THE PRINCIPALS OF DEMOGRAPHIC POLICY

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Annotation. Both natural and migration processes’ effect on the population's size and structure – determining the scale of public production – are analyzed. The nature of those interrelations – considering the constant need to improve the system of public administration and to increase the social welfare as well – is characterized. It is argued that national macroeconomic strategy should be designed, regarding the introduction of demographic sustainability as the basic category to ensure endogenous economic growth. The methodological determination approaches to the category of demographic sustainability are analyzed, systematized and developed.

Demographic sustainability has not been integrated into the lexicon of economic science yet. Meanwhile, 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.

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:

\[ \text{Model 1:} \]
\[ \Delta \text{GDPPC}_i = f \left( \sum_{j} D_j \right), \]  

where \( \text{GDPPC}_i \) — the gross domestic product per capita in country \( i \);  
\( D_j \) — 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:

\[ \text{GDP}_i = f \left( K_i \cdot L_i \cdot H_i \cdot R_i \cdot \tau_i \right), \]

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 on the availability of public education and healthcare in country \( i \);  
\( R_i \) — the volume of other resource determinants of production in country \( i \);  
\( \tau_i \) — the level of technology 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. The technological factor determines the effectiveness of a productive function. In general, it can be approximately estimated on the basis of multilevel 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):

\[ \Delta \text{GDPPC}_{i(t,t+1)} = f \left( \text{GDPPC}_k \cdot X_t \cdot Z_{t+n} \right), \]

where \( \Delta \text{GDPPC}_{i(t,t+1)} \) — the potential change in GDP per capita level over the interval \( (t, t + 1) \);  
\( \text{GDPPC}_k \) — the initial GDP per capita level in the country at time \( t \);  
\( X_t \) — significant actual economic and socio-demographic factors at the beginning of the investigated period;  
\( Z_{t+n} \) — 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 \( \Delta \text{GDPPC}_{i(t,t+1)} \) and \( \text{GDPPC}_i \) is complex and ambiguous for interpretation. The socio-demographic factors’ impact on economic growth in general depends on:  
– the general 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.

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.

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. It is possible to refine 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; total volume and compositional structure of public expenditures; government and private spending on human capital development, in particular on science and education, health, spiritual and physical development, 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 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; 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 schooling received; academic mobility, quality and availability of services; level of spiritual needs saturation of the population).

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 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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