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Demographic Issues of Social-Economic Development of Eastern Georgia: Population as a Demographic Potential

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Abstract

The policy of stimulating regional development is based on local potential, one of the main components of which is population: its number, nature of reproduction, structure, and social-economic conditions (employment, standard of living, and so on).The present research aimed to study the issues of Georgia's demographic potential: population dynamics, natural movement, migration, gender and age structure, labour force, and standard of living of the population. The study of the demographic potential of Georgia is a long-term task of the authors, the first geographical object of which is the study area of the present article - eastern Georgia and, in particular, the regions of Kakheti, Mtskheta-Mtianeti, Kvemo Kartli (not including Tbilisi, the capital of Georgia, but including self-governing city Rustavi) and Shida Kartli. The research adopts a geographical approach, focusing on a unified vision of the issue, and studies regional differences. The research results outline the demographic situation in the study area and the modern trends that reflect the peculiarities of the demographic potential of eastern Georgia. These include the following: a) the decline in the absolute number of population has slowed down in the last decade due to reduced emigration; b) according to the latest statistics, in eastern Georgia as a whole, natural increase is negative (-0.4 percent), but higher than the national average (-1.1%); c) the process of population ageing in eastern Georgia has been generally outlined, the dynamics of which are different between the regions - in Kvemo Kartli, due to the relatively high natural increase, it is developing relatively slowly than in other regions; d) the share of women in gender structure is reduced (50.9 percent) compared to the country's average rate (52.3 percent), while in Mtskheta-Mtianeti, contrary to the general rule, The share of men exceeds that of women; d) Georgians make up 75 percent of the ethnic structure of the study region, followed by Azerbaijanis (19.7 percent), the principal part of the latter concentrated in Kvemo Kartli, which, in, turn, determines a number of peculiarities of the demographic behaviour of the population in this region; e) a large part of the population of eastern Georgia is mostly employed in traditional, non-commercial and partly commercial agriculture, due to which a higher share of self-employed (41.6 percent) was registered in the study area compared to the average in the country (31.9 percent); f) unemployment (18 percent of the economically active population), low income and low purchasing power remain the main social-economic issues. In the last decade, as in the whole of Georgia, signs of improvement were noted in the social-economic situation in the study area, though the COVID-19 pandemic partially slowed this trend.

Keywords: Demographic potential, population, child-woman rate, gender-age pyramid, labour force, unemployment rate, share of self-employed

Introduction

The tremendous political and social-economic changes at the end of the 20th century caused changes in the nature of demographic processes in Georgia. The following negative tendencies were revealed: reduction of population numbers, the outflow of employable citizens, the ageing of the population, the reduction of the labour force, the deterioration of social conditions, etc. The demographic potential of the country was weakened, which adversely affected its development.

Demographic problems are a constant focus of interest for demographers, economists, and professionals in human geography. However, their focus is on individual issues, whereas the significance and the diverse nature of the issues require constant study. The present study aims to review the issues of Georgia's demographic potential with a geographical approach and places a focus on studying regional differences.

For the authors, eastern Georgia is the first geographical object of study in the demographic potential of the country. This includes the following regions of Georgia: Kakheti, Mtskheta-Mtianeti, Kvemo Kartli, and Shida Kartli. The research omits the capital, Tbilisi, located in the eastern part of Georgia. The primary reason for excluding Tbilisi from the present study area is its social, economic, and political

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conditions and functions, which result in unique demographic characteristics. Therefore, the demographic potential of Tbilisi should be analysed separately.

The demographic potential of the individual regions is, first and foremost, influenced by the country's general political and economic situation. The demographic habits of the regions in question are also significantly influenced by the following social and geographic circumstances peculiar to this part of Georgia:

-Distance from the coastline and marine-related economic activities.

-Proximity to Tbilisi - the capital of the country and the main economic centre, located in the geographical centre of eastern Georgia. The study area is closely related to the city through economic, political and cultural ties and is directly influenced by it.

-Favourable international economic-geographical location. The study area is bordered by three of Georgia's four neighbour states - Azerbaijan, Armenia and Russia - and is crossed by important north-south and east-west international overland highways.

It should also be noted that a significant portion of Shida Kartli - encompassed by the study area - is occupied by the Russian Federation and is a zone of constant tension. Internally displaced persons and families from this zone are mainly settled in different parts of eastern Georgia, mainly in Shida Kartli.

The influences of these circumstances affect the relevant data for the demographic potential of the study area.

Dynamics of population number

During the last 31 years (1990-2021), the total population of eastern Georgia has decreased by 27.0%, which is 4.3 percent lower than the nationwide indicator. The population decline affected all regions of eastern Georgia, especially Kakheti, where the population has decreased by one third. There was also a significant decrease in the Mtskheta-Mtianeti [1] and Kvemo Kartli regions (23.6 per cent and 28.4 per cent, respectively). Rustavi is located in the latter (Kvemo Kartli region). Rustavi is the second-largest city in eastern Georgia, after Tbilisi. Until the 1990s, Rustavi was a robust industrial centre in the country—the central hub of metallurgy, important chemical and construction materials enterprises, and other industrial branches. According to 1990 census data, the city had a population of 161.6 thousand people.As a result of a prolonged decline in economic activity, by 2021, the population of Rustavi decreased by 19.5% - to 130.1 thousand. A deterioration in socio-economic circumstances mainly caused the mentioned decline. In Shida Kartli, the population decreased by one fifth (Table 1). The observed facts are mainly conditioned by large-scale emigration processes and negative tendencies in the natural movement of the population.

Table 1. Dynamics of the absolute number of populations in 1990-2021[2]

Regions	Y e a r s							
	1990	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**	**2021**
Kakheti	442.9	432.7	369.8	341.6	329.2	318.8	310.1	309.6
Mtskheta-Mtianeti	122.3	124.9	113.7	108.9	92.5	94.1	93.3	93.4
Kvemo Kartli	611.1	592.4	472.0	440.8	422.8	425.2	434.2	437.3
Shida Kartli	323.0	325.8	290.6	274.7	266.0	262.9	255.1	254.1
Eastern Georgia	1499.3	1475.7	1246.1	1166	1110.5	1101.1	1092.8	1094.4
Georgia	**5424.4**	**4742.3**	**4116.8**	**3917.0**	**3799.8**	**3721.9**	**3716.9**	**3728.6**

The change in the population over the considered period was not the same in all regions. To analyse this issue, we will use the formula for calculating the average annual change in the population, which is as follows:

$$\Delta S = 2 \times (St - S0) / K \times (St + S0)$$

[2] Here and further, data are without population of Abkhazia and Tskhinvali regions since 1995. (Source: National Statistics Office of Georgia – Geostat).

where:

ΔS - is the average annual change in the number of population (percentage).

S0 - is the population number at the beginning of the period.

St - is the population number by the end of the period.

K - is the length of the period (years).

According to calculations, the average annual rate of change in the population was negative in all regions in 1990-2000 and 2000-2010 (Table 2).

In 1990-2000, the Kvemo Kartli region was distinguished by exceptionally high negative rates (-2.57 per cent) (Fig 1). In 2000-2010, the lowest rate (-2.06 per cent) was observed in the Mtskheta-Mtianeti region. In the latter, during the mentioned period, significant changes in the population were caused by the Resolution №4173 of December 20, 2006, of the Parliament of Georgia, according to which the villages of Mtskheta Municipality were annexed to Tbilisi, such as Akhaldaba, Gldani, Agaraki, Didgori, Dighomi, Tkhinvali, Zurgovana, Dzveli Vedzisi, Telovani and the settlement of Zahesi. As a result of the Russian-Georgian war in August 2008, more than 9,000 refugees were settled in the Tserovani settlement, mainly from the Didi Liakhvi and Patara Liakhvi gorges-Akhalgori Municipality; Tserovani had a population of 6,433 people by 2015 [2]. In total, in 2010-2020, population growth was observed in Kvemo Kartli and Mtskheta-Mtianeti.

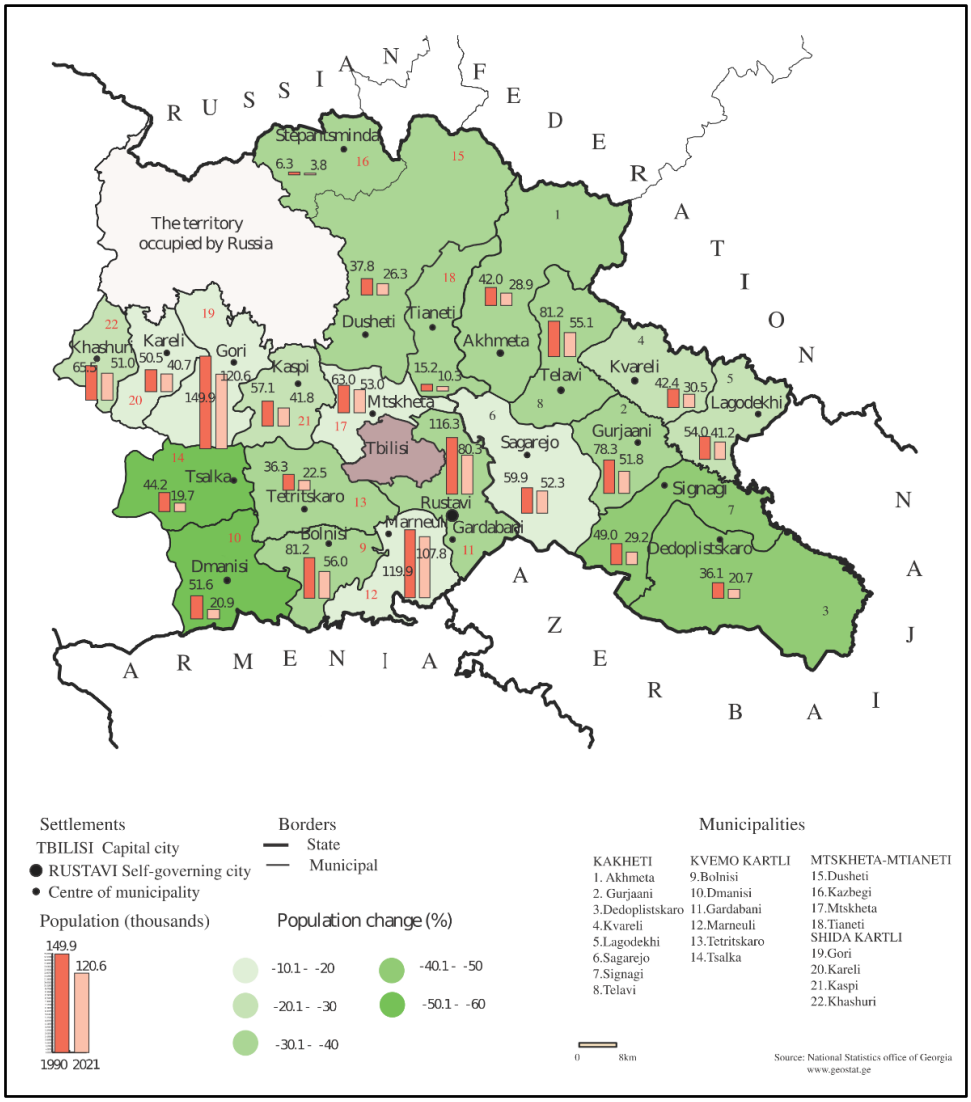

Figure 2. The change in population number between 1990 and 2021 in the municipalities of eastern Georgia[3]

[3] (Source: Calculations are made by authors based on Geostat data)

Table 2. Average annual change in number of population (percentage)

Regions	1990-2000	2001-2010	2011-2020
Kakheti	-1.80	-1.16	-0.60
Mtskheta-Mtianeti	-0.73	-2.06	0.09
Kvemo Kartli	-2.57	-1.10	0.27
Shida Kartli	-1.06	-0.44	-0.42
Eastern Georgia	-1.84	-1.15	-0.16
Georgia	**-2.74**	**-0.80**	**-0.22**

Natural movement

During the analysis period (1990-2020), the rates of population natural movement (birth rate and mortality) deteriorated sharply in all regions. The birth rate level for 2020 reflected in the birth rate crude coefficient did not provide the superficial reproduction level of the population in any of the regions (the simple reproduction limit of this coefficient is 15 per mille).

In 1990-2020, the birth rate crude coefficient was halved in Shida Kartli; it was significantly reduced in Mtskheta-Mtianeti (by 46.6 per cent) and Kvemo Kartli (by 40.4 per cent), and it was reduced by a third in Kakheti (Table 3).

Table 3. Dynamics of natural movement coefficients of population in 1990-2020 (per mille)[4]

Region	Years						
	1990	**1995**	**2000**	**2005**	**2010**	**2015**	**2020**
Crude birth rate coefficient							
Kakheti	17.5	12.1	10.8	10.8	13.0	16.4	12.4
Mtskheta-Mtianeti	18.6	13.5	10.9	11.6	14.5	13.6	9.9
Kvemo Kartli	21.3	11.2	13.8	13.6	16.3	16.6	12.7
Shida Kartli	22.9	12.9	12.2	11.1	14.3	15.8	11.6
Eastern Georgia	20.3	12.1	12.3	12.0	14.7	16.1	12.1
Georgia	**17.1**	**12.1**	**11.8**	**11.8**	**14.6**	**15.9**	**12.5**
Crude mortality coefficient							
Kakheti	11.6	12.1	13.3	14.2	16.2	15.6	14.7
Mtskheta-Mtianeti	8.5	9.4	5.6	7.8	10.3	8.9	8.2
Kvemo Kartli	6.8	5.8	8.7	9.1	11.2	10.4	11.2
Shida Kartli	12.4	10.5	13.6	14.2	13.9	13.6	13.5
Eastern Georgia	9.6	9.0	10.9	11.7	13.3	12.5	12.5
Georgia	**9.3**	**10.6**	**11.8**	**12.7**	**13.5**	**13.2**	**13.6**
Crude natural increase coefficient							
Kakheti	5.9	0.0	-2.5	-3.4	-3.2	0.8	-2.3
Mtskheta-Mtianeti	10.0	4.1	5.4	3.8	4.2	4.7	1.7
Kvemo Kartli	14.5	5.5	5.1	4.5	5.1	6.2	1.5
Shida Kartli	10.6	2.5	-1.5	-3.1	0.4	2.2	-1.9
Eastern Georgia	10.8	3.1	1.3	0.3	1.4	3.6	-0.4
Georgia	**7.7**	**1.6**	**0.0**	**-0.9**	**1.1**	**2.7**	**-1.1**

In case the current level of birth rate is maintained for a long time, each subsequent generation in the considered regions will be less than its predecessor one: in Mtskheta-Mtianeti - by 33.9 per cent, in Shida Kartli - by 22.5 per cent, in Kakheti - by 17.6 per cent, and in Kvemo Kartli - by 15.4 per cent.

The birth rate crude coefficient is a rough indicator of the birth rate evaluation, which depends on the gender-age structure of the population. Unfortunately, we do not have data across the region to allow a more in-depth study of the birth rate process. Nevertheless, it still shows current general trends that need to be considered and taken into consideration.

One solution to the current situation is to calculate the child-woman ratio, which shows the number of children aged 0-4 years per 1,000 women aged 15-49 years. Population censuses provide the information needed for this coefficient.

[4] Source: Calculations are made by authors based on Geostat data

Calculations of the 1989 and 2014 population census data showed that between 1989 and 2014, the number of children aged 0-4 years per 1,000 women aged 15-49 was significantly reduced in all regions (Fig. 1). It should be noted that the child-woman ratio in Kvemo Kartli was traditionally high compared to others, which was due to a large number of Muslims in this region. At the same time, according to the latest population census data, during this period, the "child-woman ratio" is most reduced in Kvemo Kartli (from 434‰ to 316‰), thus bringing it closer to the level observed in the Kakheti region (310‰).

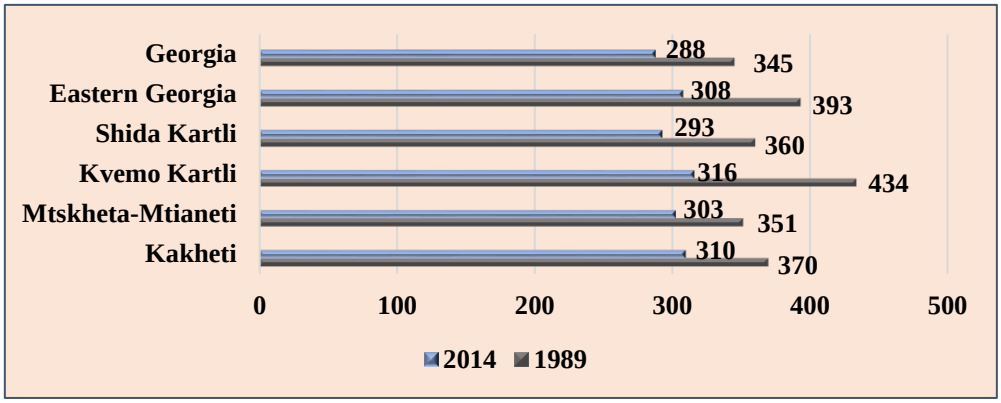

Figure 3. Child-woman ratio according to the population census of 1989 and 2014 (per mille)[5]

More or less, mortality rates in eastern Georgia more or less correspond to the general trend (excluding the Mtskheta-Mtianeti region), primarily reflected in the increase in crude mortality coefficients. According to the latest data (2020), the highest mortality rate was recorded in the Kakheti region, which was 1.1 points higher than Georgia's average (Table 3). The Shida Kartli mortality coefficient is close to the average country level. As for the Mtskheta-Mtianeti region, according to the available official data, the uneven change in the mortality coefficient, at first, is increasing. Then – a significant decrease is probably caused due to the shortcomings in the field of statistical accounting of deaths. This opinion is supported by the fact that the population of the mentioned region has a high rate of ageing. According to the 2014 population census, the share of the population aged 65 years and over was almost 17 per cent, contributing to the increase in the mortality coefficient.

Birth rate and mortality trends are reflected in the natural increase of population, respectively. Despite the variability of the population natural increase coefficient in 1990-2020, the vector of natural increase was mainly directed towards the decline in the country, in general, and in the regions. According to the latest data, the mortality rate exceeded the birth rate in Kakheti and Shida Kartli, while the birth rates in Kvemo Kartli and Mtskheta-Mtianeti were slightly higher than the mortality rates. In Georgia, the considered figure was generally -1.1 per mille (Table 3), which is the lowest figure since 1990. Due to the value of the population natural increase coefficient, depopulation is observed in the country. Among the regions of eastern Georgia, a slight positive natural increase was observed in Kvemo Kartli (1.5 per mille) and Mtskheta-Mtianeti (1.7 per mille). However, if we consider the shortcomings in the registration of the number of deaths in the latter, the positive natural increase observed in the region is less probable.

Migration

Migration processes play an essential role in changing the population. Unfortunately, compared to other indicators of current accounting, the accounting statistics of the latter was always distinguished by less accuracy and repeatedly was the subject of discussion for specialists [3;4;5;6;7;8].

As a result of the complex social-economic situation in Georgia in the early 1990s, an unprecedented emigration wave peaked by the mid-1990s. Due to the decline in the functioning of state institutions during this period, the control and registration of migration processes turned out to be impossible for official services. The official migration statistics of that time unrealistically reflected the current situation. Famous specialist of population geography V. Jaoshvili wrote about the mentioned situation - "Today no one can even calculate the number of people, who left Georgia in recent years, but it can be said with certainty that their number is several hundred thousand" [9].

[5] Source: Calculations are made by authors based on Geostat data

Following the 2002 population census, to regulate the 1991-2001 migration registration, Geostat recalculated migration statistics data that was more or less in line with reality. The results of the 2014 population census revealed the discrepancies caused by the shortcomings in the statistical registration of external migration. Geostat recalculated the external migration data between 1995 and 2011, and since 2012 the statistical data are based on the data of the Border Police of the Ministry of Internal Affairs, which is considered reliable.

Despite some of the measures taken by Geostat, we do not have statistical information on migration processes at the regional level. Given the current situation, we are forced to use the indirect method of calculating migration, which is as follows: If we know the number of populations for January 1 of the adjacent years and the natural increase in population, it is possible to calculate the estimated number of migrations indirectly.

Calculated per thousand inhabitants, in 2012-2019, a negative migration balance was observed across the country. A similar situation was observed in Kakheti and Shida Kartli (Table 4).

Table 4. Dynamics of migration balance in 2012-2020 (per mille)[6]

Region	Years								
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Kakheti	-3.9	-1.3	-4.5	-4.1	-5.3	-3.5	-5.9	-5.6	0.8
Mtskheta-Mtianeti	-2.1	2.0	-5.6	-5.0	-5.7	-5.1	-7.2	-5.9	-1.2
Kvemo Kartli	-5.6	-0.9	-0.7	0.4	-1.0	0.6	-1.7	-0.9	5.7
Shida Kartli	-3.0	-0.9	-6.1	-6.1	-6.9	-5.4	-7.4	-7.5	-2.2
Eastern Georgia	-4.2	-0.8	-3.5	-2.9	-4.0	-2.5	-4.7	-4.2	1.9
Georgia	**-5.8**	**-0.7**	**-1.8**	**-0.9**	**-2.2**	**-0.6**	**-2.9**	**-2.2**	**4.2**

In the rest of the regions, the migration balance was negative except for some years. In 2020, the negative rate of migration balance decreased in all regions, while in Kakheti and Kvemo Kartli the positive indicators were noted. The observed fact was mainly caused by the global spread of the Covid-19 virus, due to the outflow of Georgian citizens from the country was sharply reduced. Also, some of those, who were abroad, were sent back [10]. In 2020, the positive migration balance was equal to 15.7 thousand across the country, which was an unprecedented case. The observed fact was more or less reflected in the migration indicators of the regions.

Gender-age structure of the population

The demographic structure of the population of eastern Georgia is reflected in the 2014 gender-age pyramid presented in absolute values (Fig. 3).

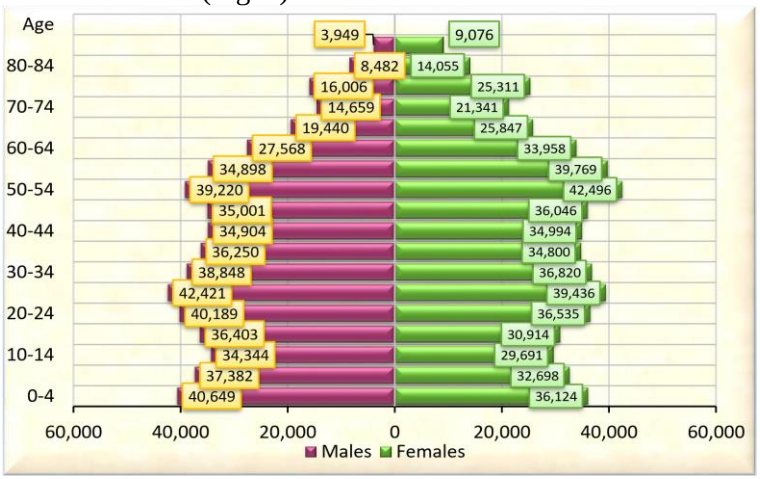

Figure 4. Distribution of the permanent population of eastern Georgia by gender and age in 2014[7]

[6] Source: Calculations are made by authors based on Geostat data

[7] Source: Compiled according to the 2014 population census materials: https://www.geostat.ge/en

In the whole population of the region, males are slightly behind females by number; their share is 49.1 per cent and 50.9 per cent, respectively (on average, males and females in Georgia are 47.7 per cent and 52.3 per cent, respectively). The number of males and females in rural areas is equal, while in the urban population, females outnumber males; females make up 52.5 per cent and males - 47.5 per cent.

In general, the excess of females in the whole population is a natural phenomenon (due to the lower mortality rate compared to males) and is typical for almost all regions of eastern Georgia. The ratio of males and females in Kakheti is 49.0 per cent and 51.0 per cent, respectively, in Kvemo Kartli - 49.2 per cent and 50.8 per cent, and in Shida Kartli - 48.7 per cent and 51.3 per cent. The exception is Mtskheta-Mtianeti, where males slightly outnumber females and amount to 50.4 per cent, while females amount to 49.6 per cent.

Quantitative redundancy of females compared to males in the whole population is expressed by higher differences (their redundancy increases by general trend above the age of 20-25). However, due to complex economic conditions and unemployment, some females leave Georgia for employment abroad. This condition is reflected in the gender structure of the 15-64 age groups (Table 5).

Table 5. Gender-age structure of the population of eastern Georgia and its regions in 2014 (percentage)[8]

Age group (year)	**The share of population in the age groups**														
	Eastern Georgia			**Regions**											
				Kakheti			Mtskheta-Mtianeti			Kvemo Kartli			Shida Kartli		
	Both genders	M.	F.	Both genders	M.	F.	Both genders	M.	F.	Both genders	M.	F.	Both genders	M.	F.
0-14	19.2	53.3	46.7	17.8	53.4	46.6	17.0	52.9	47.1	21.1	53.7	46.3	18.4	52.5	47.5
15-64	66.4	50.0	50.0	64.8	50.3	49.7	66.1	52.5	47.5	67.7	49.4	50.6	66.7	49.7	50.3
65+	14.4	39.5	60.5	17.4	39.7	60.3	16.9	39.6	60.4	11.2	39.4	60.6	14.9	39.5	60.5
Total	100.0	-	-	100.0	-	-	100.0	-	-	100.0	-	-	100.0	-	-

In Kakheti and Mtskheta-Mtianeti, males outnumber females in the employable population, while females outnumber males in Kvemo and Shida Kartli. A relatively wide field of employment distinguishes Kartli regions, so the migration processes are relatively limited compared to other parts of Georgia (western or southern parts).

Females over the age of 65 and older outnumber males by more than 20 per cent, generally determined by the male-female lifespan gap.

The age structure of the entire population of eastern Georgia largely coincides with the Georgian average rates. The process of population ageing is taking place in different intensities in different country regions, which is reflected in the territorial differences of this indicator.

There is a relatively young population in Kvemo Kartli. Here the ageing process is characterized by a slower pace, and as in Georgia, this region is characterized by the highest natural population growth; the population of Azerbaijani ethnicity, which makes up 41.8 per cent of the population of the region, still retains the traditions of the prominent families of the Muslim religion. The share of children and adolescents aged 0-14 in the total population is 21.1 per cent, and those aged 65 and older are 11.2 per cent. In the other regions, the ageing process is more pronounced. It is most intensively found in Kakheti, and Mtskheta-Mtianeti, where the 0-14 age group is 17.8 per cent and 17.0 per cent, respectively, and the share of the 65-year-old and older contingent is 17.4 per cent and 16.9 per cent, respectively. It is noteworthy that the percentage composition of the young and old generations is almost the same, which will further slowdown the reproduction of their population in the future. It is also noteworthy that the deepening of the ageing process is also reflected in labour resources - the share of people aged 45-65 years in the employed population will increase. Compared to these regions, the

[8] Source: Table is compiled based on the 2014 population census data

population of Shida Kartli is ageing at a slower pace. Here, the share of the 0-14 age group is 18.4 per cent, and that of over 65 - is 14.9 per cent.

The natural and mechanical decrease in the rural population leads to more significant ageing than the urban population; in eastern Georgia, the contingent over the age of 65 is 15.6 per cent of the rural population and 12.0 per cent of the urban population.

Ethnic structure

The social-economic problems of the first two decades of Georgia's independence caused some changes in the ethnic composition of the population of eastern Georgia. Unlike in western Georgia, its population has always been characterized by ethnic diversity. For centuries, by the will and decision of the authorities, various ethnic groups come from outside were settled. As in the rest of the territory of Georgia, they felt protected with the local tolerant population; they were settled on uninhabited, fertile land and engaged in agricultural activities.

Georgians have always been the vast majority in eastern Georgia. Besides them, Azerbaijanis, Ossetians, Kists, Armenians, Russians, Yezidis, Ukrainians, Greeks, Assyrians and others lived here. The figures below clearly reflect their number and territorial differentiation in eastern Georgia (Table 6).

Table 6. Ethnic composition of the permanent population of eastern Georgia and its regions in 2014[9]

Ethnic Groups	Population of eastern Georgia (total)		Population of regions			
			Kakheti	Mtskheta-Mtianeti	Kvemo Kartli	Shida Kartli
	Thousand people	Percentage	Percentage	Percentage	Percentage	Percentage
In total	**1100.1**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Georgian	827.4	75.2	85.2	94.5	51.2	94.6
Azerbaijani	217.2	19.7	10.2	2.4	41.8	2.1
Armenian	26.1	2.4	0.7	0.3	5.1	0.8
Russian	5.6	0.5	0.6	0.3	0.6	0.3
Ossetian	9.3	0.9	0.8	1.4	0.2	1.8
Yezidi	0.9	0.1	0.2	0.1	0.1	0.0
Ukrainian	0.9	0.1	0.1	0.1	0.1	0.1
Kist	5.6	0.5	1.7	0.0	0.0	-
Greek	2.4	0.2	0.0	0.1	0.5	0.1
Assyrian	1.1	0.1	0.0	0.7	0.1	0.0
Other	3.6	0.3	0.5	0.1	0.3	0.2

The natural and mechanical decrease in population in 1990-2014 more or less reduced the absolute and percentage numbers of all ethnic groups living here. Along with employment in foreign countries, the emigration of non-Georgians was also motivated by settling in the historical homeland, and some cases, by receiving refugee status (severe political events in Shida Kartli caused a significant part of Ossetians to leave the country).

Among the 2002 and 2014 population censuses, if the permanent population of Georgia decreased by 15.0 per cent, in eastern Georgia, it was equal to 18.1 per cent. The number of following ethnicities decreased the most: Greeks (by 71.9 per cent), Ossetians (by 63.6 per cent), Russians (by 57.3 per cent) and Armenians (by 34.2 per cent). The decrease in Azerbaijanis, Kists, and Ukrainians ranged from 17 per cent to 21 per cent, Georgians - by 14.6 per cent and other ethnicities - by 11.5 per cent [11]. (The 2002 and 2014 General Census materials).

Among the regions of eastern Georgia, the most homogeneous population is found in Shida Kartli and Mtskheta-Mtianeti, where Georgians amount more than 94 per cent, while Kakheti and Kvemo Kartli are more multiethnic regions. A significant part of their population is composed of Azerbaijanis

[9] Source:The table is compiled based on the 2014 population census data

-10.2 per cent and 41.8 per cent, respectively. Azerbaijanis, Greeks, Assyrians and Armenians live compactly in rural areas.

In Kakheti, Shida Kartli and Mtskheta-Mtianeti, some of the ethnicities are being assimilated with Georgians, which is facilitated by mixed marriages. First of all, this refers to the Armenians and Ossetians, who settled there a long time ago and who live more or less scattered in cities or villages. To a certain extent, this circumstance also contributes to the quantitative reduction of the population of these ethnicities. Assimilation with Georgians does not take place in Kvemo Kartli. This is due to the compact settlement of non-Georgians (Azerbaijanians, Armenians, Greeks) and their religious and cultural difference from the Georgians.

The ethnic composition of the population is different in urban and rural areas. The non-Georgian population is mainly engaged in agricultural activities; therefore, there is more ethnic diversity in rural areas than in cities. According to 2014 data, the share of Georgians in the urban population was 87.0 per cent, in the rural population - 69.0 per cent.

Labour force and standard of living

One of the essential components of demographic potential is labour resources as a productive force. Labour resources include the working-age employable population (men aged 16-65 and women aged 16-60 in Georgia since 1996) and employed adults and retirees. Regarding labour resource involvement, statistics operate by indicators such as the economically active population (EAP) - employed and unemployed together or the labour force, which is less than labour resources. It became possible to present the actual picture of Georgia's economically active population or labour force and its structure after the methodological changes in the labour force calculation implemented in 2020. In particular, according to the new standard of the International Labour Organization, self-employed persons, who are not market-oriented and produce agricultural products mainly (more than 50 per cent) for their consumption, are no longer considered self-employed. Individuals with this status were re-qualified either in the unemployed category or outside the labour force [12].

In 2020, the economically active population (EAP) or labour force in Eastern Georgia was 438.9 thousand people, which was 28.8 per cent of the country's EAP. Kvemo Kartli is distinguished among the regions of the eastern part of Georgia in terms of the labour force and employment; Kakheti and Shida Kartli are behind it. Mtskheta-Mtianeti region is the smallest in terms of population, labour force, and employed number (Table 7). As a result of low natural increase and increased migration flows, in the last decade (2010-2020), the labour force in the regions of eastern Georgia decreased by 27.9%.

Employed was 81.9 per cent of the labour force, of which 41.5 per cent was self-employed. Over the last decade, the number of self-employed has consistently exceeded the number of hiring. Since 2020 (Table 7), the picture has changed in favour of hired (58.5%), due to the strengthening of the private sector and the new standard for the definition of "self-employed".

Table 7. Distribution of 15+ population by economic activity in the regions of eastern Georgia in 2020 (thousand people)[10]

Labour force indicators	Kakheti	Mtskheta-Mtianeti	Kvemo Kartli	Shida Kartli	Total eastern Georgia	Georgia
Total 15+ population	**247.0**	**80.3**	**343.4**	**221.1**	**891.8**	**3018.5**
Labour force (Active population) total	**122.2**	**38.8**	**172.2**	**105.7**	**438.9**	**1523.7**
Employed	**109.5**	**31.7**	**133.9**	**84.6**	**359.7**	**1241.8**
Hired	57.1	21.8	77.9	53.1	209.9	845.3
Self-employed	52.4	9.9	56.0	31.3	149.6	395.9
Not-identified	0.0	0.0	0.0	0.2	0.2	0.7
Unemployed	**12.7**	**7.1**	**38.2**	**21.1**	**79.1**	**281.9**
Population outside the labour force	**124.8**	**41.5**	**171.2**	**115.3**	**452.8**	**1494.8**
Unemployment rate, percentage	**10.4**	**18.3**	**22.2**	**20.0**	**18.0**	**18.5**

[10] Source: Calculations are made by authors based on Geostat data www.geostat.ge

Labour force participation rate (Economic activity rate), percentage	**49.5**	**48.3**	**50.1**	**47.8**	**49,2**	**50.5**
Employment rate, percentage	**44.3**	**39.5**	**39.0**	**38.3**	**40,3**	**41.1**

Most self-employed people are engaged in agriculture, which is distinguished by low productivity. The distribution of employed in Georgia by sectors of the economy is unequal: 19.8 per cent are employed in agriculture, 15.1percent - in wholesale and retail trade, 11.7 per cent - in education, and 11.4 per cent in the industry [13; 14]. The primary source of employment is the private sector, which amounts to 76.3 per cent of employed. The share of employed in the business sector in the considered regions varies between 23 per cent and 38 per cent [15]. It should be noted that the distribution of employed in the business sector according to the types of economic activities is similar in all four regions. The most significant number of employed falls in the following fields: wholesale and retail trade, repair of motor vehicles and motorcycles, manufacturing, mining and quarrying [15]. We must take into account the fact that the 2020 data was marked by the Covid-19 pandemic, which had a significant impact on the labour market, significantly reducing economic activities such as entertainment and leisure, accommodation and food supply, transport and storage, wholesale and retail trade and tourism-related other fields.

The pandemic has exacerbated Georgia's most pressing social-economic problem over the years - unemployment. The average unemployment rate in eastern Georgia is 18.0 per cent, which is slightly lower than the country's average (18.5 per cent). The lowest rate in the region is in Kakheti, which traditionally has the lowest unemployment rate in Georgia (10.4 per cent), while the highest unemployment rate is in Kvemo Kartli (22.2 per cent) (Table 7).

As in the whole country, high unemployment rates are observed among young people aged 15–24 (27.8 per cent) [16].This is explained because young people of the mentioned age prefer education. After completing their studies, they face two types of problems: the labour market's demand for the professions they have mastered is low, and their qualifications and work experience do not meet market demands [18]. There are some in-demand professions for which staff is not trained in Georgia. That is why people with higher education make up a third of the unemployed population [17]. This indicates a structural and qualitative imbalance between the supply and demand of the labour force when on the one hand, there is an excess labour force with inappropriate qualification and undemanded professions. On the other hand, there is a high demand for qualified professionals. Added to this is that the number of actual unemployed is significantly higher than the number of registered unemployed.

The quality of use of the country's labour and economic potential, the population's standard of living, and social satisfaction significantly depend on the proper functioning of the labour market. In addition to employment and unemployment, the standard of living is reflected in indicators such as wages, incomes and expenditures, the share of the population below the absolute poverty line, the Gini coefficient, etc.

The average monthly nominal earnings of hired have increased by an average of

5-6 per cent annually over the last decade [19]. In 2019, salaries in the regions of eastern Georgia ranged from 690 to 900 GEL, lagging behind the country's average rate (1,129.5 GEL) (Table 8). The average monthly salary of employees in the business sector was slightly higher than the total salary hired and was the highest in the Mtskheta-Mtianeti region (1,055 GEL). In recent years, according to the types of economic activities in Georgia, the highest salaries are in financial and insurance activities, professional, scientific and technical activities, administrative and support services. In eastern Georgia, the highest salaries are in the business sector, such as electricity, gas supply, mining and quarrying, and the processing industry [19].

Table 8. Average Monthly Nominal Wages of Hired in the regions of eastern Georgia in 2010-2019 (GEL)[11]

Years	Kakheti	Mtskheta-Mtianeti	Kvemo Kartli	Shida Kartli	Georgia
2010	339.7	432.6	509.1	358.2	597.6
2013	430.8	658.2	637.5	485.9	773.1
2016	531.2	765.9	711.1	585.1	940.0
2019	690.2	901.9	851.4	707.2	1129.5

For comparison, the subsistence minimum rates should be brought here: in 2020, the subsistence minimum for employable males was 197.0 GEL, and the average subsistence minimum for one average family was 330.4 GEL. The share of the population below the subsistence level, or the share of the population below the country's poverty line, was 21.3 per cent. Among the regions of eastern Georgia, the highest rate is in Kvemo Kartli (32.1 per cent), followed by Mtskheta-Mtianeti (26.3 per cent). The situation is significantly better in Shida Kartli and Kakheti, respectively 19.6 per cent and 18.6 per cent (www.geostat.ge). Even the indicator is decreasing annually, the share of the poor population (population with an income of $ 5.5 a day-World Bank standards) in Georgia is 41.9 per cent, almost half of the population [20].

Population incomes were increasing from 2010 to 2019, but they decreased at the end of 2020 due to the economic crisis caused by the pandemic, and the average monthly income per capita in eastern Georgia ranged between 270-330 GEL. The structure of incomes is similar in all four regions, and their central part (67.5 per cent) consists of salaries, scholarships and allowances (Fig. 4).

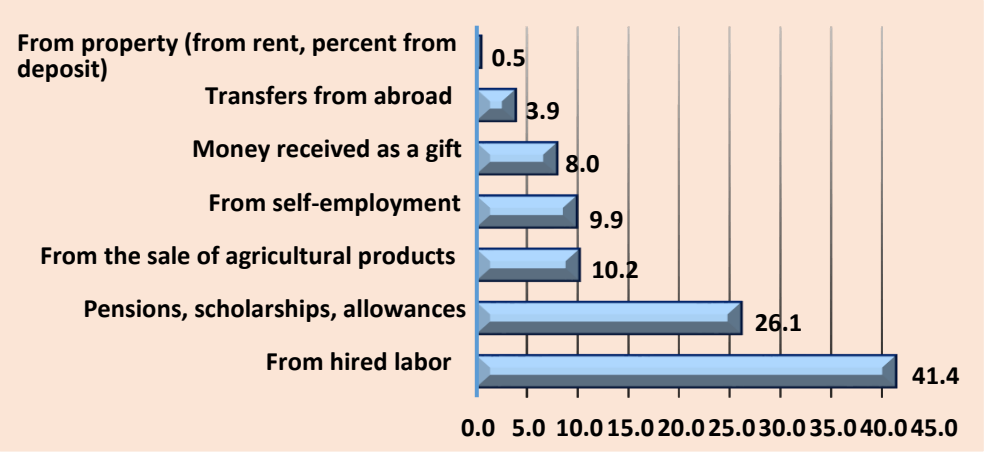

Figure 5. Distribution of the average monthly money income and transfers of the population in eastern Georgia in 2020 (percent)[12]

The central part (91.1 per cent) of the household income is spent on food, tobacco, utility charges, medicines and transport. Unfortunately, the share of money spent on household items, clothing and footwear, and education is insignificant (Fig. 5). The average monthly expenditure per capita in the regions varies between 238 and 328 GEL.

A comparison of the population's incomes and expenditures clarifies that many helpless families desired to receive subsistence allowance. In 2020, 106,918 families were registered to receive helpless families subsistence allowance in all four regions, of which 49,453 families (46.2 per cent) were receiving the subsistence allowance, 264,874 persons (24.2 per cent of the total population of the region) were receiving pensions, and social packages in all four regions, however, the largest number was in Kvemo Kartli (90,686 persons) [21].

In 2020, among the regions of eastern Georgia, the highest rate of social inequality, so-called Gini coefficient by total consumption expenditures (Index value 0 indicates that there is no inequality, while

[11] Source: Calculations are made by authors based on Geostat data www.geostat.ge
[12] Source: Calculations are made by authors based on Geostat data www.geostat.ge

1 indicates that inequality is maximal), was in Kakheti - 0.42, and in the other three regions – 0.39 - 0.40 (country ratio 0.41). During the last 12 years, this indicator fluctuated by 0.01 points [20].

Ensuring effective employment of the population is of great importance for achieving economic development and solving the existing social-economic problems in any country. The excellent labour market of the market economy in Georgia is still in its forming stage, and there are many problems and challenges in this process.

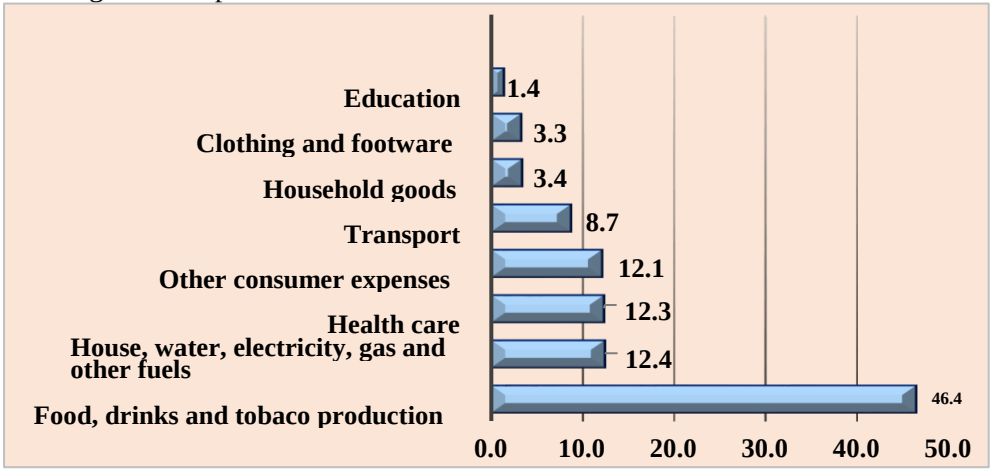

Figure 6. Distribution of average monthly consumer money expenditures of the population in eastern Georgia in 2020 (percent)[13]

Speeding up the country's economic development, creating new jobs and overcoming poverty is highly dependent on pursuing an active policy in the field of employment that includes developing labour market infrastructure, balancing of labour force demand and supply, providing vocational training for the unemployed, and employing a low-competitive labour force.

Conclusion

Thus, the study outlined the demographic situation and trends in the study area, which represent the regional peculiarities of the demographic potential of eastern Georgia:

1. Over the last decade, the decrease in a number of population has slowed down in eastern Georgia; though between 2011 and 2020, in two of the four regions - Mtskheta-Mtianeti and Kvemo Kartli, even a slight increase was observed, + 0.09 per cent and + 0.27 per cent on average per year, respectively. The decreased slowdown in the absolute population is mostly stipulated by a reduction of emigration than by the growth of natural increase.

2. In the study area, during the last 30 years between 1990-2020, the birth rate decreased by 8.2 points (from 20.3 per mille to 12.1 per mille), while the mortality increased by 2.9 points (from 9.6 per mille to 12.5 per mille). Natural increase is still negative (-0.4 per mille in 2020), but in two of the four regions - MtskhetaMtianeti and Kvemo Kartli, according to the latest data, it turned out to be positive (+ 1.7 per mille and + 1.5 per mille, respectively). Mtskheta-Mtianeti is distinguished by the meagre rates of both – births and mortality (9.9 per mille and 8.2 per mille, respectively) among the regions of eastern Georgia.

3. In general, there is a tendency of "ageing" of the population in eastern Georgia, but Unevenly distributed. In Kvemo Kartli, due to the relatively high natural increase, it develops relatively slowly. It is most intensively manifested in Kakheti and Mtskheta-Mtianeti, where the share of young (0-14 years old) and elderly (65+ years old) in the total population is almost the same (within 17- 18 per cent), which will further slowdown the population reproduction process and intensify the "ageing" process.

4. The share of females in the gender structure is reduced compared to the natural balance (5-6 per cent excess of women), while in Mtskheta-Mtianeti, males (50.4 per cent) are ahead of females (49.6 per cent). A large number of females should explain this phenomenon among the labour emigrants. This problem is also related to a so-called family crisis and related demographic problems - declining natural increase and reduction in child-woman ratio, etc.

[13] Source: Calculations are made by authors based on Geostat data www.geostat.ge

5. Among the regions, Kvemo Kartli is partly distinguished by other demographic characteristics, which is explained by the large share of the Azerbaijani population (41.8 per cent) and corresponding traditionally different demographic behaviour. Georgians predominate in the study area as a whole (75.2 per cent). The share of national minorities in rural areas is much higher than in urban areas.

6. 28.8 per cent of the country's total labour forces are gathered in eastern Georgia, which is slightly less than its share in the country's population - 29.6 per cent. The majority of the population is employed in non-commercial and partly commercial agriculture, which determined a higher than average share of the self-employed among the employed; namely, in eastern Georgia, self-employed is 41.6 per cent when they are only 31.9 per cent in Georgia as a whole;

7. Unemployment remains a major social problem; in 2020, the unemployed amounted to 18.0 per cent of the economically active population. The low incomes of a large part of the population are also problematic; in 2019, the average salary in eastern Georgia was 787.7 GEL, which was 30.3 per cent less than the average in Georgia (1,129.5 GEL). Low income and low standard of living are major negative factors in economic growth, as a low purchasing power prevents the formation and expansion of domestic markets.

8. Recently, as in the whole of Georgia, there are signs of improvement in the social situation in the study area; for example, the average salary was increasing by 5-6 per cent annually during the last decade (2010-2020); also, the share of the population with less than the minimum income or below the poverty line, was decreasing every year. The COVID-19 pandemic partially hampered these positive trends.

Competing interests

The authors declare that they have no competing interests.

Authors' contribution

G.K. and G.M. conceived of the presented idea. G.M., M.T. and N.N. developed the theory and performed the computations. S.D., N.K. and G.T. verified the analytical methods. All authors discussed the results and contributed to the final manuscript.

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