Ethno-demographic aspects of population aging in Azerbaijan (in a case study for the Shaki-Zagatala economic region)

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ABSTRACT

Problem statement. The ethnodemographic aspects of population aging in the Shaki-Zagatala economic region, which is located in the northwestern part of Azerbaijan and has a rich ethnic composition, were scrutinized in the research paper. The analysis of this issue is important in terms of regulating demographic development, protecting ethnic minorities, and controlling population employment, taking into account the current and future dynamics of the population, as well as ethnic minorities.

Purpose. The primary purpose of the research is to unravel the dynamics of the age composition among various ethnic groups in the more recent decades, study the level of population aging and the impact of other demographic indicators on it, calculate the aging index, and provide a forecast taking into account the recent and current situation.

Research methods. During the research procedure, literary and archive materials were examined, statistical materials were obtained, structural-functional analysis, generalization, and historical and geographic modelling methods were applied. Moreover, field research works were conducted to examine the region closely and to study aging as well.

Research results. As a result of the conducted research, it was posed that from 1999-2019, the share of those aged 65 and over increased among minority ethnic groups, Azerbaijanis, and the country's total population. The leading causes behind this change in each ethnic group was the decrease in the number of people aged 0-4 and 5-9, in other words, the decrease in the birth rate in the last decade led to an increase in the share of the elderly due to the decrease in the number of people in the lower age group among the total population. At the same time, traces of the high natural increase that existed before the Second World War, that is, from 1935 to 1939, can be experienced as well. The high natural increase recorded in those years affected a slight increase in the share of the elderly in 2009. At the same time, the participation of the marriageable age population in migration processes also played a significant role in the decrease in the share of people in the lower age group.

Conclusion. It can be concluded that the level of aging has increased in the region for both Azerbaijanis and ethnic minorities, and among the factors affecting this process, a decrease in birth rates and an increase in average life expectancy have played a significant role. Moreover, the Aging Index (AI) indicators also moved along an increasing trend from 1999-2019. In the model prepared based on changes in age groups, the population, as well as ethnic minorities, moved from the second phase of the demographic transition to the third phase from 1999-2019, and are currently approaching phase IV. Similarly, both the Aging Index and the Active Aging Index are expected to increase in the coming decades. According to the forecast, by 2059, due to the high natural increase recorded in previous years, the share of the elderly among the total population and ethnic minorities will have increased significantly. This will have culminated in a regressive demographic situation in the country.

Keywords: *Azerbaijan, Shaki-Zagatala, ethnic minorities, population aging, Aging Index, Active Aging Index, projection.*

Introduction and research status. Throughout the history of humankind, the world's population has constantly altered under the influence of natural, socio-economic, and demographic factors. Turning back to the previous years, because of the relatively high natality and mortality, the share of younger ones was always relatively higher compared to the middle-aged and older ones. As of the current millennium (this time is considered for developing countries like Azerbaijan, but it started for the developed countries after the industrial revolution), this figure for the birth rate has commenced experiencing a downturn trend whilst the death rate has proceeded to the reverse direction. In recent years, for some regions, especially in Eastern Europe, Caucasus Countries, Middle Asia, ASEAN countries, etc., this trend has intensified with decreasing mortality, fertility, and population growth rates [3; 4; 14; 18; 28; 33]. As a result of the aforementioned downward trend, the ratio structure of 3 major age groups (younger, middle, and older) has been disproportionate, that is, although the share of the younger generation has seen a decline, these shares for middle-aged and older ones have multiplied [2; 9].

According to UN estimates, the share of older people (those aged 60 and over) will probably increase from 10,3% (2024) to 16.4% in 2030 and to 21.3% in 2050, while this figure was 5,5% in 1974 [21]. Based on the UN World Population Aging Report (2023) and some research papers, population aging is accepted as a normal process in today's world [20]. It is fairly logical to support this inevitable fact owing to some major realities, such as the improvement and changing of living quality of the population, the technological advances in the healthcare sector, the cumulative increasing role of women in the

community, etc. Nonetheless, we must acknowledge that, no matter how satisfying this change may appear, its consequences can be just as miserable. The acceleration of this process could have a serious impact on the social, economic, and demographic indicators of countries in the coming years.

In the middle of the 20th century, the phenomenon of "population aging" emerged in literary sources in Developed Countries because of diminishing natality. Although the share of the elderly population is higher in Developed Countries, the aging process is proceeding more rapidly in Developing Countries of the world [22]. This is because this process started earlier in the developed countries and the trend weakened relatively over time, the fact that it started recently in the developing countries has caused this trend to accelerate jumping from 8,5% (2000) to 14,9% in 2024 in Azerbaijan, from 15,4% to 16,2% in Georgia, from 6,7% to 10,6% in Türkiye, etc.

Population aging refers to the decrease in the proportion of people in younger age groups in the total population due to the declining natality and the increase in the proportion of older people due to the increase in average life expectancy. More precisely, compared to previous years, demographic processes such as the increase in marriageable age and the decrease in the number of marriages owing to the increase in the role of women in society and the further civilization of people, the preference for fewer children in the family, the increase in divorces, the increase in the average life expectancy due to achievements in the field of medicine, and other socio-demographic determinants have accelerated the aging of the population.

To study the change in the share of the elderly in the total population, the Aging Index is applied, and it refers to the number or share of people aged 65 and over per 100 people under the age of 14 in a given population group. The Aging Index formula is as follows [13]:

$$A_i = \frac{P_{65}}{P_{14}} \times 100$$

There A_i – Aging Index;
P_{65} – the share of people 65 and over;
P_{14} – the share of people 14 and under.
Demographic aging of the population is an inevitable result of the demographic transition [23]. It occurs as a result of changes in long-term demographic indicators in society, namely birth, death, and migration indicators [27]. That is, over time, the downturn of the growth rate of fertility and mortality results in the replacement of demographic phases. The characteristics of the initial stage of the demographic phase are both high mortality and high natality, as well as low population increase. This phase witnessed (in the various periods for various regions) the bygone

millennia across the globe. The second stage of the phase is more characteristics for the least developed countries and distinguish with high natality, moderate mortality, and moderate population increase. Notably, the least developed countries, nowadays, have jumped to the third state with relatively low mortality, moderate population growth, and natality. Nonetheless, at this moment, in most world countries, the third phase of the demographic transition disappears and the transition to the fourth phase, and in some countries, the fifth phase, emerges.

In the Republic of Azerbaijan, the regressive demographic trend in marriage, natural increase, and progressive trend in divorces in recent years has led to a slight increase in the share of middle-aged and elderly people among the population. At the same time, the increase in average life expectancy at birth from 74.8 to 78.4 from the 1990s to 2023 has somewhat accelerated this process [32].

The ethno-demographic aspect of population aging refers to the increase in the total share of elderly people among ethnic and national minorities. Speaking candidly, the aging process has almost the same trajectory in all the regions of Azerbaijan; however, this situation for some ethnic minorities has relatively been fast-paced. Since the aging process of minority ethnic groups directly affects their dynamics and other demographic indicators, studying this process is considered a very important issue in terms of protecting the country's ethnic diversity, including minority ethnic groups, studying the impact of population aging on ethnodemographic indicators, studying the trends in their dynamics and future situation, and studying the processes of regulating and controlling demographic development, organizing and regulating the ethno-settlement system.

In the world countries and Azerbaijan, numerous scientific works and research have been conducted on studying the population from an ethnodemographic perspective by A. Knežević, N. Trnavčević, D. Bakić (2019), A. Maulen, R. Kadyrzhanov, S. Mussatayev (2024), Sh. Muradov (2021), Z. Eminov (2025), etc. However, research conducted in different countries of the world has either thoroughly analyzed the population of the country where the research was conducted, or covered the dynamics, history, ethnic characteristics, and other general issues of the minority groups living in the country where the research was conducted, or in nearby or other regions. In ethnodemographic research studies conducted in Azerbaijan, the dynamics, historical settlement, and similar issues of minority ethnic groups have been analyzed in depth. In our research, the ethnodemographic aspects of population aging have been analyzed for the first time in the Shaki-Zagatala economic region.

The **essential purpose** of the study is to identify socio-demographic factors that affect and are affect-

ted by the aging process of the population among minority ethnic groups, calculate the Aging Index, and provide a forecast based on age composition.

To achieve the designated purpose, the **following tasks** were appointed:

- Analysis of demographic factors that affect population aging, as well as ethnic minorities, in the region over the past 2 decades;

- Calculation of the Aging Index, analysis of the Active Aging Index;

- Providing a forecast of how the situation will change in the coming decades based on the given trends.

Material and methods. The theoretical analyses conducted in the research work are important in terms of studying the aging dynamics occurring in the demographic and ethnodemographic situation in Azerbaijan, identifying the factors affecting the dynamics of this situation, and comparing the analyses obtained with countries around the world. In the theoretical part of the research, data were collected and analyzed based on international and intranational literature. Generally, issues related to population aging and its ethnodemographic aspect were closely familiarized. For this purpose, to get acquainted with the work carried out in this field in the world, the research works of Zaidi A. (2013, 2016, 2018), Fernandes F., Turra C.M., Rios-Neto E.L. (2023), Lee R. (2003), Dyson T. (2010), Turkulov V, Nadežda M-S, Čedomir G. (2007), Knezevič A. (2019), Gnjatović J. (2016), Niemets, L., Segida, K., Guseva, N. (2015), Dörflinger M., Potančoková M., Marois G. (2024), Nguyen T., Nguyen D., Pham L. (2024) and others were analyzed. In Azerbaijan, the research works of Javadov G. (2000), Muradov Sh. (2021), Eminov Z. (2005), Huseynova B. (2021, 2022, 2023, 2024), and others on the study of the general historical and geographical characteristics of ethnic groups were used as sources of information. Additionally, data from the UN Population Fund and reports on the population aging and Active Aging Index in world practice were also utilized as main sources of information.

The statistical data for the research work were collected using census materials and other statistical resources of the State Statistical Committee of the Republic of Azerbaijan (https://www.stat.gov.az/source/demoqraphy/).

For the preparation of the pragmatic research part of the work, the data recorded in the socio-demographic questionnaires conducted in the area were summarized and comparative-statistical analyses were conducted on its basis with statistical indicators. The questionnaires included questions reflecting ethnodemographic indicators that affect the aging process of the population and, at the same time, the questionnaires also included questions related to the national-ethnic composition of the population and factors that may affect its change. The survey was conducted in areas densely populated by ethnic groups of the region. About 400 questionnaires were distributed in areas densely populated by ethnic groups and all questionnaires were answered.

During the research procedure, historical methods were applied to analyze data related to the settlement of the territory and the study of demographic indicators from a historical-geographical aspect, mathematical-statistical methods were utilized to collect and analyze statistical materials, cartographic methods were used to visualize data and prepare maps using GIS tools, field research, and socio-demographic surveys were used to closely familiarize with the current ethnodemographic situation in the area and demographic research and modeling methods were used to analyze demographic research and develop a model.

Research area. The total area of the Shaki-Zagatala economic region is 8.84 km^2, and the population is 626.6 thousand people. The economic region includes 6 cities, 7 small towns, and 336 rural settlements [26]. 16.9% of the population of the economic region, where more than 10 ethnic minorities and national minorities populate, is composed of ethnic and national minorities (2019) [31].

In the region, Avars settle in the Balakan district, Tsakhurs in the Gakh and Zagatala districts, Inghilois and Georgians in the Gakh and Balakan districts, Udis in the Gabala district, and Lezgins in the Shaki, Oghuz and Gabala districts. Among the total population of the economic region, Avars, Lezgins, Tsakhurs, Udis, Inghilois, and Georgians preponderate (Figure 1) [7]. Turning to the share of minority ethnic groups in the economic region, the share of Avars is comparatively higher than other minorities (7.9%). The share of Lezgins was 4.0%, which is half the share of Avars. The share of Tsakhurs was also almost half the share of Lezgins (2.2%). For Inghilois and Georgians, these figures were 1.6%. The Udis living in the region constituted 0.6% of the total population (Figure 2).

Result. One of the primary issues that is important to study in ethnodemographic studies is the aging process among ethnic minorities. Since the age composition data in the census materials are not provided for various regions, the research work included minority ethnic groups, namely Avars, Tsakhurs, and Udis, the vast majority of whom live in the Shaki-Zagatala economic region.

According to Figure 3, from 1999-2009, the share of elderly people among Avars increased by 0.6%, among Tsakhurs by 0.8%, among Udis by 4.5%, among Azerbaijanis by 0.6%, and among the total population of the country by 0.5% (Figure 3). The essential reason behind this change in each ethnic group was the decrease in the number of people

Fig 1. Ethnic settlement map of the economic region.
Source: Map was developed by the author based on G.J. Javadov's research
and social-demographic survey conducted by the author.
Note: The figures were given for 2019 since the last census was held in that year.
The figures for the ethnic minorities by various regions were only provided in the census materials

aged 0-4 and 5-9, that is, the decrease in the natality in the last decade led to an increase in the share of the elderly due to the decrease in the number of people in the lower age group in the total population. At the same time, traces of the high natural increase that existed before the Second World War, that is, from 1935 to 1939, can also be witnessed. The high natural increase recorded in those years affected a slight increase in the share of the elderly in 2009. However, the percentage increase in the share of the elderly was distinct for each ethnic group. Thus, this indicator was higher than the national indicator for both minority groups and Azerbaijanis, but for Udis this percentage was 9 times higher than the national indicator. Generally, the cause of this highest indicator being recorded among Udis was related to the intensive participation of young people in migration processes.

In the second decade, the share of the elderly among the Avars also increased by 0.4%. However, this indicator decreased by 0.7 and 2.9% for the Tsa-
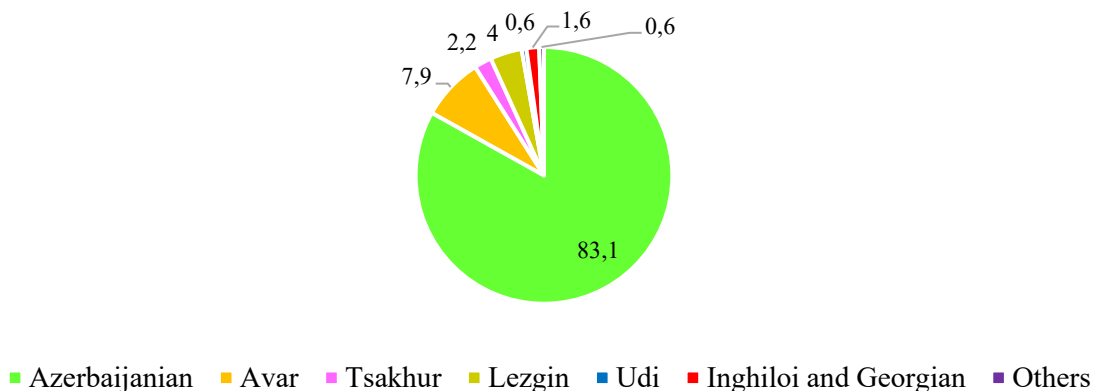

Fig. 2. National and ethnic composition of the economic region (2019).
Source: (Population census materials in the Republic of Azerbaijan, 2019)
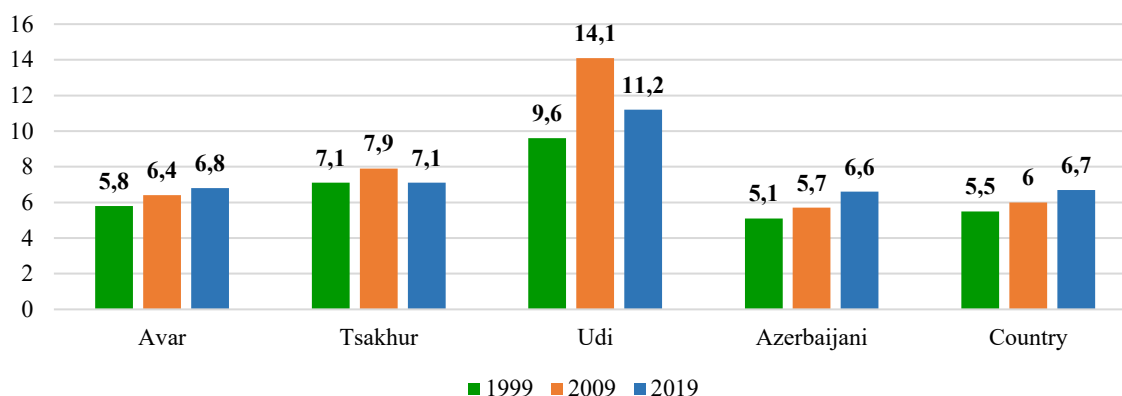
Fig. 3. Change in the population aging rate (share of the population over 65 years old) for minority ethnic groups, Azerbaijanis, and the country from 1999-2019 (in %).
Source: (Population census materials in the Republic of Azerbaijan, 2019)

khurs and Udis, respectively. There was an increase of 0.9% and 0.7% for the Azerbaijanis and the general population of the country, respectively. The increase in the share of the elderly among the Avars, Azerbaijanis, as well as the general population of the country, was due to a decrease in the share of those in the lower age groups due to a decrease in the natality as in the previous decade. However, among the Udis and Tsakhurs, in addition to the decrease in the share of the young generation due to a decrease in the birth rate, the decrease in the share of those in the 80-84 age group by up to 2 times during 2009-2019, i.e., the increase in mortality in that age group led to a slight decrease in the share of the elderly.

The analyses prove that population aging is seriously affected by the decline in the natality. Thus, over the past 20 years, the share of Udis in the 0-4 age group has decreased by approximately 4.5%, and by about 4% for Tsakhurs and Avars. However, this figure for the country's total population and Azerbaijanis has been more than 1%. This also indicates that the natural increase for these minority ethnic groups is lower than the national indicator. The provided diagrams give the details that the share of Avars, Tsakhurs, and Udis in the 30-44 age group has decreased relatively compared to the previous census (Figure 4).

This situation is due to the migration of people in that age group either to Baku or to other countries for business and other purposes [6]. In the Asian states, migration has a special role in the aging process of the population [19]. As a result of the socio-demographic survey conducted in the area, it was revealed that people in the indicated age group are intensively involved in migration processes, such as labor, education, and family migration. In some cases, people in this age group participate in migration processes together with their family members. Therefore, the migration balance in the region is mainly negative.

Provided that looking at the change in the migration balance from 1999 to 2023, it can be noticed that the economic region is one of the active migration regions. Except for some years, the migration balance in the region has been mainly negative (Figure 5). Thus, Azerbaijanis, as well as minority ethnic groups, actively participate in migration processes in the economic region [5]. The activity of the external migration process in the region was due to the location on the border with Russia and Georgia, the absence of visa requirements for travel, language, and job opportunities, the presence of relatives living abroad, especially the denser settlement of Avars, Tsakhurs, Lezgins and other minority ethnic groups in the migration region, and other "pull" factors. Generally, the three essential causes of migration in the region are labor activity, education, and changes in family status.

As a result of the general demographic analyses conducted, it is clear that other demographic indicators affect population aging and the effect is equal to the opposite effect, and population aging is also reflected in other demographic indicators (Figure 6). That is, when the population gets older, then the population of marriageable age declines which, in turn, affects the decline in natality and this makes way for an increasing share of the working-age and retired population.

Discussion. As can be noticed from the analysis of some demographic indicators, the decrease in the share of those in the lower age groups (up to 14 years) by various ethnic groups has led to an increase in the share of those of working age. Generally, the increase recorded in the share of those in the working age group in recent years has emerged as a result of the high natural growth in the Republic of Azerbaijan in previous years. The table below provides the change in the share of the working-age population from 1999 to 2019 by some minority ethnic groups, Azerbaijanis, and the total population of the country (Table 1).
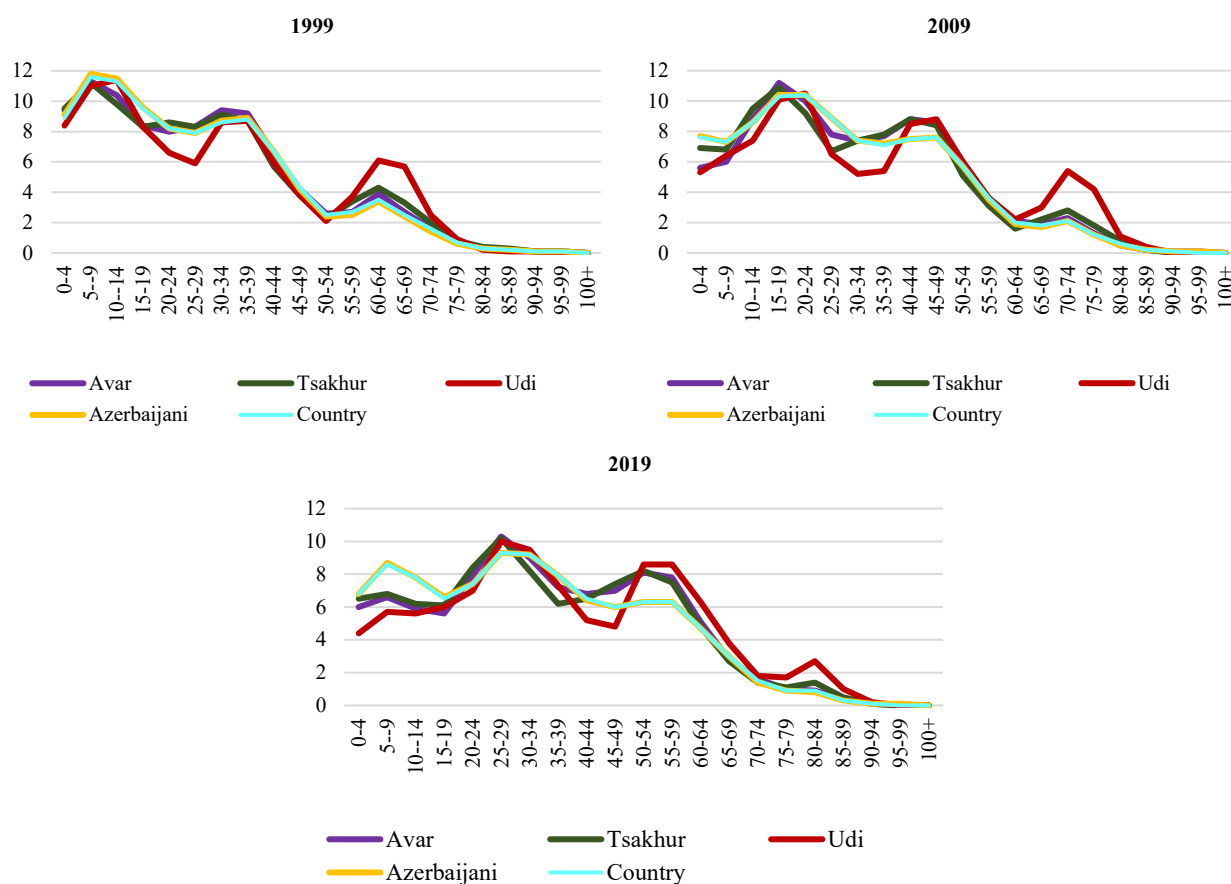
1999

2009

2019

Fig. 4. Dynamics of age groups among Avars, Tsakhurs, Udis, Azerbaijanis,
and the total population of the country from 1999-2019 (in %).
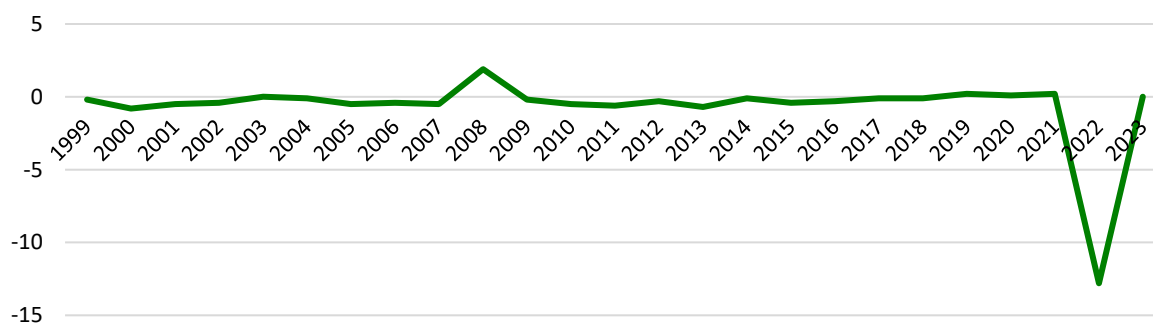*Source:* Population census materials in the Republic of Azerbaijan, 2019)

Fig. 5. Migration balance in the region from 1999-2023 (per thousand people).
Source: (Population of Azerbaijan, 1999-2023)

As can be noticed from the table, the share of the younger than working-age population has decreased significantly across all groups. This trend, which is a result of the decrease in marriages and, as a result, the decrease in births, as well as the increase in the marriageable age and divorces, is one of the main reasons for the increase in the share of the elderly. There, the increase in the share of the working-age population is the result of the high natural increase in the years before the country gained independence and in the first years of independence. This trend indicates the emergence of a demographic dividend in the country, as well as in the study region.

The "demographic dividend" refers to the potential for economic growth due to the fact that the share of the working-age population in the total population exceeds the share of the non-working-age population, that is, the population under 14 years of age and over 65 years of age [10; 12]. That is, in this case, the large number of labor forces increases economic productivity and gives impetus to the economic development of the country. However, it should be taken into account that the demographic dividend has proven itself more in the city of Baku and the surrounding ar-
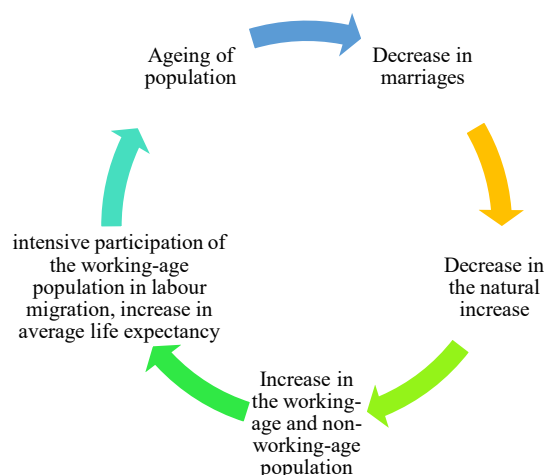
Fig. 6. Factors that influence and are affected by population aging

Table 1

Changes in the share of minority ethnic groups, Azerbaijanis,
and the working-age population across the country (%)

Ethnoes	Younger than working-age population			Working-age population			Older than working-age population		
	1999	2009	2019	1999	2009	2019	1999	2009	2019
Avar	32,8	20,4	18,5	58,0	70,5	72,2	9,2	9,1	9,3
Tsakhur	32,0	23,2	19,5	57,0	66,7	71,1	11,0	10,1	9,4
Udi	32,6	19,0	15,8	53,0	63,7	70,2	14,4	17,3	14,0
Azerbaijani	34,4	23,6	23,3	57,4	68,2	67,9	8,2	8,2	8,8
Country	33,9	23,5	23,2	57,4	67,9	67,8	8,7	8,6	9,0

Source: (Population census materials in the Republic of Azerbaijan, 1999, 2009, 2019).

eas. The demographic dividend may not always culminate in positive results in practice. In particular, the very rapid occurrence of this process may lead to some problems in providing the population with business opportunities in appropriate areas. Especially in the first years of independence in Azerbaijan, the stagnation of the economic situation and the large number of working-age population, that is, the inverse proportion between these two indicators, gave impetus to the migration of people in this age group. However, in subsequent years, in order to eliminate the difficulties that arose in the country, the "State Programs on the Socio-Economic Development of Regions" (https://www.economy.gov.az/az/page/regionlarin-inkisafi/dovlet-proqramlari/) were implemented, and this problem has somewhat eliminated. However, the location of the primary business opportunities, especially workplaces regarding the non-agricultural sector, in Baku and its surrounding areas has accelerated the emigration of young people from the regions, and in this case, demographic indicators have affected the aging of the population in the regions. That is, the share of the elderly is starting to increase, as the migration of young people from the regions has a direct negative impact on marriages and the birth rate.

When calculating the Aging Index for various minority ethnic groups, it is possible to see significant differences. From 1999-2019, the Aging Index increased from 19 to 37.3 for Avars, from 23 to 35.9 for Tsakhurs, from 34.5 to 63.9 for Udis, and from 14.5 to 28.4 for Azerbaijanis. This also indicates how many people per 100 people of the population are elderly for various ethnic groups. That is, in the last 20 years, the ratio of the share of elderly people to the share of children for both the total population of the country and minority ethnic groups has been approximately equal to 2. Although this indicator has been growing at a relatively slow pace for the country, it has been growing rapidly for minority ethnic groups.

The population aging process for ethnic minorities and Azerbaijanis has also seriously affected the age composition, and according to the demographic transition model based on age composition, although the country's total population, as well as ethnic minorities, transitioned from phase II to phase III from 1999-2019, this transition is currently approaching phase IV (Figure 7).

In addition to the Aging Index, the term Active Aging Index is also widely used in the literature. The Active Aging Index (AAI) is a concept that has been used in European policy for many years [11]. AAI refers to the working population of people over 65 or retired. Generally, there are several statements about
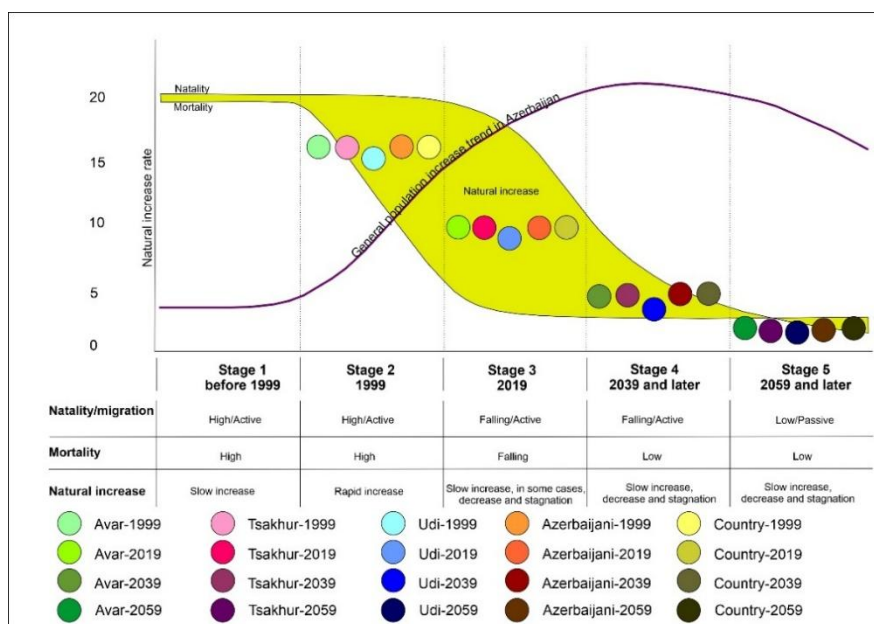
Fig. 7. A model of demographic transition phases for the previous (1999-2019) decades,
and forecasting for 2039 and 2059.
Source: The graph was compiled by the author using Max Roser's "Demographic Transition Model" formation

active aging in the world. However, according to WHO, active aging is the process by which people optimize opportunities for health, safety, and participation to improve their quality of life as they age [15; 16; 17]. In several studies, the implementation of AAI is assessed as a positive phenomenon at the micro, meso, and macro levels, with the main positive aspects of this process including the physical and mental health of the elderly, an increase in the standard of living of the population, benefiting from the experience of the older generation, and other indicators [8; 24; 25]. However, it should be noted that the AAI varies depending on the country's socio-economic development level and may not always indicate positive results. According to studies, compared to EU countries, China and South Korea, the AAI in Azerbaijan

is 32.6 (the highest is Sweden - 44.9, the lowest is Greece - 27.6) [1]. The AAI is generally based on 4 main criteria: employment; participation in society; independent, healthy, and safe life; and favorable environment for active aging. Azerbaijan ranks lowest among the countries surveyed in terms of employment level among these four indicators. Undoubtedly, there are several reasons for the low employment rate. If we look at the change in the number of employed people over working age in the study region from 1999-2019 (the indicators are given for the entire region, since there is no information in the census materials for ethnic minorities), it can be noticed that there are significant differences by region, year, and gender (Table 2).

Commonly, the leading causes for the differen-

Table 2

Change in the number of employed population older than working age (in people)

	1999*			2009*			2019*		
	male	female	total	male	fe-male	total	male	fe-male	total
Balakan	436	413	849	767	1064	1831	519	1284	1803
Gakh	568	534	1102	530	832	1362	415	1145	1560
Gabala	719	565	1284	699	834	1533	685	1619	2304
Oghuz	332	296	628	276	306	582	273	595	868
Shaki	1061	907	1968	1343	1691	3034	1085	2628	3713
Zagatala	753	621	1374	900	1196	2096	644	1740	2384
Regions	3869	3336	7205	4515	5923	10438	3621	8975	12596

* In 1999, the retirement age for men was 60 years for men and 55 years for women;

*In 2009, it was 61 years old for men and 56 years old for women;

*In 2019, it was 63.5 years for men and 60.5 years for women.

Note: There is no data on the ethnic composition of the employed population over 65 years of age, therefore, the data are provided for the entire population.

Source: (Population census materials in the Republic of Azerbaijan-2019, 2022)

ces that arise in administrative districts depend on the number of people living in those regions, especially the number of urban residents and job opportunities. In the economic region, Shaki, Zagatala, and Gabala districts have more job opportunities than the other three districts, but the majority of employees work in the non-state sector (especially small and medium-sized enterprises) and they are day laborers. For this reason, in several cases, they are not considered employed. Typically, the majority of the employed population given in the numerical indicators settle in urban areas.

In the period between 1999 and 2019, the increase in the number of employed people over the working age in the regions is due to the increase in the number of women from this group. First, this difference in the sex ratio in 1999 compared to 2019 was due to the fact that the retirement age of women was lower than that of men. The second main reason is that the number of women of retirement age was higher than that of men. In particular, factors such as the high number of diseases among men (diseases resulting from harmful habits such as alcoholism and others), participation in migration, etc., led to a violation of the sex ratio in the older age group, or more precisely, to a higher share of women.

Ethnoses	Age groups	Share	Trend	Pyramid	Share	Trend	Pyramid	Share	Trend	Pyramid
Avar	YWAP	-14.3	↘		-4.4	↘		-1.2	↘	
	WAP	+14.2	↗		-14.6	↘		-12.3	↘	
	OWAP	+0.1	↗		+19.0	↗		+13.5	↗	
Tsakhur	YWAP	-12.5	↘		-4.4	↘		-1.3	↘	
	WAP	+14.1	↗		-13.6	↘		-10.2	↘	
	OWAP	-1.6	↘		+18.0	↗		+11.5	↗	
Udi	YWAP	-16.8	↘		-3.3	↘		-0.2	↘	
	WAP	+17.5	↗		-12.7	↘		-10.3	↘	
	OWAP	-0.4	↘		+16.0	↗		+10.5	↗	
Azerbaijani	YWAP	-11.1	↘		-5.8	↘		-1.7	↘	
	WAP	+10.5	↗		-8.5	↘		-9.7	↘	
	OWAP	+0.6	↗		+14.3	↗		+11.4	↗	
Country	YWAP	-10.7	↘		-5.7	↘		-1.7	↘	
	WAP	+10.4	↗		-8.5	↘		-9.6	↘	
	OWAP	+0.3	↗		+14.2	↗		+11.3	↗	
		1999-2019 III Phase			2019-2039 IV Phase			2039-2059 V Phase		

Fig. 8. Change in population share by age group in 1999-2019 and forecast for 2039-2059.
YWOP-Younger than working-age population; WAP-Working-age population;
OWOP-Older than working-age population.
Note: While making the projections for the years 2039 and 2059, the previous and current demographic situations, except for unexpected factors like contagious diseases and others, were considered

What are the opportunities for increasing active aging in the region, both for the general population and for ethnic minorities? The number of working-age people is currently increasing, both in the country, the study region, and among ethnic minorities living in the region, and this growth will continue in the coming decades (Figure 8). Specifically, the retirement age for women will be 65 after July 1, 2026 (currently it is 64 for women), which will have a certain impact on the number of people of working age [29]. This will increase the need for brand-new workplaces. Similarly, the number of people over working age continues to increase on a trend line.

Currently, one of the main principles of the state policy aimed at improving the socio-economic situation in the regions is the increase in new business opportunities, which will lead to a significant increase in the AAI after 2055 (this year is indicated taking

into account the high natural growth rate until 1990). Thus, although there will be a decrease in the mentioned age group after 2050 due to the transition of working-age people to retirement age, there will be a significant increase in the number of pensioners, and the sufficient number of jobs will increase the AAI.

Conclusion. As a final conclusion, it can be emphasized that in the 20-year period covering 1999-2019, the share of the elderly among ethnic groups (except Avars) and Azerbaijanis increased by more than 1%. This demographic trend can be linked to trends in other demographic indicators, in particular, the migration of young people, the decline in the birth rate as a result of the decline in marriages. This is evidenced by territorial studies and socio-demographic surveys. Moreover, as a natural phenomenon, the increase in the share of the elderly also has a negative impact on other demographic indicators, triggering their change over time.

The aging index indicators also moved in an increasing trend from 1999-2019. At the same time, the increase in the Active Aging Index, which is increasing even more rapidly due to the increase in the retirement age of women, has accelerated and will continue to accelerate the transition to demographic phases, along with headlighting the unemployment issues. In the model prepared based on changes in age groups, the population, as well as minority ethnic groups, moved from phase II of the demographic transition to phase III from 1999-2019 and is currently approaching phase IV. According to the forecast, by 2059, due to the high natural increase recorded in previous years, the share of the elderly in the total population and among minorities will have increased significantly. This will result in a regressive demographic situation in the country.

The conducted analyses and obtained results indicate that the adoption of new programs in the field of demography can partially eliminate this problem. Therefore, in the future, there is a great need to conduct research on the analysis of demographic aspects of aging in various regions of the country or across the country, especially on the stabilization of the age balance and the development of demographic development models for Sustainable Population Growth.

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Етнодемографічні аспекти старіння населення в Азербайджані (на прикладі Шекі-Загатальського економічного району)

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Це дослідження досліджує етнодемографічні аспекти старіння населення в Шекі-Загатальському економічному регіоні північно-західного Азербайджану, районі, що характеризується значним етнічним різноманіттям. Основні цілі включають аналіз динаміки вікової структури серед етнічних груп протягом останніх десятиліть, оцінку ступеня старіння населення та його демографічних детермінант, розрахунок індексу старіння (ІС) та надання майбутніх прогнозів на основі сучасних тенденцій. Методологічно дослідження використовує структурно-функціональний аналіз, історичне та географічне моделювання, узагальнення та польові дослідження для поглибленого регіонального розуміння. Результати дослідження показують, що між 1999 і 2019 роками частка осіб віком 65 років і старше зросла серед етнічних меншин, азербайджанців та населення загалом. Цей зсув значною мірою пояснюється зниженням рівня народжуваності, про що свідчить скорочення вікових когорт 0-4 та 5-9 років, а також зростанням тривалості життя. Крім того, зовнішня міграція, особливо серед осіб репродуктивного та працездатного віку, посилила скорочення молодших когорт населення, тим самим прискорюючи процеси старіння. У дослідженні робиться висновок, що старіння населення посилилося у всіх групах регіону, що зумовлено стійким зниженням народжуваності та збільшенням тривалості життя. Індекс старіння демонстрував стабільне зростання з 1999 по 2019 рік, що відображає цю демографічну трансформацію. Аналіз, заснований на теорії демографічного переходу, вказує на перехід від другої до третьої фази протягом цього періоду, причому регіон зараз наближається до четвертої фази. Прогнози показують, що до 2059 року частка людей похилого віку значно зросте як серед населення загалом, так і серед етнічних меншин, що є тенденцією, що ґрунтується на історично високому природному прирості. Очікується, що ця траєкторія призведе до регресивної демографічної структури, що характеризуватиметься скороченням населення працездатного віку та зростанням коефіцієнта залежності, що може створити суттєві проблеми для державної політики, ринків праці та системи охорони здоров'я.

Ключові слова: *Азербайджан, Шакі-Загатала, етнічні меншини, етнодемографічні фактори, старіння населення, індекс старіння, індекс активного старіння, прогноз.*