



SPATIAL DIFFERENTIATION OF DEMOGRAPHIC DEVELOPMENT OF BELARUSIAN CITIES IN THE POST-SOVIET PERIOD

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ABSTRACT. The article presents a complex analysis of the demographic situation in Belarusian cities in the post-Soviet period – 1989-2010. On the basis of factors which generate demographic situation in Belarusian cities spatial regularities of dynamics of birth rate processes, death rate, character of urban population natural movement, and trends of cities’ demographic development in view of cities classes by population size have been established. Areas with positive and negative dynamics, natural decrease and increase of urban population have been scientifically grounded and determined. Types of Belarusian cities by the nature of formation of demographic balance which have been worked out by the author have been represented.

Keywords: Urban settlement structure, factors of demographic situation, birth rate, death rate, population natural movement, migration, typology of Belarusian cities.

I. INTRODUCTION.

In the second part of XX century Belarus from a primarily agricultural country in 1959 with a rural population share of 69 % has turned into an industrial one with dominance of the urban population in the structure – 69 %. Post-WWII industrialisation of Belarus has been accompanied by an accelerated growth of urban population size that has seen an almost threefold increase over the period of 1959 — 1999. Quick growth of the urbanisation level of the country has contributed to the development of the urban settlement system, quick population size increase in large cities (over 100 thousand people), the dominating role of the Minsk capital city agglomeration and the emergence of the differentiation of the demographic dynamics in Belarusian urban cities (Antipova, Manak, 1998).

From the second part of XX century Belarusian urban settlement that formed in the result of combination of naturally-geographical and historical factors is characterized by a whole number of transformational trends that characterized by

different vectors of demographic development of town classes by population size. The main factors caused to the fullest extent positive dynamics of urban population size of Belarus and differentiation of demographic development of cities with different size by population size in the second part of XX century, were the following: a) priority postwar restoration of cities' economy; b) "Belarusian urban boom" connected with the industrialization of the country in the 1960s and which caused both large-scale migration outflow of population from rural areas to the cities and quick increase in the number of big cities of Belarus; c) ecological factor connected with the accident on the Chernobyl nuclear power station in 1986 which caused organized and individual movements of population from polluted area to the cities of ecological regions of the country and provoked urban population development; d) political changes and diversification of cities' functions of Belarus in the period of 1990s, which was provoked by the acquisition of sovereignty, the extension of service functions of the cities and intense emergence of institutions and enterprises of services in the cities (new institutions of higher education, service enterprises in the sphere of goods' consumption, internet service, fast-food chains and etc.); e) exaggerated growth in comparison with other cities and areas of Belarus socially-economic development of the capital – Minsk, that in turn was the reason for unique trend of demographic development compared to all other cities of the country – positive impact of two demographic factors on population development – sustained natural and migration increase in the beginning of XXI century. This tendency distinguishes Belarusian capital from a number of European neighbor-cities; administrative-territorial reforms in the result of which Belarusian communities acquired new administrative status – rural communities turned out into cities and vice versa.

The research was made by a few steps. During programme stage object and subject of research were established and framework goals of the research were determined. Information step included collection, processing and formation of database of demographic parameters in Belarusian cities over the period from 1989 to 2009. Analytic stage corresponded generalization and analysis of demographic development parameters of Belarusian cities (population size, birth rate, death rate, natural increase/decrease of population, migration of population), development of Belarusian cities' types by the nature of demographic balance formation.

During the research it was used the following methods: factor analysis, the method of time series, typology method, geographical systematisation, the Webb's model, geoinformational mapping. Mapping of urban settlement processes has been made with the use of geoinformational technologies and software product ArcGIS.

The period of the research – 1989-2009 - includes the years of the post-soviet period that characterized by political and socio-economic developments of transformational character and during of it qualitative structural and spatial shifts took place in the demographic development of Belarusian cities. 112 cities of Belarus became the subject of the research. Informational basis was represented by the materials of Population census of the USSR in 1989, population census of the Republic of Belarus in 1999, 2009 and also materials of current record of demographic events (birth rate, death rate, natural increase/decrease, migration), represented in the official state statistics of National Statistic Committee of the Republic of Belarus.

II. DYNAMICS OF BELARUSIAN URBAN POPULATION SIZE

The modern urban settlement structure includes 112 cities. Small towns by population size are the dominating class with a share of 66 % in the settlement structure. Large cities by population size make up 12 %, virtually semi-medium cities have the same share (20-50 thousand of people). Macro polarization is a characteristic of modern urban settlement structure – 70 % of urban Belarusian populations live in the cities with population size more than 100 000 people, 11 % - in the cities with population size from 50 to 100 thousand of people (Table 1).

Table1. Urban settlement structure of Belarus

| Town classes by the population size, thousands of people | Number of cities | | 1989 | | 2009 | |
|--|---------------------|-----|------------------------|-----|------------------------|-----|
| | entities | % | Thousands of people | % | Thousands of people | % |
| Large, more than 100 | 13 | 12 | 4337 | 70 | 4651 | 69 |
| Medium, 50-100 | 10 | 9 | 704 | 12 | 758 | 12 |
| Semi-medium, 20-50 | 15 | 13 | 455 | 7 | 472 | 7 |
| Small, less than 20 | 74 | 66 | 702 | 11 | 825 | 12 |
| Total | 112 | 100 | 6198 | 100 | 6706 | 100 |

* *Source:* Own compilation based on Population of Belarus: statistical digests 1989-2010

The modern character of the urban population dynamics in Belarus is different from general trend of the population dynamics in the country. The total number of Belarusian population has diminished over the period of 1989 — 2009 from 10151.8 thousand people to 9513.6 people, or by 6 %. The population size of Belarusian towns and cities at the same period has increased from 6198 thousand people to 6706 thousand people, or at 8.2 %.

The urban population of Belarus is unevenly distributed over the territory - 26 % of population is concentrated in the capital of Belarus, in Minsk, 15 % of the population live in the eastern region of the Belarusian Polesye — Gomel region.

The western region of the Belarusian Polesye — Brest region, the region of Belarusian Poozerye — Vitebsk region, and the eastern Belarusian region — Mogilev region - have equal positions according to the urban population share. The lowest urban population share (10 %) is concentrated in the western Belarusian region — Grodno region.

Despite a generally positive trend of urban population size dynamics over the period of 1989 — 2009, Belarusian regions are characterised by different urban population dynamics and can be divided into two types.

The first type — with a positive population dynamics — includes four regions: the Minsk city, Minsk, Brest and Grodno regions. The main factors of such a trend are efficient economic-geographical situation close to the capital, higher level of social and economic potential development, higher concentration in comparison with other regions of the country of big cities by population size with more diversified labour-market compared to other classes of cities, cultural and historical and family traditions. The urban population size in these regions has increased by an average of 10 % over the period of 1989-2009. The biggest increase values are specific to the capital city — Minsk (13 %).

The second type — with a negative population dynamics — has formed in the three regions - Mogilev, Vitebsk and Gomel regions where there are both naturally-geographic factor of urban settlement structure (not high concentration of big cities by population size) and socio-economic factor which characterizes these regions by lower level of socio-economic potential development. On the average, the decrease of the urban population size there has amounted to 1 % (table 2).

Table no 2. Regional dynamics of the urban population size in Belarus*

| Regions | 1989 | | 2009 | | Population size dynamics over 1989 – 2009, % |
|----------------|---------------------|------------|---------------------|------------|--|
| | Thousands of people | % | Thousands of people | % | |
| Brest | 819 | 12 | 912 | 13 | 11 |
| Vitebsk | 906 | 14 | 896 | 13 | -1 |
| Gomel | 1065 | 16 | 1045 | 15 | -2 |
| Grodno | 666 | 10 | 735 | 10 | 10 |
| Minsk | 739 | 11 | 789 | 11 | 7 |
| Minsk city | 1607 | 24 | 1814 | 26 | 13 |
| Mogilev | 841 | 13 | 835 | 12 | -1 |
| <i>Belarus</i> | <i>6643</i> | <i>100</i> | <i>7026</i> | <i>100</i> | <i>6</i> |

* Source: Own compilation based on Population of Belarus: statistical digests 1989-2010

The patterns of Belarusian urban population size are different not only according to the Belarusian regions, but also according to the cities classes by

population size and it allow to make conclusions about some spatial temporal and structural trends of dynamics and in the future to make conclusions of structural differentiation dynamics over the period of 1989-2009.

The first tendency is differentiation of the positive dynamics scales in the view of cities' classes. The biggest growth of the urban population size has occurred in small Belarusian towns, and this is explained not so much by positive demographic dynamics as by the factor of administrative-territorial transformations — some Belarusian urban communities were lifted from urban settlements to the town status. All in all, over the period of 1989 — 2009 the population size of small Belarusian towns has increased by 17.5 %. The population size of large and medium towns has increased by 7 % on the average. The most stable dynamics are characteristic of the semi-medium towns, where the population size has increased by 3.7 % (Table 3).

Table 3. Structural dynamics of the urban population size in Belarus

| Town classes by the population size, thousands people | Years | Urban population size of regions (thousands of people) | | | | | | Belarus |
|---|-------------|--|---------|-------|--------|-------|---------|---------|
| | | Brest | Vitebsk | Gomel | Grodno | Minsk | Mogilev | |
| Large (over 100) | 1989 | 536 | 494 | 612 | 271 | 1844 | 580 | 4337 |
| | 2009 | 608 | 465 | 591 | 328 | 2086 | 573 | 4651 |
| | 1989 - 2009 | 13.4 | -5.9 | -3.4 | 21 | 13.1 | -1.2 | 7.2 |
| Medium, 50-100 | 1989 | 45 | 170 | 195 | 91 | 203 | 0 | 704 |
| | 2009 | 51 | 181 | 211 | 98 | 217 | 0 | 758 |
| | 1989 - 2009 | 13.3 | 6.5 | 8.2 | 7.7 | 6.9 | 0 | 7.7 |
| Semi-medium, 20-50 | 1989 | 63 | 0 | 77 | 146 | 52 | 117 | 455 |
| | 2009 | 76 | 0 | 72 | 158 | 73 | 93 | 472 |
| | 1989 - 2009 | 20.6 | 0 | -6.5 | 8.2 | 40.4 | -20.5 | 3.7 |
| Small, less than 20 | 1989 | 134 | 159 | 100 | 58 | 147 | 104 | 702 |
| | 2009 | 160 | 163 | 108 | 91 | 183 | 120 | 825 |
| | 1989 - 2009 | -53.2 | -8.9 | -10.7 | 56.9 | 24.5 | 15.4 | 17.5 |

* *Source:* Own compilation based on Population of Belarus: statistical digests 1989-2010

The second tendency consists in the structural differentiation of dynamics trends according to the regions. Two regions — Minsk and Grodno regions — are characterised by positive population size dynamics for all the town classes. Brest region is characterised primarily by positive dynamics, where the negative trend is specific to the small towns only. Vitebsk and Mogilev regions are represented by the transitional dynamics trend that is characterised by the negative character in three town classes (large, semi-medium and medium towns) and positive in one

class (medium towns). Gomel region belongs to the region with a primarily negative dynamics trend, where the population decrease took place in all town classes except from medium towns, in the result of the influence of ecological factor.

The third tendency is the intensification of the spatial differentiation in the nature of urban population dynamics on the regional and micro-geographical level. Population size dynamics in large cities is characterised by a positive trend in three regions — Brest, Minsk and Grodno regions. Negative dynamics in large cities is formed in Vitebsk, Gomel and Mogilev regions. Medium towns in all the regions have a positive dynamics. In semi-medium towns over the period of 1989 – 2009, the population size has reduced in Gomel and Mogilev regions, and increased in Minsk, Grodno and Brest regions. The character of the dynamics in small towns in the range of Belarusian regions is the most differentiated. In Brest, Vitebsk and Gomel regions a significant reduction of the population size has occurred. For instance, in Brest region the level of the population reduction has reached 53.2 % over the period of 1989 – 2009. In Minsk, Grodno and Mogilev regions an increase in the population size occurred in small towns. In contrast to the Brest region, in the Western - Grodno region- the level of the increase amounted to the 57 % (Antipova, Korotya, 2011).

Thus, the urban space in Belarus according to the urban population size dynamics has a conventional rhumb border that passes from the north-west to the south-east that is caused by natural-geographic and socio-economic factors with centrally-peripheral features.

III. SPATIAL DYNAMICS AND THE CHARACTER OF DEMOGRAPHIC PROCESS IN BELARUSIAN CITIES

Demographic development of Belarus, starting from 1993, is characterised by the death rate exceeding the birth rate, prevalence of the natural population decline and the coming of the depopulation condition. According to the 2010 data, the natural decrease of the Belarusian population amounted to 3 %. Considering the diminished population reproduction, the beginning of the period of the depopulation, trends and character of the natural movement population in the rural and urban areas are oppositely directed. In Belarusian rural areas, the population size reduction in the result of the natural decline first took place at the end of the 1970s. In the urban settlements this process appeared 20 years later, and the mortality exceeded the birth rate only in the middle of 1990s.

Natural movement in the urban areas, from the late 1970s, is characterised by the following time trends: 1) high increase in the 1950s (at the level of 21 %);

2) following twofold reduction over the 35 years by the up to the end of 1980s; 3) abrupt reduction in the 1990s to the level of 0.5 ‰; 4) following 10-year period of natural increase (from 0.9 to 1.7 ‰) and next decrease of its scale (to 0.6 ‰) (1996 – 2006); 5) the rate of population increase at the level of 0.5 ‰, starting from 2007.

The modern features of the natural movement dynamics of the urban and rural population in Belarus are different. The level of the natural population loss remains high in the rural area, while a stable population increase is observed in urban communities (0.5 ‰, 2010).

Birth rate dynamics of the urban population in Belarus is characterised by a number of distinctive features, one of which is the variation of trend nature. Up to 2004, a birth rate reduction was observed that led to the decrease of the total rate by 43 %, reaching the lowest in the 20th century value of 9.4 ‰. From 2004, a birth rate has increased and now it numbers 11.6 ‰. This phenomenon is explained by two main factors: 1) legislative and institutional — development of the special measures of the state demographic politics to support young families and mother of large families, to create maternal health and reproduction centres; and 2) demographic — a numerous generation of the children, born in the late 1980s, entered into the reproductive age. At the same time, over the period of 1989 — 2010 an overall decrease in the birth rate was observed in Belarusian towns — on the average by 30 %, and the rate is still estimated as low corresponding to the middle European level.

The biggest birth rate values, both in 1989 and 2011, are the characteristic to the urban population of the two Belarusian regions — Brest and Grodno regions (12.7 and 12.8 ‰ accordingly), and it is explained by the historical forming factors of territory, traditions and the confessional structure of the local population. The

lowest birth rate is distinctive of the Belarusian Poozerye (10.4 ‰), which is determined by the small settlement structure of the urban displacement. Namely, in this region the most prominent birth rate reduction was observed. In the capital city region — Minsk region, Minsk city, as well as in the eastern part of Belarusian

Polesye — Gomel region — the birth rate is close to the average state rates (Antipova, Starikova, 2011). With ascertained spatial differentiation of the birth rate in the view of regions found, the extent of the reduction over 1989 — 2010 in

all the regions have been the same and equal to circa 30 % on the average. In whole, the urbanised space in Belarus can be divided into three birth rate areas: 1) south-western area with relatively high birth rates; 2) central and south-eastern area with average birth rates and 3) northern area with low birth rates (fig. 1).

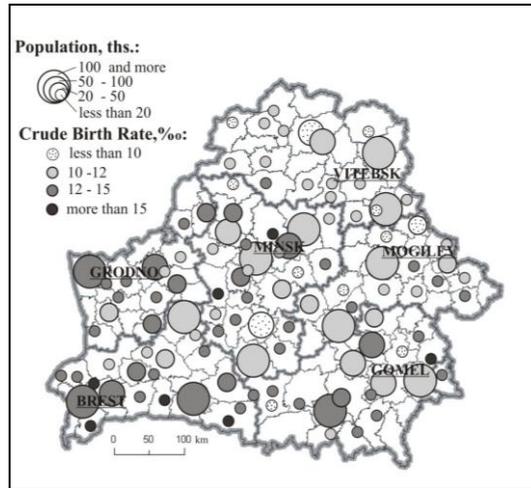


Fig. 1. Birth rate in Belarusian cities, 2010

According to the town classes by the population size the highest birth rate is the characteristic of both large and small cities (11.8 and 11.7 ‰ accordingly). Relatively higher values of the birth rate in large cities are due to the higher level of the social and economic development, which is definitive of the reproductive processes in Belarus, unlike many European countries. Such large cities of southwest region with relatively high birth rate as Brest, Pinsk and Grodno are characterised by the birth rate within 13 ‰. The higher birth rate in small towns of Belarus links up with two main factors: the development and the governmental support of the small business in small urban settlements and hence the efforts to bring the young workforce to the enterprises that are being created in small towns. In such towns as Zhabinka, Malorita, Ivanovo in Brest region, Vetka in Gomel region, Oshmiany in Grodno region, Logoysk and Stolbtsy in Minsk region, which are situated in the south-western and central-south-eastern zones, the birth rate exceeds 15 ‰. The lowest birth rate is the characteristic of medium and semi-medium towns with a population size of 20 to 100 thousand people (at the average 9.9 ‰). In such towns as Gorki in Mogilev region, Slutsk in Minsk region, Novopolotsk in Vitebsk region Crude Birth Rate is much lower, at around 10 ‰.

The death rate of the population in Belarus is characterised by high values that surpass the European level and amounts around 14.4 ‰. Differences between the urban and rural areas in the death rates, unlike the birth rate, are very appreciable. They firstly appeared more than 50 years ago — in the early 1960s — and consist in much higher death rate of the rural population compared to the urban. Currently Crude Mortality Rate in the Belarusian towns is more than 2 times

lower than in rural settlements and equals to 11.1 ‰ and 24.4 ‰. These differences are accounted for by social and economic factors (lower development level, asocial phenomena in rural areas, opposite trends in towns), as well as by demographic ones (much higher ageing level in the country compared to town and etc.).

The death rate dynamics of the urban population is characterised by the trend variation. However, unlike the birth rate, prior to the middle 1960s death rate was reducing up to 5.3 ‰, after which during the next 50 years its significant increase was observed till 2005 and reached the highest value of the century - 11.0 ‰. During the four years after 2005 an insignificant decrease in the urban population death rate took place, by 0.1 — 0.2 ‰. Currently Crude Mortality Rate has increased and amounts to the 11.1 ‰, as well at the average in Europe (Antipova, 2011).

The most favourable death rate statistics are the characteristic of the three Belarusian regions: the capital city — Minsk city, Brest and Grodno regions where the crude mortality rate varies around at the level of 10 ‰. The least favourable death rate statistic are in two Belarusian regions — Vitebsk and Mogilev regions. In Belarusian Poozerye this is accounted for by a higher level of demographic ageing, in Mogilev region by the peripheral position in demographic and economic development. The mortality that is closest to the average country level is the characteristic of Minsk and Gomel regions (11.5 and 11.8 ‰ accordingly). In whole, the Belarusian urbanised space can be divided into three mortality areas: 1) capital-south-western area with low death rate, 2) central-south-eastern area with medium death rate; 3) north-western area with high death rate (fig. 2).

In the view of town classes by the population size the highest values are the characteristic of the small towns, where the average values surpass 14 ‰ and the total increase in the index amounted to 43.5 % over the period of 1989-2010. This is explained by the peripheral position of the social and economic development of a number of urban settlements. In such towns as David Gorodok of Brest region, Vetka, Dobrush, Elsk, Turov, Vasilevichi of Gomel region, Logoysk of Minsk region, Krichev, Slavgorod of Mogilev region, crude mortality rate surpasses 16 ‰. At the same time, in a number of small Belarusian towns where the development of small enterprises takes place and the age structure of the population is younger, the mortality of population is decreasing and currently has minimal values — less than 9 ‰ (for instance, Beryoza, Ivanovo, Ivatsevichi, Mikashevichi of Brest region, Smorgon of Grodno region, Fanipol of Minsk region).

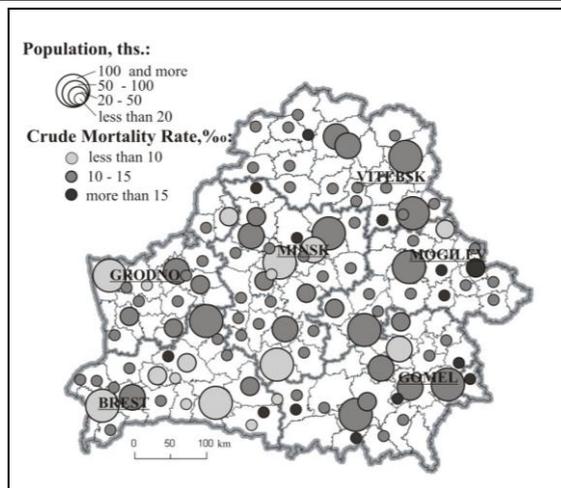


Fig. 2. Death Rate in Belarusian cities, 2010

The lowest death rate is the characteristic of the population of large Belarusian cities, which is connected, first of all, with the higher level of the social and economic development and, as a result, the better development of the health care system. In such cities as Brest, Pinsk of the Brest region, Grodno city of the Grodno region, Soligorsk of the Minsk region, crude mortality rate of the urban population a little exceed 9 ‰.

The nature of the dynamics and the modern birth rate and mortality level of population influenced on the formation of the spatial view of the urban *population natural movement* in Belarus. Currently two region types can be distinguished in the Belarusian urbanised space: 1) central-south-western type with population increase; 2) north-western-southern type with population decrease. Conventional demographic border passes from the north-west to the south-east. The first type, on the basis of the spatial patterns which have been found earlier, includes the towns and cities of Brest, Grodno, Minsk regions and the Minsk city. The highest indexes of natural increase are characteristic of the Brest region (2.4 ‰). The natural increase in the capital city amounts to 1.6 ‰. The second type includes the towns of Vitebsk, Gomel and Mogilev regions. The highest natural population decrease is characteristic to the urban population of Vitebsk region (2.7 ‰).

The study has shown that, according to the town classes by the population size in the character of the population natural movement a structural differentiation is observed. During the period of 1989 — 2010, all classes of Belarusian towns and cities, except the small ones, are characterised by a natural population increase. Two regions, Brest and Grodno, are characterised by the largest indexes of the

natural population increase in all town classes. On the regional level, natural population increase is absent in large and middle towns of Vitebsk region, semi-middle towns of Minsk region. Despite the overall natural population loss in small towns, in towns of the Brest region a natural population increase takes place (tab. 4, fig.3).

Table 4. Structural dynamics of the urban population natural movement in Belarus

| Town classes by the population size thousands of people | Years | Urban population natural movement by region, ‰ | | | | | | Belarus |
|--|-------|---|---------|-------|--------|-------|---------|---------|
| | | Brest | Vitebsk | Gomel | Grodno | Minsk | Mogilev | |
| Large, more than 100 | 1989 | 10.4 | 5.7 | 9.8 | 11.2 | 8.4 | 6.1 | 8.6 |
| | 2009 | 2.5 | -1.9 | 1.2 | 4.9 | 1.4 | 0.5 | 1.4 |
| Medium 50-100 | 1989 | 11.7 | 1.3 | 8.7 | 12.2 | 9.3 | 0 | 7.2 |
| | 2009 | 1.4 | -3.18 | 0.7 | 1.3 | 0.3 | 0 | 0.0 |
| Semi-medium 20-50 | 1989 | 9.7 | 0 | 7.6 | 11.5 | 4.5 | 9.2 | 7.1 |
| | 2009 | 3.5 | 0 | 0.9 | 2.4 | -1.9 | 0.4 | 0.9 |
| Small, less than 20 | 1989 | 5.3 | 2.5 | 1.8 | 7.7 | 4.7 | 6.6 | 4.8 |
| | 2009 | 1.9 | -5.8 | -4.2 | -2.9 | -2.4 | -2.2 | -2.6 |

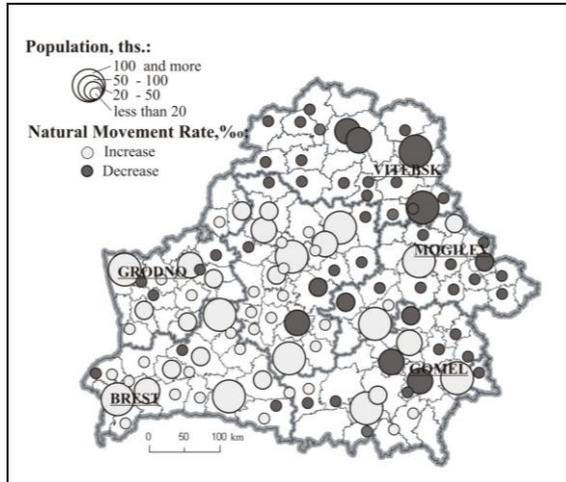


Fig. 3. Natural movement in Belarusian cities, 2010.

IV. TYPOLOGY OF BELARUSIAN CITIES ACCORDING TO THE MAIN FACTORS OF THE DEMOGRAPHIC BALANCE FORMATION

The final stage of the study involved carrying out the typology of Belarusian towns according to the main factors of the demographic balance formation, which was worked out using the Webb's model. The following factors of demographic balance formation are at the bottom of urban typology – natural increase (NI), natural decrease (ND), migration increase (MI), migration decrease (MD). In dependence on dominance of one or another factor or on simultaneous effects of both factors of one direction (natural and migration loss or migration increase) in the beginning we have determined hypothetical types. In the result of the following analysis data concerning the character of natural and migration population movement 6 demographic town types have been determined in the Belarusian urbanised space (tab. 5, fig. 4).

Table 5. The typology of Belarusian cities according to the main factors of the demographic balance formation

| Cities types according to the main factors of demographic balance formation | Number of cities | % |
|---|------------------|----|
| 1 type. <i>Progressive</i> | 23 | 21 |
| Subtype 1a. NI<MI | 21 | 91 |
| Subtype 1b. NI>MI | 2 | 9 |
| 2 type. <i>Contrast-factor based on the natural increase (NI>MD)</i> | 7 | 6 |
| 3 type. <i>Contrast-factor based on the migration increase (ND<MI)</i> | 10 | 9 |
| 4 type. <i>Contrast-factor based on the natural decline (ND>MI)</i> | 4 | 4 |
| 5 type. <i>Contrast-factor based on the migration decline (NI<MD)</i> | 26 | 23 |
| 6 type. <i>Regressive</i> | 42 | 37 |
| Subtype 6a. ND<MD | 35 | 83 |
| Subtype 6b. ND>MD | 7 | 17 |

1st type. *Progressive*, includes towns (21 %), where the population size is growing due to the both components of the dynamics – natural increase (NI) and migration increase (MI). This type includes two subtypes: 1a. NI<MI, 1b. NI>MI. In every fifths Belarusian town, the positive demographic balance is formed mainly by means of migration. As a rule, these are large and medium towns. The second subtype includes two towns – Berezino and Soligorsk of Minsk region.

2 type. *Contrast-factor based on the natural increase (NI>MD)*, includes 7 towns (6 %) situated in the Brest, Grodno and Minsk regions with a population size of less than 50 thousand people.

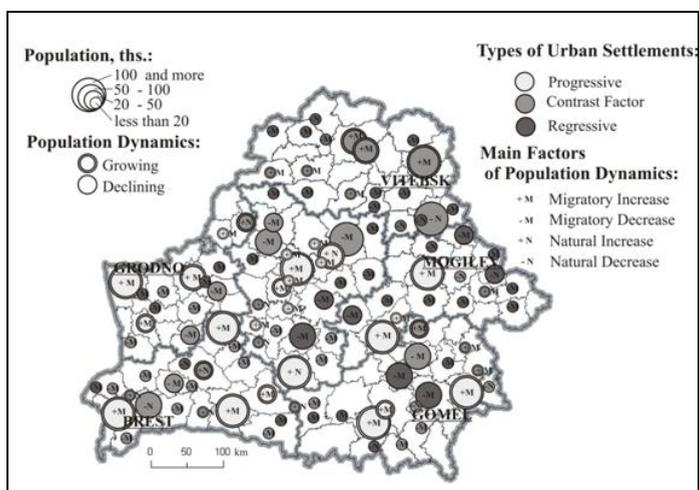


Fig. 4. The typology of Belarusian cities according to the main factors of the demographic balance formation

3 type. *Contrast-factor based on the migration increase* ($ND < MI$), includes 10 towns (9 %) primarily with a small population size, and, as a rule, one town-forming enterprise of region (oblast) and republic importance. From large cities, this type includes Vitebsk.

4 type. *Contrast-factor based on the natural decrease* ($ND > MI$), comprises four towns (4 %) (Orsha of Vitebsk region, Dobrush, Vasilevichi of Gomel region and Chausy of Mogilev region).

5 type. *Contrast-factor based on migration decline* ($NI < MD$) takes the second place in the structure (23 % of towns), comprises 26 towns, primarily with a population size with less than 10 thousand people, situated in all the regions (oblasts) and belonging to the area of a large regional centre's influence.

6 type. *Regressive*, takes the first place in the structure (37 %), includes towns, where population is decreasing by means of two components of the dynamics – natural decrease (ND) and migration decrease (MD). This type includes two subtypes: 6a. $ND < MD$, 6b. $ND > MD$. Every third Belarusian town belongs to the type, where negative demographic balance is formed primarily on the basis of migration population decline. As a rule, these are small towns. The second subtype (7 towns), where population size dynamics is formed primarily on the basis of natural decrease, includes towns with a population size of less than 10 thousand people.

V. CONCLUSION

Thus, the analysis of the birth rate, death rate and population natural movement development in Belarusian cities allowed determining the spatial and structural asymmetry of their demographic development. Spatial asymmetry is manifested by the presence of two main areas - the natural population increase (Brest, Grodno and Minsk regions) and natural decrease (Vitebsk, Mogilev and Gomel regions), the border between which has a rhumb vector and passes from the north-west to south-east. Structural asymmetry of the demographic development consists in more favourable trends of the population size dynamics and processes of population reproduction in large cities and less favourable - in small towns.

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