## "Current trends in global demographic processes"

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# CURRENT TRENDS IN GLOBAL DEMOGRAPHIC PROCESSES

#### **Abstract**

Current local and national demographic trends have deepened the existing and formed new global demographic processes that have received a new historical reasoning that requires deep scientific research taking into account the influence of the multifactorial global dimension of the modern society development.

The purpose of the article is to study the development of global demographic processes and to define the causes of their occurrence, manifestations, implications and prospects for implementation in the first half of the 21st century.

The authors have identified and characterized four global demographic processes, namely population growth, migration, increase of tourism, and change in population structure. It is projected that in the 30's of the 21st century, the number and growth rates of the world population will reach the objective growth and these dynamics over the next two decades will begin to change in the direction of reducing the growth rates, which will lead to gradual stabilization, and eventually reduce the size of the world population. By the middle of the 21st century, one can observe the preservation of the growth rates of international and domestic migration, the growth of international migration flows from the South to the North and from the East to the West, the strengthening of new economically developed centers of gravity (Canada, Australia and New Zealand), the increase in migration of rural population to cities, as well as urbanization and activation of the metropolises development. The share of international tourists in comparison with the world population will be constantly increasing, and the annual growth rate of the number of international tourists will significantly depend on the world economy and may vary at the several percent level. Permanent change will occur in the age, religious-cultural and socio-economic structure of the population.

**Keywords** globalization, demographic processes, factors, migration,

tourism, population structure

**JEL Classification** J11, F22

### INTRODUCTION

In the 21st century, the role of the human factor has increased significantly, and in economically developed countries, the share of human resources accounts for 75-80% of national wealth (Sagradov, 2005). Accordingly, the study of demographic processes, which is based on the natural, territorial and social movement of the population, is the source of social and economic development of countries and a source of social progress. Identification, definition of causal relationships, conceptualization and forecasting the demographic processes development allow the states to form an effective national demographic policy in the context of their internal and external priorities; regional actors to develop regional policy; and companies to adapt internally the firm's labor market under the existing market conditions. But unlike in previous periods, in the 21st century, local and national demographic trends have deepened the existing and formed new global demographic processes that are manifested in the vast majority of civilized countries. Accordingly, the development of demographic processes has received a new historical logic, which needs to deepen the scientific research taking into account the influence of the multifactorial global dimension of the modern society development.

#### 1. LITERATURE REVIEW

Global demographic processes are explored by international organizations, governments, academia and leading scientists that identify them, determine the scope, direction, characteristics and peculiarities, and develop appropriate management measures. World literature considers the impact of demographic processes and populations from the standpoint of economic and political implications. Major demographic trends are also the subject of researches by Western scholars, and this is confirmed by numerous publications: McDonald and Kippen (2001), Booth, Maindonald, and Smith (2002), Lee (2003), Mason (2003), Tyers and Shi (2006).

Maddison (2010) identified the global demographic population growth process throughout the history of mankind. Given the scientific research methods, the author has statistically investigated and substantiated the demographic factors that rendered countries rich or poorer. Major megahistorical research was carried out by Cohen (1995), insisting that the future of mankind (population, economy, environment, and culture) is unpredictable and forecasts can only be conditional. Forrester (1971) investigated demographic factors and built a system model characterizing the interaction between economy, population and the environment that is used in global modeling. Meadows, Randers, and Meadows (2005) identified the relationship and conducted a critical line between population growth and the development of mankind in regards to the impact on the environment. Bestuzhev-Lada (2009) and Kapitsa (2010) determined the optimal and safe magnitude of humanity, predicted the demographic situation and the general gradual population decline. Libanova (2014) investigated the reasons for the differences between national and continental demographic trends, possible expectations for the further development of demographic processes and their socio-economic implications. In general, this research area highlighted global demographic issues and formed a long-standing scientific discussion on finding humane forms of population regulation within the framework of transparent social control and regulatory influence.

The United Nations and the International Organization for Migration statistics show the global de-

mographic process of increasing human migration from the late 20th century. Heinsohn (2006) states that human migration is a global phenomenon and, in general, serves as a catalyst for the society development in a positive direction when taking desirable, controlled and legal forms, and when creating a unified flow regulation mechanism to ensure favorable migration conditions. Helliwell (2004) investigated the influence of political and economic factors on demographic changes and the increase of migratory flows for the period up to 2050 and determined that changes in the directions and volumes of migration flows depend on domestic policies of the countries and undermine the global demographic situation. Kobzar, Hellgren, and Hoorens (2015) investigated the migration evolution, in which the global middle class is growing and the demographic profile of the population changes due to an increase in migration. Tyers and Bain (2015) have developed a demographic submodel as part of a standard global economy model that shows the dependence of migratory flows at the level of real wages and the motivation of migrants. Bil (2017), based on the analysis of the migratory flows dynamics, unfolds the concept of institutionalization of migration in a modern society and defines societies where the majority of the population are migrants. Thus, this area of research has outlined global issues in the field of international migration.

The statistics of the World Tourism Organization indicate a permanent increase in the volume of tourist flows from the second half of the 20th century. Hunter (1995) links the process of sustainable tourism development with the direct contribution of tourism itself to the sustainable development of mankind, in which the course of tourism development (its planning, management and policy) and the environmental protection should be balanced. White, McCrum, Blackstock, and Scott (2006) are convinced that tourism is characterized by brittleness and sensitivity to change, due to multi-sectoral nature, as well as dependence on the quality of the environment and the host community. Brouder and Eriksson (2013), considering tourism in regards to the low-tech sector, promote the idea of synergy between tourism research and evolutionary economic geography. Sardak, Dzhyndzhoian, and Samoilenko (2016) considered comprehensively the effects of the growth in the volume of

tourist displacements in natural, biological, technical, social, economic and managerial dimensions. In this context, researchers have determined that the growth of international tourist flows is a stable global trend that positively affects the development of society subject to compensatory mechanisms to overcome the negative consequences for specific tourist destinations.

The National Intelligence Council, KPMG experts, as well as some scholars point out the process of changing the age, religious, cultural and socioeconomic structure of the population characteristic of the end of the 20th century and the formation of a new global demographic structure that will become constant in the 20's and 50's of the 21st century and will cause a radical change in social development. This process involves the majority of the population, while it is not a negative phenomenon, but needs to find new mechanisms for coexistence and communications.

Heinsohn (2006) considers the rebirth of Islamic countries as a direct threat to the existing religious and cultural community of the northern countries, and as a consequence escalation of terrorism and the absorption of Europe. Osberg and Xu (2006), through the FGT index, prove the relevance of applying the poverty line (poverty intensity, poverty rate, family poverty indices) when calculating the socioeconomic structure of the population, especially in countries with significant economic growth. Gelsdorf (2010) considers the economic structure of the population from the standpoint of climate change, lack of food and water, and insists on the coordination of risk management and risk reduction. Zgurovsky (2010) combines the three components of sustainable development of society (economic, environmental, and social) within the optimal use of limited resources, the integrity of biological, physical, social and cultural systems, and proposes to coordinate these components through evaluation and targeted distribution. Fukuyama (2013) considers the role of socioeconomic factors in society and their impact on demographic processes in the context of the development and increase of the middle class from the philosophy point of view. Dimock, Kharas, and Jenkins (2016) concluded as to the main structural and factor causes of the migration flows formation;

creation of centers of the middle class in the most dynamic economies of the world, which causes the urbanization growth; increase in secularization and reduction of organized religion as a result of reducing the key player in demographic shifts – family size.

However, in the above mentioned scientific publications, global demographic processes are not clearly identified; the causes of occurrence, time-frames and consequences of the developing global demographic processes are determined superficially; and the focus is on the narrow aspects of demographic issues, which requires further research.

The purpose of the article is to study the development of global demographic processes and to define the causes for their occurrence, manifestations, implications and prospects for deployment in the first half of the 21st century.

#### 2. METHODS

In order to study global demographic processes, the system approach, general science and special methods are used in the article. When identifying global factors and issues of demographic processes deployment, the methods of observation, analogies, analysis, synthesis, and grouping are used. In describing global demographic processes, the historical-logical method, statistical method, method of analogies, quantitative and qualitative comparison, abstraction, forecasting, and generalization are used as well.

#### 3. RESULTS

Global demographic processes in the first half of the 21<sup>st</sup> century have a significant impact on social development and form a number of global factors, among which are: global threats, global risks, global problems, global challenges, global trends and global actors' actions (Sardak et al., 2017). The general characteristic of the modern global demographic processes identified by the authors, the definition of the sphere of population's demographic movement, the causes of occurrence and availability, as well as global manifestation are given in Table 1.

**Table 1.** Characteristics of current global demographic processes

Source: author's development.

No.	Global demographic process identified	Scope of population movement	Causes of occurrence and	Global manifestation (by parameters: global			
NO.			availability	Global manifestation (by parameters: global threats, global risks, global challenges, global trends, and global actors' actions)			
1	Population increase	Natural movement		The global threat is the lack of resources for the population and power redistribution			
				Global risks of social, anthropogenic and man- made nature are shaped			
			Improvement of living conditions, medicine development, food security, application of results of	The global problem is the dispersion of mechanisms for regulating the population and providing resources			
			scientific and technical achievements, shaping social institutes	The global challenge is to find humane forms of population regulation			
				The growth of the population is a steady global trend			
				Global actors control and, if necessary, regulate this process			
•		Territorial movement		The global threat is the destructing the traditional state of society			
				The global risk is the growth of illegal migration			
2	Increase in migration		Asymmetry of socio-economic development of regions,	The global problem is the lack of a unified mechanism for regulating migratory flows			
			increase in the awareness of the population, activation of international economic	A global challenge is the development and provision of favorable migration conditions			
			relations, crisis phenomena, military conflicts, natural	An increase in the number of migrations is a steady global trend			
			disasters	Global actors are trying to have migration flows in complete control and regulation, welcome the substitution of migration by the virtual international movement			
•	Increase in tourism			An increase in tourism is not a global threat			
			Living standards improvement,	An increase in tourism is not a global risk			
			accelerating speed and	An increase in tourism is not a global problem			
3		Territorial movement	comfort of vehicles, developing communication facilities, shaping a powerful tourist industry and attractive tourist	The global challenge is to identify compensatory mechanisms to overcome negative impacts on tourist destinations			
			destinations	An increase in tourism is a steady global trend			
				Global actors welcome the growth of legal tourism			
	Change in population structure	Social movement		A change in the structure of the population is not a global threat			
4			let et	The global risk is the inability of society to adequately perceive structural changes and the possibility for civilizational conflicts			
			Lifetime increase, changes in the world view, multiculturalism, communication shifts due to	The global problem is the lack of international mechanisms for ensuring civilized cooperation a well-being			
			the society informatization, the complication of production and	The global challenge is the need to develop a no model of coexistence and communications			
			the growing incomes of skilled population	A change in the structure of the population is a global trend for a larger proportion of the population			
				Global actors take into account information on changes in the structure of human resources and coordinate their development			

Thus, the first global demographic process, the permanent historical growth of the world population, appears to be an indisputable and decisive phenomenon in the sphere of natural movement of the population, which is the basis of the vast majority of social changes. The average annual growth rate of the world population in the peri-

od from 1990 to 2015 fluctuated within the range of 1.2-1.6%, but showed a clear downward trend (Table 2). Historically, the reasons for the deployment of this demographic process are as follows: improving the standard of living; building technologies development and finding mechanisms for confronting the environment; revolutionary

**Table 2.** Dynamics and forecast of global demographic indicators

Source: compiled and calculated by authors based on Future State (2030, 2014), International Organization for Migration; United Nations, UNWTO, Kobzar, Hellgren, and Hoorens (2015), and Zgurovsky (2010).

Indicator		1995	2000	2005	2010	2015	2020	2030
Number of world population, mln people		5.735	6.127	6.520	6.930	7.349	<i>7</i> .904	9.028
Growth rate of the world population as to the previous period, %	-	8.0	6.8	6.4	6.3	6.0	7.6	14.2
Number of international migrants, mln people	153	161	173	191	222	244	280	300
Growth rate of international migrants as to the previous period, %	-	5.2	<i>7</i> .5	10.4	16.2	9.9	14.8	<i>7</i> .1
Share of international migrants of the world population, %	2.9	2.8	2.8	2.9	3.2	3.3	3.5	3.3
Number of international tourists, mln people	435	527	674	809	950	1.186	1.400	1.800
Growth rate of international tourists as to the previous period, %	-	21.1	27.9	20.0	17.4	24.8	18.0	28.6
Share of international tourists of the world population, %	8.2	9.2	11.0	12.4	13.7	16.1	1 <i>7.7</i>	19.9

changes in agriculture, food technologies and food storage; advances in medicine; the influence of state and international regulation on the relations between people; development of trade and monetary and commodity-exchange operations; the formation and change of the role of education and science, etc.

Over the past two millennia, the world population has been growing slowly, and over time these dynamics have significantly accelerated. With a special intensity, the number of the world's population began to increase in the 18th century acquiring a non-linear nature, and by the end of the 20th century increased substantially and in the 21st century continues exponentially increasing. Over the past 65 years, the population has increased by almost three times. According to the most pessimistic estimates of the UN (in 1999), by the year 2050, the population growth was expected to reach 7.3 billion people, when in the end of 1999 humanity had already shifted a mark of 6 billion people (Kharas, 2016). And as late as in 2011, the population of the planet was 7 billion people, and in 2015, humanity has exceeded the figure of 7.3 billion (United Nations, WPP, 2015). The current regional demographic structure is uneven: Asia – 59.77%, Africa – 16.14%, America – 13.5%, Europe - 10.05%, Australia and Oceania -0.54% of the population (United Nations, DESA, PD, 2015) It is projected that in the next 50 years the population in Africa will double, in Latin America and the Caribbean it will increase by 1.5 times, and in Europe it will decrease by 0.8 times (Zgurovsky, 2010).

A high birth rate will be observed in countries with low living standards, high mortality rates and weak state pension coverage. Therefore, human resources will continue to strive to improve their own future by increasing the number of descendants.

The increase in the number of the world's population has resulted in speeding up the capture of new territories and natural niches, dominating the extensive production method, destroying the natural environment, the emergence of mass production, increasing the production of exhaustive natural resources, intensifying competitive struggle, large-scale military conflicts in the area of providing resources, imbalances in the demand-to-supply ratio, etc. The awareness of this global demographic process results in the shaping global issues in the scientific community and the counteraction of global actors to the negative effects of this global process by monitoring birth rates, designing demographic policies, artificial limitation of population in selected regions, imposing political and economic constraints on certain countries and the leaders of the world community, the formation of public opinion, etc.

The most realistic forecast for the deployment of this global demographic process is presented in publications by Forrester (1971), Meadows, Randers, and Meadows (2005), Bestuzhev-Lada (2009), and Kapitsa (2010), in which it is expected to gradually unilaterally increase the absolute size of the world population to the objective limits of growth, and eventually, change the nature of this dynamics (decline in growth rates, stabilization or reduction) which is expected in 2030 according to Sardak and Sukhoteplyi (2013).

The second global demographic process - an increase in the volume of international and domestic migration, which is a manifestation of the territorial movement of the population, every year is becoming increasingly large. In the period 1990-2015, the average annual growth rate of the number of international migrants ranged from 1.0 to 3.2% and showed relative growth, but the share of international migrants from the population of the world was within the range of 2.8-3.3%, and was quite stable (Table 2). The main reasons for the growth of the volume of international migration are as follows: the asymmetry of socio-economic development of the regions; increased awareness of the population; intensification of international economic relations; political, economic and social crises; military conflicts; and natural disasters. Domestic migration is caused by the same causes as international migration, but the abovementioned driving factors are accompanied, and sometimes dominated by family, educational, as well as management factors on the part of state, corporate and family influences. Internal migration involves several times more people compared to international migration, so one can assume that the current annual total number of migrants is about 1 billion people.

Nowadays, for more than 150 million international migrants, the economic factors determining labor migration are the most significant. International labor migrants are largely attracted by higher (sometimes several times) wages in the country of employment compared with their country of origin. Also important is the increased demand for certain specialties, which, in turn, involves the proper earnings of the migrant. Another part of migratory flows consists of people who are looking for a better life, who do not want to live on the edge or are dissatisfied with inequality in society (majority believes in such a way); persons who run into dangers because of natural disasters, environmental and climate deterioration; those who avoid different military and political conflicts, among which the number of internally displaced persons is more than 24 million people (United Nations, DESA, 2015).

The global implications of migrations are different for the society development. For the world as a whole, the expansion of the possibility for real-

izing human potential, enriching public life, increasing the amount of scientific achievements, and improving communication are a positive moment. Negative consequences are as follows: environmental contamination and destruction, the exacerbation of existing and the formation of new transport, environmental and social problems, the spread of diseases, the growth of crime rate. But despite various aspects of the migration impact on the social development of the world in general and countries in particular, the global demographic process, an increase in the volume of international and domestic migration until the mid-21st century, will be deployed at an affordable pace.

Regarding migration, it should be noted that, unlike the end of the 19th and early 20th centuries, when major migratory flows were directed from Europe to North America and East Siberia, and secondary flows from the North to the South, then in the 21st century the main flows start reorienting from South to North, from East to West, and also to new centers of attraction - Canada, Australia and New Zealand (Heinsohn, 2006). An important manifestation of the world population migration is the movement of rural population to urban areas and urbanization, which will reach 60% from the current 50% of townspeople in 2030, and the number of metropolises (with a population of more than 10 million inhabitants) will increase from the current 20 to 37 in 2025 (Future State, 2030). Given that people aged 15-24 now make up 40% of the unemployed and 90% of the world's young people live in developing countries, it can be predicted that these trends will be maintained (Future State, 2030).

The third global demographic process – an increase in the tourist flows within the territorial movement of the population, leads to a permanent redistribution of the actual population in the regions, which, accordingly, at a certain time increases or reduces the existing territorial concentration of human resources. The statistics on dynamics and the forecast of the development of international tourism reveals the scale of this process. The average annual growth rate of international tourists in the period from 1990 to 2015 fluctuated within the range of 3.5-5.6%, demonstrating the dependence on the world economy conditions – reaching the highest level in the pre-

crisis period, and the lowest during the world crisis. At the same time, the share of international tourists from the world population was in the range of 8.2-16.1% and showed a steady increase (Table 2). The reasons for the increase in the volume of tourist flows are, on the one hand, increasing opportunities for the population to travel (first of all, improving living standards, accelerating speed and comfort of vehicles, communication facilities development), and on the other, the formation of a powerful tourist industry and attractive tourist destinations, in which, under favorable conditions, tourist flows are spreading.

For certain regions, the consequences of an increase in tourists are significant. Thus, in some tourist destinations during the tourist season or newsworthy events, the tourists prevail among the local population dozens of times, which has both positive and negative impact on the political, economic, social, natural and cultural spheres. In terms of positivity, the growth of the tourist flows provides employment of the tourism industry participants, as well as related industries (local agriculture, fishing, crafts, construction industry, transport, food production, small business, etc.), causes an increase in the volume of foreign investment, promotes the preservation and promotion of natural and cultural heritage, stimulates intellectualization and mobility of the population. With regard to negative consequences, the growth of tourist flows in some cases leads to the natural environment destruction, rise in prices, which is a disastrous phenomenon for local residents who do not have income from tourists, as well as social conflicts.

The fourth global demographic process – the change in the structure of the population, which takes place according to the age, religious, cultural and socio-economic characteristics, causes significant social changes on a global scale in the field of social movement of the population.

According to the age structure, population aging is noted. The rapid increase in life expectancy along with the decline in birth rate causes an increase in the proportion of elderly people over 65, which in 2030 will reach 1 billion and will amount to 11-13% (Future State, 2030). In certain regions, this is now causing some problems in the areas of

pension and social welfare accumulation, health care and the provision of productive youth employment, and in the future, in the absence of preventive measures, this change may pose a global problem of social development and large-scale regional conflicts (Heinsohn, 2006).

Religious and cultural structure of the population undergoes changes and it is predicted that in comparison with the end of the 20th century, by 2025, the number of Muslims will increase from 16.5% to 30%, the proportion of Christians will decrease from 33% to 30%, the number of Hinduism followers will decrease from 13.3% to 10%, the number of Buddhists will decrease from 6.3% to 5%, and the amount of other religion supporters will decrease from 31.1% to 25% (Zgurovsky, 2010). Certain world outlook changes will call for the emergence of radically new forms of tolerant interaction and communication (Heinsohn, 2006).

Socio-economic changes have led to an increase in the world population's standard of living and an increase in the weight of the "middle class", which are the people with income from USD 10 to 100 per day (Future State, 2030). This can be explained, on the one hand, by the technological progress advancement, and the urbanization, on the other. Thus, the emergence of new technologies, labor intellectualization, rise in education and qualifications increase the employee revenue level. Also, the annual increase in the population of cities, especially large ones, at an average of 100 million people and the concentration of specialists with a high enough salary in them form the centers of the global "middle class" representatives. In 2015, their number was almost 3 billion people, and the level of consumption was 2/3 of the world. The European Union Institute for Security Studies forecasts their increase to 4.9 billion people up to 2030, especially in Asia (European Commission, 2012). On a worldwide basis, increase of highly skilled professionals in the middle class will lead to the intensification of scientific and technological development of mankind. Urbanization processes in demography will restrain population growth and UN experts predict an increase in the size of the middle class will reduce the population by 600 million, as the number of families and the number of children in urban families is significantly lower than in rural areas (Fukuyama, 2013).

#### CONCLUSION

According to the author's research results, the development of four global demographic processes has been identified and characterized, indicating the scope of the demographic movement, causes of occurrence, global manifestation, consequences and perspectives in the first half of the 21<sup>st</sup> century.

The first global demographic process – the growth of the population – is permanently deployed as a result of improving living conditions, medicine development, food security, the application of scientific and technological achievements, and the formation of social institutions. It is projected that in the 1930's of the  $21^{st}$ , century the number and growth rates of the world population will reach the objectively established limits of growth and this dynamics over the next two decades will begin to change in the direction of growth rates reduction, which will lead to gradual stabilization, and eventually reduce the size of the world population.

The second global demographic process – an increase in the number of migrations – is due to the asymmetry of socio-economic development of regions, increased awareness of the population, the intensification of international economic relations, the spread of crisis phenomena, military conflicts, natural disasters, which has both positive and negative impact on the development of the society. The predictive changes by the middle of the 21<sup>st</sup> century are as follows: the preservation of the growth rates of international and domestic migration, the growth of international migration flows from the South to the North and from the East to the West, the strengthening of new economically developed centers of gravity (Canada, Australia and New Zealand), the increase in the volume of migration of rural population to cities, urbanization and the intensification of the metropolises development.

The third global demographic process – an increase in tourism – is being realized through improving living standards, speeding up the movement and comfort of vehicles, developing communications, building a powerful tourist industry and attractive tourist destinations. According to the forecast of the mid-20<sup>th</sup> century, the share of international tourists in comparison with the world population will constantly increase, but the annual growth rate of the number of international tourists will be significantly dependent on the world economy and may fluctuate at the several percent level.

The fourth global demographic process – the change in the structure of the population (age, religious and cultural, and socio-economic) – unfolds due to the increase in life expectancy, changes in the outlook and communication shifts, due to the society informatization, the complication of production and the growth of incomes of the employed trained population. By the middle of the 21<sup>st</sup> century, one can forecast the population aging, which will cause socio-economic problems in social protection of the population; redistribution of the religious and cultural structure of the population, which will necessitate the search for new mechanisms of social interaction and conflict management; an increase in the share of the "middle class", which will form an opportunity to revitalize human potential.

The definition of the development logic for global demographic processes provides an opportunity for international organizations, state authorities and local self-government, companies and institutions to develop management and regulatory mechanisms for the human resource development. The development of local preventive and compensatory measures to counteract the destructive consequences of the deployment of global demographic issues is the direction for future research in this area.

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