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DEMOGRAPHIC SUSTAINABILITY AND ECONOMIC GROWTH: THEORY AND METHODOLOGY

Essence and value of demographic sustainability at the terms of globalization are reflected. The theoretical approaches to the definition of the mentioned category as basis of endogenous economic growth are systematized. The ensuring factors of demographic sustainability and the optimal proportions of reproductive process are identified and grouped. Directions for the national socio-economic policy aiming to achieve demographic sustainability are offered.

Keywords: demographic structure, demographic sustainability, economy growth, economic strategy.

Непиталюк А. Демографическая устойчивость и экономический рост: вопросы теории и методологии*. Освещены сущность и значение демографической устойчивости в условиях глобализации. Систематизированы и углублены теоретические подходы к обоснованию обозначенной категории как основы обеспечения эндогенного роста экономики. Идентифицированы и сгруппированы факторы обеспечения демографической устойчивости и оптимальных пропорций воспроизводственного процесса. Предложены направления реализации национальной социально-экономической политики с целью достижения состояния демографической устойчивости.*

Ключевые слова: демографическая структура, демографическая устойчивость, экономический рост, экономическая стратегия.

Background. The prolonged transit period in economic history of Ukraine was marked by considerable changes in the demographic structure of society. Social and demographic processes, complementing the deep transformation phenomena in the system of public management, testified the crisis and uncompetitiveness of traditional resources-oriented development paradigm. As a result, the total size of Ukrainian population substantially reduced; the changes in the structure of productive forces resulted in objectively unsatisfactory level of functioning efficiency of economy industries, and decline in public welfare. There are some actual determinants of negative population dynamics; the state influence on those determinants should be mediated. But there are also problems that could be solved by

means of the national economic strategy's implementation. Among the fundamental categories of that strategy an important place should be occupied by demographic sustainability that is able to act as an institutional lever for economic growth.

In domestic specialized literature, the deep essence of demographic sustainability remains one of the most important scientific issues.

Analysis of the researches and publications. The role of social and demographic factors, including demographic sustainability, in ensuring of economic development was studied by foreign scientists. In particular, I. Hamiduddin investigates the phenomenon of social sustainability in the context of globalization challenges [1]. N. Mistas, K. J. Mallen and J. Powell study the influence of population aging on the rates of economic growth [2]. E. Boubtane, J.-C. Dumont and C. Rault examine the influence of migration on the steady development of the OECD countries [3].

Among domestic scientists, we can say that O. Gladun and A. Romaniuk investigated existing and forthcoming demographic tendencies in Ukraine [4]. The concept of sustainable management in modern economic systems as the basis for their development is the result of scientific work of S. Kozlovskyi, O. Rudkovskyi and A. Kozlovskyi [5]. The regional demographic aspects of birth rate and maternity in Ukraine were studied by I. Kurylo, S. Aksionov, B. Krimer [6]. The research of E. Libanova [7] is devoted to the demographic change in the context of social development.

In the relevant literature, the issues of social and demographic phenomena influence on the economic development processes were envisaged. But a wide range of its methodological aspects is not studied enough.

The **aim** of this article is to analyze, to systematize and to develop both theoretical and methodological determination approaches to the category of demographic sustainability as well as to outline its role in the economic growth processes' acceleration under conditions of globalization.

Materials and methods. Theoretical and methodological bases of this study are represented by the scientific works, addressing the problem in question, of domestic and foreign scientists. Multidimensional character of this research stipulated the introduction of methods and approaches, allowing to provide its conceptual unity. Dialectical, system and structural approaches, methods of analysis and synthesis, comparison, generalization, and scientific abstraction were applied.

Results. National economic strategy must take different factors into account, in particular demographic structure and social dynamics, which determine the volume of productive forces that can be attracted in certain moment of time, and determinants of the combined demand. Demographic changes and their direct economic consequences are the classic objects of research. However, the macroeconomic strategy's preparation requires introduction of demographic stability as the basic concept. To this day, in

domestic science the categories of demographic changes and economic sustainability were examined separately par excellence. Hence, the conceptual bases of demographic sustainability should be clarified and that category should be implemented into the modern glossary of humanitarian disciplines.

Demographic sustainability is important and necessary condition for the successful realization of national socio-economic politics. While the above category organically belongs to the western scientific discourse, in the Anglosphere it is used limitedly as an unambiguous concept and has not been clearly determined yet. For example, British scholars S. Annand and A. Sen envisaged the multiple interdependences between human development and economic sustainability, introducing the category of ethical "universalism" as the permanent society's aspiration to impartiality of claims between its generations. They came to the conclusion that the balance between public impartiality, sustainable economic development, optimal proportions of economic growth and requirements of the present day is vital. However, they offered the methodology to evaluate the influence of the changes in total population and its structure on the general proportions and dynamics of reproductive process [8].

A. J. McMichael, C. D. Buttler and C. Folke offer the renewed conception of addressing sustainability as an integral scientific concept, covering the issues of socially responsible business, environmental defense, quality of life, etc. Those objectives could be reached by massive decline in the population's morbidity and mortality rates with simultaneous increase in life expectancy and intellectual capital. The public production scales should be expanded as well [9].

In the newest domestic and foreign economic studies, stability is envisaged as a crucial element into the general concept of equilibrium. It is assumed that the economic agents inherently aspired to bring the systems (they belong to) to the optimal or equilibrium state, which is naturally stable. Any system on micro-, meso-, macro- and global level can be considered as stable, if it has an opportunity to change automatically to the state of the greatest / optimal functioning efficiency.

It is necessary to differentiate fundamentally the concepts of constancy, stability and sustainability in economic theory. Stability is sometimes interpreted as the particular state of the socio-economic system, when the elements of endogenous and exogenous environment cause no imbalance between the rational combinations of available resources and dynamic public demands. From the positions of elementary logic, the category of stable development seems controversial enough, as stability, id est definiteness and invariability, deeply conflicts with the nature of development, that envisages ephemerality, transitivity, dynamism, and even inversion of the corresponding system. Unclear definition of stable development causes essential methodological problem and impedes the preparation of a sustainable growth concept. The national paradigm of steady development of

Ukraine determines the above category as an instrument to satisfy a wide range of society's natural, ecological and economic demands. Steady development conception faces the lack of humanistic accent. That fact causes an institutional barrier and leaves the strategic reference-points of national economy unachievable. At modern terms, the study of binary interdependences between economic regress and progress becomes vitally important. Economic progress is associated with a sustainable economic growth.

The theory of "de-growth" (or *décroissance*), where the system's constancy was envisaged as pre-condition of its regress, was formed by J. Spangenberg and C. Kershner [10–11]. In the vast majority of the cases, positive and easily predicted dynamics of the system's basic indicators testifies its sustainability rather than stability. Explicitly stable system could hide an implicit crisis. In that case, the systems functioning parameters could deteriorate, and the systems could be faced with degradation. Society is a quite difficult scientific object. So, it is expedient to apply the flexible category of sustainability that methodologically admits some substantial quantitative and quality inner changes (if the optimal structure of the system is maintained and its development trends are positive).

Sustainability covers the strategic reference-point for the national socio-economic politics and attracts scientific interest of numerous foreign and Ukrainian scholars. E. Ostrom, L. Schroeder and S. Wynne [12] studied the mutual dynamic determination of institutional stimuli and economic sustainability in the context of demographic changes. More recent authors, in particular M. Davidson [13], Y. Rydin [14], I. Hamiduddin [1], investigate the issue of social sustainability as the component of demographic balance in the context of active migration in Central and Western Europe, identifying the character of expatriates' relocation and the scale of their contribution to the public production.

On the basis of sustainability's classic determination, it is possible to draw the conclusion that sustainable economic system corresponds to multiple-criteria simultaneously:

- *on a macro-level* it actively counteracts to the possible destructive influence of exogenous factors, mimicries and adapts to the changes of environment, maintaining its own uniqueness and identity, adopting some progressive external modifications that potentially are able to ensure a positive effect;
- *on a micro-level* it supports optimal dynamic multiple proportions between the elements of endogenous environment in accordance with the selected development strategy and taking the lagged effects into account;
- *on a meso-level* it directly co-operates with analogical and complementary industrial and regional systems;
- *at general level* it dialectically takes and determines the global economy's development vector [5].

Based on the mentioned criteria, a rigid economic system is not obligatory determined as sustainable. If the system keeps its own functional validity and achieves planned / desirable performance indexes and standards, it could be described as sustainable. The state of the system that does not develop, while supporting the equilibrium of its elements for a long time, could be identified as stagnation. If substantial internal disproportions help to maintain the system's equilibrium, the system is on the critical limit of sustainability. At modern terms, the concept of sustainability organically combines with the concept of potential. If the system's potential is rising, while the deviation of its statistically significant parameters is minimal, the system is sustainable [5].

The named criteria are definitely specified, deriving from the determination of demographic structure of society. Positive empiric experience gives an opportunity to refine the attributes of demographically sustainable system under conditions of globalization:

- automatic (absolute) elimination of the exogenous destabilizing factors' destructive influence (for example, emigration of the people with high qualification and immigration of low-skilled or unqualified workers and economically inactive population) by the means of built-in mechanisms, instruments and levers of social, educational, medical, fiscal, migratory, and cultural politics;
- operative perception of essential transformations in the society's structure with absolute maintenance of national identity, simultaneous adaptation to progressive external modifications (in particular, cultural diffusion) that are able to ensure a positive effect in prospect;
- permanent support of optimal or maximally close to such dynamic multiple proportion between the elements of endogenous environment (according to the theory of social stratification);
- inclusion into the globalization and regionalization processes, participation into the international division of labor;
- inertia and predictability of the population's size and structure.

There is a wide range of problems to be solved in the determination process of demographic sustainability (as a category) and its integration into the national economic strategy. Those problems stipulate and logically determine the possible tools for direct and mediated impact on both economic and biosocial facets of social ontology in the context of dual population dynamics under conditions of globalization.

In the Anglosphere two similar but not identical categories – demographic sustainability and stability – are used to define the system's equilibrium. The first category is suitable to characterize the plurality of demographic processes: it determines the dynamic equilibrium of probable changes in the structure of society.

Demographic sustainability is not integrated into the lexicon of Ukrainian science. So, there is an objective discrepancy between the chosen strategic priorities of development and the immanent potential of national economic. Economic growth and a qualitative increase in the level of social welfare require the implementation of an adequate socio-demographic policy. Therefore, it is expedient to examine demographic sustainability in the context of modern scientific schools and taking the specific conditions of Ukraine into account.

The assessment of the nature and scale of the demographic factors' impact on economic development was a controversial issue for a long time. The natural and mechanical aspects of population dynamics were studied separately. Regarding the natural movement, there were made some attempts to observe the effects of the changes in fertility and mortality rates on the economic growth rate. However, the investigation of pair correlations gave quite controversial results. The initial hypothesis about the dense interconnection between demographic and economic variables was not confirmed. Thus, some multiple correlation dependencies should be specified and panel studies should be conducted as well.

The convergence of demography and economics into a powerful interdisciplinary trend took place in the Western scientific colloquy at the turn of the 1970s and 1980s. J. L. Simon and R. Gobin, studying the relevant socio-demographic and economic interdependences for the developing countries, identified that increase in the fertility rate had a lagged effect on the economic growth. The results of social production, obtained in the late 1970's, were directly linked to the economic activity of individuals, who were born much earlier [15]. Scientists were unable to achieve a certain conclusion about the impact of demographic dynamics on economic growth in the short-term. But they made the hypothesis that such interrelation exists in the long-term.

On the basis of the international comparison of the rates of economic and population growth, R. D. Lee also did not detect a stable and statistically significant relationship between the mentioned indicators, but assumed that in the long-term demographic dynamics would have a substantial effect on the scale of social production [16]. A. J. Coale remarked that high rates of per capita income growth are typical to the societies with lower fertility and mortality rates, notably to the countries with a stable demographic structure [17]. The existence of the expected inverse interrelation between those parameters was not proved.

D. E. Bloom and R. B. Freeman noticed that countries with comparable rates of economic growth may fundamentally differ in terms of fertility and mortality, which does not give an answer to the question of the population growth's impact on the scale of social reproduction [18]. D. Blanche did not elicit a considerable connection between increase in the current fertility rate and economic growth. He found out that for the societies with lower mortality rates and higher average prospective life

expectancy, which is also considered to be an indicator of demographic sustainability, the income per capita growth rates are higher [19]. J. A. Brander and S. Dowrick [20] as well as R. Barlow [21] came to the conclusion that the optimal retrospective fertility rate determines the supply of labor and thus leads to acceleration of economic growth. The dependence between the current birth rate, on the one side, and the economic growth rates and investment activity, on the other, is negative. Increase in the current fertility rate intensifies consumer demand. The authors proposed to take the lagged effect of fertility on economic growth into account. The economic activity of the population should be evaluated regarding the methodology of the International Labor Organization (ILO).

A. C. Kelley and R. M. Schmidt consistently investigated the interdependencies between the changes in the aggregate population and the rates of economic growth in developed and emerging economies in order to identify the basic determinants of demographic change [22]. According to the results of their research, until the 1970s, the interrelation between those variables was absent. However, since the 1980s, two opposite trends showed up. For developing countries, the absolute growth of population influenced the growth rate of macroeconomic indicators mainly negatively. There could be a positive relationship between those indicators for advanced economies. The authors discovered the statistical significance of the population's growth rate, its total number at a discrete time and density. It was also found out that demographic changes in society had fundamentally different economic effects in the short- and long-term. D. E. Bloom and J. D. Sachs investigated the impact of the changes in the demographic structure of society on macroeconomic dynamics in developing countries [23]. The authors statistically confirmed the steady and relevant negative correlation between the rate of population growth and the change in the scale of social production for that sample of countries. They emphasized the need for integrated research, since demographic factors should be analyzed in an inseparable unity with agro-climatic zoning as well as sanitary and epidemiological factors. T. Lindh and B. Malmberg, within the framework of the neoclassical model of economic growth, analyzed the influence of the age structure in the Organization for Economic Cooperation and Development (OECD) countries on the corresponding rate of the social reproduction process during the 1950–1990s. Their study gives the grounds for modifying the socio-demographic policy [24]. N. Maestas, K. J. Mullen and D. Powell analyzed the US demographic statistics from 1980 to 2010. They found out that the aging of the nation slows down the growth due to a reduction in the supply of labor and decrease in production processes [2].

Migration as a factor of demographic sustainability is highlighted in a number of publications. J. Dolado, A. Goria and A. Ichino successfully integrated the statistical evaluation of migration into the Solow–Swan model of long-run economic growth [25]. The authors reached a conclusion that, for the OECD countries during the period of 1960–1990, the immigrants'

contribution to the accumulation of human capital played a role of a compensator (at least partly) for the negative effect of the dilution of capital and changes in the size and structure of the population. Later migration was included into the endogenous models of economic growth, especially in terms of the immigrants' contribution to the technological and innovation development. Y. von Hagen and U. Waltz studied migration processes on the endogenous development model for the two countries. They concluded that the nature of migration's impact depends on the specialization of each of the studied countries as well as on the training and level of competence of migrants [26]. At the same time, P. E. Robertson, using the Uzawa-Lucas model to analyze migration processes, proved that the influx of low-skilled or unskilled immigrants leads to a decline in economic development [27]. P. Lundborg and P. S. Segerstrom in a series of publications proved that free labor migration generally leads to acceleration of economic growth [28-29]. Professor L. Bretschger got the similar conclusion [30]. E. Boubtane, J.-C. Dumon and C. Rault examined the impact of migration on the economic development of 22 OECD countries over the period from 1986 to 2006 [3]. According to the scientists, firstly, there is a positive statistically significant influence of the human capital inflow on macroeconomic indicators; secondly, the permanent growth of migration flows leads to an increase in labor productivity.

As demographic processes have an objective historically predetermined and inertial nature, it is appropriate to consider the institutional mechanisms for achieving and maintaining sustainability in society under the influence of independent exogenous factors. Modern British researchers Anand and Sen, assessing the sustainable development prospects under conditions of the intellectual capital intensified production, relied on the theoretical statements of F. P. Ramsey. In their theory, development could be considered as sustainable, if there is no essential decline in public welfare. So, the possibilities of reduction in the population incomes, private consumption and volumes of physical capital are minimized. The authors renewed R. Solow's ethical and economical concept of "intergenerational equity". In that theory, mitigation was accepted to be one of the instruments, allowing to maximize total welfare of different generations, to achieve an acceptable social redistribution's level as well as to develop a conscientious attitude to non-renewable resources. The harm (that was done to the future generations) shod be minimized, involving some inner compensators [8].

Demographic processes and their impact on the national economy are also in the focus of domestic researchers. Academician S. Pyrozhkov developed the concept of demographic development, which reflected a number of actual demographic variables (in particular, fertility, mortality, migration etc.), the consistent study of each one was an independent scientific task [31]. The character of demographic processes required to use different cognitive techniques. However, a need to search for a universal, complex model of demographic processes (that would characterize their impact on the level of economic development adequately) was detected.

Academician E. Libanova focused on the category of demographic changes in the context of social development. According to the researcher, national demographic shifts should be considered in the context of regional trends in order to carry out a comparative analysis of their causes and consequences. At the same time, a long-term scientific forecast and a national strategy for economic growth should be developed as well. Demographic processes were considered by E. Libanova as the result of implemented national economic policy [7]. V. Steshenko explored the ways to overcome the gnostic crisis in the context of a new demographic knowledge's formation [32]. O. Gladun and A. Romanyuk developed a statistical methodology for assessing socio-demographic processes in a historical retrospective and approaches to identify possible demographic and economic losses of the country in the context of global crises [4]. I. Kurylo studied the problems of ensuring sustainable economic growth and modification of social policy under objective conditions of population aging [6]. E. Kachan examined the complex effect of factors, which influenced the labor potential's reproduction in the context of modern demographic changes [33]. Attention of domestic scientists was devoted to the reformation of redistributive processes' system. Nevertheless, demographic changes influences financial sector, in particular, pension provision and tax obligations.

Thus, demographic sustainability is simultaneously the consequence of a well-balanced national economic policy, the result of a long-term evolutionary social development as well as the evidence of controllability and predictability of socio-demographic processes. The initial hypothesis is the assumption that it is appropriate to ensure demographic sustainability as the basic condition for a long-run economic growth. In order to identify the factors of sustainability it is expedient to study the nature of the demographic processes' impact on the basic macroeconomic indicators. It can be assumed that the change in GDP per capita (as an indicator of the real economic growth) depends on a plurality of socio-demographic parameters in a way as it is shown in *model 1*:

$$\Delta GDPPC_i = f\left(\sum_{j=1}^{n} D_j\right), \quad (1)$$

where $GDPPC_i$ – GDP of the gross domestic product per capita in country i;
Dj – significant socio-demographic indicators in the country i.

In western estimation practice, the above mentioned indicators include the growth rates of the population size and density, the specific weight of economically active population in the general structure, fertility, mortality, and morbidity rates, etc. Those indicators could be used during the initial assessment of the demographic processes' impact on economy. Meanwhile, the results of such assessments are quite difficult to interpret due to the mutual inter-influence of the factors and the lagged effects. The aggregate productive capacity of the national economy is determined by the multi-factor production function. Under modern conditions, in the most general form, that function can be represented by *model 2*:

$$GDP_i = f\ (K_i, L_i, H_i, R_i, \tau_i), \quad (2)$$

where K_i – the amount of physical capital in country i;

L_i – the amount of labor force in country i;

H_i – the amount of human capital, which depends mainly on the availability of public education and healthcare in country i;

R_i – the volume of other resource determinants of production in country i;

τ_i – the level of technology that had achieved in the country i.

Arguments of this model require the use of various valuation techniques and a certain scientific abstraction in determining the scale and nature of the variables' impact on the result. Even the amount of physical capital (the classic object of analysis) undergoes permanent and tangible changes that affect on its productive potential, but. Those changes are not always adequately reflected due to the implemented accounting practices (even if they are close to the international standards).

The technological factor determines the effectiveness of a productive function. In general, it can be approximately estimated on the basis of multi-level comparative cross-country analysis. Therefore, empirical evolution of the demographic processes' impact on economic growth is carried out using the modified version of the production function (*model 3*):

$$^{\Delta}GDPPC_{i(t,t+n)} = f\ (GDPPC_{it}, X_t; Z_{(t,t+n)}), \quad (3)$$

where $\Delta GDPPC_{i(t,t+1)}$ – the potential change in *GDP* per capita level over the interval $(t, t + 1)$;

$GDPPC_{it}$ – the initial GDP per capita level in the country at time t;

X_t – significant actual economic and socio-demographic factors of influence at the beginning of the investigated period;

$Z_{(t, t+n)}$ – is a set of significant factors that have a long-term effect over the interval $(t, t+1)$ and acts both on economic and related development determinants, in particular on the stocks of savings, investment returns, social and political stability, and the like.

Due to the effect of the technological factor the nature of the binary dependence between $\Delta GDPPC_{i(t,t+1)}$ and $GDPPC_{it}$ is complex and ambiguous for interpretation.

The socio-demographic factors' impact on economic growth in general depends on:

- the general level of economic development of the state or region;
- both modern and retrospective (with the lagged effect) ratios of mortality and fertility;
- the nature and the general character of migration processes, in particular the educational and professional training and the level of competence of migrants, their production and business culture, etc.

Therefore *model 3* is modified in a certain way in *model 4*:

$$\Delta GDPPC_{i_{(t,\,t+n)}} = f\left[GDPPC_t, X_t, Z_t, \left\{D_{t,\,t+n}, D_{t,\,t+n} \times GDPPC_t\right\}\right] \qquad (4)$$
$$D_{t,\,t+n} = \left\{CFR_{t,\,t+n}, LFR_{t-15,\,t+n-15}, CMR_{t,\,t+n}\right\}$$

where $D_{t,\,t+n}$ – the socio-demographic factors that have a long-term effect effect over the interval ($t,\ t+n$) and act on economic determinants of development;
$CFR_{t,\,t+n}$ – the current fertility rate;
$LFR_{t-15,\,t+n-15}$ – the lagged fertility rate (taking the 15-year lag into account);
$CMR_{t,\,t+n}$ – the current mortality rate.

The impact of a retrospective birth rate is justified by the estimation methodology of the economically active population used by the ILO, because 15 years have to pass from the birth to the complete transformation into an economically active person. The proposed method is imperfect, it does not take the mortality of infants, children and teenagers under the age of 15 into account. Nevertheless, numerous empirical studies prove the validity of the hypothesis that there is a link between the retrospective fertility and the current level of social production efficiency.

The category of demographic sustainability complements the theory of intellectual capital. The owner of that capital is the person, characterized by the rational thinking, competence, good will, health and creative potential. So, that person is totally responsible for the effectiveness of the national economy's performance. Demography directly and indirectly affects on the efficiency of the national wealth accumulation.

Theoretically, it is possible to refine and to group together the following factors for ensuring demographic sustainability and optimal proportions of the reproduction process:

macroeconomic (real gross domestic product per capita based on purchasing power parity; real gross domestic product growth rate; average income and property differentiation of the population; inflation rate (consumer price index); total volume and compositional structure of public expenditures; government and private spending on human (intellectual) capital development, in particular on science and education, health care, spiritual and physical development, etc., adequacy and equity of the national fiscal policy's tax component);

socio-political (general development and democratic institutions quality of Rechtsstaat and civil society; level of the citizens' legal consciousness and culture; efficiency and transparency of the public administration system; general development level of local self-government bodies; institutions network of social infrastructure; the humanistic direction of socio-demographic policy; quality control of public services);

natural, in particular ecological and geo-climatic (the state of the environment; agro-climatic potential; natural resource potential; specificity of geographic location);

socio-demographic (general size and population density; sex-age structure of the population; share of economically active population as well as the share of people under the age of 15 and over 65 in the general structure; actual levels of employment and unemployment; the total fertility rate (current and retrospective, taking 15-year lagged effect into account); mortality rate, including persons of working age; average life expectancy at birth; migration);

socio-cultural (quality and accessibility of education; average years of schooling of adults is the years of formal schooling received; academic mobility, quality and availability of medical services; level of spiritual needs saturation of the population).

The assessment of demographic sustainability is objectively complicated by the mutual interrelation between those factors. For example, increase in the current fertility rate enhances the burden on the public finance system (forcing redistributive processes, inducing the overall consumer spending and reducing the level of savings and investment activity (especially in the context of weak institutional framework for financial relations) [34-35]. However, the intensification and changes in the consumption structure can play the role of an implicit lever of social production revitalization. The population aging is expected to have a negative effect on economic growth. Meanwhile, the quality improvement and permanent renewal of the medical services range, increase in their accessibility, in particular through the gradual implementation of the insurance medicine mechanisms, and other positive changes in the field of public health protection will predictably positively affect on the preservation of the population's creative intellectual potential and, therefore, compensate the mentioned destabilizing effect. There is a constant need to improve the methods for demographic sustainability assessment.

Conclusion. Demographic sustainability is the society's ability to support automatically and – using implicit compensators – to restore its own structure in the context of social stratification, regarding a set of significant parameters, including the economic activity level as well as educational, professional and competence training; demographic sustainability optimizes the production proportions of intellectual and physical capital, provides intensification and continuity of production, increases the population welfare. The complex of demographic factors, in particular the dynamics of population size and density, the share of economically active persons in its structure, fertility (current and retrospective) and mortality rates, average life expectancy, influences on a long-term economic growth. Under conditions of globalization, the problem of migration is actualized: the mismatches in the educational and qualification levels of emigrants and immigrants can disrupt the balance of productive forces. Demographic sustainability is a strategic task for the national socio-economic policy; it is the necessary condition to optimize the scale and proportions of public production. To achieve demographic sustainability, a tight coordination of social, fiscal, migration, and cultural policies is required.

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Непиталюк А. Демографічна стійкість та економічне зростання: питання теорії і методології.

Постановка проблеми. *Зміни чисельності та структури населення через природний та механічний рух визначають масштаби національного виробництва. Характер зазначених взаємозалежностей потребує вивчення з огляду на необхідність поліпшення системи публічного адміністрування та підвищення рівня добробуту. Формування національної макроекономічної стратегії вимагає інтродукції категорії демографічної стійкості як основи забезпечення ендогенного зростання.*

Метою *статті є аналіз, систематизація та розвиток теоретико-методологічних підходів до визначення категорії демографічної стійкості та окреслення її ролі у акселерації процесів економічного зростання в умовах глобалізації.*

Матеріали та методи. *Теоретико-методологічною базою дослідження є наукові праці зарубіжних та вітчизняних вчених з обраної проблематики. Багатоаспектний характер об'єкта і предмета вивчення зумовив інтродукцію системи методів та підходів, що дозволило забезпечити концептуальну єдність дослідження. Застосовано діалектичний, системний та структурний підходи, методи аналізу і синтезу, порівняння, узагальнення, наукової абстракції.*

Результати дослідження. *Емпіричний досвід доводить, що на зміну обсягу ВВП чинить вплив множина природних (загальна чисельність та щільність населення, частка економічно активного населення у загальній структурі, рівні народжуваності та смертності, середня очікувана тривалість життя тощо) та механічних (характер і динаміка міграції, рівень кваліфікації мігрантів тощо) факторів. Досягнення стійкого і прогнозованого стану соціального середовища та інтеграція демографічних змінних до моделі виробничої функції має підвищити результативність національного виробництва.*

Висновки. *Демографічна стійкість – це здатність суспільства автоматично підтримувати та (із застосуванням імпліцитних компенсаторів) відновлювати власну структуру в контексті соціальних страт за низкою значимих параметрів, зокрема щодо рівня економічної активності, а також освітньо-професійної та компетентнісної підготовки, на основі чого оптимізуються пропорції продукування інтелектуального і фізичного капіталу, забезпечується інтенсифікація та неперервність виробництва, підвищується рівень добробуту. Для досягнення зазначеного стану необхідна координація заходів соціальної, фіскальної, міграційної, культурної політики.*

Ключові слова: демографічна структура, демографічна стійкість, економічне зростання, економічна стратегія.