

UKRAINE IN THE TERRITORIAL MIGRATION SYSTEMS: CURRENT STRUCTURAL-QUALIMETRIC ASPECTS OF THE FORMATION AND DEVELOPMENT

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Abstract

A characteristic feature of the new economy of the 21st century is the wide-scale transformation of the social relations in the sphere of labor and employment. Human migration that leads to the quantitative and qualitative changes in the numbers, structure, organization of the migrant workers flows holds a special place that is shown by the role of the migration capital in the development of national economy of

the states and their separate regions, generates appearance of the new mechanisms of regulation in the market, etc.

Migration factors predetermine formation of the relatively new phenomenon in modern economy – territorial migration systems (TMS) that in terms of economy are interpreted as the regional labor markets, determined by the effect of the additional agreements and labor contracts. These systems play a special role in terms of the perspectives of regulation of the sustainable economic development and enhancement of the competitiveness of human capital. Formation, territorial organization, development of TMS depend on the effect of the factors of both, external and internal environment. As the result, each of the systems acquires its own characteristics of its integrity, independence, designation, effectiveness of the performance of its functions.

The examples of this can be the Ukrainian-Polish, Ukrainian-German territorial migration systems (TMS) the appearance of whose characteristics can be observed against the background of considerable volumes of the present day Ukrainian external migration, deepening of professionalization and division of labor in the trans-border labor market, formation of infrastructure of migration services market, etc. Taking into consideration the high educational level of the Ukrainian workforce, regularities and particularities of the development of economic, social and demographic, political. Cultural ties between Ukraine, Poland and Germany, interests and opportunities of the implementation of achievements of economic knowledge in the practice of international economic relations as the economy of postindustrial (new), information (digital), innovation (network), Internet (virtual) era where knowledge becomes the determinant resource, product and source (factor) of the economic growth – the study of the state, factors of the formation and development UGTMS is exceptionally important not only from the standpoint of resolving structural-qualimetric problems of employment of population in Ukraine, growth of the level of income of citizens, but also from the standpoint of elaboration of the new foreign policy of Poland and Germany for the sake of stabilization of economic and political situation in Europe under the conditions of the changing world.

Key words: *workforce, labor market, labor potential, migration flows, labor migration, territorial migration system, structural-qualimetric analysis*

INTRODUCTION

The subject of the formation and development of the territorial migration systems (TMS) becomes more and more important for the development of modern economy and politics. It is of great importance for building the future of Europe, that at present time this continent is suffering from the dramatic increase of the numbers of refugees and displaced persons due to the chaos in the Middle East and the fragile balance in the Asia-Pacific region, the unmanageability of cyberspace, uneven socio-economic development of the EU member states and non-aligned countries, etc.

In the existing situation, TMS can become not only a simple regulator of migration flows, but also an additional tool for stabilization of the economic, socio-cultural, daily life of the populations of their member countries and outside their borders. On

the one hand, they appear to be exclusively a phenomenon of the market economy, regulated by the laws of labor supply and demand of labor migrants' workforce, as they are conclusively interpreted as regional labor markets, determined by the effect of the additional contracts and labor agreements. On the other hand, under the conditions of the specific geospatial environment they become the object of geo-marketing and geo-analytics, geo-economy and geopolitics, a phenomenon that cannot exist apart from the historical, demographic, social, geo-cultural, even value-based factors of the development of human civilization. In any event the TMS must be effective and efficient. When implementing the idea of modeling the development of TMS on the example of labor markets of such countries as Germany, Poland and Ukraine, the issue arises of harmonization of economic interests of individual states, launching at the border of the systems of migration filters of corporate crime, construction of analytical and other systems of structural-qualitative, developing, digital and other similar types of marketing of the labor market of labor migrants (what it involves are the state indicators, factor indicators and response indicators), etc. The chances for success are increased by strengthening the firmness (as opposed to disruption) of the cross-border (East European) labor market, the ability to consume and produce innovations more effectively.

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1. METHODOLOGY AND THE STUDY SAMPLE

A study of the historical sources of the formation and development of TMS theory show that at present it is practically impossible to identify a single founder of ideas. Scientific "migration" opinion on this issue "sprouted" on different continents depending on the circumstances.

In one case, a number of foreign scholars consider A. Mabogunje, an urban scientist who studied the patterns and peculiarities of Nigerian migration processes in the context

of "village-city" on the principles of the general theory of systems (in the 70's of the 20th century.) as the founder of the fundamentals of TMS theory) [Foundations for Urban Development in Africa 2006]. In particular, he defined the migration system as a set of specific places interconnected by the flows of individuals, goods, services and information that facilitate further exchange, particularly, activation of migration between these places [Mabogunje 1970]. He argued that migration systems bring together people, families, and communities in space and can be described as transnational or translocal communities. It is believed that it was from his publications that such scientists as A. Porters, M. Kirz, G. Zlotnik have drawn the knowledge and adapted the idea to the study of the processes of international migration [de Haas 2007]. The second group of scientists is convinced that the origins of TMS theory ideas are in the works of P. Gutkind (1962), J. Saul (1968) A. Richards (1952) - where the meaning of the migration system is reduced to a self-regulating mechanism within the broader social system [Bakewell 2012].

Another group of researchers names P. Levitt, J. Fowcett, D. Gurak, M. Kritz, L. Lima who, in their opinion, have developed the macro-level theory of migration systems (according to their definition migration systems consist of the countries (or regions of certain countries), between which there takes place a relatively numerous exchange of migrants, characterized by existence of appropriate mechanisms ensuring relationship between activation of the flows of people and the flows of goods, services, capital, ideas, information) [Hein de Haas 2007].

It would be absolutely unfair to ignore achievements of the Soviet scientists who, under the conditions of the « iron curtain» also worked to clarify the role of migration relationships in the construction of the workforce employment systems, construction of the patterns of the territorial organization and development of the population settlement system of the Soviet Union. The fundamental difference between their studies and the studies of their Western colleagues was that attention was focused not the man as the purpose of modeling TMS (in the totality of its migration and other needs), but the state, that in the command-and-control manner determined freedom of mechanical movement (the man as the means of achieving the goal). Accordingly, starting from the 30's of the 20th century because of the mass organization of the collective farms the problem of economic displacement of the population in rural areas became topical. Its discussion turned into a wide-ranging scientific debate, recorded in publications and periodicals of this period (peasants were artificially "tied" to the land because of absence of their passports). Such scientists as S. Udachin, O. Hauke, S. Chayanov substantiated the types of internal economic systems that had been subsequently implemented in the process of formation of the network of collective farm settlements. In particular, A. Hauke considered an ideal location of a settlement (as a rule one) from the standpoint of the "rent location" considered the location not in the center of the land use territory, but shifting it towards the higher level center to optimize internal and external migration (transport) flows. Some scholars are inclined to believe that A. Hauke's ideas are consonant with the later developed provisions of V. Kristaller's theory of central places [Lola 1985]. In the 30's of the 20th century the problems of internal economic rural settlement in the zone of influence of the cities became the focus of geographers who tried to explore the "urban environment" and the network of cities as the settlement systems, taking into account their role in the territorial division of labor. (N. Baranski). But the greatest impetus for a comprehensive study of population migration was organization in the USSR in the early 60's of mass development of the patterns and

projects of district planning of the local settlement systems. An own school of planners-researchers, headed by I. Bogorad, was formed in Ukraine. They initiated a new trend in the study of agglomeration (study of problems on the basis of inter-settlement pendulum links. D. I. Bogorad summarized the experience gained in the practice of urban planning in his works "District planning. The problems of planning industrial areas" (1960), "Constructive geography of districts. Fundamentals of district rayon planning" (1965). In 1963, S. Kovalev in his monograph "Rural Settlement" attempted to present a holistic view of the geography of settlement in the rural areas of the USSR, typology of local systems. This work stimulated the study of the hierarchy of settlement systems, study of migration links of urban and rural settlements in their unity (V. Pokshyshevsky). The accumulated experience in the study of the settlement systems in the design urban planning organizations when developing master plans of cities, district planning of administrative districts, industrial and resort territories could not be used due to the secrecy of these works, although in the future many of these ideas formed the basis of the concept of territorial organization of the society, wherein the principles of hierarchical step-by-step placement of the systems of infrastructural networks objects were laid down, calculated migration determined radii of daily, periodic and occasional public service, etc. (B.Horyev) [Yevdokimenko, Sadova, Shevchuk 1995]. Theoretical aspects of inter-settlement service of the population over time have been perfected in the functional, organizational, structural and functional methodological areas of migration studies.

At present, the modern TMS theory is mainly associated with the macro-level study of the organization of economic relations. The works of P. Levitt (Transnational Migration) [Levitt 2004], J. Fawcett (Transnational Migrations from the Standpoint of Geographical Distribution of Types and Categories of Relations) [Fawcett 1989; Pyatkovska 2018], D. Massey (Synthetic Migration Theory) [Massey 1990], R. Billsborrow [Billsborrow, Oberai, Zlotnik 1998], M. Kritz, G. Zlotnika, L. Lima, etc. are designed to integrate different concepts of international migration, to prove that stable migration flows form a single space in which countries-donors and countries-recipient of the migrants are united by common ties and dependencies, mechanisms of activation of the flows of people and flows of capital, goods, services, information. They are formed and developed under the influence of related factors of historical, cultural, demographic environment, scientific and technological achievements, dissemination of economic experience and technologies, etc. Migration within the TMS has the ability to change general conditions for reproduction of the migration process. In these systems, migration is simultaneously the cause and the result of systematic interaction between countries [Ivakhnyuk 2012]. From the standpoint of the theory and practice of development of international relations, management of migration by the state analysis of the functions of the TMS (redistributing, mobilizing, stimulating, labor saving, etc.) is exceptionally important. If the redistribution function ensures the internal equilibrium of the system, then labor saving function ensures a specific "regeneration" of the labor potential of migrants. An interesting role is played by the TMS mobilizing function.

The basic feature of the current migration mobility of the population is that this process is institutionalized, evolving from a simple social movement into a structured social organism, and later – into a subject and a tool for regulating human economic activities. The potential of labor migration, which is gradually accumulating within the framework of the functioning of migration movements of the population, can "work" both in the forward and reverse mode. This is facilitated by institutionalized subjects of migration

relations that interact with each other, build internal relations, find common interests, “produce” their own goals and objectives, “develop” the principles and forms of the organization of their activities and perform certain functions. They can lobby for the solution of migration problems (in Ukraine for example, the Law of Ukraine “On Foreign Labor Migration” of November 5, 2015, №761-VIII). Practically institutionalized subjects of migration become primary elements of *territorial migration systems (TMS)* [Sadova, Knyazev, Andrusyshyn 2013].

In the special literature, TMS studies are conducted on the basis of various scientific and methodological approaches. It is well-known that they are interpreted as a *certain common space* in which countries of departure and destination are connected through migration (a “complex” migration theory) or as a *set of links of the migration sphere* at a certain level of the organization and development of relations of the population migration activity (different types), that is, as main elements in the overall network of higher-ranking systems, taking into account their forms of organization, functions, system-forming features (a legal status), and others. The position of Douglas Massey (USA), who in the framework of the “synthetic” migration theory (the end of the 20th century), conceptually approached migration as an ensemble of entrepreneurs, enterprises and services, that being motivated by aspirations for financial gain, facilitate and support international migration, deserves special attention [Massey 2003]. He led the essence of the concept of TMS to regional labor markets, marked by the operation of additional agreements and contracts. The scientist from Switzerland, Paolo Ruspini, having used a number of theories, namely, the theory of regional specialization and international trade (A. Smith, D. Ricardo), the theory of central places (W. Christaller), the ideas of spatial organization of the economy (A. Lösch), the generalization of regionalists (W. Isard, T. Rainer), the neoclassical approach (P. Samuelson, S. Enke), offered theoretical foundations of the organization of the European TMS [Ruspini 2010].

In economy, an institutional theory is a good foundation for the study of TMS that provides both macroeconomic and regional (local) analysis of transactional migration costs (indicating that the growth horizons of such systems will take place until the costs of their internal management exceed the cost of market transactions). The theory of a regional economy makes it possible to organize the internal structure of TMS, to determine its supporting framework (a set of places of concentration and localization of self-organized communities of migrants, their centers of organization, especially large and medium settlements, along with lines of communication between them), to distinguish the main spatial forms of the latter one. The TMS support frame acts as a combination of all its constituent parts (an integration function into a holistic system). Scientific centers of scientists of Kyiv, Lviv and other cities are working in Ukraine at the intersection of multidisciplinary approaches to TMS research. Interesting results are related to the studies of A. Gaydutsky, O. Kupets, E. Libanova, O. Malinovskaya, O. Pyatkovskaya, S. Pyrozhkov, I. Pribitkova, M. Romanyuk, M. Fleychuk and others. Despite the existing achievements, migration problems are rarely considered from the point of view of economic modernization and the formation of TMS, and the launching of mechanisms for the functioning of the latter. If these problems are solved, there can be a shift in the sustainable development of the state and society as a whole. The study of the problems of formation and development of TMS involves analysis of its component structure, factors of migration activity (genetic, demographic, socio-economic, cultural, geospatial, etc.), performed functions (redistribution, orientation, stimulation), positional properties of place-territory attachment, compactness, centrality,

differentiation, configuration, shape, orientation, homogeneity, heterogeneity), and time-distance (duration, uniqueness, irreversibility). With complex analysis of the parameters of functioning and development of TMS (indicators of their status, indicators of factors, indicators of response), we can achieve qualitatively new positive results not only in terms of ensuring the sustainable development of these systems, but also the sustainable development of society and the state as a whole.

The authors of this article focus on the structural and qualitative contribution of individual countries to the formation of TMC "Ukraine-Poland-Germany". Particular emphasis is placed on Ukraine's place in ensuring this process.

2. THE RESULTS OF THE RESEARCH

2.1. Structural contribution of individual countries to the formation and development of TMC "Ukraine-Poland-Germany"

The study includes an analysis of the demographic characteristics of migrant workers, their wages and employment / unemployment rates, and a comparison of the obtained results with the values of the indicators against the background of the corresponding indices by local residents by selected countries.

2.1.1. Statistical and demographic measurement of the contribution of residents of donor countries and recipients to the formation of TMC "Ukraine-Poland-Germany"

Ukraine. Modern Ukrainian labor migration is a powerful source of TMS formation. Scientists point to the following total numbers: according to some data - 5.9 million people (according to the Migration Report of the UN Special Commission, 2017) [International migration report 2017]; by others - 4 million people or 16% of the country's population [Center for Economic Strategy 2018]. The number of Ukrainians who work outside the country at one time is (among those who pay taxes in Ukraine): - 3 million (according to the IDSD of NASU) [Libanova 2018] and - 2.6-2.7 million (according to the Center for Economic Strategy). Over a period of 15 years (2002-2017), 6.3 million people left Ukraine and did not return (3 million left the western border, 3.2 million left the eastern) [Center for Economic Strategy 2018]. The duration of work abroad of the overwhelming majority of Ukrainian migrant workers which returned home does not exceed one year (29% - worked more than a year, 14% - several years) [Sociological group "Rating" 2017]. In 2015-2017, labor migration to Poland reached 38.9% of the total. The most recent surveys show that the numbers do not go down (up to 900,000 people in the third quarter of 2019) [Mirror of the Week 2019]. For reference, labor migration to Germany reached 0.8% of all migrants in 2015-2017.

The risks and, at the same time, positives to the Ukrainian labor market were: visa-free status with EU countries, simplified procedures for obtaining a work visa for Ukrainians in Poland, no language barrier and other instruments of influence on the migrant. At the same time, research by migration experts who have their own point of view on migration mobility of the population is interesting. In particular, a person who is prone to migration is considered to have a higher level of human capital than one who leads a stationary lifestyle. Accordingly, a migrant person is more likely to be an entrepreneur, ready to changes, re-emigration when the necessary conditions arise.

Poland. Poland's demographic contribution to the development of TMS has its own peculiarities. Interestingly, an analysis of the dynamics of the Top 20 largest countries in the world by origin of international labor migrants 2000-2017 [International migration report 2017] fixes a lot of labor problems of its economy. Poland's ranking has recently moved from a relatively distant 17th place to a 12th place, while Ukraine has moved up from a 5th to a further 8th place. This means that the main focus is on the population with a very high upward mobility. The intensity of the increase of Polish labor migration has led to the leaching of entire cohorts of the Polish workforce beyond the national borders of Poland and even the TMS (rates are higher than in Ukraine). This workforce has not been found to have complete replacement. Ukrainians are also more inclined to develop the German labor market. This fact has been drawn by analysts from an international migration organization. The swift "nudity" of Poland's national labor market is a challenge for a Polish employer seeking access to the Ukrainian workforce. International redistribution of labor logically leads to the launch of new schemes for the fight for demographic human resources.

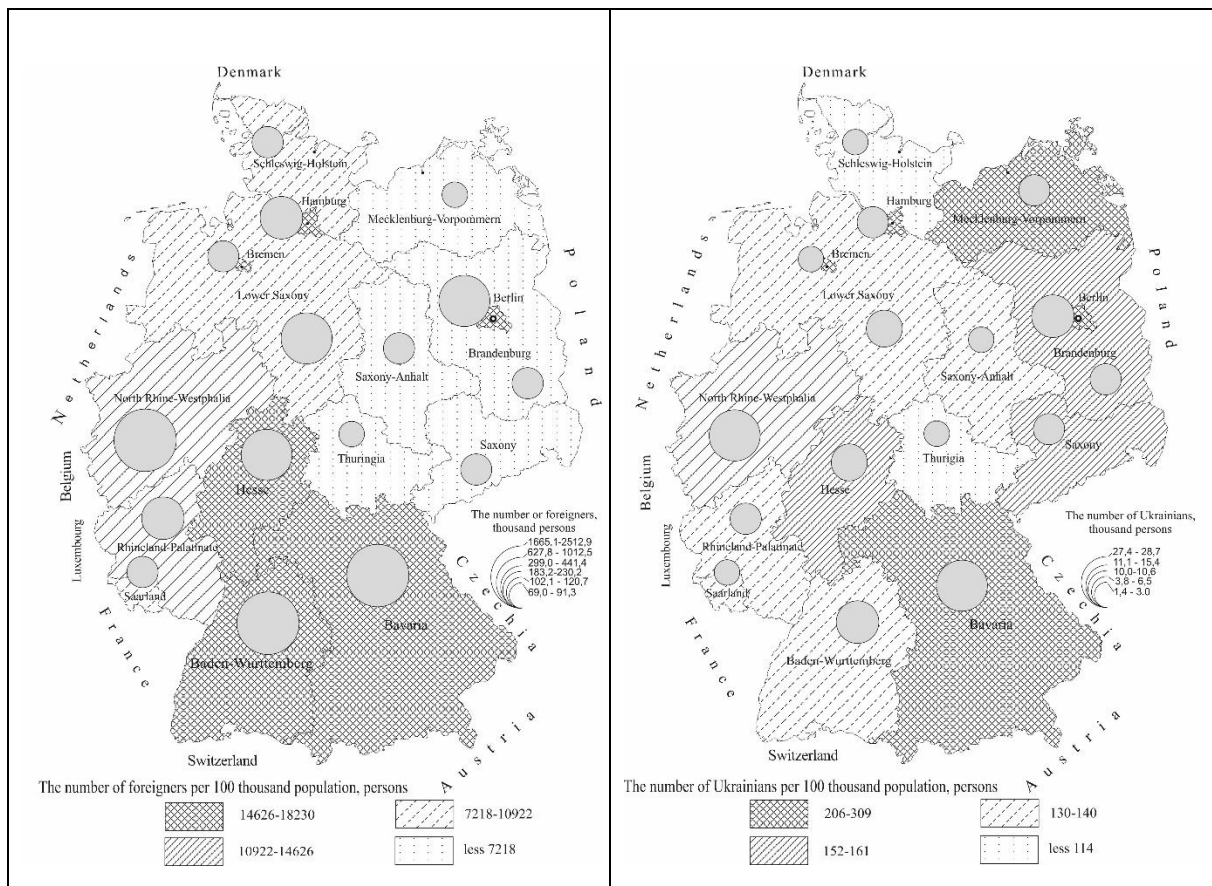
Germany. Germany's demographic contribution to the formation of TMS has its own dimension. Thus, the number of inhabitants decreased by an average of almost 130 thousand people a year due to low values of natural reproduction in Germany in 1991-2018, while due to mechanical movement - on the contrary increased by an average of 290 thousand people a year. Migration in this country has played a role of the main stabilizer factor of the population and its demo-reproductive structure, thus reducing the negative effects of the demographic crisis.

Foreigners of Germany. According to official statistics from the German statistical office, at the beginning of 2018, every fifth person in the country is a migrant. From the 82 million inhabitants, about 9.2 million are foreigners and another 9.4 million have accepted German citizenship. The migration surplus amounted to 1,139,400 people, which testifies to the significant migration attractiveness of the region in 2015 alone. The considerable inflow of human resources into Germany and their partial naturalization influenced the reproduction of the entire population of the state and made its mark in the gender-age structure. The results of the calculations show that every fourth man and fifth woman between the ages of 18-40 is a former migrant. Only over the age of 70 is the number of foreigners relatively small. Geographically, the highest share of foreigners is in the southern federal states: Bavaria, Baden-Württemberg and Hesse and the cities-states of Berlin and Hamburg (Graph. 1a). The geospatial configurations of the settling boundaries of the potential of migrant workers in the charts using the Ukrainian context are similar (Fig. 1b).

2.1.2. Statistical and economic measurement of the contribution of remuneration of labor migrants from donor countries and recipients to the formation of TMS "Ukraine-Poland-Germany".

The main economic factor in the formation of TMS is the remuneration of labor migrants. The study of its role in the process of systematic formation implies a comparison of this indicator with the earnings of local residents (both at a given date and in dynamics).

Graph 1. The quantity of foreigners and Ukrainian foreigners in the population of 100.000 people of 2017 from the perspective of Federal Lands of Germany



Source: <https://www.destatis.de>

Poland. The average level of payment of the employed population has increased 3.5 times and amounted to almost UAH 30 thousand as of 2017 in Poland over the period 2010-2017, while in Ukraine - only UAH 7.1 thousand. The average of the minimum wage set by the state in Ukraine for the period 2010-2017 lagged 6 times behind the values of a similar indicator in Poland. It is clear that the imbalance in wage levels, combined with Ukraine's territorial proximity to Poland, has led to an increase in the intensity of migration flow and a transfusion of human resources from Ukraine to Poland, and subsequently, under favorable circumstances, may result in continued migration to neighboring Germany.

The results of a retrospective analysis of the conditions of the formation and development of local TMS should be added as well. The situation described to a certain extent explains the conditions for "incorporating" the mobilization function of the Ukrainian-Polish TMS into work. The results of the retrospective analysis of the conditions of the formation and development of this system should be added to the above mentioned information. The fact that the territories located along the state Ukrainian-Polish border are traditionally characterized by a significantly lower living standard than those located far from the periphery. The analysis of indicators in dynamics shows that this situation in recent decades has provoked constant emigration of the population. Thus, based on the calculation of the synthetic indicator of living standards, it was established that, from the Ukrainian side, even at the time

of the economic crisis (in 1998, when external centers of migration attraction of the labor force were losing their activity), the emigration of the labor force continued to correlate with indicators of the level of urbanization, the unemployment rate and the number of economic entities. At the same time, the situation changed quite a lot in the next years. Initially, Poland's accession to the EU became a factor in the change (2004). The next step was to simplify the rules of crossing the border (including the "Agreement between the Cabinet of Ministers of Ukraine and the Government of the Republic of Poland on the rules of the local border traffic of 25 February, 2009" and "Simplification of the employment in the territory of Poland for citizens of Ukraine of June 11, 2017"). The number of Ukrainians who have been employed in Poland since the change in legislation is increasing [Cabinet of Ministers of Ukraine 2009]. There are special centers for servicing migration needs, the infrastructure of migration services of the local Ukrainian-Polish TMS is developing.

Germany. During the observational period of 2006-2007, the level of average wage for Ukrainians who live in Germany, was five times higher than average wage in Ukraine. For example, in 2006 a Ukrainian migrant earned 713 euros – or 4518 Ukrainian UAH - for his job at the exchange rate of 6,33 UAH for one euro, while in Ukraine it was 1041 UAH

In 2017 there were 1174 euros or 35224 UAH at the average wage of 7104 in Ukraine. The results of statistical and cartographic analysis of formation, the territorial organization and development TMS "Ukraine – Poland-Germany" make it clear that there is a tendency of "settlement" of Ukrainian labour migrants in the zone of Eastern and Southern lands of Germany. The revealed signs of asymmetrical process exactly follow the situation of Ukrainian-Polish TMS (picture 1).

Ukraine. Leaving their motherland, Ukrainians are occupied with less qualified job abroad. For example, an average salary level of German Ukrainian migrants is not comparably high and it varies between 35-40% from the salary of ordinary worker. At the same time, the average level of remuneration for work in Germany is twelve times higher than in Ukraine (chart 1).

2.1.3. Statistical-economical measurement of a contribution of occupation/unemployment of labour migrants from donor and recipient countries to the formation of TMS "Ukraine-Poland-Germany".

Another important indicator which shows a real situation in labour market of TMS is a level of occupation/ unemployment of labour migrants and local citizens. The dynamics of a value shift of a given indicator of surveyed countries demonstrates common tendencies to decrease. However, Ukraine falls behind in the speed of indication shift.

In comparison with Germany, Ukraine falls behind two times according to the speed of indication shift of unemployment level, and 1.5 times in comparison with Poland. The unemployment level in Germany as well as in Poland is decreasing in the background of constant vacancies growth. Even during the hardest for European Union times in 2012-2013 when the unemployment level constantly grew, it was decreasing in FRG [Zagranportal 2019]. German economics supplies an existence of almost 4,8 million working places in other EU countries.

Potential migrants, when deciding to move from Ukraine to Poland or Germany for work or study, try to improve the material well-being of their families and families, in

other words, to maximize the personal economic benefits of migration, which is one of the factors in the functioning of TMS.

The personal economic benefits of Ukrainian migrants as a result of employment abroad can be calculated in monetary terms. For example, we have used the methodological approach of comparative analysis, which is based on an algorithm for calculating earnings growth rates in Germany and Ukraine for a specific period of time. The results of the calculations clearly confirmed the existence of significant differences in the levels of remuneration in Ukraine and Germany. Ukrainian employed migrants, working in Germany in 2017, received income in the amount of almost 7.2 billion UAH. And under the condition of employment in Ukraine - could earn only 1 billion UAH., Which is seven times less (Graph . 2).

Chart 1. Comparative situation analysis in the labour market of Ukraine, Poland and Germany in 2010-2017

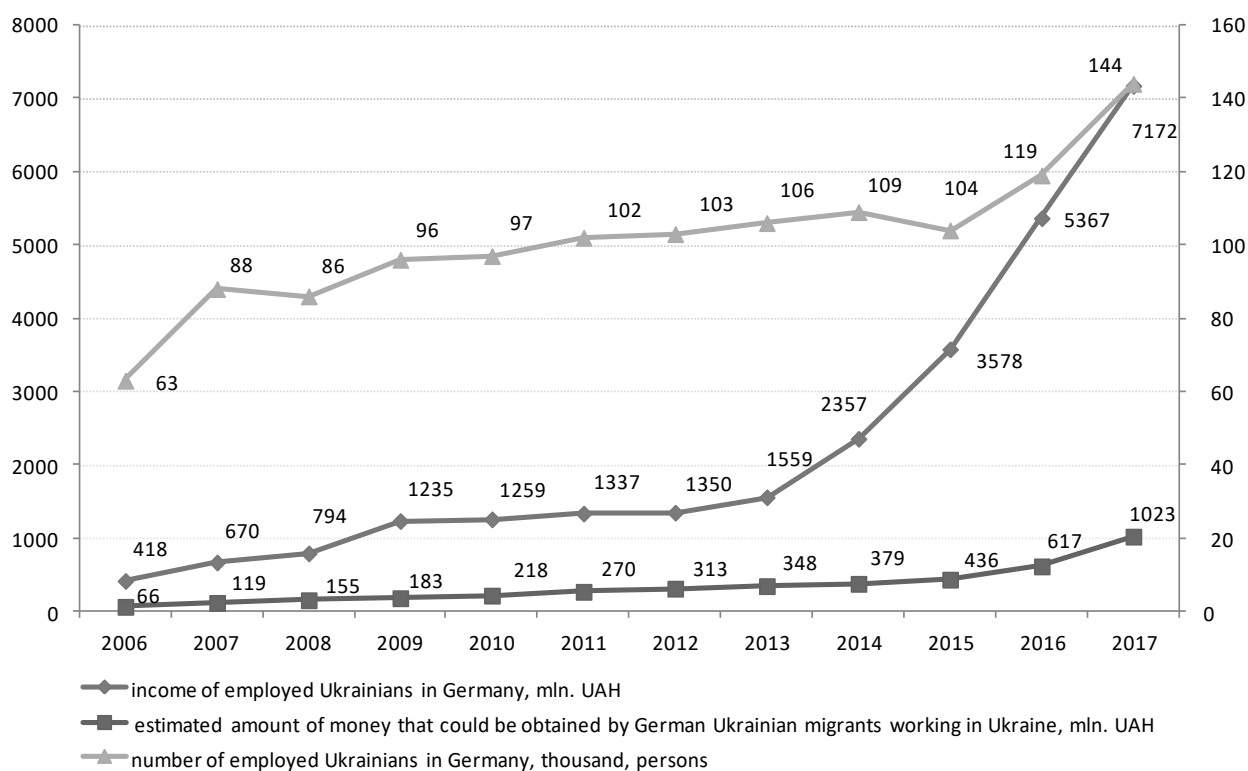
	2010	2014	2015	2016	2017	2017/2010
POLAND						
Average wage (UAH/month)	8,507	14,184	22,648	26,300	29,739	3,5
Unemployment level, %	12.4	11.4	9.7	8.2	6.8	0.4
Minimum wage (UAH/ month)	3,475	6,309	10,142	12,007	14,098	4,1
Inflation index, %	102.9	99.2	99.6	100.4	101.8	103.9
Balance between average wage and wage of occupied Ukrainians in Poland	0.95	0.92	1	0.85	0.84	-
GERMANY						
Average wage, UAH/ month	24,574	41,385	65,591	78,736	85,777	3,5
Migrants labour wage, UAH/ month	13,324	21,908	34,720	41,646	45,636	3,4
Ukrainians labour wage, UAH/month	8,995	15,417	22,727	30,810	35,225	3,9
Unemployment level, %	7.6	5	4.6	4.1	3.8	0.5
Minimum wage, UAH/month	-	-	34,889	40,740	43,206	-
Inflation index, %	101.10	100.90	100.30	100.50	101.80	110.2
UKRAINE						
Average wage	2,250	3,480	4,195	5,183	7,104	3,2
Unemployment level, %	8.8	9.7	9.5	9.7	9.9	1.1
Minimum wage	869	1,218	1,218	1,378	3,200	3,7
Inflation index, %	109.1	124.9	143	112	114	208.3
POLAND/UKRAINE						
Balance between the wage of those occupied in Poland and average wage in Ukraine	3.8	4.1	5.4	5.0	4.1	-
Balance between unemployment level in Ukraine and Poland	0.7	0.9	1	1.2	1.5	
Balance between average wages in Poland and Ukraine	4.0	5.2	8.3	8.7	4.4	

GERMANY/ UKRAINE						
Balance between the wage of those occupied in Germany and average wage of those occupied in Ukraine	10.9	11.9	15.6	15.2	12.1	-
Balance between occupied Ukrainians in Germany and average wage of those occupied in Ukraine	4.0	4.4	5.4	5.9	5.0	
Balance between the unemployment level in Ukraine and Germany	1.2	1.9	2.1	2.4	2.6	
Balance between minimum wage in Germany and Ukraine	-	-	28.6	29.6	13.5	-

Only in 2006-2017. As a result of employment received 27 mlrd. UAH income, at the same time, provided that if they lived in Ukraine, they would earn a salary of 4 billion. UAH Personal economic effect of the functioning of TMS in 2006-2017. In absolute terms, it is almost 23 billion. UAH or 0.8% of Ukraine's GDP in 2017.

Thus, the structural contribution of individual countries' workforce to the process of formation and development of TMC "Ukraine-Poland-Germany", although different, but obvious.

Graph. 2 Dynamics of the level of income of employed Ukrainian in Germany, estimated volume of income of Ukrainian employed in Germany under the condition of employment in Ukraine and the number of employed Ukrainian in Germany in 2006-2017.



Source: own processing according to the Data of the GSS in Ukraine from 2006 to 2017

2.2. Qualimetric contribution of individual countries to the formation and development of TMC "Ukraine-Poland-Germany"

The study of the qualitative contribution of the potential of labour migrants to the formation and development of TMS involves comparative analysis of its educational, vocational (professional) components, health, morality, activity (passionarity), organization, working time with the relevant characteristics of the environment. The main focus is on comparing the first two components, and considering the intermediate location of the Polish labour market on the TMS map, the analysis is based on the example of contribution of Germany. These are calculations regarding the educational structure of migrants and local residents (country of destination), the assessment of the employee's qualifications and the level of work he will perform in the country of arrival. donor of TMS (Ukraine), and from the point of view of receiving migration benefits from the arrival of human capital with certain qualitative characteristics for the recipient country of TMS (Germany). The legitimacy of this formulation of the problem is also due to the fact that in practice, at present, there is a deepening of the links with the employment of the Ukrainian labour force on the part of Germany.

2.2.1. Migration losses of Ukraine's human capital from labour migration to Germany: an educational dimension

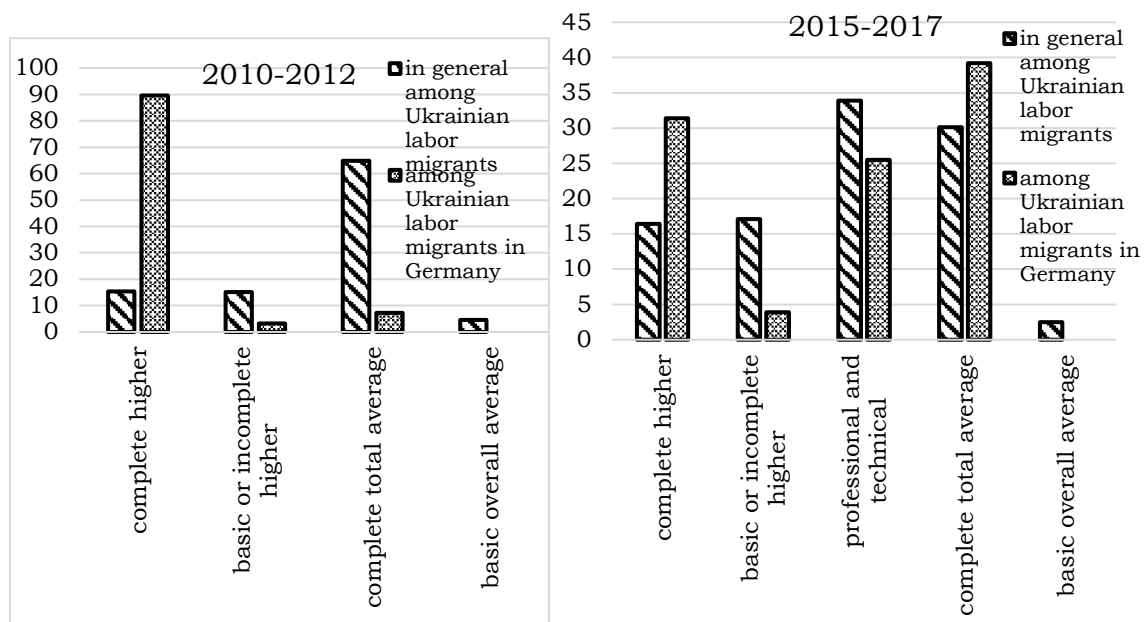
The information on the structure of external Ukrainian labour migration, which was collected by the state statistics bodies in Ukraine, in different years, was based on the specifics of the methodology of collecting indicators. Yes, a sample survey on external labour migration was conducted in Ukraine in 2008 [State Statistics Service of Ukraine, 2009], 2012 [International Labour Organization, 2013] and 2017 [State Statistics Service of Ukraine, 2017]. Only the last two surveys make it possible to draw conclusions about the status and structural changes in the development of TMS based on the level of education of Ukrainian labour migrants (Graph. 3)¹.

2.2.2) Migration losses of human capital of Ukraine from labour migration to Germany: professional qualification dimension

There are quite clear changes in the vocational qualification priorities in the western vector of migrant labour displacement of Ukrainians, especially in Germany. Thus, at one time (2003), Germany accepted more than 300,000 temporary workers from Central and Eastern Europe to work in agriculture and forestry, as well as in the hotel and restaurant business for up to 4 months [German Federal Ministry of the Interior 2005]. In 2010, 76.9% of all Ukrainian workers in Germany worked in unskilled jobs [Germany Migration Profile Light 2013]. Instead, current trends are increasingly shifting towards skilled workers at different levels of education.

¹ In the first modular sample survey of the State Labor Migration Service in Ukraine in 2008, it did not identify Germany in significant migration countries, so the data were not generalized.

Graph. 3. The level of education of Ukrainian migrant workers in: a) 2010-2012; b) 2015-2017, %



Source: authors' calculations for [International Labour Organization, 2013; State Statistics Service of Ukraine, 2017] The calculations show that the overall situation regarding the level of education of Ukrainian migrant workers is changing. Thus, in 2010-2012, the share of workers with tertiary education reached 90%, while in 2015-2017 - just over 30%. Instead, the structure has shifted in favour of people with vocational training. Filters policy in the German labour market has yielded results today: breeding individuals with educational and qualification skills increases the duality in the labour market.

The information on the level of qualification of Ukrainian labor migrants with the requirements of the performed work is indicative. Some trends in the loss of educational qualitative characteristics of Ukrainian workers in Germany are being traced, as almost 25% of them worked on jobs that require less than qualification and 33% on jobs that do not require qualification. A quarter of migrants worked in the new country according to their qualifications. Instead, in Poland - only 16% of migrant workers from Ukraine worked according to their qualifications. In terms of professional groups, 31.4% of all Ukrainians working in Germany have jobs as professionals, specialists, technical employees, and 37.3% - skilled workers with the tool. Germany, compared to other countries, offers less employment to Ukrainians in the simplest professions, while in Poland more than half of Ukrainians (51.7%) work in the simplest professions. Thus, it can be stated that, with some loss of qualification, Ukrainians in Germany are still largely implementing their knowledge and skills at different levels of vocational qualifications.

Comparison of the above data makes it possible to conclude that workers with higher professional qualifications leave for Germany, since under favourable conditions on the German labour market, some of them still have to lose knowledge and skills in lower-skilled jobs. Higher losses are borne by Ukraine in the vector of labor migration to Poland, since there workers are much less likely to find work in accordance with

their qualifications. Thus, it is unambiguous to conclude that the quality of labour losses for Ukraine.

3.2. Benefiting from the labour migration of Ukrainians to the German economy

Another focus of attention is on gaining benefits from Ukrainian labour migrants for Germany. The inclusion of foreign labour in the German labour market and the high economic activity of German workers have led to the highest employment rate in the German economy since 1991. Also important is the contribution of migrant workers. In 2017, the economic activity rate of 20-64-year-old migrant workers from non-EU countries was highest in some German regions, along with the UK and Turkey, at over 85% (Germany Migration Profile Light, 2013).

In 2018, 9586 Ukrainians arrived in Germany for legal employment (World migration report, 2018), accounting for 3.6% of all arrivals for this purpose (Table 2).

Table 2. Characteristics of Ukrainians who arrived in Germany in 2018 with official work permits*

Characteristics	Number of arrivals, thousand Persons	In% of all arrivals in Germany for this purpose	Rank in the ranking of countries leading in number of arrivals for this purpose
Total	9,576	3.6	8th place (after India, China, Bosnia and Herzegovina, USA, Serbia, Russia, Kosovo))
Including			
-work as a specialist	8,213	3.9	8th place (after India, China, USA, Bosnia and Herzegovina, Russia, Serbia, Turkey)
Among them: with the Blue Card	2,181	4.3	5th place (after India, China, Russia, Turkey)
-work without qualifications	1,247	2.3	8th place (after Bosnia and Herzegovina, Kosovo, Northern Macedonia, Serbia, USA, Albania, Australia)

Source: Authors' Summary [World migration report, 2018]

Among third-country nationals who are entitled to work, there may also be grounds for a residence permit issued for humanitarian and family reasons, which gives such a right. Therefore, the involvement of Ukrainian migrants in the German labour market may be better characterized by the number of persons participating in social insurance. Thus, as of September 2018, the number of Ukrainian migrant workers who paid social security contributions was 44,797 people (2.5% of all foreign workers in Germany), which is 3395 or 8.2% more than in the corresponding last year.

Germany benefits from labour migration due to restrictive and relatively rigid state policies on unskilled labour or unconfirmed by German labour qualification documents. Yes, the employment of workers with the tool requires a formal German education, there is a rather rigid system of certification of skilled labour, language requirements. Significant weakening applies only to the IT sector with 3 years' experience. There remain preferences for persons with a scientific degree. This policy is reflected in the qualifications of workers from Germany from other countries: 82.5% work in workplaces, which according to the International Standard Classification of Occupation corresponds to 2-4 skill levels (medium and high). In 2019, Germany has further eased barriers to entry of skilled labour into its labour market, which will in the long run increase the contribution of migrant workers to the German economy.

CONCLUSION

The territorial migration system is a social phenomenon that can play an important role in regulating sustainable economic development and enhancing the competitiveness of human capital. It is treated as a regional labour market, determined by the effect of supplementary contracts and employment agreements.

The territorial migration system promotes the harmonization of conditions for the realization and development of migrant labour potential. It has its own structure, performs redistribution, mobilization, stimulation, labour-integration and other functions. If the redistribution function ensures the internal equilibrium of the system, then labour-saving is a specific "regeneration" of the labour potential of migrants. An interesting and important role is played by the mobilization function of TMS.

The potential of labour migration, which gradually accumulates within the TMS, can "work" in both reverse and inverse modes. This is facilitated by institutionalized actors of migration relations who interact, build internal relationships, find common interests, "produce" their goals and objectives, "work out" the principles and forms of organizing their activities.

The territorial migration system, which is being formed and developed within such countries as Ukraine-Poland-Germany, is characterized by general and specific features of formation and development. At present it is growing its own infrastructure network and is actively institutionalized.

On the part of Ukraine, the factors that influence the development of the TMS under study are: economic (insufficient level and cost of living, unsatisfactory social and living conditions, etc.), environmental (forced displacement from the relevant disaster zones), socio-demographic (high youth migration mobility), social and professional (loss of motivation for high-productivity work, limited professional career, etc.). All these socio-economic and demographic processes adversely affect the sustainability of the development of the TMS under study. At the same time, the trend of increasing migration between Ukraine, Poland, and Germany is not just an interstate character, but also a new phenomenon in the lives of TMS agents.

In the current situation, TMC Ukraine-Poland-Germany becomes a kind of platform for modelling the situation related to improving the effectiveness of the migration policy of the donor country. With regard to recipient countries, the potential of migrant workers is drawn to the selective nature of migration policy (a phenomenon caused by the legal and other institutional barriers of countries with different levels of economic

development, as well as by new schemes for international relocation).

The formation, territorial organization and development of the modern TMC "Ukraine-Poland-Germany" should be studied from the point of view of the safe imperatives for the development of a common European home, the introduction of new standards of economic behaviour and consumption of goods, the creation of conditions for the development of new migrants of science and technology; the spread among them of fashion for the second education, the cultivation of the qualities of mutual respect and tolerance.

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