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Folia Oeconomica Stetinensia 13(21)/2, 171-188

2013

Artykuł został opracowany do udostępnienia w internecie przez Muzeum Historii Polski w ramach prac podejmowanych na rzecz zapewnienia otwartego, powszechnego i trwałego dostępu do polskiego dorobku naukowego i kulturalnego. Artykuł jest umieszczony w kolekcji cyfrowej bazhum.muzhp.pl, gromadzącej zawartość polskich czasopism humanistycznych i społecznych.

Tekst jest udostępniony do wykorzystania w ramach dozwolonego użytku.

**COMPARISON OF CHANGES IN LIVING STANDARDS
OF POLAND'S POPULATION ACROSS DIFFERENT CLASSES OF LOCATION
OVER THE YEARS 2000–2011**

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Received 30 August 2013, Accepted 17 January 2014

Abstract

The goal of this article is to verify the hypothesis that from 2000 to 2011 the discrepancies between material living standards in the countryside and cities of different sizes blurred in Poland year by year. On the basis of the research conducted it has been determined that over the first decade of the 21st century the discrepancy between the living standards in Poland's rural and urban areas decreased in terms of the amount and structure of expenditure *per capita*, volume of quantitative consumption, housing conditions and household equipment including durable goods. This conclusion has been drawn because the level of examined variables, both in the countryside and cities or towns of different sizes over the years 2000–2011, approached in most cases the level observed for the whole country.

Keywords: economic well-being, expenditure *per capita*, consumption of food products *per capita*, housing conditions of households, level of equipping with durable goods.

JEL classification: D10, D31, L66.

Introduction

The goal of this article is to demonstrate that the class of location has come to determine less and less the economic well-being of Poland's population. Therefore, a hypothesis is made that the fact of living in a village, small town, mid-size or large city is progressively less relevant to the economic living conditions of Poland's population. Hence the main goal of this article boils down to verifying the hypothesis that the class of location affected the material living standards of Poland's inhabitants in 2011 less than it had done in 2000 because over these years Poland became a more uniform country in terms of economic well-being of both its urban and rural population.

For the purposes of this article, the notion of people's living standards acquires a narrow sense of the expression, namely economic living conditions¹. The analysis conducted will thus be limited to examining the degree of satisfying people's material needs. Therefore, the article will not deal with other, namely non-economic, aspects of human existence that would form part of a holistic assessment of human life².

Narrowing the definition of living standards to the material conditions of human existence has determined the selection of parameters and criteria allowing to comprehensively evaluate the material level of life and provide both temporal (from 2000 to 2011) and spatial (different classes of location) comparisons. These parameters have been split into four separate groups:

- amount and types of expenditure (particularly spending on goods and consumer services),
- quantitative consumption of various kinds of food products, the scale and structure of which will allow to assess changes in people's eating habits,
- parameters of inhabited dwellings (including their areas and degree of flat/house equipment with proper sanitary and technical infrastructure that defines the level of everyday life and the way of using the dwellings),
- equipment of households with durable goods.

The consequence of such a parameter classification defining the living standards of a Polish resident has been identifying the following four research problems for this article:

- analysis of the differences between average monthly expenditure *per capita* in respective classes of location in Poland in 2000 and 2011,
- analysis of the differences between average monthly quantitative consumption of food products *per capita* in respective classes of location in Poland in 2000 and 2011,

- analysis of the differences between housing conditions of Polish households in respective classes of location in 2000 and 2011,
- analysis of the differences in furnishing Polish households with durable goods in respective classes of location in 2000 and 2011.

A number of variables corresponding to Poland in the years 2000 and 2011 have been studied³ in order to compare the degree of satisfying people's economic needs in respective classes of location. The year 2011 has been adopted as the examined year and the year 2000 has been adopted as the base period, i.e. the grounds for comparisons⁴.

The following marks are used in this article⁵:

$\bar{z}_{c;0}$ – mean value of the variable Z calculated for the entire population of Poland in the base period,

$\bar{z}_{i;0}$ – mean value of the variable Z calculated for the class i of location in Poland in the base period,

$d_{i;0}$ – percent deviation of the mean level of the variable Z calculated for the class i of location over the base period from the mean level of the variable Z calculated for Poland's entire population in the same base period,

$\bar{z}_{c;1}$ – mean value of the variable Z , calculated for the entire population of Poland within the examined period,

$\bar{z}_{i;1}$ – mean value of the variable Z , calculated for the class i of location in Poland within the examined period,

$d_{i;1}$ – percentage deviation of the mean level of the variable Z , calculated for the class i of location within the examined period, from the mean level of the variable Z , calculated for the entire population of Poland within the same examined period.

Thus the percentage deviation d has been calculated for each analysed variable Z and each class location. To determine the value of this measure for the base period, the following formula has been used:

$$d_{i;0} = \left(\frac{\bar{z}_{i;0}}{\bar{z}_{c;0}} - 1 \right) \cdot 100\% \quad (1)$$

To determine the value d for the examined period, the following formula has been used:

$$d_{i;1} = \left(\frac{\bar{z}_{i;1}}{\bar{z}_{c;1}} - 1 \right) \cdot 100\% \quad (2)$$

Next, the value d obtained for the class i of location, calculated for the base period and the examined period, has been compared. Whenever there has been the following relation: $|d_{i,0}| > |d_{i,1}|$, this means that the deviation of the mean value of the variable Z , calculated for the class i of location, from the mean value of the same variable calculated for the whole population between the base period and the examined period decreased. Whenever there has been the following inequality: $|d_{i,0}| < |d_{i,1}|$, then the deviation of the mean value of the variable Z , calculated for the class i of location, from the mean value of the same variable calculated for the whole population between the base period and the examined period increased. Whenever there has been the equality: $|d_{i,0}| = |d_{i,1}|$, the deviation of the mean value of the variable Z , calculated for the class i of location, from the mean value of the same variable calculated for the whole population between the base period and the examined period remains the same. What is important, from the research point of view, it is not relevant whether the percentage deviation is negative or positive, the only crucial thing is the value of this deviation. Hence it is not the values $d_{i,0}$ and $d_{i,1}$ that has been compared, but the absolute values from $d_{i,0}$ and $d_{i,1}$. The described analysis has been conducted separately for the following classes of location (sizes):

- village,
- town,
 - town with less than 20,000 inhabitants,
 - town with 20,000 to 99,000 inhabitants,
 - city with 100,000 to 199,000 inhabitants,
 - city with 200,000 to 499,000 inhabitants,
 - city with more than 500,000 inhabitants.

1. Analysis of differences between average monthly expenditure *per capita*

The first identified research task is to study the differences between average monthly expenditure *per capita* in Polish households of the respective locations in 2000 and 2011. The interest is focused on the spending aimed at satisfying specific types of consumer needs⁶. The results of the comprehensive analysis of expenditure *per capita* for the respective classes of locations are shown in Table 17.

Table 1. Average monthly expenditure *per capita* in households by the classes of location

Specification	Village	Town/city	Town/city by size (in thousand)				
			less than 20	20–99	100–199	200–499	500 and more
1	2	3	4	5	6	7	8
Total expenditure in PLN							
level in 2000, in relation to the total (%)	lower by 20.22	higher by 13.40	lower by 6.10	higher by 2.40	higher by 12.44	higher by 20.49	higher by 49.34
level in 2011, in relation to the total (%)	lower by 18.71	higher by 11.64	lower by 5.56	higher by 1.31	higher by 6.48	higher by 14.50	higher by 49.50
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	increased
of which consumer goods and services in PLN							
level in 2000, in relation to the total (%)	lower by 20.30	higher by 13.46	lower by 6.05	higher by 2.48	higher by 12.15	higher by 20.73	higher by 49.42
level in 2011, in relation to the total (%)	lower by 18.42	higher by 11.46	lower by 5.64	higher by 0.74	higher by 6.11	higher by 14.36	higher by 49.95
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	increased
of which food and non-alcoholic beverages in PLN							
level in 2000, in relation to the total (%)	lower by 3.68	higher by 2.44	lower by 4.79	lower by 2.01	higher by 2.15	higher by 4.42	higher by 16.89
level in 2011, in relation to the total (%)	lower by 5.74	higher by 3.57	lower by 2.12	higher by 0.37	higher by 1.26	higher by 5.02	higher by 15.78
deviation from the total	increased	increased	decreased	decreased	decreased	increased	decreased
of which alcoholic beverages, tobacco and narcotics in PLN							
level in 2000, in relation to the total	lower by 14.69	higher by 9.68	lower by 13.47	lower by 0.78	higher by 10.96	higher by 19.98	higher by 44.96
level in 2011, in relation to the total	lower by 17.48	higher by 10.84	lower by 12.22	higher by 0.22	higher by 14.67	higher by 16.96	higher by 47.25
deviation from the total	increased	increased	decreased	decreased	increased	decreased	increased
of which clothing and footwear in PLN							
level in 2000, in relation to the total (%)	lower by 20.97	higher by 13.91	lower by 5.24	higher by 5.58	higher by 11.82	higher by 22.15	higher by 44.67
level in 2011, in relation to the total (%)	lower by 23.31	higher by 14.51	lower by 9.79	higher by 1.95	higher by 7.82	higher by 20.96	higher by 62.41
deviation from the total	increased	increased	increased	decreased	decreased	decreased	increased
of which housing, water, electricity, gas and other fuels in PLN							
level in 2000, in relation to the total (%)	lower by 31.75	higher by 21.05	lower by 0.05	higher by 11.23	higher by 21.17	higher by 31.49	higher by 53.22
level in 2011, in relation to the total (%)	lower by 20.31	higher by 12.64	higher by 0.17	higher by 6.24	higher by 6.47	higher by 16.52	higher by 38.59
deviation from the total	decreased	decreased	increased	decreased	decreased	decreased	decreased
of which electricity, gas and other fuels in PLN							
level in 2000, in relation to the total (%)	lower by 20.75	higher by 13.75	higher by 4.58	higher by 9.47	higher by 12.20	higher by 15.98	higher by 30.87
level in 2011, in relation to the total (%)	lower by 5.20	higher by 3.24	higher by 3.59	higher by 2.57	lower by 1.52	higher by 0.64	higher by 9.18
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
of which furnishing household equipment and routine maintenance of the house in PLN							
level in 2000, in relation to the total (%)	lower by 21.03	higher by 13.94	lower by 5.27	higher by 4.11	higher by 15.25	higher by 26.56	higher by 41.20
level in 2011, in relation to the total (%)	lower by 18.37	higher by 11.42	lower by 6.65	higher by 1.10	higher by 10.64	higher by 19.35	higher by 43.34
deviation from the total	decreased	decreased	increased	decreased	decreased	decreased	increased

1	2	3	4	5	6	7	8
of which health in PLN							
level in 2000, in relation to the total (%)	lower by 21.74	higher by 14.42	lower by 10.91	higher by 0.75	higher by 6.04	higher by 14.64	higher by 72.49
level in 2011, in relation to the total (%)	lower by 24.66	higher by 15.35	lower by 4.72	higher by 3.93	lower by 0.87	higher by 9.68	higher by 72.53
deviation from the total	increased	increased	decreased	increased	decreased	decreased	increased
of which transport in PLN							
level in 2000, in relation to the total (%)	lower by 18.28	higher by 12.12	lower by 11.95	lower by 8.06	higher by 13.70	higher by 26.55	higher by 61.00
level in 2011, in relation to the total (%)	lower by 16.15	higher by 10.05	lower by 11.17	lower by 9.42	lower by 0.28	higher by 13.02	higher by 70.79
deviation from the total	decreased	decreased	decreased	increased	decreased	decreased	increased
of which communication in PLN							
level in 2000, in relation to the total (%)	lower by 38.23	higher by 25.36	lower by 8.44	higher by 4.15	higher by 19.02	higher by 36.18	higher by 95.66
level in 2011, in relation to the total (%)	lower by 18.24	higher by 11.36	lower by 0.07	higher by 1.13	higher by 4.88	higher by 15.36	higher by 42.45
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
of which recreation and culture in PLN							
level in 2000, in relation to the total (%)	lower by 45.35	higher by 30.07	lower by 14.31	higher by 8.56	higher by 21.92	higher by 42.53	higher by 112.99
level in 2011, in relation to the total (%)	lower by 35.85	higher by 22.31	lower by 15.27	lower by 0.22	higher by 17.68	higher by 34.09	higher by 96.14
deviation from the total	decreased	decreased	increased	decreased	decreased	decreased	decreased
of which education in PLN							
level in 2000, in relation to the total (%)	lower by 44.83	higher by 29.62	lower by 11.50	higher by 23.69	higher by 22.42	higher by 39.95	higher by 83.51
level in 2011, in relation to the total (%)	lower by 43.27	higher by 26.92	lower by 9.86	higher by 9.62	higher by 2.80	higher by 12.74	higher by 125.08
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	increased
of which restaurants and hotels in PLN							
level in 2000, in relation to the total (%)	lower by 52.08	higher by 34.60	lower by 7.85	lower by 2.97	higher by 41.85	higher by 50.18	higher by 129.61
level in 2011, in relation to the total (%)	lower by 49.68	higher by 30.90	lower by 26.87	lower by 11.76	higher by 18.09	higher by 15.35	higher by 187.39
deviation from the total	decreased	decreased	increased	increased	decreased	decreased	increased
of which miscellaneous goods and services in PLN							
level in 2000, in relation to the total (%)	lower by 25.92	higher by 17.18	lower by 6.27	higher by 2.54	higher by 14.47	higher by 24.23	higher by 64.99
level in 2011, in relation to the total (%)	lower by 25.46	higher by 15.85	lower by 10.55	higher by 3.90	higher by 12.39	higher by 20.28	higher by 64.52
deviation from the total	decreased	decreased	increased	increased	decreased	decreased	decreased
of which pocket-money in PLN							
level in 2000, in relation to the total (%)	lower by 21.27	higher by 14.12	higher by 9.54	higher by 1.99	higher by 10.14	lower by 10.54	higher by 64.41
level in 2011, in relation to the total (%)	higher by 2.32	lower by 1.47	higher by 6.06	lower by 11.09	higher by 12.22	lower by 4.98	lower by 1.08
deviation from the total	decreased	decreased	decreased	increased	increased	decreased	decreased
of which other expenditures in PLN							
level in 2000, in relation to the total (%)	lower by 18.15	higher by 12.07	lower by 7.45	higher by 0.37	higher by 19.84	higher by 14.36	higher by 47.51
level in 2011, in relation to the total (%)	lower by 25.09	higher by 15.62	lower by 3.79	higher by 14.18	higher by 14.85	higher by 17.65	higher by 39.27
deviation from the total	increased	increased	decreased	increased	decreased	increased	decreased

Source: *Sytuacja społeczno-ekonomiczna...* (2013), pp. 82–87.

The difference between the average monthly expenditure *per capita* in the countryside and the average monthly expenditure *per capita* in Poland decreased in the years 2000–2011. Significantly, this regularity concerns also the category “goods and consumer services”⁸ and this category, both in 2000 and 2011, both for cities or towns and villages, constituted as much as nearly 96% of the entire spending. It is also worth stressing that the discrepancy between the countryside and the whole country decreased not only for the spending on goods and consumer services in general, but also for most items constituting this aggregate. In the case of cities or towns, however, the percent deviation from the value calculated for the entire population decreased. What is more, it decreased not only for all cities and towns altogether, but also for most of the urban categories specified. The difference in total expenditure *per capita* increased only for cities with more than 500,000 inhabitants, though very slightly (only by 0.16 percentage point (p.p.)).

2. Analysis of differences between average monthly consumption of food products *per capita*

The second identified research task is to study the differences between average monthly quantitative consumption of selected food products⁹ *per capita* across the respective classes of location in Poland in 2000 and 2011. The results of this analysis are shown in Table 2.

Table 2. Average monthly quantitative consumption of selected food products *per capita* in households by the classes of location

Specification	Village	Town/city	Town/city by size (in thousand)				
			less than 20	20–99	100–199	200–499	500 and more
1	2	3	4	5	6	7	8
Bakery products and cereals in kg							
level in 2000, in relation to the total (%)	higher by 14.63	lower by 9.72	lower by 3.93	lower by 7.64	lower by 11.35	lower by 13.97	lower by 14.63
level in 2011, in relation to the total (%)	higher by 13.73	lower by 8.51	lower by 4.18	lower by 5.07	lower by 8.81	lower by 8.81	lower by 18.21
deviation from the total	decreased	decreased	increased	decreased	decreased	decreased	increased
of which bakery products in kg							
level in 2000, in relation to the total (%)	higher by 14.67	lower by 9.68	lower by 2.87	lower by 7.56	lower by 10.89	lower by 13.62	lower by 16.94
level in 2011, in relation to the total (%)	higher by 15.25	lower by 9.64	lower by 4.48	lower by 5.61	lower by 7.17	lower by 9.42	lower by 23.32
deviation from the total	increased	decreased	increased	decreased	decreased	decreased	increased
Meat in kg							
level in 2000, in relation to the total (%)	higher by 6.76	lower by 4.57	lower by 2.01	lower by 3.29	lower by 2.93	lower by 7.13	lower by 8.59
level in 2011, in relation to the total (%)	higher by 6.02	lower by 3.83	higher by 3.47	equal to the total	lower by 6.39	lower by 4.38	lower by 16.06
deviation from the total	decreased	decreased	increased	decreased	increased	decreased	increased

1	2	3	4	5	6	7	8
Condiments (coffee, tea, cacao and others) in kg							
level in 2000, in relation to the total (%)	equal to the total	equal to the total	lower by 3.70	equal to the total	higher by 7.41	higher by 7.41	equal to the total
level in 2011, in relation to the total (%)	equal to the total	equal to the total	higher by 3.85	higher by 3.85	equal to the total	equal to the total	lower by 3.85
deviation from the total	fixed	fixed	increased	increased	decreased	decreased	increased
Non-alcoholic beverages in l							
level in 2000, in relation to the total (%)	lower by 51.32	higher by 34.39	lower by 21.69	higher by 10.58	higher by 43.39	higher by 47.62	higher by 121.16
level in 2011, in relation to the total (%)	lower by 17.53	higher by 10.99	lower by 3.70	higher by 6.42	higher by 16.54	higher by 11.85	higher by 30.99
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
of which mineral and spring waters in l							
level in 2000, in relation to the total (%)	lower by 51.35	higher by 34.23	lower by 22.52	higher by 9.91	higher by 53.15	higher by 45.95	higher by 117.12
level in 2011, in relation to the total (%)	lower by 26.13	higher by 16.08	lower by 6.28	higher by 10.05	higher by 25.38	higher by 14.57	higher by 46.73
deviation from the total	decreased	decreased	decreased	increased	decreased	decreased	decreased

Source: *Sytuacja społeczno-ekonomiczna...*(2013), pp. 106–111.

The difference between the average consumption *per capita* of analysed food products in the countryside and their average consumption *per capita* in Poland decreased for most items over the years 2000–2011. This particularly concerns non-alcoholic beverages (decrease by as much as 33.79 p.p.), yoghurts and dairy beverages (decrease by 17.25 p.p.), milk (decrease by 10.51 p.p.), sugar, honey and confectionery products (decrease by 2.30 p.p.) and vegetables (decrease by 1.95 p.p.). Increased deviations were reported for few products and their values were lower. For instance: positive difference was 7.77 p.p. for fruit, 6.32 p.p. for cheese, 2.32 p.p. for fish and only 0.07 p.p. for oil and other fats. In the case of cities and towns, percent deviation from the value calculated for entire population decreased by 23.40 p.p. for non-alcoholic drinks, by 10.94 p.p. for yoghurts and dairy beverages, by 7.52 p.p. for milk, by 2.02 p.p. for sugar, jam, honey and confectionery products and by 1.60 p.p. for vegetables. While of increased deviation for cities and towns were mainly reported for fruit and cheese, by 4.61 and 4.62 p.p., respectively.

Special attention should be paid to the decreased level of average consumption of bakery and cereal products (mostly bakery products) in very small towns and very large cities. Average consumption of bakery products in these extreme categories of urban areas was in 2000 lower than the average consumption in Poland. In 2011, this discrepancy became even greater. Compared to 2000, the year 2011 also saw, for cities with more than 500,000 inhabitants, such an increased deviation for meat (by 7.47 p.p.), oil and other fats (by 5.50 p.p.), eggs (by 3.32 p.p.) and sugar, jam, honey and confectionery products (by 2.12 p.p.). However, towns with less than 20,000 inhabitants reported the positive difference for meat of only 1.46 p.p.

3. Analysis of differences between housing conditions of households

The third identified research task is to study the differences between housing conditions of Polish households of the specified classes of location in the years 2000 and 2011. The results of this analysis are shown in Table 3.

Table 3. Selected housing conditions of households by their class of location

Specification	Village	Town/city	Town/city by size (in thousand)				
			less than 20	20–99	100–199	200–499	500 and more
1	2	3	4	5	6	7	8
Average usable floor space occupied by household per 1 person in sq. m.							
level in 2000, in relation to the total (%)	higher by 3.34	lower by 2.21	lower by 0.79	lower by 3.00	lower by 4.42	lower by 3.83	higher by 0.20
level in 2011, in relation to the total (%)	higher by 9.72	lower by 6.03	higher by 0.81	lower by 7.26	lower by 9.53	lower by 9.72	lower by 6.68
deviation from the total	increased	increased	increased	increased	increased	increased	increased
Water supply							
level in 2000, in relation to the total (%)	lower by 6.71	higher by 3.67	higher by 2.62	higher by 3.56	higher by 4.40	higher by 3.98	higher by 3.98
level in 2011, in relation to the total (%)	lower by 1.11	higher by 0.61	higher by 0.50	higher by 0.50	higher by 0.91	higher by 0.81	higher by 0.61
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
Flushing toilet							
level in 2000, in relation to the total (%)	lower by 14.84	higher by 8.11	higher by 4.34	higher by 8.90	higher by 7.88	higher by 8.68	higher by 10.39
level in 2011, in relation to the total (%)	lower by 4.39	higher by 2.20	higher by 1.88	higher by 2.41	higher by 0.52	higher by 3.14	higher by 2.41
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
Bathroom							
level in 2000, in relation to the total (%)	lower by 12.63	higher by 6.84	higher by 2.90	higher by 8.00	higher by 6.84	higher by 6.49	higher by 9.39
level in 2011, in relation to the total (%)	lower by 3.89	higher by 1.79	higher by 1.26	higher by 2.11	equal to the total	higher by 2.53	higher by 2.42
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
Running hot water							
level in 2000, in relation to the total (%)	lower by 15.28	higher by 8.41	higher by 2.61	higher by 8.18	higher by 9.60	higher by 8.65	higher by 13.39
level in 2011, in relation to the total (%)	lower by 4.01	higher by 2.01	higher by 0.32	higher by 2.32	higher by 1.16	higher by 2.01	higher by 3.59
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
Gas							
level in 2000, in relation to the total (%)	lower by 5.88	higher by 3.16	higher by 1.74	higher by 2.39	higher by 2.07	higher by 3.92	higher by 5.66
level in 2011, in relation to the total (%)	higher by 1.41	lower by 0.76	higher by 2.72	higher by 2.07	lower by 1.41	lower by 2.83	lower by 5.76
deviation from the total	decreased	decreased	increased	decreased	decreased	decreased	increased
Central heating							
level in 2000, in relation to the total (%)	lower by 17.18	higher by 9.54	equal to the total	higher by 11.75	higher by 11.60	higher by 5.58	higher by 17.03
level in 2011, in relation to the total (%)	lower by 4.04	higher by 1.96	lower by 0.37	higher by 4.53	lower by 0.86	higher by 2.82	higher by 1.84
deviation from the total	decreased	decreased	increased	decreased	decreased	decreased	decreased

	1	2	3	4	5	6	7	8
Stoves								
level in 2000, in relation to the total (%)		higher by 36.91	lower by 20.19	lower by 0.32	lower by 24.92	lower by 24.92	lower by 11.99	lower by 36.28
level in 2011, in relation to the total (%)		higher by 18.13	lower by 9.34	higher by 1.65	lower by 20.33	higher by 3.30	lower by 12.64	lower by 8.79
deviation from the total		decreased	decreased	increased	decreased	decreased	increased	decreased

Source: *Sytuacja społeczno-ekonomiczna...* (2013), pp. 130–135.

During the eleven years under consideration, the condition of equipping dwellings with sanitary and technical installations improved significantly. This modernisation was particularly dynamic in the countryside. Although urban households in flats and houses were better equipped in 2011 than rural ones, this difference finally considerably decreased.

Also differences in sanitary and technical installations in households of towns and cities differing in size decreased significantly. In 2011, flats of towns with less than 20,000 inhabitants were equipped with basic installations in nearly the same degree as flats in cities with at least 500,000 inhabitants. This was due to the greater dynamics of changes in these classes of location where this equipment was the poorest.

The difference between the average share of rural households with proper infrastructural facilities in the total number of rural households and the mean share of Polish households with proper infrastructural facilities in the total number of Polish households decreased for all the seven variables under consideration. Also the difference between the average share of urban households with proper infrastructural facilities in the total number of urban households and the mean share of Polish households with proper infrastructural facilities in the total number of Polish households decreased for all the seven variables under consideration.

As already mentioned, the decline in the deviation over the years under consideration was reported not only for cities and towns at large, but also for the respective classes of urban areas. Although three variables (gas, central heating, stoves) and two categories of urban areas (towns with less than 20,000 inhabitants and cities with more than 500,000 inhabitants) saw an increased deviation, this increase was nevertheless very limited and resulted insignificant against decreased deviations of the remaining variables.

The issue of changing average usable areas occupied by households in the years 2000 and 2011 needs to be further discussed. During the period under consideration, deviation from the mean value calculated for the entire population, meaning both villages, cities and towns altogether, as well as each class of urban areas, saw an increase. However, this increase was not substantial enough to have an impact on the final conclusions of this study. It is so because it can

be assumed that the comfort and quality of life in the 21 century is more dependent on equipping the residential area with adequate infrastructural facilities than on the area itself. Hence the conviction that it would not be risky to state that living standards in terms of housing conditions underwent in Poland, throughout the eleven years under consideration, a definite process of unification affecting the respective classes of location.

4. Analysis of differences between the level of equipping households with durable goods

The fourth identified research task is to study the differences between the level of equipping Polish households with durable goods, according to their classes of location, in the period from 2000 to 2011. The results of this analysis are shown in Table 4.

Table 4. State of equipping households with durable goods by their classes of location

Specification	Village	Town/city	Town/city by size (in thousand)				
			less than 20	20–99	100–199	200–499	500 and more
1	2	3	4	5	6	7	8
Television set							
level in 2000, in relation to the total (%)	lower by 0.40	higher by 0.20	higher by 0.61	higher by 0.40	higher by 0.20	lower by 0.20	equal to the total
level in 2011, in relation to the total (%)	higher by 0.61	lower by 0.41	higher by 1.12	higher by 0.71	higher by 0.30	lower by 0.30	lower by 3.66
deviation from the total	increased	increased	increased	increased	increased	increased	increased
of which LCD or plasma TV							
level in 2008, in relation to the total (%)	lower by 15.23	higher by 7.95	higher by 1.32	equal to the total	lower by 1.99	higher by 20.53	higher by 20.53
level in 2011, in relation to the total (%)	lower by 17.87	higher by 8.58	higher by 2.55	higher by 6.73	higher by 15.78	higher by 8.58	higher by 12.99
deviation from the total	increased	increased	increased	increased	increased	decreased	decreased
Satellite or cable television equipment							
level in 2000, in relation to the total (%)	lower by 46.15	higher by 25.16	higher by 8.52	higher by 25.78	higher by 32.64	higher by 25.99	higher by 34.51
level in 2011, in relation to the total (%)	lower by 12.57	higher by 6.21	higher by 7.10	higher by 8.28	higher by 7.84	higher by 8.73	lower by 0.30
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
Video recorder							
level in 2000, in relation to the total (%)	lower by 19.22	higher by 10.45	higher by 8.58	higher by 8.21	higher by 14.37	higher by 6.90	higher by 15.67
level in 2011, in relation to the total (%)	lower by 5.70	higher by 3.11	lower by 4.66	higher by 14.51	lower by 1.55	higher by 16.58	lower by 12.44
deviation from the total	decreased	decreased	decreased	increased	decreased	increased	decreased
DVD recorder							
level in 2004, in relation to the total (%)	lower by 38.46	higher by 18.80	lower by 1.71	higher by 10.26	higher by 3.42	higher by 23.08	higher by 53.85
level in 2011, in relation to the total (%)	lower by 2.71	higher by 1.35	higher by 0.77	higher by 1.16	higher by 8.70	higher by 2.71	lower by 3.09
deviation from the total	decreased	decreased	decreased	decreased	increased	decreased	decreased

1	2	3	4	5	6	7	8
Digital camera							
level in 2006, in relation to the total (%)	lower by 35.33	higher by 16.85	lower by 8.70	higher by 2.17	higher by 17.39	higher by 26.63	higher by 51.09
level in 2011, in relation to the total (%)	lower by 12.20	higher by 6.00	lower by 3.20	lower by 0.40	higher by 10.00	higher by 10.40	higher by 17.60
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
Personal computer							
level in 2000, in relation to the total (%)	lower by 54.55	higher by 30.07	higher by 0.70	higher by 9.09	higher by 26.57	higher by 36.36	higher by 84.62
level in 2011, in relation to the total (%)	lower by 9.00	higher by 4.35	lower by 2.85	equal to the total	higher by 6.00	higher by 8.70	higher by 12.44
deviation from the total	decreased	decreased	increased	decreased	decreased	decreased	decreased
of which with access to the Internet							
level in 2000, in relation to the total (%)	lower by 64.71	higher by 35.29	lower by 13.73	lower by 5.88	higher by 50.98	higher by 39.22	higher by 127.45
level in 2011, in relation to the total (%)	lower by 13.32	higher by 6.42	lower by 2.25	higher by 1.44	higher by 8.03	higher by 11.72	higher by 16.37
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
Printer							
level in 2000, in relation to the total (%)	lower by 55.68	higher by 30.68	higher by 4.55	higher by 1.14	higher by 26.14	higher by 32.95	higher by 101.14
level in 2011, in relation to the total (%)	lower by 6.22	higher by 3.23	higher by 1.00	lower by 1.24	lower by 3.48	higher by 6.97	higher by 12.44
deviation from the total	decreased	decreased	decreased	increased	decreased	decreased	decreased
Landline phone							
level in 2000, in relation to the total (%)	lower by 23.17	higher by 12.69	higher by 1.93	higher by 10.90	higher by 11.03	higher by 16.55	higher by 23.45
level in 2011, in relation to the total (%)	higher by 4.30	lower by 2.15	lower by 0.59	lower by 5.27	lower by 4.69	lower by 6.25	higher by 5.27
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
Mobile phone							
level in 2000, in relation to the total (%)	lower by 37.43	higher by 20.47	lower by 8.77	lower by 1.17	higher by 13.45	higher by 24.56	higher by 80.12
level in 2011, in relation to the total (%)	lower by 2.77	higher by 1.44	lower by 0.11	higher by 1.00	higher by 1.88	higher by 2.55	higher by 2.10
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
Automatic washing machine							
level in 2000, in relation to the total (%)	lower by 26.38	higher by 14.39	higher by 7.48	higher by 12.41	higher by 17.63	higher by 16.64	higher by 19.75
level in 2011, in relation to the total (%)	lower by 6.92	higher by 3.29	higher by 2.41	higher by 2.74	higher by 4.61	higher by 3.51	higher by 4.17
deviation from the total	decreased	decreased	decreased	decreased	decreased	decreased	decreased
Microwave oven							
level in 2000, in relation to the total (%)	lower by 27.65	higher by 15.29	higher by 15.29	higher by 10.59	higher by 38.24	lower by 2.94	higher by 22.35
level in 2011, in relation to the total (%)	higher by 0.19	equal to the total	higher by 8.63	higher by 2.44	higher by 1.69	lower by 7.50	lower by 6.38
deviation from the total	decreased	decreased	decreased	decreased	decreased	increased	decreased
Dishwasher							
level in 2000, in relation to the total (%)	lower by 44.44	higher by 22.22	equal to the total	lower by 5.56	higher by 22.22	higher by 44.44	higher by 72.22
level in 2011, in relation to the total (%)	lower by 16.38	higher by 7.91	higher by 0.56	lower by 3.95	higher by 6.21	higher by 4.52	higher by 35.03
deviation from the total	decreased	decreased	increased	decreased	decreased	decreased	decreased

1	2	3	4	5	6	7	8
Bicycle (excl. children's)							
level in 2000, in relation to the total (%)	higher by 32.28	lower by 17.64	higher by 11.48	lower by 5.32	lower by 23.96	lower by 34.78	lower by 45.59
level in 2011, in relation to the total (%)	higher by 26.87	lower by 13.20	higher by 8.74	lower by 6.36	lower by 24.17	lower by 26.87	lower by 26.23
deviation from the total	decreased	decreased	decreased	increased	increased	decreased	decreased
Passenger car							
level in 2000, in relation to the total (%)	higher by 8.90	lower by 4.66	higher by 0.42	lower by 0.64	lower by 3.18	lower by 14.62	lower by 8.47
level in 2011, in relation to the total (%)	higher by 12.29	lower by 5.98	equal to the total	lower by 4.49	lower by 5.32	lower by 10.30	lower by 10.47
deviation from the total	increased	increased	decreased	increased	increased	decreased	increased

Source: *Sytuacja społeczno-ekonomiczna...* (2013), pp. 118–123.

The level of equipping households with durable goods increased year by year in Poland over the years 2000–2011, both in cities, towns and villages. Moreover, discrepancies in upgrading the equipment blurred for urban and rural areas, meaning that the countryside caught up with cities and towns. What is worth special emphasis the presence of personal computers multiplied by “only” 3.7 times in urban households and by as much as 9.3 times in rural households. Additionally, the number of computers with the Internet access leaped in cities and towns to multiply by nearly 10 times, while in the countryside it multiplied by as much as 30 times.

Throughout the years under consideration, a great leap was also observed in the number of satellite or cable TV equipment present in households. In 2011, satellite or cable TV equipment was present in 71.8% of urban households and exceeded the 2000 result by 11.6 p.p. The same equipment reached in rural households the level of 59.1% in 2011, exceeding the 2000 result by as much as 33.2 p.p.

The difference between the mean share of rural households with durable goods in the total number of rural households and the mean share of Polish households with the said goods in the total number of Polish households decreased for nearly all the variables adopted and this decrease, for most variables, amounted to at least several dozen percentage points. Also the difference between the mean share of urban households equipped with durable goods in the total number of urban households and the mean share of Polish households with the said goods in the total number of Polish households decreased for nearly all the adopted variables and this decrease, for most variables, amounted to at least a dozen or more percentage points. The deviation decreased during the examined period not only for cities and towns altogether, but also for respective classes of urban areas. Admittedly, certain categories saw an increased deviation, but this increase was limited and against decreased deviations reported for the other variables, it turned out insignificant.

On the other hand, the difference between the mean share of rural households equipped with durable goods in the total number of rural households and the mean share of Polish households equipped with these objects in the total number of Polish households increased for TV sets and cars. However, this increase in the number of TV sets amounted to only 0.21 p.p., so it can be stated that the level of this variable remained stable from 2000 to 2011. This conclusion is also grounded by the fact that both in 2000 and 2011 the discrepancy between rural households with TV sets and the share calculated for the entire population was nearly zero. Therefore, one can claim that the whole country, urban and rural areas included, both in 2000 and in 2011, was rather a homogeneous community in terms of saturation of households with TV sets.

As already mentioned, cars are also those goods in respect of which the discrepancy between the value calculated for the entire population increased in the years 2000–2011, with the increase amounting to 3.39 p.p. for rural areas and 1.32 p.p. for urban areas. However, it can be stated that this increase is not significant for an overall assessment of the problem because for the other variables discussed in this paper, the decrease amounted to a dozen or more or even a few dozen per cent. Therefore, it is well-founded to ultimately state that between 2000 and 2011, the material standard of households from the respective classes equalized in terms of their equipment with durable goods.

Conclusions

The goal of this article is to answer the question whether in the years 2000 and 2011 the impact of household location on Polish population's living standards changed and if it did, what were the directions of such changes. The subject-matter of the research has been villages (as one category), cities and towns altogether, towns with less than 20,000 inhabitants, towns with 20,000 to 99,000 inhabitants, cities with 100,000 to 199,000 inhabitants, cities with 200,000 to 499,000 inhabitants and cities with more than 500,000 inhabitants. In Poland, as of 1 January 2011, there were 908 cities and towns, with only 5 with more than 500,000 inhabitants (Warsaw, Kraków, Łódź, Wrocław, Poznań). The number of Polish villages amounted then 43,007, and including their colonies, hamlets and settlements, it was 56,537.

The findings of the first research task has indicated that Poland is more homogeneous and uniform regarding the level of satisfying its population's consumer needs. In the period 2000–2011, the difference between urban and rural monthly spending *per capita* decreased. In 2000, average monthly spending in rural areas constituted 79.78% of total average monthly spending, while in 2011, the ratio of rural spending amounted to 81.29% (thus increasing by 1.51 p.p.).

In 2000, average monthly expenses in urban areas constituted 113.40% of total average monthly expenses, but in 2011, the urban spending ratio was 111.64% (thus decreasing by 1.76 p.p.).

The process of unifying determined not only the level of total expenses, but also their structure. The discrepancy between average expenditure *per capita* in rural and urban areas and the average expenditure in the whole country decreased for most goods and consumer services (particularly for spending on housing equipment, running households, using flats or houses, equipping them with utilities, transport and communication, recreation, culture, restaurants, hotels and education). It is also worth pointing out that in the years 2000–2011 the share of expenditure on food and non-alcoholic beverages (both in urban and rural areas) decreased significantly in total spending, which undeniably proves that the financial situation of Poland's population improved.

The second research task indicated that the eating habits of both rural and urban Polish population differ every time less and that this process does not only refer to urban and rural areas in general, but also each one of the separately analysed classes of location.

The Poles – both in rural and urban areas – live in every time larger and better equipped houses and flats. However, during the first decade of the 21st century, it is the living area of rural houses and flats that grew most, while growing the least in large cities. It is also in rural areas where sanitary and technical installations of households underwent the greatest improvement. The third research task has additionally revealed that the Poles' living conditions, taking into account water pipes, flushing toilets, bathrooms, running hot water, gas, central heating and stoves, not only improved in the years 2000–2011, but also the whole country became more homogeneous in this respect.

The fourth research task has allowed to ascertain that Poland is more homogeneous regarding the presence of durable goods in households. This particularly concerns satellite and cable TV sets, video and DVD recorders, digital cameras, stationary and mobile phones, home appliances (e.g. automatic washing machines, microwave ovens and dishwashers), personal computers, printers and access to the Internet. The dynamics of boosted equipping households with durable goods was definitely more intense in villages than in cities or towns, which caused reducing the discrepancy between the rural and urban areas in this respect. The fact that between 2000 and 2011 a repeated leap, especially in the countryside, in saturating households with personal computers with Internet access deserves to be particularly emphasised.

The data provided in this article also clearly show that the more households are equipped with durable goods of the new generation, the less present is there the old generation audio-visual equipment. It is also worth pointing out that the countryside, due to its inhabitants needs related

to road communication, occupied the dominant position, both in 2000 and 2011, regarding cars as parts of the household assets.

On the basis of the research conducted, it can thus be ascertained that the first decade of the 21st century brought Poland's inhabitants a major improvement in their living conditions, both in rural and urban areas, accompanied at the same time by a significant reduction of the discrepancy between the material living standards of the countryside and more urbanised areas.

What is of importance, the subject-matter of the authors' interest has been here only the economic aspect of the living standards and that is why any other aspects determining the overall quality of human life has been omitted. Nevertheless, the authors are intent on developing their research in the future and to turn it towards assessing changes in the degree of fulfilling other human needs, namely non-economic ones. A series of additional variables will be introduced to the discourse, not all of them will be of quantitative nature.

Notes

¹ Pawelek (2000), pp. 12–23; Słaby (2007), p. 8.

² Farquhar (1995); Kochman (2007), pp. 242–248; Kowalik (1995); Trzebiatowski (2011), pp. 25–31.

³ The Central Statistical Office has kept the data on the number of households equipped with DVD players, digital cameras and LCD or plasma TV sets only since 2004, 2006 and 2008, respectively. Therefore and by way of exception, the variables analysed for these three items of durable goods do not refer to the year 2000 but to the years 2004, 2006 and 2008, respectively.

⁴ The years 2004, 2006 and 2008 have been adopted as base periods for households equipped with DVD players, digital cameras and LCD or plasma TV sets, respectively.

⁵ The data corresponding to the examined period are marked with subscript 1 and the data corresponding to the base period are marked with subscript 0.

⁶ The subject-matter of interest is not an income. From the point of view of the purpose of this article, funds for expenses are irrelevant, in contrast to the very possibility of satisfying one's needs through spending, regardless of the source of funds.

⁷ Whenever Table 1 and subsequent tables include the expression "total", it refers to the value calculated for the sum of statistical units of villages and cities or towns, namely the value calculated for the entire statistical population of Poland.

⁸ Spending on goods and consumer services means the spending to satisfy household needs and includes goods purchased for cash, through loans or obtained free of charge, as well as natural consumption (goods and consumer services for households, derived from agricultural activity or from one's own business). These goods are non-durable goods (e.g. food, beverages, medicines), semi-durable goods (e.g. clothes, books, toys) and durable goods (e.g. cars, washing machines, fridges, TV sets). See *Sytuacja społeczno-ekonomiczna...* (2013), p. 17.

⁹ Quantitative consumption of food products (including non-alcoholic beverages) is expressed in natural measurement units. This includes goods purchased for cash, through loans, obtained free of charge and derived from one's own business activity (natural consumption). See *Sytuacja społeczno-ekonomiczna...* (2013), p. 17.

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