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Ageing of Society — Local Disparities. Classification of the Pomorskie Voivodship Communes According to the Pace and Progress of Local Communities' Ageing

Anita Richert-Kaźmierska
Gdansk University of Technology, Poland

Abstract

The article deals with the issues of local disparities in the field of advancement and pace of demographic ageing. The subjects of the research were communes of the Pomorskie Voivodship. The purpose of the article — i.e., diagnosing and assessing the progress and pace of ageing of local communities in all 123 communes of the Pomorskie Voivodship, was achieved using a combination of traditional measures of ageing: age factor, the rate of double ageing, median age and the old age dependency ratio. In addition, grouping of the surveyed communes based on the criterion of progress and pace of population ageing was proposed. The results of the conducted analyses may be of practical use — they can be used by the commune and county governments, as well as by the regional government of the Pomorskie Voivodship to optimize the activities within the framework of development policies in view of the current demographic changes.

Keywords: population ageing, measures of local communities' ageing progress, classification of communes, Pomorskie Voivodship

JEL: J11, J14, R58

Introduction

Demographic ageing of population is a global phenomenon (*Ageing in the Twenty-First…* 2012; "Global Population Ageing…" 2012; United Nations 2015), which in the last two decades has also intensified in Poland (Ciura and Szymańczak 2012; Samoraj 2003; Wolańska 2009; Żołędowski 2012). State authorities and social organizations undertake numerous activities aimed at slowing and mitigating the negative consequences associated with ageing.[1] They are mainly focused around:

- family policy and the provision of social services being an incentive to increase the birth rate,
- extending the economic activity period of older people and increasing the social participation of this group,
- reorganization of the pension systems in order to prevent a crisis in public finances, and
- organization of de-institutionalized health and social care systems dedicated to the elderly, in the context of the decreasing care potential of families.

The public discourse on population ageing and its consequences, as well as the necessary remedial actions, is carried out in Poland mainly on the macro scale (i.e., in terms of the entire state). Meanwhile, ageing as a global phenomenon requires concrete actions at regional and local level, initiated and implemented by local authorities. According to Błędowski (Błędowski 2016, 83), the

1. More on this topic in: (Janicka, Kaczmarczyk, and Anacka 2015; Lee, Mason, and Cotlear 2010; Nyce and Schieber 2011; Richert-Kaźmierska 2016).

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levels most predestined to perform development policy tasks in face of demographic challenges are the commune and the county. Programming such a policy requires, however, developing an appropriate diagnosis and understanding the specifics of these changes (Mączyńska 2010), as well the characteristics and needs of the demographically old local communities (Błędowski 2016, 86). As the values averaged on the country or region scale can hide internal diversity of progress and the pace of ageing (Kinsella 2000), there is a need for conducting analyses and monitoring the situation in terms in the local perspective.

With reference to the above considerations, the author has decided that the goal of this article should be the diagnosis and evaluation of disparities in the progress and pace of ageing of local communities (in the scale of communes) existing in the Pomorskie Voivodship. In addition, grouping of the communes from the Pomorskie Voivodship based on the criteria of progress and pace of population ageing was proposed. The results of the conducted analyses may be of practical use — they can be used by the commune and county governments, as well as by the regional government of the Pomorskie Voivodship, to optimize the activities within the framework of development policies in view of the current demographic changes.

1 Research methodology

The evaluation of the differences in the pace and progress of demographic ageing existing at the local level was conducted for the communes of the Pomorskie Voivodship (tab. 1). Out of the measures of the pace and progress of demographic ageing (Abramowska-Kmon 2011; Sanderson and Scherbov 2007, 2008, 2010) available in the literature, four classical measures were chosen for the purposes of this article. In measuring the progress of ageing the following measures were used: old age rate — OAR, double ageing factor — DA and the median age — MA. They were calculated based on the data from the Local Data Bank[2] of the Central Statistical Office of Poland (CSO)[3] for the year 2014. As a measure of the pace of ageing the change of the demographic old age dependency ratio — $OADR$ in the years 2000–2014 was adopted. The data for the calculation of this ratio were also taken from Local Data Bank.

Tab. 1. Surveyed communes of Pomorskie Voivodship

Commune type	n	%
Urban (u)	27	21,95
Rural (r)	79	64,23
Urban-rural (ur)	17	13,82
Total	123	100,00

The old age rate is defined as the share of individuals aged 60 years and over in the total population. The double ageing factor is defined as the share of the oldest individuals (80 years and older) in the population of senior citizens (60 years and over):

$$OAR = \frac{L_t(60+)}{L_t} \cdot 100, \tag{1}$$

$$DA = \frac{L_t(80+)}{L_t(60+)} \cdot 100, \tag{2}$$

where:
L_t — total population,
$L_t(60+)$ — total number of individuals aged 60 and more,
$L_t(80+)$ — total number of individuals aged 80 and more.

The median age of population was calculated on the basis of age structure data of the inhabitants of communes published at five-year intervals. The method of calculating the median in interval frequency distribution was applied.

2. See: https://bdl.stat.gov.pl/BDL/start.
3. Polish: GUS.

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(3) $$MA = x_{i0} + (M - n_{k-1}) \cdot \frac{c_{i0}}{n_{i0}}$$

where:
x_{i0} —the lower value of the median interval,
M —median position: $M = (n + 1)/2$, where n is the size of the surveyed population, in this case L_t,
n_{k-1} —cumulative size of the interval preceding the interval of the median,
c_{i0} —span of the median interval,
n_{i0} —count of the median interval.

The change of the demographic old age dependency ratio in the 2000–2014 period is presented as percentage change and average annual rate of change. The demographic old age dependency ratio was calculated as the number of individuals aged 60 years and more per 100 individuals aged 15–59 years:

(4) $$OADR = \frac{L_t(60+)}{L_t(15-59)} \cdot 100.$$

Based on the results of the analysis of the existing inter-commune disparities in the progress and pace of demographic ageing of their local communities, grouping similar communes was also proposed in the study. A clustering method based on k-means and frequency distribution was used to achieve this purpose.

2 The research results

2.1 The progress of ageing

The assessment of the progress of ageing of the population in the article is based on three factors: old age rate, double ageing factor and the median age. The calculations were performed on the data for 2014 (tab. 2). According to Rosset's classification (Rosset 1959, 72–73), in 2014 all communes in the Pomorskie Voivodship were characterized by demographic old age.[4] The old age ratio in each of the 123 communes was above 12%. In nine communes (Luzino, Wejherowo, Somonino, Sierakowice, Pruszcz Gdański, Starogard Gdański, Szemud, Żukowo, and Przodkowo) the share of individuals aged 60 years and over in the total population did not exceed 14%, which means that local communities were in the so-called initial state of old age. More than one-third of the communes from the Pomorskie Voivodship (46 communes, including 13 rural, 12 urban-rural and 21 urban ones) were characterized by a very advanced stage of old age due to their old age ratio being over 18%. The highest value of the old age ratio was observed for the following cities: Słupsk

Tab. 2. Basic data on the progress of ageing in the communes of Pomorskie Voivodship in 2014

	Average	Median	Minimum	Maximum	St. deviation	Coeff. of variation
Old age rate (in %) (OAR)	17,72	16,99	12,09	31,99	3,30	18,62
Double ageing factor (in %) (DA)	15,94	15,87	10,06	22,84	2,22	13,95
The median age of commune inhabitants (in years) (MA)	36,39	36,26	31,17	46,22	2,62	7,19

Source: Own work on the basis of data published by CSO at Local Data Bank
[In the journal European practice of number notation is followed—for example, 36 333,33 (European style) = 36 333.33 (Canadian style) = 36,333.33 (US and British style).—Ed.]

4. According to Rosset's scale the demographically old populations are characterised by the old age ratio exceeding 12%. Populations having a ratio in the range of 16%–18% are referred to as old at the advanced level, while those where the ratio exceeds 18%—as old to a very advanced extent.

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(25,25%), Gdańsk (25,47%), Gdynia (26,47%), Ustka (27,16%), and Sopot (31,99%). The values of the old age ratio in the communes of the Pomorskie Voivodship are shown in the figure 1.

The advancement of demographic ageing of the Pomeranian communes also differs due to the value of the double ageing factor. Among the 123 communes in 5 (Kosakowo, Hel, Reda, Kolbudy, and Skórcz (urban commune)) the factor was less than 12%, in 19 — between 12% and 14%, whereas in 78 — between 14% and 18%, and in 21 — over 18%. The communes with the highest values of the double ageing factor were: Rzeczenica (19,64%), Karsin (19,65%), Osieczna (20,58%), Ostaszewo (22,52%) and the city of Sopot (22,85%). The values of the factor in the communes of the Pomorskie Voivodship are shown in the figure 2.

According to the Maksimowicz scale (Maksimowicz 1990, 267) based on the criterion of median age, in 2014 all the communes of Pomorskie Voivodship were at an advanced stage of the ageing process.[5] Of these, 80 were communes where local communities were very old, with median age exceeding 35 years (in 14 of them it exceeded 40 years). The median age for Sopot — the city (commune) most advanced in the ageing process according to this criterion — was 46,23 years. The values of the median in the communes of the Pomorskie Voivodship are shown in the figure 3.

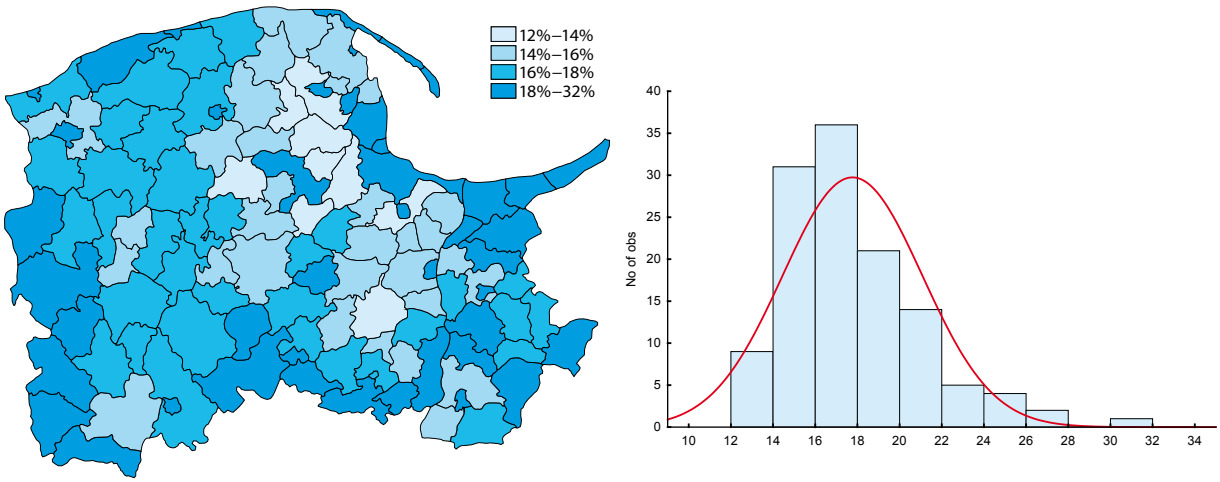

Fig. 1. Old age ratio (OAR) in the communes of the Pomorskie Voivodship in 2014

Source: Own work on the basis of data published by CSO at Local Data Bank

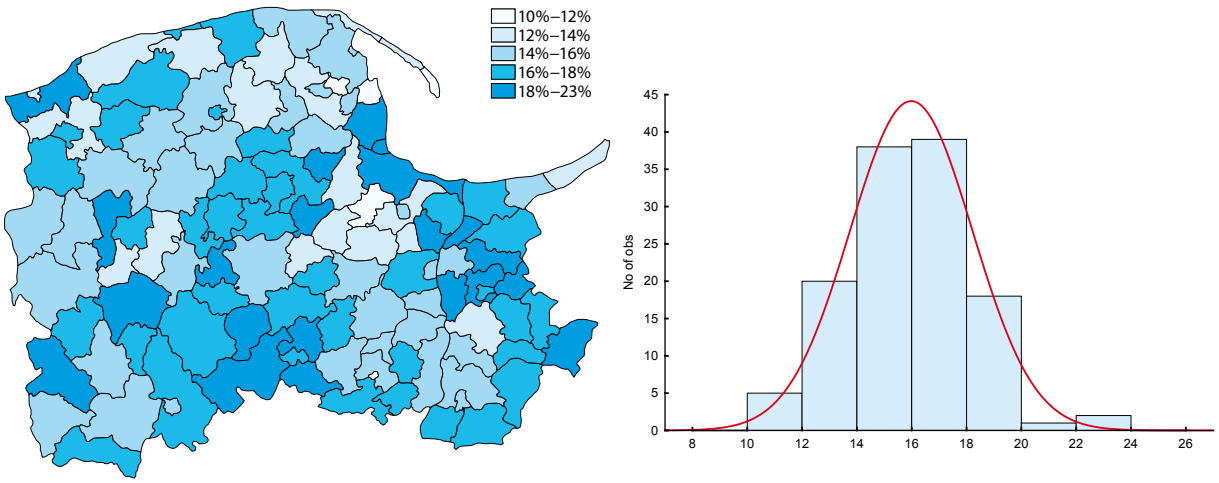

Fig. 2. The double ageing factor (DA) in the communes of the Pomorskie Voivodship in 2014

Source: Own work on the basis of data published by CSO at Local Data Bank

5. In the Maksimowicz classification the median age between 15–19 years is considered to be characteristic for very young populations, 20–24 years — young populations, 25–29 years — ageing ones, 30–34 years — advanced in the ageing process, 35 years and more — very old.

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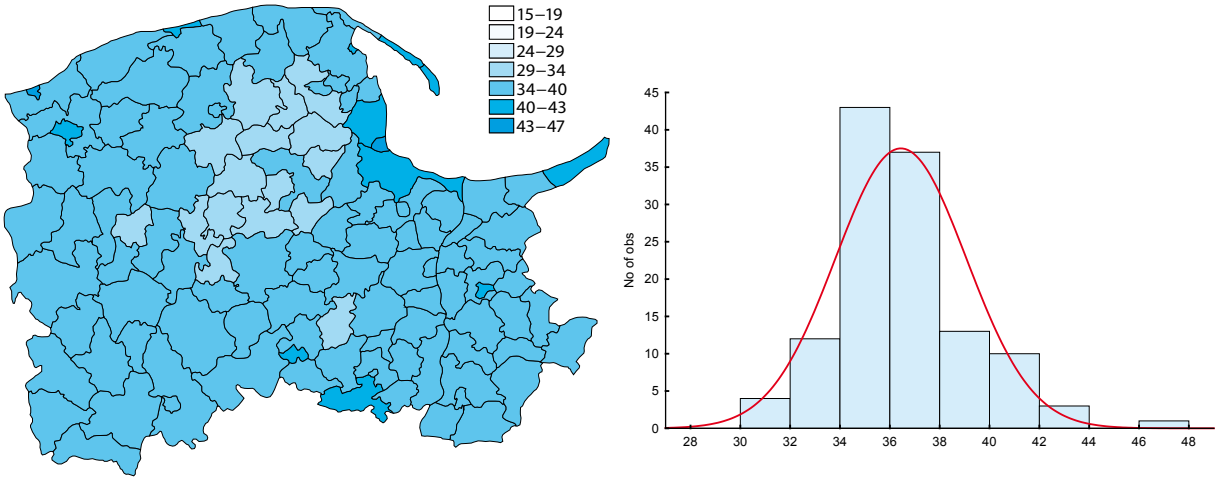

Fig. 3. Figure 3. The median age (MA) in the communes of the Pomorskie Voivodship in 2014

Source: Own work on the basis of data published by CSO at Local Data Bank

In order to classify the communes of the Pomorskie Voivodship (123 cases) due to the progress of ageing, the method of grouping *k*-means was used. The division into three groups (clusters) was adopted, covering respectively: communes with a relatively low stage of ageing, communes with a medium stage of ageing and communes with a high degree of progress of ageing (tab. 3, fig. 4).

Cluster 1, covering the communes with the highest values of the variables being a criterion for assessing the progress of ageing, was comprised of 18 communes. All of them (except for the commune of Osiek) are urban communes. The second group of communes, characterized by an average stage of ageing, included 57 communes. Cluster 3, communes with a low stage of ageing, was made up of 48 communes. Cluster 3 is dominated by rural communes (42). The only urban communes in this group are the following: Skórcz, Lichnowy, and Borzytuchom, and urban-rural: Brusy, Żukowo, and Skarszewy. The list of communes according to the progress of ageing is given in the Annex (see page 62).

Tab. 3. Classification of the Pomorskie Voivodship communes due to the progress of ageing—Average values of variables in the clusters

	Cluster 1 high progress of ageing	Cluster 2 medium progress of ageing	Cluster 3 low progress of ageing
OAR	23,76	18,39	15,14
DA	15,58	16,73	15,34
MA	41,05	37,03	34,30

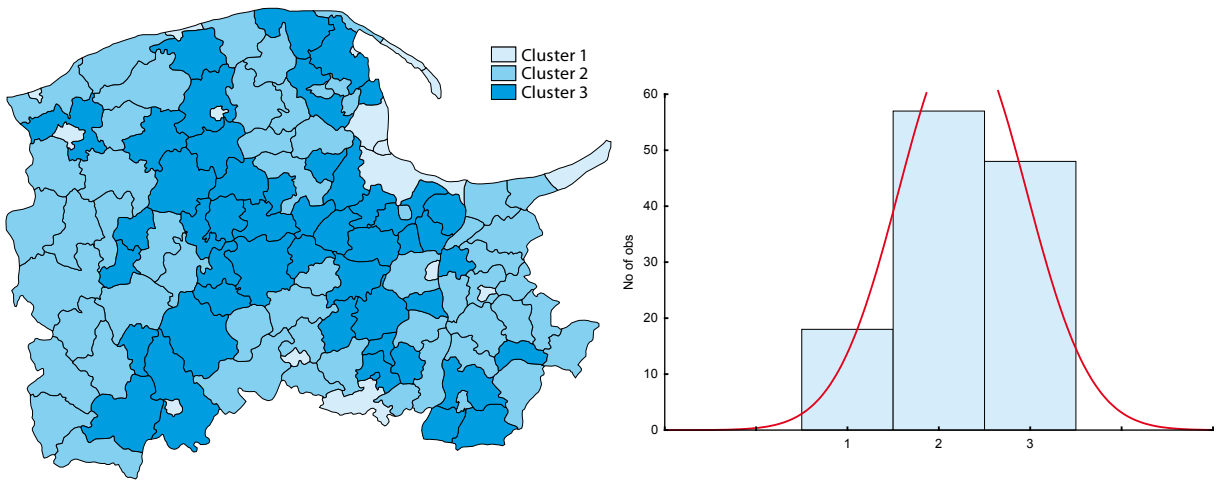

Fig. 4. Communes of Pomorskie Voivodship according to the progress of ageing in 2014

Source: Own work on the basis of data published by CSO at Local Data Bank

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2.2 The pace of ageing

To assess the rate of ageing of the local communities in the communes of Pomorskie Voivodship the old age dependency ratio was used (OADR). It was checked whether and how quickly the value of this ratio varied in different communes in the 2000–2014 period. In 2000, the value of the old age dependency ratio ranged from 11,4 (in Reda) to 37,5 (in Sopot), while the median for all 123 communes was 20,8. In 2014, the lowest ratio was observed for the commune of Luzino (18,5) and the highest for Sopot (55,3), while the median for all communes was 26,5. The values of the old age dependency ratio in 2014 were higher than in 2000 in 121 communes. The exceptions were Osieczna and Borzytuchom communities, where in the period of fourteen years covered by the research the ratio decreased respectively by 4,7% and 5,2%.

Tab. 4. The old age dependency ratio (OADR) in the communes of the Pomorskie Voivodship

	Average	Median	Minimum	Maximum	Stand. dev.	Coeff. of variation
2000	21,21	20,8	11,4	37,5	3,66	17,24
2014	27,64	26,5	18,5	55,3	5,87	21,24

Source: Own work on the basis of data published by CSO at Local Data Bank

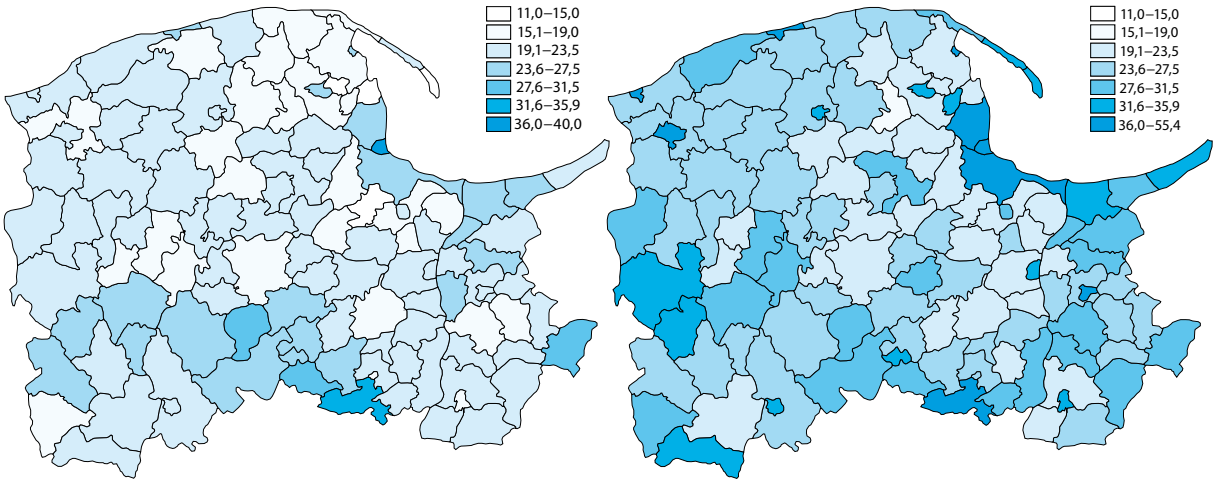

Fig. 5. The value of the old age dependency ratio in the communes of Pomorskie Voivodship in 2000 (left) and 2014 (right)

Source: Own work on the basis of data published by CSO at Local Data Bank

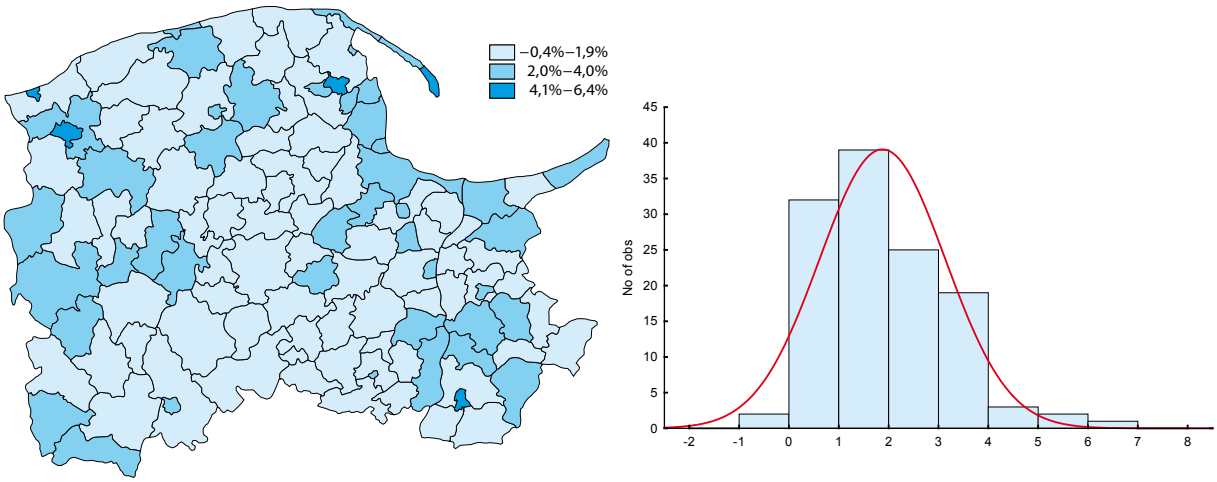

Fig. 6. The average annual rate of change of the demographic old age dependency ratio in the communes of the Pomorskie Voivodship in the period 2000–2014

Source: Own work on the basis of data published by CSO at Local Data Bank

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The annual average rate of change of the demographic old age dependency ratio in the period 2000–2014 in various communes of the Pomorskie Voivodship differed substantially: in the commune of Borzytuchom it was −0,38% (the most favorable situation) and in the commune of Hel it amounted to 6,35% (high, adverse average rate of ageing of the local community). The empirical distribution of the average annual rate of change of the demographic old age dependency ratio is presented as frequency distribution with three class intervals: the first class interval includes the communes with low (including negative) pace of ageing, the second class interval—communes with a moderate pace of ageing, and the third one—communes with a high pace of ageing.

The applied method allowed for distinguishing among the Pomorskie Voivodship 73 communes (59,34%) with a low rate of ageing (the average change of the demographic old age dependency ratio on the level of −0,4% to 1,9%). This group included mainly the rural communes (except for Borzytuchom, Lichnowy, Czarna Woda—urban communes, and Brusy, Czersk, Skarszewy, Żukowo, Nowy Staw, Dzierzgoń and Kartuzy—urban-rural communes). 44 communes (35,77%) met the criteria of second class range and were classified as communes with a moderate pace of ageing. Six communes: Kwidzyn, Słupsk, Reda, Człuchów, Ustka, and Hel, were found to be communes (all urban) with a high pace of ageing. In each of them the annual average rate of change of the demographic old age dependency ratio exceeded 4,1% and was as follows: 4,12%, 4,18%, 4,37%, 5,16%, 5,61% and 6,35%.

2.3 Discussion

The statistical analysis of the collected data allowed for the grouping of Pomorskie Voivodship communes according to the progress of ageing and the pace at which it has progressed over the last fourteen years in their area (tab. 5). The communes with the least favorable combination of data describing the age structure of the local community and the trend in this area included: Słupsk (u), Człuchów (u), Ustka (u) and Hel (u).[6] In each of them high values of factors determining the progress of ageing and the high rate at which demographic old age dependency ratio increased in the last fourteen years were recorded. An unfavorable demographic situation also exists in the communes qualified for the group characterized by a moderate stage of ageing progress and a high pace of ageing (Kwidzyn (u) and Reda (u)) and a high degree of ageing progress and a moderate pace of ageing (Sopot (u), Łeba (u) Jastarnia (u), Puck (u), Gdańsk (u), Starogard Gdański (u), Lębork (u), Malbork (u), Tczew (u), Chojnice (u), Gdynia (u), and Krynica Morska (u)). All of communes mentioned above, characterized by an unfavorable combination of the tested variables, are urban communes. The communes with moderately disadvantageous (unfavorable, but with values diagnosing a moderate progress of ageing and a moderate pace of ageing) are: 5—urban communes, 10—urban-rural communes and only 8—rural communes. On the other hand, the group of communes where the ageing process is slowest and its progress is lowest (39 communes) includes only 2 urban communes (Borzytuchom and Lichnowy) and 3 urban-rural ones (Brusy, Skarszewy, and Żukowo), while the remaining 34 communes are rural communes.

The correlation analysis confirmed a moderately strong relationship between the pace of ageing[7] and commune type (Spearman $R = -0{,}31$; $p < 0{,}05$). Urban communes are ageing faster than rural and urban-rural ones. It was also confirmed that the progress of ageing is related to the type of the examined communes. Urban communes are characterized by a higher progress of ageing than rural and urban-rural ones. The correlation analysis was based on the assignment of communes (according to their type) to one of three clusters reflecting the progress of ageing of the local community in the communes (Spearman $R = 0{,}35$; $p < 0{,}05$).

6. Letter u in parentheses indicate urban commune (see tab. 5).

7. Corresponding in the article to the annual average rate of change of old age dependency ratio in the 2000–2014 period.

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Tab. 5. The classification of the pomorskie voivodship communes according to the progress and pace of local community ageing

			The progress of ageing		
			Low level (Cluster 3)	Moderate level (Cluster 2)	High level (Cluster 1)
			Neutral situation	Disadvantageous situation	
The pace of ageing	Low (First class interval)	Neutral situation	Borzytuchom (u), Somonino (r), Lichnowy (u), Konarzyny (r), Przodkowo (r), Lipusz (r), Człuchów (r), Brusy (ur), Suchy Dąb (r), Kwidzyn (r), Zblewo (r), Chojnice (r), Subkowy (r), Sadlinki (r), Parchowo (r), Sulęczyno (r), Sierakowice (r), Starogard Gdański (r), Trąbki Wielkie (r), Puck (r), Morzeszczyn (r), Żukowo (ur), Pruszcz Gdański (r), Dziemiany (r), Skórcz (r), Skarszewy (ur), Stężyca (r), Kościerzyna (r), Wejherowo (r), Cedry Wielkie (r), Gardeja (r), Chmielno (r), Bobowo (r), Potęgowo (r), Krokowa (r), Czarna Dąbrówka (r), Mikołajki Pomorskie (r), Nowa Karczma (r), Nowa Wieś Lęborska (r)	Osieczna (r), Stary Dzierzgoń (r), Tczew (r), Miłoradz (r), Ostaszewo (r), Lipnica (r), Malbork (r), Szemud (r), Stare Pole (r), Karsin (r), Rzeczenica (r), Linia (r), Lubichowo (r), Luzino (r), Kaliska (r) Stara Kiszewa (r), Czersk (ur), Nowy Staw (ur), Choczewo (r), Damnica (r), Ustka (r), Kobylnica (r), Smętowo Graniczne (r), Kołczygłowy (r), Gniewino (r), Przechlewo (r), Sztutowo (r), Dzierzgoń (ur), Trzebielino (r), Smołdzino (r), Główczyce (r), Kartuzy (ur)	Osiek (r), Czarna Woda (u)
	Moderate (Second class interval)	Disadvantageous situation	Tuchomie (r), Słupsk (r), Skórcz (u), Pszczółki (r), Kosakowo (r), Wicko (r), Cewice (r), Przywidz (r), Kolbudy (r)	Prabuty (ur), Stegna (r), Dębica Kaszubska (r), Gniew (ur), Liniewo (r), Koczała (r), Nowy Dwór Gdański (ur), Stary Targ (r), Ryjewo (r), Wejherowo (u), Pelplin (ur), Pruszcz Gdański (u), Kępice (ur), Studzienice (r), Debrzno (ur), Łęczyce (r), Bytów (ur), Czarne (ur), Kościerzyna (u), Władysławowo (u), Miastko (ur), Sztum (ur), Rumia (u)	Sopot (u), Łeba (u), Jastarnia (u), Puck (u), Gdańsk (u), Starogard Gdański (u), Lębork (u), Malbork (u), Tczew (u), Chojnice (u), Gdynia (u), Krynica Morska (u)
	High (Third class interval)			Kwidzyn (u), Reda (u)	Słupsk (u), Człuchów (u), Ustka (u), Hel (u)

Note: The letters in parentheses assigned to the names of the communes indicate: (u) — an urban commune, (r) — a rural commune, (ur) — an urban-rural commune

Conclusions

For the regional authorities, individual counties and communes, the results presented in the article, showing the existing intra-regional differences in the pace and progress of local community ageing in the Pomorskie Voivodship, should provide interesting illustrative material useful in the process of programming the development of individual territorial units. Based on the conducted research, it was found that:

- ageing is a real problem in all Pomorskie Voivodship communes—all of them meet the criteria for classifying them as a demographically old;
- the local communities of urban communes are characterized by a higher progress of ageing than rural and urban-rural ones;
- in 2014 the communes with the highest progress of ageing were: Osiek, Czarna Woda, Sopot, Łeba, Jastarnia, Puck, Gdańsk, Starogard Gdański, Lębork, Malbork, Tczew, Chojnice, Gdynia, Krynica Morska, Słupsk, Człuchów, Ustka, and Hel;
- in some of the Pomorskie Voivodship communes there is a problem of double ageing: in Przodkowo, Such Dąb, Stare Pole, Malbork, Lipnica, Rzeczenica, Karsin, Osieczna, Ostaszewo, and Sopot the share of individuals aged 80 years and over in the population of people aged 60 and more exceeds 19%;
- in individual communes the pace of ageing of the local community is different, except that in urban communes it is higher than in rural and semi-urban communes; and
- in the years 2000–2014 ageing progressed fastest in the communes: Kwidzyn, Reda, Słupsk, Człuchów, Ustka, and Hel.

The results of the research confirm that demographic ageing is a global problem that requires local action. Communes, counties and voivodships should take into account demographic changes as part of their development policies and implement corresponding activities ahead of the negative consequences of population ageing for the local and regional economy.

Although the research was conducted only for the communes of the Pomorskie Voivodship, some general conclusions can be drawn. Firstly, there is a need to intensify—particularly in the urban communes—efforts aimed at slowing down the ageing process of local communities. Action is needed in the area of family-friendly policies and social investment conducive to fertility rate growth, reducing migration and settlement of families with young children in suburban areas (communes' neighboring cities) by increasing the availability and attractiveness of living space in cities, or measures conducive to reducing the emigration of young people. Secondly, there is a need for accurate diagnosis of age structures of local communities and the pace of the occurring demographic changes, together with related socio-economic consequences. This applies above all to communes in which, due to the influx of new residents ("fleeing the city"), the average levels of the factors describing the demographic situation are not alarming (indicating a moderate progress of ageing) and at the same time there are high values of—for example—the double ageing factor of the old age singularisation. Lastly, it is necessary to adapt the local and regional development policies to the current and forecasted demographic situation (both static and dynamic). This implies a need for research in this respect also at the level of communes—which in Poland is still lacking.

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Annex
Factors describing the progress of ageing in Pomorskie Voivodship communes

Commune	Old age ratio (%)	Double ageing factor (%)	Median age (years)	Cluster
Borzytuchom	14,78	17,32	33,46	3
Brusy	16,79	17,76	34,35	3
Bytów	17,91	14,00	36,63	2
Cedry Wielkie	15,28	17,06	35,46	3
Cewice	14,64	14,16	33,13	3
Chmielno	15,66	16,84	32,75	3
Chojnice	21,56	15,59	38,94	1
Chojnice	16,04	16,92	34,98	3
Czarna Dąbrówka	16,78	15,12	34,71	3
Czarne	19,36	14,41	38,01	2
Czersk	18,59	18,04	36,92	2

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Commune	Old age ratio (%)	Double ageing factor (%)	Median age (years)	Cluster
Człuchów	22,82	13,52	41,11	1
Człuchów	15,26	15,51	34,78	3
Damnica	16,32	17,76	35,48	2
Debrzno	20,02	16,87	37,86	2
Dębnica Kaszubska	17,24	15,80	36,48	2
Dziemiany	16,24	17,89	34,45	3
Gardeja	16,91	16,29	34,34	3
Główczyce	16,89	17,19	35,31	2
Hel	21,12	10,14	40,55	1
Jastarnia	21,50	13,48	40,64	1
Karsin	19,38	19,65	36,09	2
Kartuzy	18,12	16,84	35,69	2
Kępice	19,22	15,64	37,51	2
Kobylnica	16,77	16,15	37,03	2
Koczała	20,44	17,48	39,59	2
Kolbudy	15,22	11,46	36,37	3
Kołczygłowy	16,57	18,50	34,76	2
Konarzyny	16,76	16,75	35,22	3
Kosakowo	14,10	10,06	35,64	3
Kościerzyna	20,64	14,94	37,83	2
Kościerzyna	14,75	14,20	34,33	3
Krokowa	15,29	15,10	34,50	3
Krynica Morska	22,70	12,87	41,99	1
Kwidzyn	20,21	14,15	38,03	2
Kwidzyn	14,52	14,36	35,20	3
Lębork	21,81	16,34	39,25	1
Lichnowy	15,07	15,73	34,89	3
Liniewo	18,94	16,76	36,26	2
Lipnica	17,89	19,44	36,59	2
Lipusz	15,00	18,50	33,90	3
Łeba	24,11	16,11	42,90	1
Malbork	22,93	16,10	40,28	1
Malbork	15,75	19,38	36,43	2
Miastko	20,53	14,86	38,43	2
Miłoradz	16,81	18,47	36,94	2
Nowa Karczma	16,06	12,63	34,25	3
Nowa Wieś Lęborska	16,33	14,20	35,26	3
Nowy Dwór Gdański	18,94	16,47	37,62	2
Nowy Staw	19,36	18,31	37,88	2
Ostaszewo	18,54	22,52	37,98	2
Parchowo	16,13	17,77	33,67	3
Potęgowo	16,50	15,56	35,06	3
Prabuty	18,22	17,17	37,02	2
Pruszcz Gdański	18,83	15,43	36,95	2
Pruszcz Gdański	13,43	13,68	34,04	3
Przechlewo	17,56	14,92	36,43	2

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Commune	Old age ratio (%)	Double ageing factor (%)	Median age (years)	Cluster
Przodkowo	13,90	19,09	32,78	3
Przywidz	17,38	13,58	35,63	3
Pszczółki	15,86	13,59	36,03	3
Puck	24,19	15,34	40,76	1
Puck	14,58	15,03	34,08	3
Ryjewo	18,61	14,65	38,15	2
Rzeczenica	18,13	19,64	37,21	2
Sadlinki	14,70	16,24	34,39	3
Sierakowice	13,32	17,80	31,17	3
Somonino	13,13	18,05	32,59	3
Stara Kiszewa	17,33	17,71	35,86	2
Stare Pole	16,48	19,12	36,59	2
Stegna	20,38	16,12	38,54	2
Stężyca	14,50	16,21	31,94	3
Studzienice	17,84	14,55	35,81	2
Suchy Dąb	14,59	19,11	34,51	3
Sulęczyno	16,21	17,73	32,69	3
Sztutowo	19,80	14,97	38,05	2
Trąbki Wielkie	15,05	13,81	34,75	3
Trzebielino	17,64	15,17	37,19	2
Tuchomie	15,14	13,70	34,82	3
Ustka	27,16	13,25	43,28	1
Wicko	16,77	13,13	35,59	3
Władysławowo	18,92	12,89	37,58	2
Żukowo	13,79	13,84	34,69	3
Słupsk	15,72	13,71	36,64	3
Smołdzino	19,22	13,92	38,60	2
Ustka	17,95	18,37	37,54	2
Czarna Woda	21,65	16,53	40,17	1
Skórcz	16,92	11,48	36,68	3
Starogard Gdański	21,77	14,62	38,41	1
Bobowo	15,46	15,82	34,04	3
Kaliska	17,21	18,72	36,52	2
Lubichowo	17,29	15,50	35,71	2
Osieczna	18,07	20,58	36,28	2
Osiek	23,06	16,12	40,86	1
Skarszewy	15,46	15,87	34,10	3
Skórcz	17,00	14,25	34,62	3
Smętowo Graniczne	18,38	17,73	36,54	2
Starogard Gdański	13,47	15,27	34,31	3
Zblewo	15,18	16,56	33,98	3
Tczew	22,04	15,05	38,85	1
Gniew	19,14	15,87	37,34	2
Morzeszczyn	15,05	17,57	34,84	3
Pelplin	17,74	15,20	36,52	2
Subkowy	14,90	14,69	34,38	3

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Commune	Old age ratio (%)	Double ageing factor (%)	Median age (years)	Cluster
Tczew	14,04	16,40	34,62	2
Reda	14,11	11,19	34,57	2
Rumia	20,65	15,91	38,65	2
Wejherowo	20,36	15,01	37,24	2
Choczewo	17,66	17,49	36,48	2
Gniewino	14,29	13,84	34,09	2
Linia	14,40	17,40	31,87	2
Luzino	12,09	15,68	31,83	2
Łęczyce	15,42	13,32	33,84	2
Szemud	13,51	15,74	32,86	2
Wejherowo	12,79	12,81	33,19	3
Dzierzgoń	17,81	17,91	36,80	2
Mikołajki Pomorski	16,42	16,12	35,59	3
Stary Dzierzgoń	18,00	18,07	36,54	2
Stary Targ	16,76	16,34	35,97	2
Sztum	19,19	13,83	37,89	2
Gdańsk	25,47	18,16	40,65	1
Gdynia	26,47	18,03	41,96	1
Słupsk	25,25	16,28	42,06	1
Sopot	31,99	22,85	46,22	1

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