
GEOGRAFICKÝ ČASOPIS

54

2002

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SPATIAL ASPECTS OF NATALITY DECLINE OF SLOVAKIA'S POPULATION

P. Podolák: Spatial aspects of natality decline of Slovakia's population. Geografický časopis, 54, 2002, 3, 6 figs., 1 tab., 25 refs.

The paper deals with the dominant process in the population development of the Slovak Republic in the last decade: decline of natality. It provides information on level of gross rates of natality decline in the districts of the Slovak Republic in the course of the 1990's. Attention is dedicated above all to regional differences in natality decline rates. Basic causes of changed demographic behaviour of population are analysed including biological-demographic, socio-economic, and psychological factors. Reasons for distinct differentiation of reproductive processes at the level of various social, ethnic or religious population groups are pointed to.

Key words: natality decline, regional differentiation, demographic behaviour of population, Slovakia

INTRODUCTION

Some striking changes became manifest in the development of the natural reproductive indicators of Slovakia's population in the last decade. The distinct decline of the number of children born is the dominating trait of population development in the Slovak Republic after 1989. The question arises to what extent such development is caused only by biological and demographic factors and to what extent it is a result of socio-economic changes and their reflection in the social area. Each of these influences obviously plays its partial role which is dif-

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ferent in different social, ethnic or religious population groups. As the spatial differentiation of these groups with different demographic behaviour is in some cases comparatively pronounced, the presumption that manifestation of reproductive behaviour or its development in different regions of Slovakia will differ is perhaps justified. The process of decline of natality levels then acquired both the national and regional dimensions. The aim of the article is to point to the basic characteristics of spatial discrepancies in natality values in districts of Slovakia in the years 1990-1999 and to highlight some circumstances which could have led to the differences in intensity of decline of gross rate natality in the individual regions (districts) of the country.

The question of the decline of natality has been the subject of several studies in recent years. The problem has got multiple dimensions and its research also requires an interdisciplinary approach. Studies of a demographic, geographical and sociological nature are those which most concentrate on the problem.

Among the studies with statistical and demographic orientation those of Chajdiak (1997), Pastor (1997), Vaňo (1998), Brezák (2000) or Michálek (2000) are worth quoting as they also treat circumstances concerning natality decline and divorce rates from the regional point of view.

The studies of researchers of the Chair of Human Geography and Demogeography of the Faculty of Natural Sciences of Comenius University in Bratislava are geographically oriented. Mládek, Chovancová, and Bátorová (1998) emphasize the relation between the population and socio-economic developments, the negative impact of complicated economic situation resulting in postponing marriage and the bearing of children. They also document the highly unfavourable effect of lack of flats for young families which leads to decline of the number of children born. The decline of the net rate of reproduction is characterized as alarming. In another study Mládek and Pavlíková (1999) expose the consequences of fertility decline in relation to population ageing in this country. There are more geographically oriented studies of development of natality in Slovakia, such as Mládek (1998a, 1998b) Mládek and Chovancová (1997a, 1997b), Chovancová (1999), Podolák (1995, 1996a, 1996b).

Assessment of the problem of natality decline by authors from the area of sociology differs. On the one side, Matulník and Pastor (1997) describe the present situation in population development as unfavourable. On the other side, Guráň and Filadelfiová (1997) essentially reject the negative assessment of the present development. They point to the relation ship between the present population development and the level of political democracy, market economy, and the development of ideas of the modern family and society which reached a different stage and acquired new forms and manifestations of demographic behaviour. The publication of Matulník (1998), which concentrates on his own sociological view (aspect of humanist sociology), but also tries to interpret the present population development and demographic behaviour in a wider context, is an interesting contribution to discussion of this multifaceted social problem and search for a solution of this complicated situation.

Numerous studies also emphasize the necessity of pro-natality measures. However, the conception of the government family policy adopted by the Government of the SR in 1996 is a comparatively inconsistent material and does not

contain any measures encouraging natality. Its character is too general and fulfilment of the "requirements" is not institutionalized, it does not contain any particular measures of stabilization and support to population development.

As far as the methodological procedure is concerned, this study relies on the works of Kazdová and Koubek (1985) and Koubek (1981). Martin and Sunley (1999) analyzed regional disparities of unemployment rates in Great Britain.

Székely (2001) used this method to evaluate the regional differentiation of unemployment rates in Slovakia. The data of natality in the individual districts of Slovakia were also converted for the period of the first half of the 1990's following the present territorial and administrative division of the country, while the urban districts of Bratislava and Košice were joined into single urban wholes of Bratislava and Košice. It should be noted here that the statement value of growth rates used in this study is relatively limited. In the case of using analytical indicators or standardized gross rates the picture of reproduction behaviour of population in smaller regions would probably be more realistic. But as such data are not always available, gross rates were used in spite of the fact that they do not take into account the differences in age structure in the individual study territories, though they do reflect in some way the basic disproportions of reproduction behaviour.

REGIONAL DIFFERENCES IN NATALITY DECLINE

Since the end of the Second World War the development of natural reproduction has proceeded in Slovakia in several stages with alternating periods of higher and lower natural increase of the population. The main reason for such development were the disproportions in age structure of population caused mainly by the irregular development of natality. Natural increase is decisively influenced by the level of natality. Mortality was comparatively balanced after 1970. It reaches high values, but its effect on changes of natural increase is negligible, as it changes in the study period only by 1 per thousand mille. The value of natality after 1970 increased to its maximum of 20,9 per ‰ (in 1976 and 1979) followed by its decline which has maintained until now (10,2 per ‰ in 2000). The decline of natural increase values in the quoted period was multi-fold: from 11,4 per ‰ in 1976 to 0,4 per ‰ in 2000.

The above-mentioned values for the whole Slovak Republic disguise pronounced regional differences. The basic trait of spatial arrangement of natality values is a distinct polarization between the northern and partially the eastern parts of the country on one side and the southern parts on the other.

The interesting feature of the long-term development of natality (and fertility) is that precisely the southern part of the country can be denoted as the focus of the spreading demographic revolution ever since the First World War. Bratislava only follows the southern districts of central Slovakia. This fact is proved by its long-term consequences and represents one of the particularities of variation in fertility and natality decline in Slovakia. In the majority of populations this process as a rule starts in the metropolis and subsequently it spreads to other areas where secondary focuses of decline form. The development in Slovakia was not isolated from that in the contiguous countries. The territory with higher fertility and natality traditionally bordered on the area of higher natality

in eastern Moravia and Polish Galicia. On the other side, the focus of declining fertility and natality in the south was a part of wider territory stretching from Miskolc to Budapest. In the case of Slovakia, the beginning of fertility and natality decline was already determined by factors other than urbanization or industrialization. These two factors are generally considered as determining the origin and development of this process. There are no larger towns in the south of Slovakia, and an advanced industrialization process cannot be talked about either. In this case it is desirable to consider other factors, such as the degree of education, share of Catholics and Calvinists, and the Gypsy or Hungarian ethnic groups. In the course of several decades combinations of above- or below-average values of these indicators in the territory of Slovakia have created the picture of spatial differentiation of the development and level of natality in the form we know today. During the long-term development other, above all socio-economic and psychological factors joined the above-quoted ones.

This distribution has not changed much for several decades now, it was obvious even at the beginning of the 20th century (Vereš 1986) only the differences between the maximum and minimum values in the individual district were subject to changes and increased in the course of the 1990's (especially in the first half of the 1990's). Table 1 quotes the values of the variance coefficients for the years 1991, 1995, and 1999. Variance coefficient increased from 16.94 to 21.42 in the years 1991-1995, then it slightly decreased in the second half of the 1990's and reached 21.13 in 1999. This development is also proved by the values of the variance range, the difference between the highest and the lowest natality values in the individual years. The value increased from 13.3 (1991) to 14.9 (1993), then the gradual decline followed and by the end of the 1990's the values moved between 10.8 and 12.5 and generally moved to lower intervals. While the natality value was not lower than 10 per ‰ in any district in 1991, in 1995 and 1999 it was lower in 9 and 33 districts of Slovakia respectively.

The districts with the highest natality values included Námestovo, Tvrdošín, Kežmarok, Stará Ľubovňa, Sabinov, Spišská Nová Ves, and Vranov nad Topľou at the beginning of the 1990's (Fig. 1). On the other side, the lowest natality values were recorded in Bratislava and in the area of the southern districts of central and western Slovakia (from Poltár and Lučenec, Komárno and Nové Zámky as far as Galanta and Pezinok). The districts with lowest natality also include the frontier districts in the east or west of the country (Medzilaborce, Myjava, and Nové Mesto nad Váhom) with a high representation of old population.

Figure 2 presents the situation at the end of the 1990's. Spatial differentiation changed slightly, a compact territory consisting of the regions of Orava and Spiš (with adjacent districts) still exists and represents the most dynamic part of Slovakia in terms of population development. However, the relative natality values declined by several points, the area with values below 11 per ‰ spread practically to the whole of western and central Slovakia. Absolute numbers of live-born children decreased in the course of period in question by about 30 %.

Tab. 1. Natality values in districts of Slovakia (1991-1999)

Natality %	1991	%	1995	%	1999	%
7.0-7.9					1	1.4
8.0-8.9			2	2.8	10	13.9
9.0-9.9			6	8.3	22	30.6
10.0-10.9			24	33.3	16	22.2
11.0-11.9	1	1.4	12	16.7	5	6.9
12.0-12.9	6	8.3	11	15.3	7	9.7
13.0-13.9	16	22.2	5	6.9	1	1.4
14.0-14.9	19	26.4	3	4.2	6	8.3
15.0-15.9	8	11.1	4	5.6		
16.0-16.9	6	8.3	2	2.8	1	1.4
17.0-17.9	6	8.3			2	2.8
18.0-18.9	4	5.6	2	2.8	1	1.4
19.0-19.9	1	1.4				
20.0-20.9	5	6.9	1	1.4		
Variation coefficient	16.94		21.42		21.13	

With respect to regional differentiation, the situation at the level of districts remains stable perhaps with the particularity that approximately the same decline of values in demographically relatively dynamic areas of the northern and eastern Slovakia is caused “only” by slowed down population growth, while the same (in several cases even lower) decline of natural reproduction in southern parts of the country highlights the depopulation crises existing in these districts. It is comprehensible that rather distinct differences appear at the level of rural municipalities while decline was recorded in villages (above all the smallest ones). The level of natality decline in the course of the 1990’s is presented on Fig. 3. The disparity between the south and north of Slovakia in population development is obvious. The highest decline is observable in the northern districts where high values were reached at the beginning of the period (Námestovo, Tvrdošín, Svidník, Púchov, and Považská Bystrica). On the other side several districts in the south of central and eastern Slovakia (Detva, Levice, Rimavská Sobota, Košice-environs, and Michalovce) are characterized by a relatively small decline (below 3 points). In this respect and based on long-term development, it is possible to presume that the distinct decline of natality manifested in the southern districts earlier and these regions reached another stage of their demographic development characterized by very low fertility and natality values.

There are striking differences in the process of decline of reproduction in Slovak society. The reproductive behaviour of the Gypsy ethnicity is a very important factor. Although the Gypsy population was also affected by the decline of reproduction rates, it was far from being so dramatic as in other population groups. Figure 3 representing spatial aspects of natality decline proves it. Natality decline in the 1990’s is relatively low in the districts with a high representation of Gypsy population. Four districts, Kežmarok, Vranov nad Topľou, Stará

Lubovňa and Bardejov are exceptions. These districts are characterized by a high share of Gypsy population, and were among the 7 districts with the highest natality in Slovakia at the beginning of the 1990's. In spite of decline they also remain among them now. The Gypsy population now represents a serious social problem, suffering from high unemployment, but the fact is not reflected in their reproductive behaviour. Moreover, the reproductive behaviour of the Gypsy ethnic group is also influenced by traditional ideas about numerous offspring. The Gypsies got used to high social and family benefits and although the system of granting these allowances has changed they still rely on them hoping to be able to sustain large families. New mechanisms of distribution of such allowances are now under consideration.

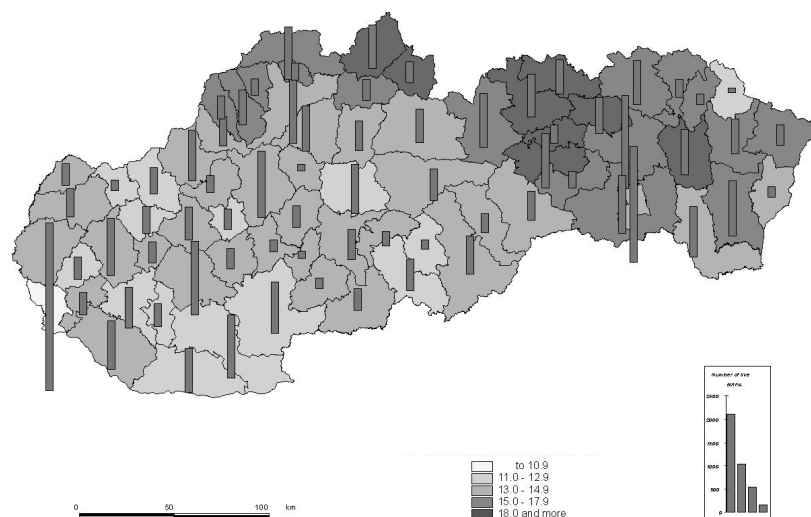


Fig. 1. Average number of live births per 1000 inhabitants in the years 1991-1993

Figure 4 represents the decline of natality in districts with the highest rate of decline, by about 6-8 points in the period 1991-1999. They are the districts of northern Orava, Spiš, and Považie. Figure 5 reflects the decline in the districts with the lowest rate of decline in the course of the 1990's, particularly the districts of southern Slovakia, where the rate of decline does not surpass 3 points. Comparison of these two graphs shows that the most distinct decline in the first case took place in 1993 and in the second case in 1994-1995. Figure 6 presents several types of districts with regard to assessment of natality decline in the study period. Districts with large regional centres are represented by Košice and Žilina. The course of declining curve in these districts, which include the seats of regional administration, corresponds to the national curve and the decline has been relatively regular in the course of the 1990's. Bratislava constitutes a special case where the course of decline corresponds to the national values but at a level by about 4 per ‰ lower and it is also the district with the lowest natality values in Slovakia. Kežmarok and Gelnica are the districts with the highest representation of Gypsy population. In districts of this type (also Sabinov, Stará

Lubovňa, and Spišská Nová Ves) natality increased until 1992, the decline followed later. However, in spite of the decline their values still markedly surpass the national average. Galanta is a district with a high share of the Hungarian minority characterized traditionally by low rates of natality (like other south-Slovak districts). Trend of decline in this case is in accord with the national average and the traditionally low natality values are reflected by the fact that the curve of such districts runs at a level lower by 1 per ‰. The last district in this graph is that of Sobrance which represents the type of marginal region with a high unemployment rate.

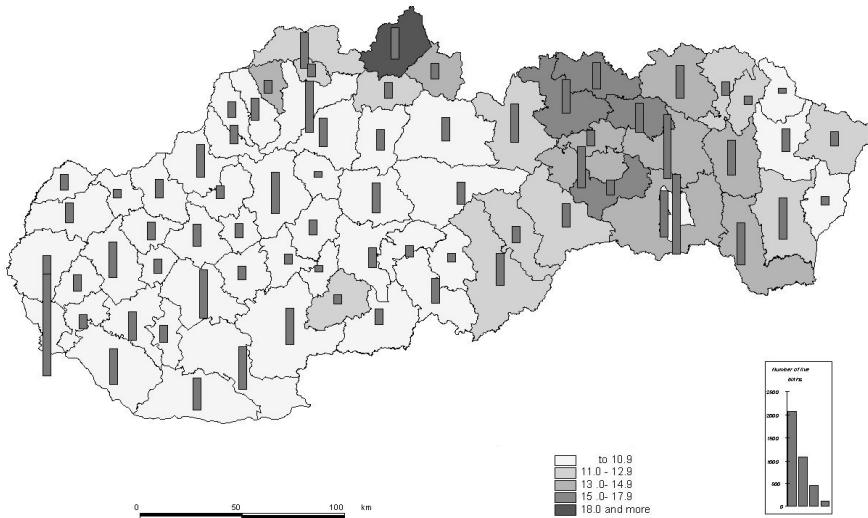


Fig. 2. Average number of live births per 1000 inhabitants in the years 1997-1999

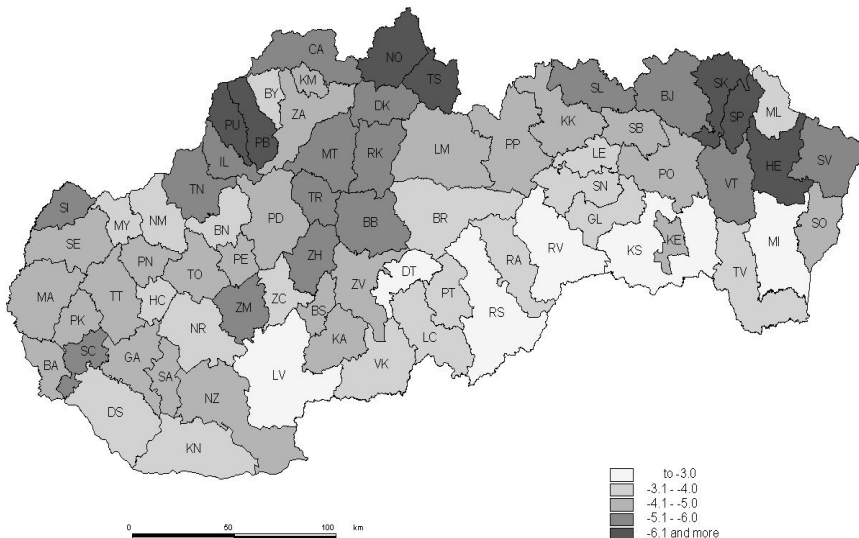


Fig. 3. Natality decline in districts of Slovakia in the years 1991-1999

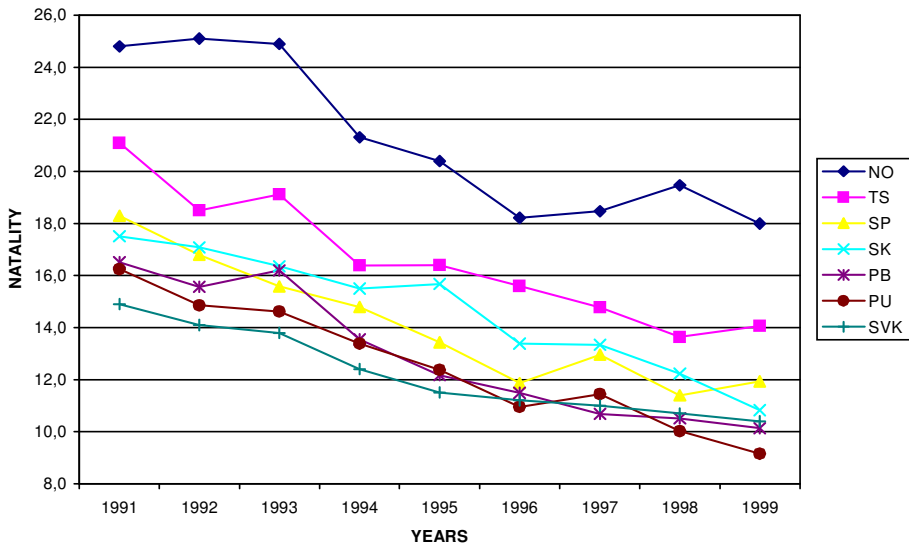


Fig. 4. Districts with the highest decline

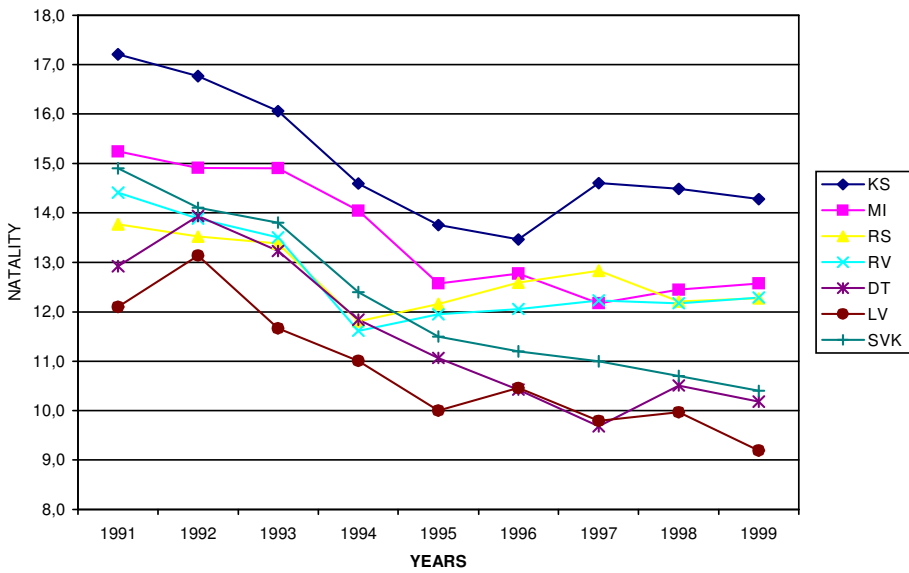


Fig. 5. Districts with the lowest decline

CAUSES OF NATALITY DECLINE

The causes of natality decline must be sought in different spheres. The number of children born is influenced by biological, socio-economic, and psycho-

logical factors, but the level of decline also depends on individual preference for other values by potential parents.

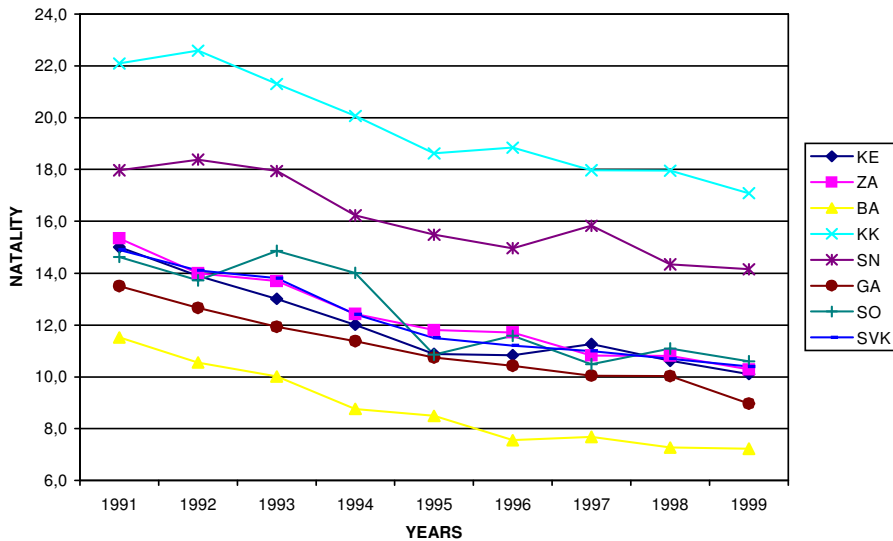


Fig. 6. Natality decline in selected districts

Obviously, the relationship between realization of demographic function defined by biological and social circumstances, and the values people give up for the sake of this realization plays an important role. This relationship is comparatively highly differentiated in different population groups. While young people from the well-to-do social groups give up freedom and leisure, middle social layers give up social prosperity and independence, and the lowest social groups represented in case of Slovakia for instance by the Gypsy population can even profit from a higher number of children. Seen from this perspective, pro-natality policy of the state can mean increase of number of children in the lowest social groups, and consequently an additional burden for the state budget in form of social expenditure.

The change of demographic behaviour of the young generation also depends on widening of alternative possibilities for the self-realization of young people, such as education, travel, entrepreneurship, etc. In this case less leisure and the permanent bond to a child or partner is greater restraint than the decline of economic level of household. Essentially, children are not rejected but postponed. The entire development of fertility and natality in the 1990's in Slovakia bears witness that birth giving is postponed to an ever higher age. The question arises whether this original postponement will not change to permanent childlessness or to the one-child family which, of course, is not sufficient for natural reproduction of the population.

As far as the biological aspect is concerned, it is necessary to consider the influence of age structure and fertility level in the individual age groups of women. The turn of the 1980's and 1990's was the period of decrease of the number of women at the age of maximum fertility. However, the generation of

women born in the period of increased natality (1970's) reached the age of maximum fertility in the mid-1990's. In contrast to many west European countries the highest fertility has concentrated in the age group of 20-24 year old women for several decades. A combination of the then practiced social and wage policy and high employment of women made it clearly advantageous for young families to have children as soon as possible and at short intervals. Whether these facts have changed in the Slovak Republic and to what extent is questionable. However, it is a fact proved by the specific rates of fertility, that in this age group of 20-24 for fewer children are born compared to the situation in the 1980's (not mentioning the mid-1970's). The specific fertility rate of the 20-24 age group of women was 204.8, 187.1, and 99.1 in the years 1980, 1990, and 1998 respectively. This decline is far from being compensated by the increase of fertility among women at higher ages though the fertility decline in these age groups is less intensive. This is the reason why the values for specific fertility of the 20-24 and 25-29 age groups of women are practically the same (VDC 1999).

The consequences of the different course of socio-economic transformation of Slovak society in the 1990's are also reflected in the demographic behaviour, although with certain delay and modification: demographic behaviour has changes differently in different regions and according to the demographic characteristics of the population of smaller territorial units.

The very existence of decline and low natality values in Slovakia is not so dramatic. Many countries of western and northern Europe have experienced such low natality values for decades now. But these populations are also characterized by low values of general and specific mortality, which is definitely not the case of Slovakia's population. It is necessary to realize which factors (apart from declining fertility and natality) cause the marked decline of natural increase values.

The level of natural reproduction values of a population depends on factors of varied nature. The share of the population in the older age groups is steadily increasing, and the population of Slovakia as a whole is ageing.

Migration of people from rural areas to towns was intensive in past decades, and prevailingly young people left for the towns. Theoretically the rural model of the traditional family with more children could have been moved to the towns, but the opposite happened: the immigrants adopted the urban model of family with less children, which is another demographic factor contributing to the decline of natural reproduction. Long-term neglect of active care for public health and the negative effects of the deteriorating environmental quality and life quality are also negatively manifested at the level of natural increase (through mortality values).

Apart from demographic factors, this process is also influenced by economic, social, psychological or religious circumstances. Raising of children is ever more expensive. Young people cannot expect such support from the state as 15-20 years ago, due to its economic situation. Such population impulses as the need for offspring to perpetuate the family or take over the family business are still inoperative in Slovakia.

CONCLUSION

The situation and development of population in Slovakia, until now apparently free from problems and relatively favourable, now attracts attention for its unfavourable trend and social, demographic, economic, and other consequences. The present situation is characterized by considerable differences in opinion and interpretation. Natality decline is accompanied by changes of demographic behaviour and family life, which must be respected, if solutions are to be found. Postponing of solutions or failure to face this complicated social problem was not caused by insufficient knowledge or elaboration of the issue, it was mainly due to lack of interest in modification of the developmental trend. It is necessary to set the present development of population and demographic behaviour into the context of the integrating and disintegrating forces active in modern society and its institutions. The post-war development of natural reproduction of Slovakia's population proceeded in repeated "waves". The forthcoming years should show whether the phenomenon will last 15-20 years or is permanent when the people born in the first half of the 1970's, characterized by high natality, reach the age of fertility. There is sufficient ground to believe that the natality values will increase (at least moderately). However, indicators of general and specific fertility will be a question. Comprehensive assessment of demographic and other effects will make it possible to define the nature of the phenomenon. Most probably the general differentiation of society will also contribute by dynamic features to the processes of natural reproduction. Such development (naturally depending on social development and long term processes) may progressively raise Slovakia among populations with the more dynamic type of demographic reproduction, although probably at a level of intensity different from that several decades ago and with distinct differentiation of Slovak society.

This research has been supported by Grant No. 2/7052/22 of Scientific Grant Agency VEGA of the Ministry of Education and the Slovak Academy of Sciences. The author is grateful to H. Contrerasová for translating the manuscript into English.

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PRIESTOROVÉ ASPEKTY POKLESU PÔRODNOSTI OBYVATEĽSTVA SLOVENSKA

Regionálna diferenciácia hodnôt pôrodnosti sa už veľa desaťročí prakticky nemení, len rozdiely medzi maximálnymi a minimálnymi hodnotami v jednotlivých okresoch podliehajú v dlhodobom vývoji zmenám. Dominantným znakom je disparita medzi relatívne dynamickými oblasťami severného, resp. severovýchodného Slovenska (tam

pokles hodnôt spôsobuje spomalenie populačného rastu) a južnými, resp. juhozápadnými okresmi krajiny, kde pokles hodnôt pôrodnosti ešte zvyrazňuje depopulačnú situáciu v týchto oblastiach.

Aj v úrovni poklesu hodnôt natality sa prejavuje disparita populačného vývoja medzi severom a juhom Slovenska (obr. 3). Najvyšší pokles je evidentný v severných okresoch, ktoré na začiatku sledovaného obdobia dosahovali vysoké hodnoty – Námestovo, Tvrdošín, Svidník, Stropkov. Na druhej strane sú viaceré okresy v južnej časti krajiny charakteristické veľmi nízkym poklesom hodnôt natality – pod 3 body (Levice, Rimavská Sobota, Košice-okolie, Michalovce).

S výraznou všestrannou diferenciáciou spoločnosti sa aj do procesov prirodzenej reprodukcie vnášajú dynamické momenty. V prvej polovici 90-tych rokov sa diferenciacia medzi maximálnymi a minimálnymi hodnotami v jednotlivých okresoch zvyšovala, v priebehu druhej polovice sa stabilizovala. V období 1991-95 sa hodnota koeficientu variácie zvýšila zo 16,94 na 21,42, v roku 1999 dosiahla 21,13. Aj vývoj hodnôt variačného rozpätia dosahuje podobný priebeh. V rámci takéhoto vývoja sa hodnoty vo všeobecnosti posúvajú do nižších intervalov. Zatiaľ čo v roku 1991 v žiadnom okrese nebola hodnota pôrodnosti nižšia ako 10 ‰, v roku 1995 to bolo v 9 okresoch a roku 1999 v 33 okresoch Slovenska.

Súčasný pokles pôrodnosti je sprevádzaný i zmenami noriem demografického správania a rodinného spolužitia. Dôvody poklesu úrovne pôrodnosti je potrebné hľadať v rôznych oblastiach. Rovnako ako na počet narodených detí vplyvávajú faktory biologické, sociálno-ekonomické i psychologické, úroveň poklesu zrejme závisí v individuálnom uprednostňovaní niektorých hodnôt potencionálnymi rodičmi. Celý vývoj plodnosti a pôrodnosti na Slovensku v 90. rokoch svedčí o odkladaní pôrodov do vyššieho veku. Je ale otázkou, či sa tento pôvodný odklad neskôr nezmení z rôznych príčin na trvalú bezdetnosť, alebo len jednodetnú rodinu, čo však nezabezpečuje prirodzenú reprodukciu populácie.