies for the local population. Saving costs for professional training by attracting migrants with the necessary qualifications. Migrant investors, migrant entrepreneurs.	Replacing local workers with migrants (legal and illegal) The emergence/expansion of shadow migration business, the consequences of which can be human trafficking, discrimination, slavery, etc. Increasing crime rates due to legal violations of arriving migrants The spread of so-called behavioral diseases in an environment where migrants are concentrated Implantation of national traditions, religious beliefs, their ideas about order, foundations, customs, etc. by arriving migrants Economic passivity and lack of motivation to work among migrants create social tension in society and additional social burden on the country's budget.
RISK	OPPORTUNITY
Spontaneity of migration movements Unregistered employment Pressure on the social security system Shadow <i>migration business</i> , the consequences of which can be illegal migration, human trafficking, discrimination, slavery, etc. Expansion of the illegal labor market Growth of the shadow sector of the economy The emergence (expansion) of ethnic business Exacerbation of inter-ethnic tensions Increasing working hours for migrants.	New life experience Opportunity to find a job Increasing the competitiveness of human capital in the market Increasing life expectancy by improving the quality of life in the host country Stimulating internal labor mobility of human capital Filling the labor market deficit Providing labor for labor-intensive sectors and industries Filling <i>non-prestigious</i> jobs.

Table. 4. Benefits, losses, risks and opportunities for internal and external movements of human capital for sustainable development of the territory: for countries of departure, source: compiled by the authors

GAIN	LOSS
Reducing the unemployment rate, and as a result, reducing social tension in society Reducing the volume of registered and hidden unemployment Remittances from migrants help improve the living standards of family members not participating in the migration flow Migrant remittances increase the purchasing power of the population Reducing poverty through migrant remittances Migrant remittances as an investment resource for business development Working abroad as a household life strategy.	Adverse consequences for the demographic development of the country: reduction in the number and aging of the labor force. Loss of human capital under the conditions of demographic crisis. Leakage of highly qualified human capital, <i>brain drain</i>. Direct losses are expenses for the formation of human capital: preschool, school, out-of-school, professional, higher education, advanced training, etc. Indirect losses are lost profits from unused human capital. The outflow of qualified workers abroad deprives the country of the labor resources necessary for its national economy. The country's excessive dependence on remittances from migrants contributes to its vulnerability to fluctuations in the world market and stimulates the growth of the money supply with limited development of domestic production. Migration of young people reduces the working-age population, which in turn leads to an exacerbation of the aging process. Increasing demographic burden on the economically active part of the population.
RISK	OPPORTUNITY
The spontaneous nature of migration leads to uncontrollable changes in society. Transformation of labor migration into irrevocable Shadow <i>migration business</i>, the consequences of which can be human trafficking, discrimination, slavery, etc. Migration affects the reproduction of the population, namely natural growth, which can result in natural population decline. Changes in the gender and age structure of the population, disruption of its natural balance. The collapse of the family institution, low birth rates, child-free. Low natural population growth, natural population decline is possible. Violation of the structure of vocational education, which may affect the existing and future needs of the labor market.	New life experience for a migrant, expansion of worldview, study of language, history, culture, national traditions, etc. of the country of destination Opportunity for professional implementation, advanced training, acquisition of practical experience, mastery of innovative technologies, etc. Increasing the competitiveness of human capital, based on new knowledge, technologies, innovative programs, etc. Increasing life expectancy by improving the quality of life in the host country. Possibility of obtaining higher labor income.

Based on the results presented in the tables, it can be summarized that the migration of human capital, on the one hand, contributes to an increase in the qualifications of the workforce in the regions of both departure and arrival, a more effective combination of material, financial and human factors of production, consequently, a widespread increase in labor productivity, and on the other hand, it also puts an additional burden on the budgets of receiving countries, contributes to the aging of the population, and a reduction in the labor resource potential for countries of emigration. All of this contributes to both positive and negative impacts on achieving Sustainable development goals. Addressing labor shortages contributes to ending poverty in all its forms (Goal 1), ending hunger, achieving food security and improved nutrition and promoting sustainable agricultural development (Goal 2), continuous, inclusive and sustainable economic growth, full and productive employment and decent work for all (Goal 8). At the same time, migration creates risks that do not allow the conceptual foundations of sustainable development to be translated into practice. The emergence/expansion of the shadow migration business and the increase in crime levels do not make it possible to ensure the openness, safety, and viability of cities and settlements (Goal 11). The spread of behavioral health conditions in concentrated migrant environments prevents the achievement of Goal 3 – *Ensure healthy lives and promote well-being for all at all ages*.

4. Conclusion

As can be seen from the above, the article identifies the characteristic features of the new sustainable development agenda in the context of migration of human capital based on an analysis of the specifics of internal and external movement of the population, and also establishes benefits, losses, risks and opportunities for achieving Sustainable development goals. Relying on the fundamental basis of the modern theory of human capital and migration, the article substantiates the evolutionary role of migration and its dual nature. The growing influence of migration on the economy, sustainable development of countries, stability, and solving demographic problems is argued.

Analysis of external and internal population movements in the EU countries and Ukraine made it possible to identify changes of a quantitative and qualitative nature, both in the dynamics of migration flows and their intensity, and in the age and gender structure. The work identifies the directions of migration and emigration trends, which made it possible to form an analytical basis for the further development of regulatory measures for migration movements of human capital, as well as to outline socio-demographic portraits.

Based on the analysis of the reasons for migration in Ukraine, the dominant reason for the departure of Ukrainians was established – *war*. A significant difference in forced migration has been identified, the socio-demographic portrait of which is characterized by a predominant number of women of working age, with higher education, as well as highly qualified specialists with a certain social status and children under 18 years of age, usually living in the cities of Kharkiv, Odessa, Zaporizhzhia, Kherson, Lviv and Kyiv regions. While before the start of a full-scale war, labor migrants from

the western regions predominated, leaving villages and small towns from the most depressed regions in search of additional income.

It has been proven that the forced migration of Ukrainians due to the war influenced the change in the socio-demographic portrait of migrants entering Europe, thereby forming a new agenda of internal and external displacement and creating both opportunities and threats in achieving Sustainable development goals.

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