# 3. ԾԱՌԱՅՈՒԹՅՈՒՆՆԵՐԻ ՈԼՈՐՏԻ ԶԱՐԳԱՑՈՒՄ ԵՎ ՍՈՑԻԱԼ-ԺՈՂՈՎՐԴԱԳՐԱԿԱՆ ՀԻՄՆԱԽՆԴԻՐՆԵՐ

### CURRENT DEMOGRAPHIC TRENDS IN RA

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Հոդվածը ստացվել է՝ 18.09.23, ուղարկվել է գրախոսման՝ 02.11.23, երաշխավորվել է տպագրության՝ 07.12.23

Introduction. The integral part of the national wealth of every country is primarily its human capital. Therefore, the demographic characteristics of a country are one of the main factors of socio-economic development and economic growth. The population plays a major role in the creation of the country's national wealth, its knowledge and skills are the leading factors in ensuring a high level of welfare and independence in the country. Currently, there is a trend that the demographic indicators of the countries have changed dramatically and are expected to undergo equally drastic changes in the coming decades. The development of the economy of any country and the world economy largely depends on demographic processes, which determines the relevance of this study. The focus of global demographic phenomena continues to be the aging of the population. Demographic phenomena and their underlying drivers have had and will continue to have, profound effects on the determinants of economic well-being and indicators of progress.

The purpose of the research is to study the demographic changes from the perspective of improving the demographic situation, as well as the development of regions.

The task of the research is to identify the current demographic trends, as well as to calculate the coefficient of the unfavorable demographic situation on a regional level, which will allow the developing of a series of appropriate measures aimed at improving the demographic indicators.

**Literature review.** The directly dependent workforce and economy are undergoing significant demographic changes depending on geopolitical developments. Demography is not set in stone, and in this sense, the world is undergoing a major demographic upheaval with three main components: population growth, changes in birth and death rates, and changes in the age structure of the population. Demographic change creates challenges but also opportunities for economic development. A large number of young people can create a "demographic dividend", which will lead to an increase in economic output. However, this requires legal certainty and investment in health, education, and

the workforce market. The "demographic dividend" refers to the process by which a changing age structure can stimulate economic growth<sup>1</sup>.

This, of course, depends on several complex factors, including the nature and pace of demographic change, the functioning of workforce and capital markets, macroeconomic management and trade policies, and human capital accumulation. Demographic dividends are phenomena occurring in such countries that have accelerated economic growth resulting from declining birth and death rates. A country with a low birth rate coupled with a low death rate receives an economic dividend or benefit from the resulting increase in the productivity of the working population<sup>2</sup>.

"Demography is destiny" is an oft-cited expression that suggests that the size, growth, and composition of a nation's population determine its long-term social, economic, and political structure. For many countries with young populations, the "demographic window of opportunity" opens between now and  $2050^3$ .

As birth rates decline, countries have a window of opportunity for sustained economic growth. The window is limited in time, closing as the age structure matures and older people make up a larger share of the population. For some countries, this window may only be open for 10-15 years, while an analysis of six Sahel countries suggests a window of 30-40 years. The measures countries take as they approach this window of opportunity are likely to have long-lasting economic impacts<sup>4</sup>.

The window of opportunity is not yet open for our country, because the population of Armenia is aging, and the window of demographic opportunity can be opened for us in case of slow and then stable population growth. All this needs to be considered today to be able to ensure sustainable economic growth in the future. Economists worry about downward pressure on economic growth due to workforce and capital shortages and future asset price declines as a growing and aging population of older people looks to support them by liquidating investments<sup>5</sup>.

**Methodology.** The publications, reports of international organizations, the methodology of the demographic disadvantage ratio, the various studies related to the field, as well as the implementation of statistical, comparative, and analytical methods, were the methodological basis for the research.

3 https://www.prb.org/articles/eight-demographic-trends-were-watching-as-the-world-population-passes-8-billion

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https://www.unicef.org/uzbekistan/media/401/file/%D0%9F%D0%BE%D0%BA%D0%BE%D0%BB%D0 %B5%D0%BD%D0%B8%D0%B5%202030.pdf

<sup>&</sup>lt;sup>2</sup> <u>Kenton</u> W., What Is the Demographic Dividend, and How Does It Work? <u>https://www.investopedia.com/terms/d/demographic-dividend.asp</u>

<sup>&</sup>lt;sup>4</sup> Sahel's countries window of opportunity, 38 years to harness Demographic Dividend, <a href="https://creg-center.org/wp-content/uploads/2019/09/P-SWEDD-1">https://creg-center.org/wp-content/uploads/2019/09/P-SWEDD-1</a> Ouverture-fenetre-P P.pdf

Demographics can be a potent driver of the pace and process of economic development, <a href="https://www.imf.org/en/Publications/fandd/issues/2020/03/changing-demographics-and-economic-growth-bloom">https://www.imf.org/en/Publications/fandd/issues/2020/03/changing-demographics-and-economic-growth-bloom</a>

Analysis. As the global population ages, understanding the diverse needs and contributions of older adults to families and society is critical to making effective aging support decisions. Population aging is already a defining demographic trend in this century, and governments around the world are working to create and finance systems to support the well-being of older adults. According to the estimates of Moody's analysts, in 2020-2025 aging is likely to reduce global economic growth by 0.9 percentage points per year. Globally, the slowdown in population growth comes after several years of declining productivity growth. Aging will further exacerbate the tax burden, along with rising health and social costs. Global growth in the working-age population will slow by more than half over the next two decades.

According to Moody's analysts slower growth in the working-age population will challenge the long-term sustainability of health and social security programs. If, in the past, immigration was a major component of workforce growth in developed countries, its pace is currently not compensating for the slower growth of the working-age population, especially in Europe. In countries with an aging population, the inclusion of women and older workers in the workforce will be an important source of economic growth. In addition, the introduction of technologies and innovations can mitigate the adverse effects of an aging population. Population aging is sounding the alarm all over the world, and RA is no exception in this regard. The aging rate in RA is increasing and as of 2021, it is 92.3% (the aging rate is calculated as the ratio of the population aged over 60 to 0-15)<sup>1</sup>.

And in this sense, RA ranks among the countries with a rapidly aging population. As of January 1, 2021, the share of people aged 65 and older was 12.5%. According to the experts, Armenia is already considered a classic aging country by this index, and as a result of the further reduction in the number of births, and the emigration of people of reproductive age, this index may reach 20%<sup>2</sup>.

Demographic changes primarily affect the workforce and socio-demographic composition and, through them, other market characteristics, including wages and productivity<sup>3</sup>. According to the RA Statistical Committee, in 2018-2022, the permanent population of RA decreased from 2972.7 to 2961.4 thousand, and the working-age population also decreased in 2018-2022, from 1934.6 to 1868.3 thousand. In January-December 2022, the sex ratio among live births was 111.9 boys per 100 girls. At the same time, including up to 39 years old (which is considered the viable age of the

Markosyan A., Armenia is approaching the period of reduction of natural population growth. Demographic problems and solutions, <a href="https://ejc.am/hy/article/3575">https://ejc.am/hy/article/3575</a>

<sup>&</sup>lt;sup>1</sup> The Statistical Yearbook of Armenia, 2022, page 33.

<sup>&</sup>lt;sup>3</sup> Source: <a href="https://www.hse.ru/data/2022/05/30/1872644620/Human Capital NCMU Digest 10 Demograph ic..Ssupply in Russian Regions 2022.pdf">https://www.hse.ru/data/2022/05/30/1872644620/Human Capital NCMU Digest 10 Demograph ic..Ssupply in Russian Regions 2022.pdf</a>, last accessed 14/09/2023.

workforce), the share of the population decreased from 57.5% in 2018 to 55.8% in 2022, and the share of those aged 40 and over, correspondingly, has increased<sup>1</sup>.

If we take into account that the age groups of the population are distributed up to 80 years old and above, then when looking at this scale, exactly half is under 40 years old, and in fact, this is considered the most viable age of the workforce. Officially registered unemployed by age groups, as of the end of December 2022, 14,372 people, or 29.6% were registered in the 35-44 age group<sup>2</sup>.

Changes in the size and age composition of the labor are occurring unevenly across the country. How will the number and age composition of the labor in RA and its regions change as a result of changing demographic indicators? Depending on the economic and socio-political situation, as well as the continuous growth of the retirement-age population, which affects both the size and age composition of the workforce, demographic processes may develop in different ways during the studied period.

Let's calculate the ratio of Demographic Disadvantage (according to L. L. Rybakovsky) in terms of RA and its regions in order to characterize the demographic situation in local terms<sup>3</sup>. Based on the data of the RA Statistical Committee let's discuss it from 2017 to 2022.

The Demographic Disadvantage Ratio (DDR) is an integral indicator that varies between 0-1, and the demographic situation is evaluated as very favorable if the value is close to 0, and the closer it is to 1, the more unfavorable the situation is considered<sup>4</sup>.

The Demographic Disadvantage Ratio (DDR) scaling

0-0,25Very favorable2,55-0,5Favorable0,5-0,75Relatively favorable0,75-1,0Unfavorable1,0 and moreVery unfavorable

Table 1

<sup>2</sup> Source: <a href="https://armstat.am/file/article/sv">https://armstat.am/file/article/sv</a> 12 22a 141.pdf, last accessed 16/09/2023.

<sup>&</sup>lt;sup>1</sup> The Statistical Yearbook of Armenia, 2022, Page 29.

<sup>&</sup>lt;sup>3</sup> Korolenko A. V., The methodology of constructing integral indices as an instrument of demographic zoning of regions of Russia, "Voprosy territorialnogo razvitiya", 4(39), 2017, p. 1-18.
<a href="https://cyberleninka.ru/article/n/metodika-postroeniya-integralnyh-indeksov-kak-instrument-demograficheskogo-rayonirovaniya-regionov-rossii/viewer">https://cyberleninka.ru/article/n/metodika-postroeniya-integralnyh-indeksov-kak-instrument-demograficheskogo-rayonirovaniya-regionov-rossii/viewer</a>

<sup>&</sup>lt;sup>4</sup> Rybakovsky L.L., Comparative assessment of demographic disadvantages of regions in Russia, Sociological studies, 2008, №10., C. 81–87, ISSN 0132-1625

Table 2 The Demographic Disadvantage Ratio in RA and its regions and the GDP per capita, from 2017-2021 (AMD) $^1$ 

RA and regions	2017 DDR	<i>2018</i> DDR	2018 GDP	<i>2019</i> DDR	2019 GDP	<i>2020</i> DDR	2020 GDP	<i>2021</i> DDR	The demo- graphic situation
Yerevan	1,634	1,672	3016643	1,613	3527284	1,307	3403889	1,137	
Aragatsotn	1,437	1,269	1508299	1,175	1322958	0,866	1210876	1,143	
Ararat	1,509	1,512	1648189	1,507	1764631	0,865	1633810	1,190	
Armavir	1,300	1,437	1440128	1,414	1458057	0,804	1302185	1,185	
Geghar-kunik	1,625	1,515	1026183	1,539	1028821	1,043	880435	1,227	Very unfavorable
Lori	1,055	0,969	1147025	0,971	1070810	0,812	999869	0,788	Relatively favorable
Kotayq	1,402	1,414	1627402	1,355	1645986	0,820	1632263	1,101	
Shirak	1,181	1,221	1168230	1,178	1157759	0,903	900449	0,901	
Syunik	1,003	1,259	2796691	1,170	2695103	0,770	2582176	0,940	
Vayots Dzor	1,219	1,524	1535852	1,010	1419485	0,572	1362290	1,010	
Tavush	1,086	1,095	1113350	1,005	1099408	0,753	954362	0,815	
RA	1,402	1,427	2026620	1,381	2208716	1,004	2087423	1,065	

According to our calculations, as of 2021, the Gegharkunik region is considered "extremely unfavorable", followed by the Ararat, and then Armavir regions. The obtained results prove that even the capital city Yerevan cannot be considered demographically favorable because the calculated index for Yerevan is higher than 1, therefore it will be characterized as "extremely unfavorable", and in general, the index of all regions is higher than 0.7. Even more, the DDR for RA has a value of 1.065 (2021) which is closer to "extremely unfavorable". According to the demographic development strategy, way back in 2015 the demographic situation was defined as a "critical sphere"<sup>2</sup>.

The modern developments across the globe, such as the COVID-19 pandemic, emigration, and the Artsakh war, increasingly aggravated the demographic issues. In 2020 the DDR values of almost all the regions were less than "1.0", except for the Yerevan. However, it would be wrong to describe this as an improvement of the unfavorable demographic factor, because the Artsakh war and the displaced population of Artsakh significantly impacted those indicators. As a result of the second Artsakh war in 2020, the population of Hadrut, Shushi, Kashatagh, and Karvachar regions was displaced and moved to RA. Later some of them left the country. According to the data of the Migration Service of RA, in 2021, 37 thousand Artsakhian households were recorded in Armenia<sup>3</sup>.

<sup>&</sup>lt;sup>1</sup> The table was composed by the author according to the data of the RA Statistical Committee.

<sup>&</sup>lt;sup>2</sup> Harutyunyan G., "Demography as a critical sphere (conceptual approaches)", "21 Dar", 2015, 1(59), http://ores.su/en/journals/21--/2015-nomer-1- 59-statej-8/

<sup>&</sup>lt;sup>3</sup> Source: <a href="https://armstat.am/file/article/migration-profile-am-2021.pdf">https://armstat.am/file/article/migration-profile-am-2021.pdf</a>, last accessed 25/09/2023.

The population of Yerevan is gradually increasing, but not at the expense of birth rate but internal migration. If the accepted trend in the world is urbanization characteristic of large cities, then in our country the concentration is mainly in Yerevan. As a result, mainly the population of border settlements is decreasing, which is further exacerbated by the sense of security of the population.

**Scientific novelty.** To assess the demographic situation of RA regions, the Demographic Disadvantage Ratio was calculated with the data of the last five years, which reflects the current realistic, demographic picture of the regions, based on which it is possible to develop a program for the demographic situation improvement.

**Conclusion.** In the scope of the article, to ensure inclusive economic growth, changes in demographic processes were identified, and the management of migration processes and the presence of SMEs, which can employ the entire working population of the region, reducing the level of real unemployment, were substantiated. The level of unemployment, in particular, has a significant impact on the average life expectancy, birth rate, and death rate of residents of the region. This factor can be used to determine the demographic position of the region.

The development of the housing (appartement) system, the state of communication, the real estate market, and the development of territories will reduce the migratory tendencies of citizens and the migration of population from one region to another.

The factor of socio-psychological mentality of the population has a significant impact on the formation of the family institution and family values, the spread of self-preservation behavior of a person, as well as migration moods, that is, a person's desire to leave. The population in general and young families in particular need state support. For this reason, it is necessary to define social support measures for the population and young families in a differentiated manner in the regions, so that the migration tendencies of the population are restrained

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### ժՈՂՈՎՐԴԱԳՐԱԿԱՆ ԱՐԴԻ ՄԻՏՈՒՄՆԵՐԸ ՀՀ-ՈՒՄ

### Շողեր Պյոտրի Պողոսյան

Համառոտագիր։ Յուրաքանչյուր երկրի ազգային հարստությունն առաջին հերթին նրա ժողովուրդն է՝ մարդկային կապիտալը։ Հետևաբար ժողովրդագրական բնութագրիչները սոցիալ-տնտեսական զարգացման և տնտեսական աձի հիմնական գործոններից են։ Բնակչությունը մեծ դեր է խաղում երկրի ազգային հարստության ստեղծման գործում, նրա գիտելիքներն ու հմտությունները առաջատար գործոնն են երկրի կյանքի բարձր մակարդակի և անկախության ապահովման գործում։ Ներկայումս նկատվում է այն միտումը, որ երկրների ժողովրդագրական ցուցանիշները կտրուկ փոխվել են և սպասվում են նույնքան կտրուկ փոփոխությունների գալիք տասնամյակներում։ Ցանկացած երկրի տնտեսության և համաշխարհային տնտեսութան զարգացում մեծապես կախված է ժողովրդագրական գործընթացներից, ինչն էլ պայմանավորում է մեր հետազոտության արդիականությունը։

Հետազոտության **նպատակն է** ուսումնասիրել ժողովրդագրական փոփոխությունները՝ ժողովրդագրական վիձակի բարելավման, ինչպես նաև մարզերի զարգացման տեսանկյունից։

Հետազոտության **խնդիրն է** բացահայտել ժողովրդագրական արդի միտումները, ինչպես նաև մարզային կտրվածքով հաշվարկել ժողովրդագրական անբարենպաստ վիձակի գործակիցը, ինչը հնարավորություն կտա մշակել համապատասխան միջոցառումների շարք ուղղված ժողովրդագրական ցուցանիշների բարելավմանը։

**Տեղեկատվության հավաքագրման համար կիրառվել են**, նկարագրական, համեմատական վերլուծությունների, վիձակագրական, ժողովրդագրությանն առնչվող զեկույցները, ինչպես նաև ոլորտը լուսաբանող հեղինակային հրապարակումները։

Գիտական նորույթ։ ՀՀ մարզերի ժողովրդագրական վիձակը գնահատելու համար հաշվարկվել է ժողովրդագրական անբարենպաստ վիձակի գործակիցը վերջին հինգ տարիների ցուցանիշներով, որն արտացոլում է մարզերի ներկայիս իրական ժողովրդագրական պատկերը, որի հիման վրա հնարավոր է մշակել ժողովրդագրական վիձակի բարելավման ծրագիր։

**Բանալի բառեր.** ժողովրդագրություն, ծերացում, բնակչություն, աձ, միտումներ, ծնելություն, մահացություն, ցուցանիշ

# ТЕКУЩИЕ ДЕМОГРАФИЧЕСКИЕ ТЕНДЕНЦИИ В РА

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Аннотация. Национальное богатство каждой страны — это прежде всего ее народ, ее человеческий капитал. Следовательно, демографические характеристики являются одним из основных факторов социально-экономического развития и экономического роста. Население играет важную роль в создании национального богатства страны, его знания и умения являются ведущим фактором обеспечения высокого уровня жизни и независимости страны. Нынешняя тенденция такова, что демографическая ситуация в странах кардинально изменилась и в ближайшие десятилетия их ждут столь же драматические изменения. Развитие экономики любой страны и мировой экономики во многом зависит от демографических процессов, что и определяет актуальность нашего исследования.

**Цель исследования** — изучение демографических изменений с точки зрения улучшения демографической ситуации, устойчивого экономического роста, а также развития регионов.

**Задачей исследования** является оценка текущей демографической ситуации, а также расчет коэффициента неблагоприятной демографической ситуации в регио-

нальном разрезе, что позволит разработать комплекс соответствующих мер, направленных на улучшение демографических показателей.

**Для сбора информации** использовались описательные, сравнительно-аналитические, статистические, демографические отчеты, а также авторские публикации, разъясняющие данную сферу.

**Научная новизна**. Для оценки демографической ситуации в регионах РА был рассчитан коэффициент демографического неблагополучия с показателями последних пяти лет, что отражает текущую реальную демографическую картину регионов, на основе чего можно разработать программу для улучшения демографической ситуации.

**Ключевые слова:** демография, старение, население, рост, тенденции, рождаемость, смертность, индикатор

### CURRENT DEMOGRAPHIC TRENDS IN RA

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Abstract. The integral part of the national wealth of every country is primarily its human capital. Therefore, the demographic characteristics of a country are one of the main factors of socio-economic development and economic growth. The population plays a major role in the creation of the country's national wealth, its knowledge and skills are the leading factors in ensuring a high level of welfare and independence in the country. Currently, there is a trend that the demographic indicators of the countries have changed dramatically and are expected to undergo equally drastic changes in the coming decades. The development of the economy of any country and the world economy largely depends on demographic processes, which determines the relevance of this study. The focus of global demographic phenomena continues to be the aging of the population. Demographic phenomena and their underlying drivers have had and will continue to have, profound effects on the determinants of economic well-being and indicators of progress.

**The purpose** of the research is to study the demographic changes from the perspective of improving the demographic situation, as well as the development of regions.

The task of the research is to identify the current demographic trends, as well as to calculate the coefficient of the unfavorable demographic situation on a regional level, which will allow developing of a series of appropriate measures aimed at improving the demographic indicators.

For the collection of information, descriptive, comparative analysis, statistical, and demography-related reports, as well as the author's publications explaining the field, were used.

The scientific novelty of the article is the following: in order to assess the demographic situation of RA regions, the Demographic Disadvantage Ratio was calculated with the data of the last five years, which reflects the current realistic, demographic picture of the regions, based on which it is possible to develop a program for the demographic situation improvement.

**Keywords**: demography, aging, population, growth, trends, birth rate, death rate, indicator