

Regional Differences of Fertility in Slovenia

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Abstract

The paper deals with the relationship between the level of fertility and the place of residence. To verify the existence of urban-rural differences existing independently from socioeconomic differences of urban and rural population, the cohort data for Slovenia are used. They represent the intensity of fertility by place of residence as well as by socioeconomic status. While appropriate data are available only for very small territorial units, cluster analysis is used to form typological groups in which every social group is numerically large enough to be compared with the same group in other clusters. The results confirm the arguments of those who consider the place of residence as the most important determinant of low fertility in advanced societies.

Keywords: Fertility; Average number of children ever born; Place of residence; Age; Marital status; Educational level; Socio-professional status; Activity; Cluster analysis.

1 Introduction

Statistical data for European countries point out that the evolution of the level of fertility leads to the reduction of differences among countries. On the other hand, regional differences inside the countries remain important (Blayo 1987). They are especially stressed when urban and rural regions are compared.

Lower fertility level in urban areas can be explained in two ways:

- by different structure of population living in urban areas; in urban areas the social groups with low fertility are prevailing;
- by specific way of life, usually called urban way of life, which is supposed to be less favourable for the formation of large families.

If the first explanation is correct, the fertility of the same social group should be the same or nearly the same in all, urban and rural territorial units. If the second explanation is the right one, then the level of fertility of the same social

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group should be considerably different in urban than in rural territorial units. To find out whether fertility is lower in urban areas than in rural either because of the different structure of population or because of urban life-style, very detailed statistical data should be available. Such data must demonstrate fertility by both place of residence and different socio-economic characteristics for every territorial (administrative) unit. For Slovenia such data are available for the 1981 census only. That is why our analysis will be based on these data.

2 Data

The 1981 census provides data on the number of women by number of live births, their age, marital status, education level, activity and socio-occupational status. While activity, education and marital status are always her characteristics, socio-occupational status is her characteristic only if she is active at the moment of census, otherwise she is classified according to the socio-occupational status of her husband or supporter. Women belonging to a certain social group are classified into 10 five year age groups. For our analysis we use only age group of 40–44. There are two main reasons for such a decision:

- average number of children ever born per women aged 40–44 at the time of census (completed fertility of female cohorts) represent pure intensity of fertility which means that changes in spacing and timing of births do not influence the results,
- women's activity and socio-occupational status can not be analyzed after the age of 44, because of the increasing percentage of retired women (disability retirement, family pensioners etc.). For them we have no information of their previous socio-occupational status. Such limitation of age is acceptable because the fertility level is low. After the age of 40 only 1.2% of live births occurred in 1980.

Statistical data mentioned above are available for Slovenia (2.000.000 inhabitants) and for its 65 communes. They are not available for different types of localities, e.g., urban-rural localities. That is why we will first of all try to find out if the place of residence is an important determinant of fertility and, only secondly if urban residence influences the level of fertility. Slovenia has no official classification of communes concerning a degree of urbanisation, but among 65 Slovene communes there are at least 15 that can be considered urbanised without hesitation, because the percentage of agricultural population is lower than 5% and because the largest Slovene towns are situated on the territory of these communes.

3 Method

The first step to our analysis was the calculation of the average number of live children ever born for different groups of women (single, married, divorced, widowed,

active, inactive, women without education, women who had finished primary, secondary, or higher school, women of different socio-occupational status) in Slovenia. The results were expected. Higher is women's education and her socio-occupational status, lower is the average number of children ever born. It is also lower for active women than for inactive, lower for single than for those at least once married (Table 1).

For the second step we intended to repeat the same calculations for every commune. But we were soon confronted with the smallness of Slovene communes. In many communes the number of women in certain groups was so low (less than 100) that the calculations of indices (average number of children ever born) would not have any sense. There are at least two possible solutions: to gather women in larger groups or to fuse communes in larger areas (regions). The first solution was not acceptable, because the fusion in larger groups would be in contradiction with our objective. That is why we decided to fuse communes in larger and as homogeneous as possible groups. For this reason the Ward's agglomerative and relocation methods (Ferligoj 1989) seemed to be appropriate ones for our requirements. Communes were clustered according to the average number of live children ever born of those social groups in which the number of women in each commune exceeded one hundred. On the basis of this decision, the following social groups were included for clustering purposes: all women, married, active, having finished primary school (8 years of schooling) and those who belong to the socio-occupational group of workers in industry, mining and services. All variables were standardized and Euclidean distance between regions used.

4 Results

The obtained hierarchical clustering solution is presented in Figure 1. The dendrogram has two very distinguished clusters (A and B), each of them having two subclusters. In cluster A we find communes with relatively high fertility. Clustering solution into two clusters is very stable. It is in accordance with the solution into two clusters obtained by relocation algorithm (Ferligoj 1989).

By classifying communes into four groups we got a typology which is used for analyzing the relationship between the place of residence and adherence to a social group. For this purpose we repeated the calculation of indices of the average number of children ever born for every social group in each cluster. The results are presented in Table 2.

Irrespective of the social group, fertility differs considerably between four clusters. Average number of children ever born is the lowest in the first, higher in the second, even higher in the third and the highest in the fourth cluster. However, these differences are not the same for all social groups. They are the smallest for farmers, economically nonactive women and high educated women. They are the highest for economically active women, for less educated (8 years of schooling or less), for those belonging to the group of industrial mining and service workers and for the married ones. This means that regional differences are lower for small and relatively homogeneous groups than for large, probably less homogeneous groups. Therefore

Table 1: Completed fertility of the 1936–40 Slovene birth cohorts by marital status, educational level, economic activity and socio-occupational status, 1981

	Completed fertility
Marital status	
Single	0.5
Married	2.2
Widowed	2.2
Divorced	1.7
Educational level	
Without education	1.9
Unfinished primary school	2.2
Primary school	2.1
Secondary school	1.7
High school	1.5
Socio-occupational status 1)	
I	2.6
II	2.0
III	1.9
IV	1.7
V	1.7
Activity	
Active	1.9
Inactive	2.5

1) Socio-occupational status

- I - individual farmers, agricultural workers
- II - miners, workers in industry, arts and crafts; craftsmen
- III - workers in trade, catering and other service; owners of restaurants, shops and other workshops
- IV - employees in administration, finance and similar
- V - management, superior employees in administration, experts, artists.

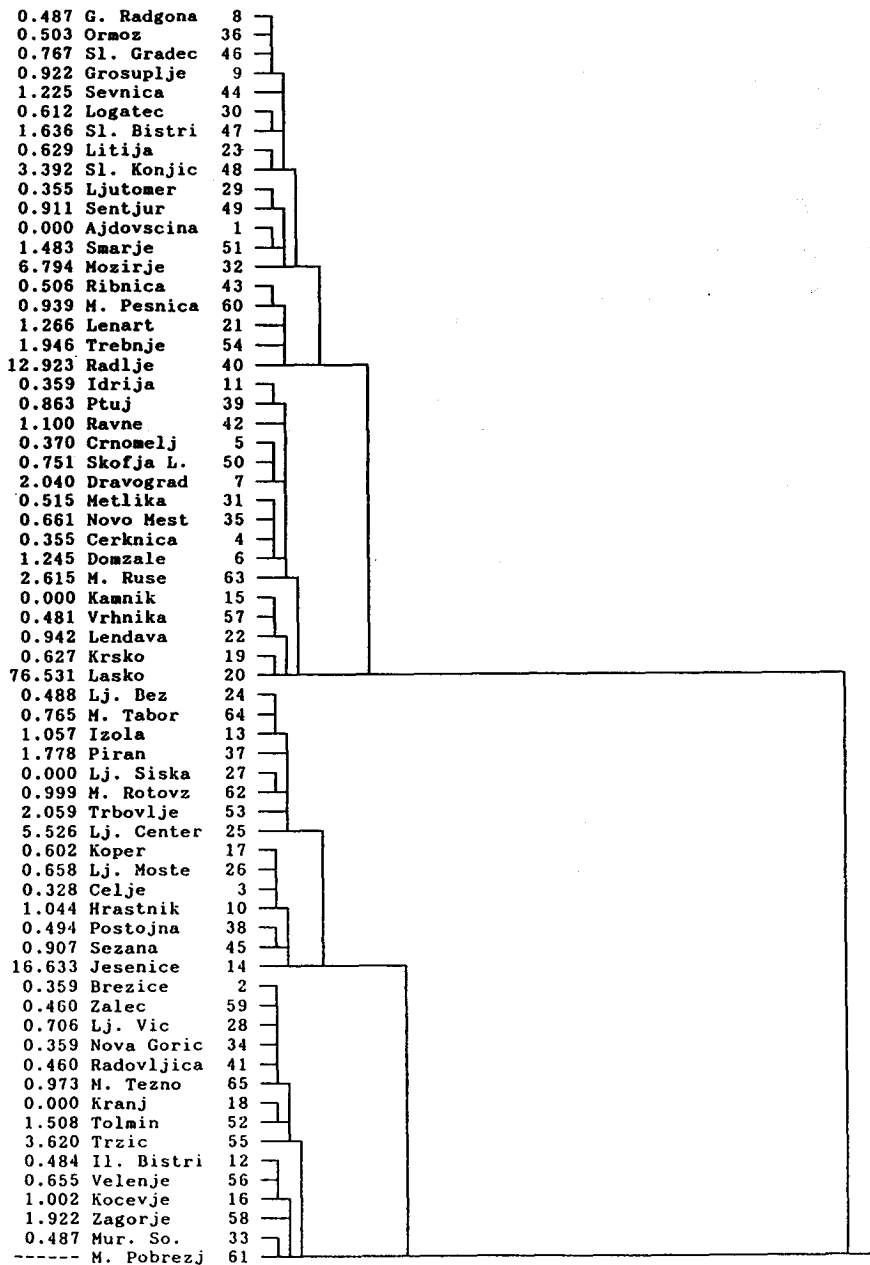


Table 2: Completed fertility of the 1936-40 Slovene birth cohorts by marital status, educational level, economic activity and socio-occupational status, 1981

	Average number of children ever born per a women					
	1. group	2. group	A group	3. group	4. group	B group
Marital status						
Single	0.50	0.48	0.49	0.55	0.63	0.58
Married	1.80	2.05	1.94	2.37	2.58	2.45
Widowed	1.74	2.05	1.92	2.33	2.62	2.44
Divorced	1.53	1.75	1.62	1.85	2.10	1.93
Educational level						
Without education	(2.46)	1.84	2.04	(2.18)	(1.17)	1.72
Unfinished primary s.	1.82	2.07	1.97	2.39	2.63	2.48
Primary school	1.76	1.99	1.90	2.27	2.43	2.33
Secondary school	1.53	1.71	1.61	1.82	1.91	1.85
High school	1.44	1.55	1.48	1.64	1.71	1.66
Socio-occupational status						
I	2.52	2.41	2.43	2.74	2.84	2.79
II	1.76	2.00	1.91	2.24	2.49	2.33
III	1.75	1.96	1.86	2.17	2.25	2.20
IV	1.54	1.66	1.59	1.78	1.93	1.83
V	1.54	1.69	1.60	1.79	1.93	1.83
Activity						
Active	1.63	1.87	1.75	2.15	2.33	2.21
Inactive	2.10	2.36	2.27	2.66	2.76	2.71

these results should be taken into account in further research. Probably it would be appropriate to divide the largest groups of communes into smaller ones and repeat the whole procedure. That is what we intend to do when 1991 census data will be available.

The cartographic illustration of four subclusters points at four well-defined centers of low fertility, ranging from south-west to north-east of Slovenia: Slovene coast, Ljubljana, Celje with mining centers along the Sava river and Maribor (Figure 2). They are composed by the communes with the highest density of population and the lower percentage of agricultural population. On their territory two largest Slovene towns are situated. Therefore, there can be no doubt about the urban character of these communes.

In other communes fertility is higher, especially in the eastern part of Slovenia. The majority of communes in Eastern Slovenia belongs to the 3th and the 4th cluster, except already mentioned centers of low fertility and their immediate surroundings. An exception represent communes Murska Sobota and Brežice, which belong to the 2nd typological group and had the highest (Murska Sobota) and one of the highest (Brežice) percentage of agricultural population in Slovenia (35 and 22% respectively, while Slovene average was 9% in 1981). On the other hand, there are two communes belonging to the 4th typological group in Western Slovenia and having low percentage of agricultural population.

These results indicate that the place of residence is an important determinant of fertility and that the urban way of life is not favourable to large families. They confirm the arguments of those who consider the place of residence as the most important and even the most permanent determinant of low fertility in advanced societies.

5 Discussion

By these data, it has been shown that the place of residence has an effect on fertility which is independent from the social structure of the communes, in the sense that all social strata show lower fertility in urban than in other communes. Therefore our results are in accordance with those of Edin and Hutchinson (1935) for Sweden and those of Thirring (1969) and Andorka (1970) for Hungary.

Although the existence of urban-rural fertility differences seems to be clearly shown, it is not at all clear which factors cause this differences. One of the explanations refers to the diffusion of attitudes from urban to rural areas. New attitudes, among others birth control, family planning and the preference for smaller families, arise in towns where the social conditions are more favourable for innovations, and it takes a while for such attitudes to penetrate into the villages.

Carlsson (1966) strongly criticised this hypothesis, stating that birth control was already known before demographic transition in both urban and rural areas, and that the decline of fertility was caused by a reaction to a new economic and social situation. This reaction occurred in both towns and villages, and the cause of the urban-rural fertility differences was therefore the difference in living conditions between towns and villages.

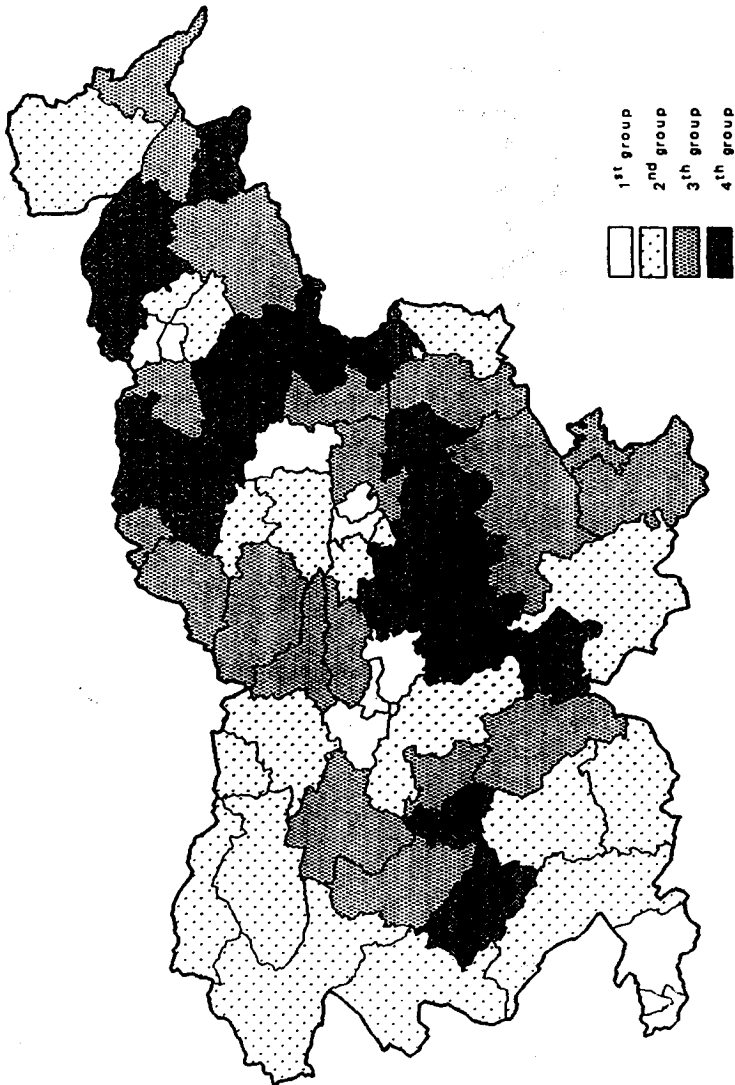


Figure 2: Typology of Slovene communes according to the average number of children ever born in the 1936-40 birth cohorts

Using our data we can not really verify which of the two hypotheses adjust better to the situation in Slovenia. It is known that the relative proportion between the commune with the lowest and one with the highest level of total fertility rate was 1:2 in 1990. This proportion is nearly the same as it was at the beginning of the demographic transition. It is also known that the geographical distribution of the areas with low and the areas with high fertility was very different from today's distribution. As the network of towns was already formed in the last century, we are more inclined to Carlson's adjustment than to innovation hypothesis.

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