Andrzej SOBCZYK, Zviad ARCHUADZE*

ASSESSMENT OF DEMOGRAPHIC POTENTIAL OF THE TBILISI METROPOLITAN AREA WITH THE USE OF SYNTHETIC VARIABLE

OCENA POTENCJAŁU DEMOGRAFICZNEGO OBSZARU METROLITALNEGO TBILISI Z WYKORZYSTANIEM ZMIENNEJ SYNTETYCZNEJ

Department of System Analyses and Finance, West Pomeranian University of Technology, Szczecin
Klemensa Janickiego 31, 71-270 Szczecin, Poland, e-mail: andrzej.sobczyk@zut.edu.pl
*Department of Social and Political Sciences, Ivane Javakhishvili Tbilisi State University,
 Chavchavdze 1, 0179 Tbilisi, Georgia, e-mail: archuadze@gmail.com

Streszczenie. Na kształt populacji danego obszaru mają wpływ trzy ważne procesy: starzenie się siły roboczej, spadek przyrostu naturalnego oraz procesy migracyjne. Zmiany demograficzne mają wpływ na decyzje dotyczące danego obszaru oraz na jego społeczne i ekonomiczne funkcjonowanie. Zmiany demograficzne implikują zmiany struktury lokalnej gospodarki, zmiany popytu na usługi publiczne, popytu na rynku nieruchomości, podaży siły roboczej oraz wielkości dochodów mieszkańców i dochodów budżetów jednostek samorządu lokalnego. Metropolie kształtują się w wyniku koncentracji ludności w głównym ośrodku metropolitalnym oraz w wyniku jednoczesnego rozprzestrzeniania się na coraz większe, sąsiadujące z jądrem metropolii, obszary, co powoduje fragmentację poszczególnych elementów przestrzeni. Celem artykułu jest porównanie potencjału ludności obszaru metropolitalnego Tbilisi (TMA) oraz ocena zmian, jakie zaszły na przestrzeni lat 2002–2014. W pierwszej części pracy opisano teoretyczne aspekty procesów demograficznych oraz dokonano przeglądu występujących w literaturze przedmiotu definicji obszaru metropolitalnego. W części empirycznej dokonano oceny sytuacji demograficznej Gruzji i jej regionów w latach 2002–2014, a następnie dokonano oceny potencjału demograficznego TMA na podstawie wybranych wskaźników i skonstruowanego w tym celu wskaźnika syntetycznego.

Key words: metropolitan area, demographic potential synthetic variable.
Słowa kluczowe: obszar metropolitalny, potencjał demograficzny, zmienna syntetyczna.

INTRODUCTION

Demographic potential is a significant determinant of regional growth. Most commonly it is defined as the "driving force" inherent in human resources, thus mostly dependent on the population size and its age structure. The prerequisite for an adequate and efficient development policy lies in reliable information about regional population and its detailed spatial disaggregation. The actual size of population in a given area, with its qualitative attributes such as, in particular, the age structure, is a fundamental socio-demographic variable that conditions the demand for certain public services. From the perspective of socio-economic development, demographic potential of local communities is an important component of the region's development opportunities (Szymanska and Michalak 2011). Since mid-20th century, we have been witnessing a strong polarization and differentiation of development opportunities among

cities and towns, and the creation of more or less complex conurbations formed by continuous aggregation of built-up communities, or even megalopolises formed in result of two or more large cities that have sprawled outward to meet and form a mega-city. Contemporary world has seen the rise of global and continental metropolises – large urban agglomerations or conurbations (often referred to as metropolitan areas), that perform specific functions in the settlement system and other spheres of human activity. They are conveniently located and very well communicated, demonstrate distinct features of highly urbanized social environment, have institutes and infrastructure that enable the execution of administrative and political functions. Metropolises emerge in result of high concentration of people in one area, and the process of urban sprawl which causes fragmentation of the urban space. In today's circumstances of shrinking human resources and rapidly aging society, the role of demographics cannot be overestimated. This situation is affected by a number of factors, such as sub-replacement fertility, growing aging population and increasing international migration. Rapid growth of metropolises, which are indeed spatially limited, leads to marginalization of non-urban regions.

The aim of the paper is to compare the demographic potential of the Tbilisi Metropolitan Area (TMA) and asses the changes that occurred over a 12-year-long period, that is 2002–2014. The empirical research conducted should verify the hypothesis that the demographic concentration of TMA (increased population, positive birth rate and positive migration balance) refers only to the urban hub, the agglomeration's centre (Tbilisi). In contrast, in other parts of TMA, three different processes can be observed, i.e. aging of the workforce, birth rate decline and migration. These processes hugely impact TMA's overall developmental potential, since it predominantly depends on the area's demographic situation, its ability to attract new inhabitants and the local community's regeneration capacity (Sobczyk 2015).

METROPOLIS AND METROPOLITAN AREA

A metropolis has not yet been given a precise legal and/or statistical definition. The literature is abundant with various terms and criteria used to delineate a metropolitan area. A city with one million or more inhabitants is commonly considered a metropolis. In case of regional metropolises, the population threshold is usually lowered to 500 000. In addition to the quantitative criterion, morphological and functional features are also taken into account (Smętkowski et al. 2009). To be considered a metropolis, a city must fulfill the below-listed criteria:
1) be relatively large (with min. 0,5–1,0 mln in habitants);
2) have significant economic potential and a well-developed specialist service sector;
3) feature high potential for innovation (academic, research and development institutes);
4) perform metropolitan functions, that is central higher hierarchical functions, at least on a national scale;
5) function as a hub for the entire communication, organization and information system (network), and demonstrate high spatial accessibility, including international accessibility;
6) stimulate the network model of economy and management (Markowski and Marszał 2006).

Western Europe has long been familiar with the notion of metropolis and metropolitan area. Based on the findings of Frey and Zimmer (2001), a metropolitan area can be defined as a spatially continuous and economically interconnected area consisting of densely populated,

small settlement areas and their surroundings, which are under the influence of the dominant core (center). In accordance with Hampl (2005), the formation of metropolitan areas can be regarded as a more advanced stage of urbanization – associated with the occurrence of post-industrial processes in which the importance of metropolises and the scope of the powers of administrative authorities increase. A metropolitan area will almost always be larger than an urban area since urban areas routinely draw a large number of workers from surrounding rural territory. A metropolitan area may include more than one urban area. For example, the Los Angeles metropolitan area includes a number of urban areas, such as Los Angeles, Riverside-San Bernardino, Mission Viejo, Santa Clarita, Simi Valley, Oxnard-Ventura, and Palm Springs. The United States designates combined statistical (metropolitan) areas, which are routinely used in Demographia World Urban Areas, as opposed to their smaller metropolitan statistical area (MSA) components. Some but not most nations formally designate metropolitan areas (such as the United States, France, Brazil, India, Argentina, and Canada) (Demographia, http://www.demo-graphia.com/db-define.pdf). A metropolitan area is defined as a core urbanized area and the adjacent areas tied together by strong economic connections. They form unified labor pools that are linked by infrastructure for daily commuting and form service regions for consumers and businesses. A metropolitan area typically spans a number of local government authorities (Cochrane et al., https://www.eco-nomy.com/home/products/samples/whitepapers/). The Organization for Economic Cooperation and Development (OECD) defines such an economic area as a geographical space within which a number of economic links are concentrated, most obviously labor markets but also networks of firms, important parts of supply chains, and relations between firms and local authorities. Commuting is at the heart of a metropolitan region, as it brings together firms and workers through transport and telecommunications infrastructure (Children in an increasingly…, http://www.unicef.org/sowc2012//pdfs/SOWC-2012-DEFINITIONS.pdf).

In official documents of the European Union more precise definitions of a 'metropolitan area' can be found. They generally assume that a metropolitan area consists of the city, or urban agglomeration's centre, and the city's peripheries, that is adjacent urban areas from which most working residents commute to the centre for work. A more precise delineation of a metropolitan area is the commuting time by public transport or individual means of transportation. According to this criterion, a metropolitan area would be an area that can be reached within one hour from the metropolis' centre.

GEORGIA'S DEMOGRAPHIC POTENTIAL AND OUTLINE OF THE TBILISI METROPOLITAN AREA

In 2014, the population of Georgia was 3 713 804, and had decreased by 655 409 people in comparison to 2002(as of 31.12.2015., the country's population was 3 713 725). As many sources claim, approximately 1.5 mln Georgians live outside their country of origin. If this number was to be added, the country's total population would come up to 5.2 mln. Extreme tension in two regions of Georgia – Tskhinvali region in the north (1991–1992) and Abkhazia in the west (1992–1993), both bordering on Russia – led to open clashes and bloody, armed conflicts, and resulted in displacement of more than 300,000 persons, mainly of Georgian origin and mainly to internal regions of Georgia. In 2008, a new war between Georgia and

Russia displaced more than 135.000 people. In December 2014 Georgian government reported that it had registered 260 000 people as IDPs (internally displaced persons).

A drop in the population size is apparent not only nationwide, but also locally, in particular regions. Variations in functional population groups with regard to the entire country and individual regions in the 2002–2014 period are presented in Table 1, 2 and 3.

Table 1. Pre-working age population by regions

Region	2002	2014	Difference	Dynamics
Georgia	1 273 089	917 351	–355 738	72.06
Tbilisi	298 683	283 450	–15 233	94.90
Mtskheta-Mtianeti	35 674	21 552	–14 122	60.41
Kvemo-Kartli	168 320	117 499	–50 821	69.81
Kaheti	115 882	74 920	–40 962	64.65
ShidaKartli	93 227	64 234	–28 993	68.90
Samtskhe-Javakheti	67 952	41 972	–25 980	61.77
Imereti	188 697	122 797	–65 900	65.08
Guria	38 601	24 487	–14 114	63.44
Riacha	11 227	5336	–5891	47.53
Samegrelo	129 356	73 555	–55 801	56.86
Ajara	124 910	87 549	–37 361	70.09

Source: own elaboration based on data from the Georgian National Statistical Office.

Table 2. Working-age population by regions

Region	2002	2014	Difference	Dynamics
Georgia	2 539 909	2 266 246	–273 663	89.23
Tbilisi	669 166	692 423	23 257	103.48
Mtskheta-Mtianeti	70 655	57 033	–13 622	80.72
Kvemo-Kartli	278 702	259 033	–19 669	92.94
Kaheti	227 478	188 180	–39 298	82.72
ShidaKartli	178 153	159 907	–18 246	89.76
Samtskhe-Javakheti	111 659	96 129	–15 530	86.09
Imereti	403 513	317 579	–85 934	78.70
Guria	81 492	67 607	–13 885	82.96
Riacha	26 726	17 667	–9059	66.10
Samegrelo	273 251	200 880	–72 371	73.51
Ajara	218 014	209 808	–8206	96.24

Source: own elaboration based on data from the Georgian National Statistical Office.

Table 3. Post-working-age population by regions

Region	2002	2014	Difference	Dynamics
Georgia	556 215	530 207	–26 008	95.32
Tbilisi	113 783	122 854	9071	107.97
Mtskheta-Mtianeti	19 111	15 988	–3123	83.66
Kvemo-Kartli	50 490	47 454	–3036	93.99
Kaheti	63 821	55 483	–8338	86.94
ShidaKartli	42 656	39 241	–3415	91.99
Samtskhe-Javakheti	27 987	22 403	–5584	80.05
Imereti	105 322	93 530	–11 792	88.80
Guria	23 248	21 256	–1992	91.43
Riacha	13 016	9086	–3930	69.81
Samegrelo	63 491	56 326	–7165	88.71
Ajara	32 994	36 596	3602	110.92

Source: own elaboration based on data from the Georgian National Statistical Office.

The data provided in Table 1, 2 and 3 reveal that a huge decline in the size of functional population groups occurred throughout the entire country. The only exception here is the working age group, whose population increased in two regions, that is in Tbilisi and Ajara, by 7.97% and 10.92% respectively.

Given the shortage of internationally accepted definitions and classifications of metropolises, researchers are free to delineate metropolis centers and metropolitan areas according to various criteria. In this paper, the authors assumed that the boundaries of TMA will be delineated by the commuting time criterion, in this case commuting for no longer than 1 hour to reach Tbilisi, the metropolis center. The area has been highlighted in green in Fig. 1.
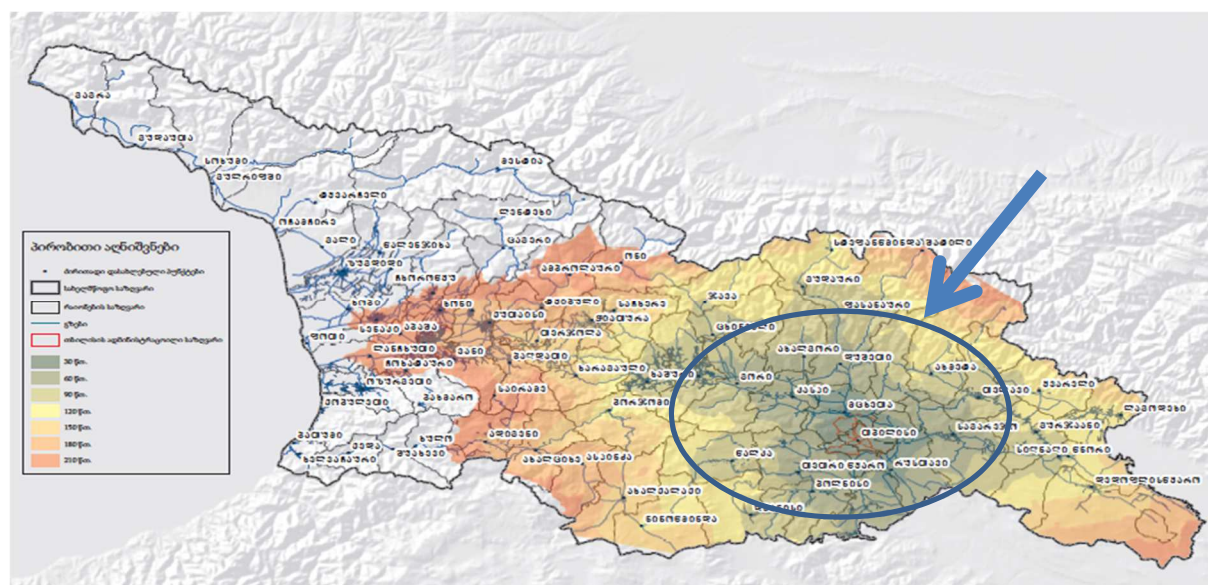

Fig. 1. TMA boundaries
Source: own elaboration based on input material used for the development of Tbilisi Master Plan (unpublished material).

According to the criterion adopted, TMA embraces the following territorial units:Tbilisi, Rustavi City, Gardabani, Bolnisi, Marneuli, TetriTskaro, Sagarejo, Kaspi, Gori City, Gori, Dusheti, Mtskheta City and Mtskheta. In 2002, its overall demographic potential was 1 888 799 inhabitants, whereas in 2014 it was 1 797 247, and thus declined by 91 552 people. In 2002, TMA's share in the total population of Georgia was 43.23% and in spite of the population decline, it increased to 48.39% in 2014. Quantitative changes in individual territorial units are presented in Table 4.

Table 4 implies that majority of TMA population lives in Tbilisi, to be exact, 57% in 2002 and 62% in 2014. Only three of its territorial units witnessed population increase, that is Tbilisi, Rustavi City and Mtskheta City, whereas in other units a population drop was noted. However, it must be remembered that in 2007 the administrative boundaries of Tbilisi were expanded and so, the city's overall population increased by ca 50 000. Considering this fact, the actual difference between 2002 and 2014 would indeed be negative. From the stand point of socio-economic development and public service economics, it is essential to analyze population dynamics in given functional population groups, i.e. in pre-working age, working and post-working age groups. Table 5 presents quantitative changes in these three functional groups across entire TMA.

Table 4. Total population size of TMA

Region	2002	2014	Difference	Dynamics
Tbilisi	1 081 632	1 108 717	27 085	102.50
Rustavi City	116 375	125 103	8728	107.50
Gardabani	114 348	81 876	−32 472	71.60
Bolnisi	74 299	53 590	−20 709	72.13
Marneuli	118 219	104 300	−13 919	88.23
TetriTskaro	25 350	21 127	−4223	83.34
Sagarejo	59 212	51 761	−7451	87.42
Kaspi	52 216	43 771	−8445	83.83
Gori City	49 516	48 143	−1373	97.23
Gori	99 170	77 549	−21 621	78.20
Dusheti	33 636	25 659	−7977	76.28
Mtskheta City	7718	7940	222	102.88
Mtskheta	57 108	47 711	−9397	83.55
TMA	1 888 799	1 797 247	−91 552	95.15
Georgia	4 369 213	3 713 804	−655 409	85.00

Source: own elaboration based on data from the Georgian National Statistical Office.

Table 5. Population size by functional population groups

Group	2002	2014	Difference
Pre-working age population	557 378	464 311	−93 067
Working age population	1 125 736	1 113 323	−12 413
Post-workingagepopulation	205 685	219 613	13 928

Source: own elaboration based on data from the Georgian National Statistical Office.

As demonstrated in Table 5, in the 2002–2014 period, TMA shrank by 93 067 people in pre-working age (children and youth), which amounts to a drop of 16.7%, and 12 413 in the working age, that is a 1,1% drop. However, the post-working age group grew by 6.8%, that is by 13 928 persons. Looking closely at the dynamics of functional population groups in the TMA area, it transpires that the changes are not consistent throughout the entire area. Although a significant decline in the pre-working population group was noted in all territorial units, the working age group witnessed an increase in Tbilisi, Rustavi City, Mtskheta City and Gori City. Moreover, the size of the post-working age group dwindled in Gardabani, Bolnisi, TetriTskaro, Sagarejo, Kaspi, Gori, Dusheti and Mtskheta. These changes are illustrated in Tables 6, 7 and 8.

Table 6. Pre-working age population

Region	2002	2014	Difference	Dynamics
Tbilisi	298 683	283 450	−15 233	94.90
Rustavi City	36 580	33 903	−2677	92.68
Gardabani	39 279	22 584	−16 695	57.50
Bolnisi	25 461	13 908	−11 553	54.62
Marneuli	44 401	31 105	−13 296	70.05
TetriTskaro	6 940	5222	−1718	75.24
Sagarejo	18 384	13 837	−4547	75.27
Kaspi	14 634	9670	−4964	66.08
Gori City	14 832	12 982	−1850	87.53
Gori	29 700	18 685	−11 015	62.91
Dusheti	9239	5 599	−3640	60.60
Mtskheta City	2268	1921	−347	84.70
Mtskheta	16 977	11 445	−5532	67.41
TMA	557 378	464 311	−93 067	83.30

Source: own elaboration based on data from the Georgian National Statistical Office.

Table 7. Working age population

Region	2002	2014	Difference	Dynamics
Tbilisi	669 166	692 423	23 257	103.48
Rustavi City	70 599	80 039	9440	113.37
Gardabani	64 029	49 694	−14 335	77.61
Bolnisi	40 957	32 306	−8651	78.88
Marneuli	64 281	63 455	−826	98.72
TetriTskaro	13 421	11 989	−1432	89.33
Sagarejo	32 864	30 777	−2087	93.65
Kaspi	29 007	26 280	−2727	90.60
Gori City	29 574	29 700	126	100.43
Gori	55 936	47 236	−8700	84.45
Dusheti	18 223	14 593	−3630	80.08
Mtskheta City	4529	5045	516	111.39
Mtskheta	33 150	29 786	−3364	89.85
TMA	1 125 736	1 113 323	−12 413	98.90

Source: own elaboration based on data from the Georgian National Statistical Office.

Table 8. Post-working age population

Region	2002	2014	Difference	Dynamics
Tbilisi	113 783	132 844	19 061	116.75
Rustavi City	9196	11 161	1965	121.37
Gardabani	11 040	9598	−1442	86,94
Bolnisi	7881	7376	-505	93.59
Marneuli	9537	9740	203	102.13
TetriTskaro	4989	3916	−1073	78.49
Sagarejo	7964	7147	-817	89.74
Kaspi	8575	7821	−754	91.21
Gori City	5110	5461	351	106.87
Gori	13 534	11 628	−1906	85.92
Dusheti	6174	5467	−707	88.55
Mtskheta City	921	974	53	105.75
Mtskheta	6981	6480	−501	92.82
TMA	205 685	219 613	13 928	106.77

Source: own elaboration based on data from the Georgian National Statistical Office.

RESULTS

Numerical data used in the research were collected from the Georgian National Statistical Office. Since no data were available for the entire period (and individual years) and for individual territorial units of TMA, the analysis had to be limited to 2002 and 2014, and to four territorial units: Tbilisi, Rustavi, Gori City and Mtskheta City. To obtain a synthetic indicator, five parameters affecting the area's demographic situation were applied. Table 9 presents a set of variables with a brief description. Once the variables were determined, they were verified using two criteria, i.e. their volatility and correlation (Młodak 2006). All variables had met the criteria assumed, and were applied in further research.

To capture differences between communes with different demographic potential, a ranking was created by using the method of linear ordering of multi-attribute objects, upon selection of attributes that could be treated as stimulants or destimulants of growth. Since the variables

used to construct the indicator were calculated in different units, standardization was applied to achieve their comparability with one another, and next, the results were presented with the use of an aggregate indicator. This method allows to obtain a fixed range of individual variation of standardized attributes.

Table 9. Set of diagnostic variables

Variable	Name of variable
X_1	fertility rate – number of children born to the overall number of women aged 15–39 – captures the demographic regeneration capacity in the next generation (it is commonly assumed that the demographic potential remains the same at 2.15–2.2 fertility rate)
X_2	birth rate – total number of live births per 1000 of a population – showspopulation change in terms of total births and deaths
X_3	migration balance per 1000 of a population – captures the difference of immigrants and emigrants of an area;
X_4	old-age dependency ratio – ratio between the number of post-working age people and the totalpopulation – shows the share of economically inactive group in the local community structure
X_5	young adult ratio – ratio of 25–34 aged persons to the overall area's population – relates to ultimate posterity of the population, and reflectsthe area's appeal to young adults, which is the group with the highest demographic and socio-economic development potential

Stage 1 – Standardization of variables – To identify similar objects in terms of attributes that stimulate and destimulate growth, the following equations were used respectively:

– stimulant indicator $\quad W = \dfrac{X - \min}{\max - \min}$

– and for the destimulant $\quad W = \dfrac{\max - X}{\max - \min}$

where:

  X – value of a given factor in a specific commune,

  max – maximum factor value,

  min – minimum factor value.

For stimulants, the indicator adopts values between 0 to 1, where 0 is the worst result and +1 the best. Diagnostic variables were made comparable by using the unitarization method (Kukuła 2000), and the mean was expressed in a numerical scale, range of <0;100>.

Stage 2 – Aggregate measures – Aggregate measure comes from combining in one formula the accepted rules of standardization, weighing and aggregation of variables. The suggested aggregate measure allows to calculate the arithmetic mean from diagnostic variables which were made inter-comparable through unitarization, and expression of this mean in a numerical scale <0;100>. To obtain a final indicator, levels of standardized values were summed up, divided by the number of variables and multiplied by 100 (StatSoft 2009 Training materials). The synthetic variable, along with descriptive parameters for years 2002 and 2014, is provided in Table 10.

Table 10. Synthetic variables in 2002 and 2014

	2002	2014
Tbilisi	31.11	39.71
Rustavi	42.07	58.87
Gori	35.44	38.31
Mtskheta	57.31	42.84
Average	41.49	44.93
Standard deviation	9.936	8.212
Coeficient of variation	23.95%	18.28%
Skewness	1,161	1.771

Synthetic indicators for all territorial units covered in the study period did not exceed 60 points. In 2002, the city of Mtskheta showed the highest indicator value, yet in 2014 it was the city of Rustavi that had the highest indicator value. Figure 2 illustrates the ranking of territorial units in given years. The change in the demographic potential of the four subject units over the study period was presented in a scatter graph, where the X axis contains the 2014 indicator, and Y-axis the indicator difference in the years 2002–2014, which allows to identify changes in the position of a given unit in time. This is illustrated by Fig. 2.
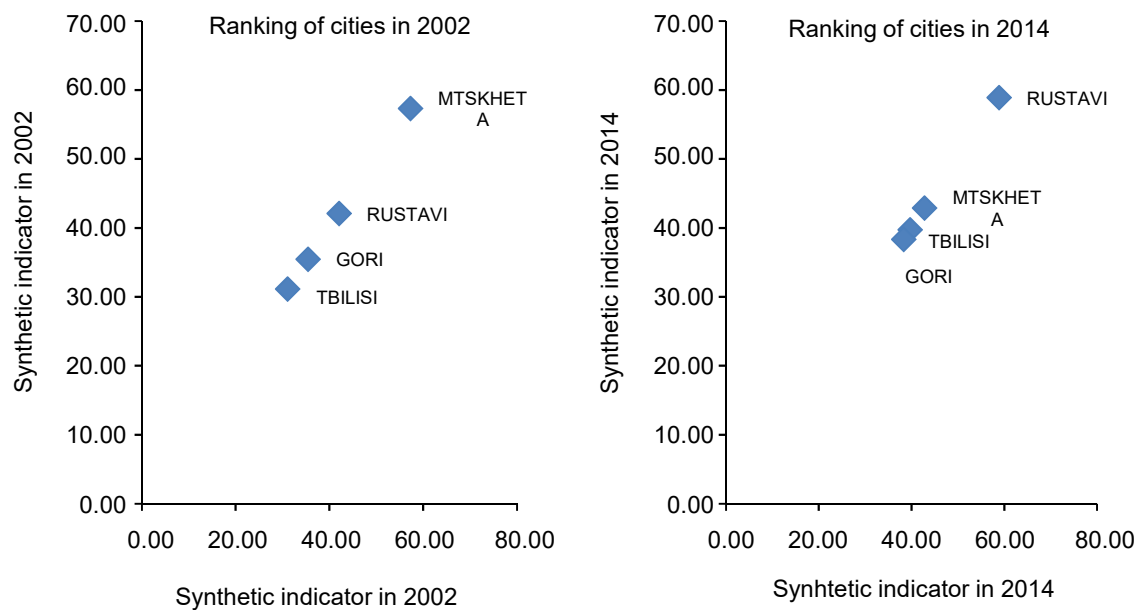

Fig. 2. Demographic potential in the 2002–2014 period

In the research period, three out of four territorial units – with the exception of the city of Mtskheta – demonstrated increased demographic potential. In case of Rustavi, this increase can be attributed mainly to a higher (positive) migration balance. However, remaining territorial units showed a negative migration ratio in the study period. It is also worth noting that in two territorial units, i.e. Gori and Mtskheta, the fertility rates were above 2.2 (and 3.46 in Gori), and thus rather high. Table 11 presents parameters used to compute the synthetic indicator.
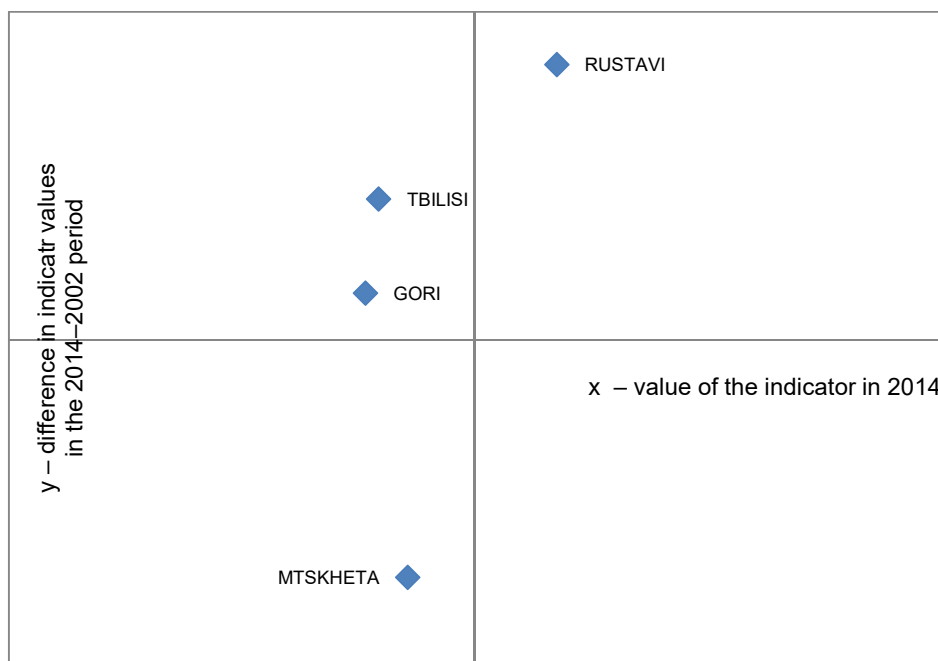
Fig. 3. Demographic potential in 2014 in relation to 2002

Table 11. Actual cumulative values of diagnostic variables

Region	Total birth rate per 1 000 of a population in the 2002–2014 period	Total migration balance per 1 000 of a population in the 2002–2014 period	Average fertility rate in the 2002–2014 period	Difference in the old-age dependency ratio in the 2002–2014 period	Difference in the young adult ratio (25–34 yrs) per 1 000 of a population in the 2002–2014 period
Tbilisi	44 531	−17 493	1.93	0.01	8.11
Rustavi	5518	3201	1.65	0.01	23.99
Gori	3778	−5151	2.56	0.01	7.11
Mtskheta	667	−445	3.46	0.00	33.79

Source: own elaboration based on data from the Georgian National Statistical Office.

CONCLUSIONS

In the years 2002–2014 large population decline was observed throughout Georgia, and the total population decreased by 655 409 people. This trend is proven to be consistent with significant declines in the so-called functional population groups. The population of TMA also shrank by 91 552, however in three territorial units being part of the Tbilisi Metropolitan Area, i.e. Tbilisi, the cities of Rustavi and Mtskheta, a population increase was noted. Analysis of quantitative data for TMA by functional population age groups confirms that also in this case a major decline in the size of the pre-working and working age population was observed, accompanied by an increase in the post-working age group.

The quantitative data collected and the results of analysis did not confirm the hypothesis that positive growth rate and positive migration balance occur only in Tbilisi as the metropolis centre. The two ratios were also positive for the city of Rustavi, whereas in other cities of the TMA "nucleus", positive growth rate was accompanied by negative migration balance.

All four cities showed a high fertility rate of more than 2.0 children per woman in 2014. Simultaneously, the young adult (25–34 years old) ratio per 1 000 inhabitants went up in all four cities. These two indicators prove that the population of these cities is rather young, whereas the reasons for population decline lie predominantly in the negative migration balance, which might be caused by Georgia's unfavorable economic situation.

The comparison of city rankings with the use of a synthetic indicator, followed by an analysis of demographic potential dynamics presented in the scatter plot, allowed authors to identify changes in the demographic potential of the said territorial units.

Application of a synthetic variable to assess the demographic potential allowed to compare TMA territorial units in terms of individual diagnostic variables.

The synthetic variable method and synthetic indicators of dispersion can be used in socio-economic analyses of various areas, and can be a supportive tool in strategic decision-making processes that have to be performed by local and regional government.

Scarcity of data has significantly limited the scope of analysis, precluding analysis of the entire Tbilisi Metropolitan Area and limiting the use of synthetic variable method to four cities treated as the TMA "nucleus". Hence, the authors strongly insist on increasing the availability of basic local demographic data to include individual cities, towns and rural areas.

TMA population constitutes almost half (48%) of Georgia's total population. Consistent monitoring of demographic processes occurring in the whole TMA area, including all territorial and administrative units, would provide sound grounds for efficient management and allocation of public funds, and thus favorably affect the development of the entire Tbilisi Metropolitan Area.

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Summary. The size of population inhabiting any area is affected by three important processes, that is the aging of workforce, birth rate decline and migration processes. Demographic changes have and will continue to have influence on decision processes taken in a particular area and its socio-economic condition. Demographic changes imply changes in the structure of local economy, demand for public services, workforce supply, and the income of residents and local government. Metropolitan cities are formed in result of high concentration of population in its nucleus and a simultaneous, continuous sprawl of its inhabitants to increasingly larger adjoining areas, which gives rise to fragmented urban space. The aim of this paper is to compare the population potential within the Tbilisi Metropolitan Area (TMA) and assess demographic changes over the period of 2002–2014. In the first part, theoretical aspects of demographic processes and a review of metropolitan area definitions are presented. In the second, the empirical part, the demographic situation of Georgia and its regions in the 2002-2014 study period is outlined, followed by an assessment of TMA demographic potential based on selected indexes and a synthetic variable constructed for that purpose.