

Trends in Fertility and Population Aging in Multiethnic Transylvania (Romania)

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Abstract. The paper analyses the changes in fertility and natural increase in Transylvania. Two tendencies are analyzed in the period between 1980 and 2004. The first one is the role of natal and abortion policies during the communist period in Romania, then, following the regime change in 1989, the social-economic transition in the variations of natural increase in Transylvania. The second tendency refers to the differences regarding fertility in the Transylvanian regions, which can be noticed since the end of the 19th century in Transylvania. In close connection with this tendency, we analyzed the role of ethnic composition on fertility patterns, and the quality of vital statistical data according to ethnicity and the correction methods. Results: Similarly to the Romanian fertility tendencies, in the last part of the Communist period, the number of births was also kept high in Romania due to governmental pressure. The changes that had occurred as a consequence of the political change in December 1989 ceased the above mentioned population policies and the regress of fertility and natural increase was spectacular from one year to the other. As regarding the reasons of the fertility decline after 1989, we can only partially agree with J. Rychtarikova, who considers that the fertility decline in Eastern Europe after 1989 may be attributed to the social-economic crisis. In the Western counties of Romania, this decline is due to conscious choices because in 1990 the change did not have so spectacular negative effects, although fertility rates declined the most during the entire period.

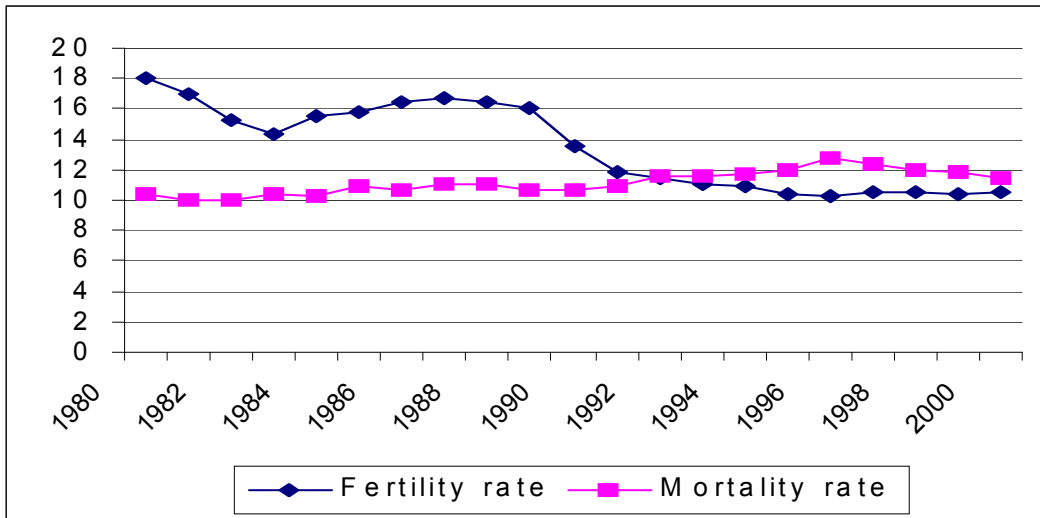
General trends on fertility in Romania and Transylvania

In Romania since 1991 started an intense process of fertility decline (see fig 1). In the context of the international demographic tendencies, we tried to explain the changes by means of Van de Kaa's (1987, 1988) theory of the second demographic transition, especially in north-western part of the country called Transylvania. However, as J. Rychtarikova (1999) asserts based on Czech and other Eastern European data, the changes can be rather attributed to the economic transition than the demographic transition. We can observe regional differences in fertility, increase of the average first marriage age and the age of the first child born which can be connected with the starting of the second European demographic transition but this changes manifest in conditions more like in Southern Europe: the marriage rates and the legitimate childbearing rates remain high. In Romania, due to the costs of the social-political transition and as a result of the ambiguous reforms at the beginning of the 1990-ies, the emigration had a serious impact on the population of the country.

The decline of the fertility rates can be continuously followed in Romania in the second half of the 20th century. This decline had continued since 1980, but from 1984 to 1989, as a last upheaval of the paternalist politics of the Ceaușescu regime, it slightly increased. After 1989, especially between 1990 and 1992 the spectacular decrease of

births can be noticed as a result of abolishing the prohibition of abortion, the appearance of birth control pills and the new, insecure social-economic circumstances.

Fig. 1 The gross fertility and mortality rates in Romania between 1980-2000



As a whole, the variation of the Transylvanian natural demographic indicators follows the country's average, therefore, in the following we shall examine the fertility and mortality rates from different Transylvanian counties in the examined period as compared to the countrywide tendencies.

In the following, by Transylvania we designate the North-Western part of Romania, the population of the following 16 counties: Alba, Arad, Bihor, Bistrița-Năsăud, Brașov, Caraș-Severin, Cluj, Covasna, Harghita, Hunedoara, Maramureș, Mureș, Satu-Mare, Sălaj, Sibiu, Timiș. They are situated on the territory that became a part of Romania after the Trianon treaty in 1920, after the great national assembly which proclaimed the union with Romania on December 1, 1918.¹

We can affirm that Romania, and subsequently the Transylvanian population of Transylvania fits in the South- and East European demographic transition model (Andorka, 1987. 41–42.). In Transylvania the mortality rate had had a decreasing tendency since 1875, however the number of births had diminished relatively slightly before 1910. A substantive change occurred after 1915-20, when the birth rate started to constantly decrease (see figure no. 2). According to the natural trends the last phase of transition period would have finished around 1965, and after this period the number of population should stagnate or start to diminish. (see figure no. 2). However with the dictatorial demographic policy of that period, which meant mainly the strict prohibition of the abortions, the classical demographically transition in Romania so thus in Transilvania went on practically up to 1991.

Not only the „first” transition couldn't finish sooner, but as a consequence, the phenomenon of the second demographic transition, described by Van de Kaa (1987), couldn't be completed through the obtrusive and narrow-minded demographic policy of the Ceausescu regime. According to the Gail Kligman's evaluation the Romanian

¹ The territory of these 16 counties is not identical with the original 1920 territory, but the differences are not significant from a demographic point of view.

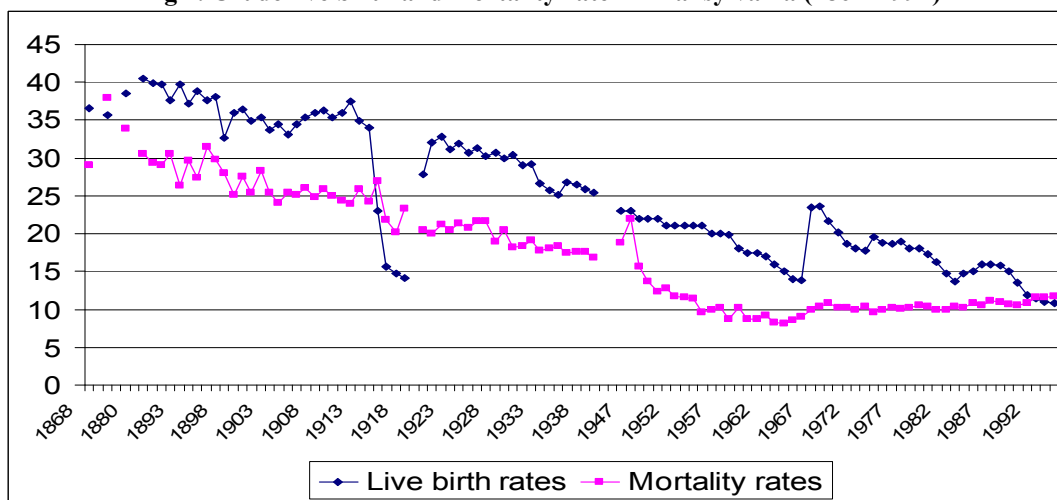
demographic policy of the period 1966–1989 can be divided in three phases: 1966–1973, 1974–1983 and 1984–1989.

It is typical of the whole Ceausescu regime that the abortion and also the birth control pills was prohibited and used as tool through those laws and strategies which encroached in the intimate life of citizens. The communist political system approached ambivalently the gender role of women. In spite of the strict prohibition regarding abortions, what were punished with 1-3 years imprisonment according to the Decree 1966/770, after 1968 the number of births decreased significantly, as the value system and lifestyle of the majority of the population didn't favor the type of family with many children. Substantially the demographic transition came to the end in 1965, and the value system didn't change.

At the beginning of the second phase, in 1974, when Ceausescu reached his full powers, there was a big campaign in order to increase the childbirths. Also some social benefits were given for families with children.

In order to control the implementation of the abortion-law, a strong apparatus: „the abortion-committees” was created and centralized. A „concession” was introduced: the age limit for the abortions was modified from 45 to 40. According to Kligman this happened because at the forthcoming International Population Congress Romania wanted to show that we fall in the line with to the international trends. The impact of this disposition disappeared in the next three-four years, and in 1984 new changes were introduced in the control of births. In this period the life-conditions became very hard, because the lack of subsistence products procuring food supplies was one of the most difficult tasks to accomplish. The abortion was again very strictly controlled, the age limit was increased to 45 year. Besides this, one could ask for abortion only after 5 children instead of 4. The official discourse didn't judge children born out of wedlock and became more tolerant with minor mothers. It was possible to finish the school while pregnant or with children, which was not allowed before – points Kligman. At the same time she shows that the pronatalist social benefits, like the child-care allowance were behind the other socialist countries (Kligman 2000. 79–80.).

Fig 2. Crude live birth and mortality rate in Transylvania (1867–1992)



New tendencies have appeared In Romania and Transylvania on the field of childbearing and the fertility behavior since 2000. One of the changes is the increasing

rate of children born out of wedlock, which we will examine in international context (see appendix no. 1). This also can be interpreted in the frame of the theory of the second demographic transition, as a change in the system of values regarding the family. It can be observed that in 1970 the proportion of out of wedlock live born children is under 10% for most of the countries, and there are a few, especially North- European or socialist countries with a slightly higher values (Sweden, 18, Estonia 14, Austria 12,8, Danmark 11, Yugoslavia 11,7 percents). In the next ten years, these values are increasing everywhere, in many cases by near 40. In 2001 in Romania, as well as in Ireland, Portugal and Spain, Bulgaria the more than the quarter of the births are out of wedlock. In Romania in 2001 this value reaches 26.7% and it has a growing tendency. In the same time, the average age of mother at the first birth became higher, from 22,9 years from 1996 to 24,3 in 2003, which also means that the couples postpone the date of childbearing during the lifetime.

Territorial differences on fertility in Transylvania

Comparing the fertility data of European countries, Coale (1969) found that – according to provinces, respectively counties – four regions can be identified where the fertility was low even between 1870 and 1900 in the different provinces. These four regions belonged to the Habsburg Monarchy, out of which two belonged to the Transylvanian territory examined by us: Banat and Southern Transylvania. The counties of Arad, Timiș and Caraș-Severin, respectively Brașov and Sibiu are situated today on this territory. In the following we will examine the relationship between the fertility in these counties and the surrounding regions from a hundred year's perspective. These counties were the most developed from both an economic and cultural point of view as compared to other territories of Romania, but on the territory of the Habsburg Empire there were even more developed regions (where the fertility was also low), such as Vienna and its surroundings, the Czech state or Sylezia. However fertility was still comparatively high there. Many consider that one of the main reasons of the early fertility decline is the demographic behavior of the German population. This is, however, not unequivocal in itself, because on the one hand, only a minority of the population was German speaking in the two regions, and on the other hand fertility was still relatively high in Germany and Austria. However, according to religious data, in the 18th century the fertility of the Transylvanian Germans (Sachsen) was already much lower than that of the Romanians and Hungarians, yet the fertility of the Romanians from Banat and Southern Transylvania was as low as that of the Germans living next to them.

At the beginning of the 1980's, the lowest fertility data were also registered in Arad county from Banat (12.8 per thousand), and than the other counties from the enumerated ones followed. Yet, we can notice that the Southern Transylvanian counties that are presently situated in the center of the country (Brașov and Sibiu) have fertility indicators that are similar to the 18 per thousand countrywide average, or only slightly different. This change has two significant reasons. On the one hand, the majority of the German speaking Saxons emigrated in the 1970-ies and there was a significant immigration from the surrounding counties in both counties, while between 1960-1980, and to a lesser degree even after, in Brașov also from the Moldavian counties with a

higher fertility rate. Part of the immigrants were Roma, whose fertility is more than double than the country's average.

Table 1. The Crude live birth rates in Transylvanian counties between 1980-2003

County	1980	1985	1989	1990	1995	2000	2003
Alba	17,7	15,7	15,9	13,5	10	9,9	9,0
Arad	12,8	12,7	13,4	11,4	9,5	9,8	9,1
Bihor	16,7	14,9	15,1	13,2	10,9	10,9	10,3
Bistrița-Năsăud	21,7	19,2	18,4	16,3	12,6	12,2	11,4
Brașov	17,1	14,2	14	12	8,6	9,2	9,8
Caraș-Severin	15,2	13,9	13,8	12,2	9,5	9	9,2
Cluj	17,1	13,9	13,8	12,4	8,8	8,8	8,3
Covasna	20,8	17,3	17,8	14,6	10,3	11,6	10,9
Harghita	19,3	15,9	16	13,7	10,7	10,9	10,5
Hunedoara	16,1	15	15,6	13,2	9,7	11,5	8,3
Maramureș	20,7	18,5	17,9	15,8	12,1	11,2	10,2
Mureș	17,9	14,7	15,8	13,7	10,2	11,2	10,6
Satu-Mare	19	17,1	17,3	15,1	10,6	10,8	10,6
Sălaj	17,9	16,8	17,2	14,8	11,4	11,4	10,3
Sibiu	18,5	15,4	15,1	12,6	10,2	10,4	10,4
Timiș	14,4	13,3	13,2	12	9,3	9,3	9,1
Romania	18	15,8	16	13,6	10,4	10,5	9,8

Counties from Banat have therefore retained the traditional low fertility behaviour in Romania. It is well-known that until 1989 abortion, the selling of birth control pills and the use of birth control methods were all prohibited in Romania. Moreover, disseminating modern family planning and pregnancy preventing information was also prohibited. As a result, fertility was unnaturally high in Romania. Relatively many 'non-desired' children were born, and thus the number of abandoned children increased, which unnaturally swelled the orphanages. The variation of the fertility data in the country and in the Transylvanian counties reflect very well the demographic effects of the political regime change from December 1989. In one year, up to 1990, the value of the brut national fertility rates had declined with 2.4 per thousand, while according to counties, this decline was between 1.2 and 3.2 in Transylvania. The lowest decline was registered in the counties from Banat (Timiș, Caraș-Severin and Arad) and in Cluj county which already had a low fertility, while the decline in the counties with a high fertility was greater; the regional differences did not disappear, they only became smaller. The Eastern Transylvanian counties Bistrița-Năsăud, Maramureș, Covasna and Harghita, respectively two Northern Transylvanian counties with an overwhelmingly rural population, t.i. Satu Mare and Sălaj had the highest fertility, there the about 17-18 per thousand brut fertility rates declined to an average of 14-15 per thousand. The fertility decline had continued throughout the 1990-ies, in most counties it reached the critical point in 1995-1996. By 2000 the values of fertility were between 9-12 per thousand in Transylvania. The reasons of this can be classified into two groups. On the one hand, after the regime change the

living standard of the significant part of the population had decreased, because although services and the supply of goods had significantly improved, the purchasing power had decreased, the national GDP had also significantly decreased in the 1990-ies as compared to the 1989 value. These processes had also an effect on the willingness to have children, on the one hand by not having as many children as people wanted, on the other hand, by postponing having children. This has also triggered postponing the date of marriage in the case of a part of young people, but because the phenomena is strata specific, the average marriage age has been postponed with only 1-2 years in Transylvanian counties and slightly lower on the national level.

On the other hand, the reason can be traced back to the availability of modern birth control methods, to the legalization of abortion and the appearance of modern family planning centers since 1990, and in parallel, to the spread of the modern family planning information as a result of free press and the free flow of information. The effects of the second group of reasons outline the characteristics of D.J. Van de Kaa's second demographic transition, yet the effect of the two groups of reasons cannot be separated. J. Rychtarikova asserts that the decline of the Eastern European fertility can be best explained by the decline of the living standard and it cannot be related to the second demographic transition. In her opinion, the symptoms suggest a crisis behaviour rather than conscious choice (Rychtarikova, 1999). In my opinion, this is true only in part. Northern European tendencies cannot be found, because Central and Eastern Europe rather resembled Germany and Southern Europe even during the first demographic transition, therefore the changes cannot be so spectacular nowadays either, as for in example in Benelux, the Scandinavian states and France. In these counties mortality rates are well above the national average and the average in other Transylvanian counties, with almost 15 per thousand, while the national average is 10 per thousand. At the same time, based on the indicators of the age specific mortality we can notice that the rate of the brut infant mortality is the lowest in these counties from Banat (in Timiș is 22 per thousand, as compared to the national 37 per thousand). The reason of high mortality is the age structure of the relatively aged population. Fertility indicators have declined almost to half in Romania, from 18 per thousand to 10.5 per thousand. The intensity of the decline was similar in the Transylvanian counties with a higher fertility, while in the counties from Banat the brut fertility rate is about 9 per thousand in 2000. The decline was lower as in the other counties in the whole period, although Arad and Timiș counties are still among the counties with the lowest fertility rate.

Analyzing the natural increase rate for every 5 years, between 1980-2000 (see appendix no. 2) we can see that after the regime change in 1989 the rata declined very much in one year, while by 1992 the national natural increase rate became negative. In parallel, it also became negative in most Transylvanian counties. In the counties from Banat with a low fertility, however, it had already been negative or around zero even before 1989.

The negative increase reached its peak in 1995-1996 in most of the counties, from then on in the counties with a higher fertility it became positive again or it was around zero in 2000 (appendix).

The regional differences in natality were also researched by Mureșan, C (1999). By dividing the territory of the country into four bigger regions, by means of the event

history analysis and using the variables age, sex, region and time, he showed that between 1989-1996 the correlation between fertility and the age of fertile women differentiates Transylvanians from all the other regions. The value of the Total Fertility Rate (TFR) has reached a lower level than the replacement level, in Transylvania also by the mid 1990-ies. According to the data published in 2001 we can see the variations of female fertility and total fertility according to counties in 2000.

Table 2. Total Fertility Rates and the Index of Economic Development in Transylvanian counties, 2000

County	TFR	IED
Braşov	1,1	0,67
Sibiu	1,2	0,51
Alba	1,3	0,36
Covasna	1,4	0,64
Harghita	1,3	0,54
Mureş	1,4	0,47
Arad	1,3	0,49
Timiş	1,2	0,55
Caraş-S	1,2	0,41
Hunedoara	1,1	0,46
Bihor	1,4	0,49
Cluj	1,1	0,69
Bistriţa-N	1,5	0,27
Maramureş	1,4	0,41
Satu-Mare	1,3	0,31
Sălaj	1,5	0,37
România	1,3	*

$r = -0,54, p = 0,02$

On the whole, the values are very low. The highest TFR values were registered in those counties which were the most fertile in 1989: Bistriţa–Năsăud, Maramureş, Sălaj, Covasna.

In what follows, we test the following hypothesis: if we calculate the correlation between TFR and the indices calculated and based on the different indicators of the economic-social development, then the value of the correlation coefficient will be negative.

The index of the economic development is a relative value between 0 and 1, which contains the following indicators:

- I. Economic and income indicators: GDP per capita (USD); net average income of the active population.
- II. Indicators showing the level of agricultural development: agricultural production per 1 ha of agricultural land (calculated in RO Lei), the number of tractors per 1000 ha of agricultural land, the number of tractors in private property per 1000 ha of private cultivated agricultural land.

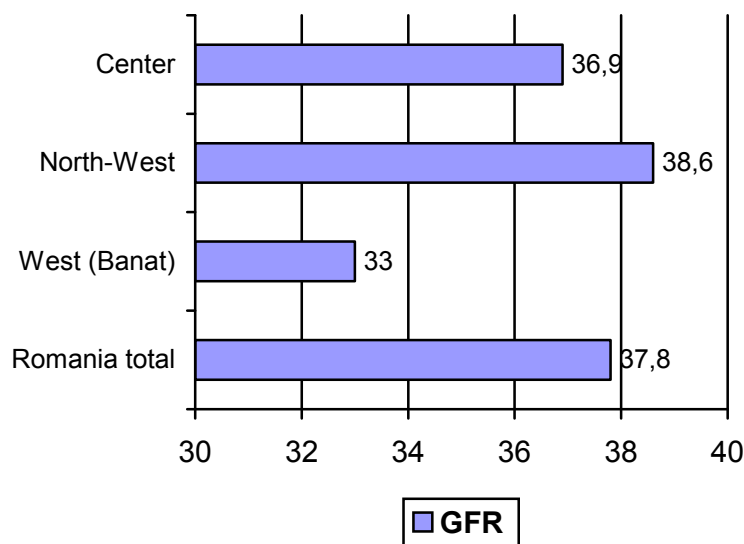
- III. Indicators regarding the structure of the economy and the level of activity: the proportion of those who are employed in services from the total active population; the proportion of the PIB produced by services; the unemployment rate.
- IV. Infrastructure development indicators: the number of beds in hospitals per 1000 inhabitants; the proportion of households which have bathrooms in rural areas, as compared to urban areas.
- V. Indicators of social development: the proportion of those with at least secondary education, the infant mortality rate.

We used the value of each indicator between 0 and 1. The infant mortality rate and the unemployment rate were included with negative sign, reversed. As a result, the economic-social level of development of counties with a value closer to 1 is higher, while the lower values show underdevelopment.

Indeed, $R=-0.54$, which means that in those counties where the value of TFR is higher, usually the social-economic level of development is lower than in counties where the value of TFR is lower. Based on this, we can assert that the reasons of the fertility decline in Transylvania are not primarily of an economic crisis origin, they can be attributed also to social factors, like value system reasons which manifest themselves through conscious choice. Naturally, the very low fertility level in the whole country is partially determined by the economic situation as compared to 1990, but the territorial differences also indicate the non-economic determination of the phenomena, which is exactly the essence of the second demographic transition defined by Van de Kaa (D.J. Van de Kaa, 1987).

We analyzed the fertility differences according to the 3 development regions from Transylvania. In the West (Banat) region the GFR is 33, and in Center is 36,9 per thousand, both is lower than the average value of Romania, 37,8. Only in the North-West region, which means the Northern part of Transylvania, the GFR is slightly higher, 38,6, than the national average. However, this rate should be about 60 per thousand for the simple reproduction of the population.

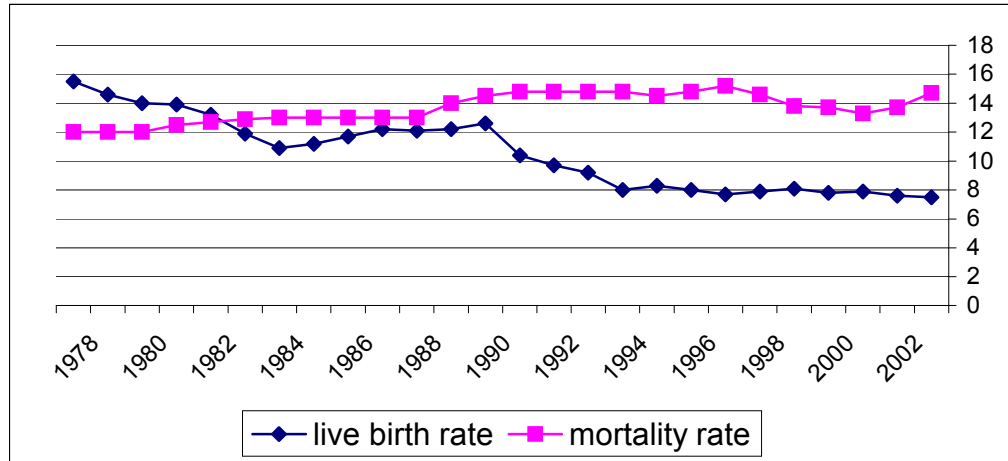
Figure 3. General Fertility Rate (GFR) by Transylvanian Development Regions from Romania, 2001



Fertility of ethnic Hungarians from Transylvania

According to the statistical data, the natural increase among ethnic Hungarians from Transylvania became negative with 10 years earlier than in Romania, around in 1982.

Fig. 4. The crude live birth and mortality rates of ethnic Hungarians from Romania



Source: Statistical Institute of Romania. The mortality rates before 1990 are estimated.

We can ask, why? As we saw earlier, the Ceausescu's regime birth-control and pronatalist policy assured the positive natural increase on national level, but in some Transylvanian counties and among ethnic Hungarians from Transylvania after 1982 this policy didn't had enough effect. After the 1989 political change the dictatorial pronatalist policy ended, and the natality started to decrease substantially (see figure no 4).

The consequences of childbearing disposition decrease are that the number of ethnic Hungarian as well as the Romanian population have been decreasing. Using the official vital statistics data from Romania in ethnic distribution, we analyze the territorial disparities and the age-specific specificities of Hungarian fertility from Transylvania. According to the vital statistics centralized by the Romanian Statistical Institute, between 1992 and 2002 the Hungarian live births decreased from 14 837 to around 9000, this process had contributed to the ageing process of the population.

The number and the proportion of the ethnic Hungarians in Transylvania, according to the last two censuses is the following:

Table 3. The number and the proportion of Hungarians in Transylvanian countries

County	Total polulation, 1992	The number of ethnic Hungarians, 1992	The proportion of ethnic Hungarians, 1992	The number of ethnic Hungarians, 2002	The proportion of ethnic Hungarians, 2002	Difference in percents '92-'02
Alba	413919	24765	6	20682	5,4	-16,49
Arad	487617	61011	12,5	49000	10	-19,69
Bihor	638863	181703	28,4	155554	25,9	-14,39
Bistrița-Năsăud	326820	21098	6,5	18394	5,9	-12,82

Braşov	643261	63558	9,9	51470	8,7	-19,02
Caraş-Severin	376347	7876	2,1	5859	1,8	-25,61
Cluj	736301	146186	19,9	122131	17,3	-16,46
Covasna	233256	175502	75,2	164055	73,8	-6,52
Harghita	348335	295104	84,7	275841	84,6	-6,53
Hunedoara	547950	33849	6,2	25321	5,2	-25,19
Maramureş	540099	54902	10,2	46250	9,1	-15,76
Mureş	610053	252651	41,4	227673	39,3	-9,89
Satu-Mare	400789	140392	35,0	129998	35,2	-7,40
Sălaj	266797	63151	23,7	57312	23,1	-9,25
Sibiu	452873	19309	4,3	15478	3,7	-19,84
Timiş	700033	62866	9	51421	7,6	-18,21
Total Transilvania	7723313	1603923	20,8	1416439	18,3	-11,69

Table 4. General Fertility Rates (Romania and Transilvanian Hungarians), 1992 – 2002

Year	Live births for 1000 women between 15-49 years age (GFR)	
	Tr. Hungarians	Romania
1992	38,0	46,6
...		
1996	34,0	39,9
1997	34,3	40,6
1998	34,9	40,6
1999	33,4	40,2
2000	33,7	40,3
2001	32,4	37,8
2002	30,8	37,9

For the cross-controlling method we analyzed the age composition of the number of ethnic Hungarians from Transylvania by the counties. We found that in the counties where the ethnic Hungarians represents not more than 20 percent, the number of the registered live births by the Hungarian women were significantly lower, in average with 30 percent, than the number of the related age-specific Hungarian population which was born in that year, according to the 2002 Census. In these counties we corrigated the number of the Hungarian mother's births. Ghetau (2004) mentioned also that the vital statistics under-registered the ethnic Hungarian live births between 1992 – 2002.

The General and Total Fertility Rates of ethnic Hungarians between 1992-2002 were lower than the Romanian's values both from Transylvania and on the country level. In 1992 the Hungarian GFR was 38, since the Romanian's was 46,6 per thousand. In 2002 the GFR of Hungarians was only 30, and on the country level 37,9 per thousand, also very low. In comparison the GFR from Hungary was around 37 per thousand in that time.

Analyzing in regional perspective, the differences in ethnic Hungarian women's fertility is relatively high. The lowest values were found in 2002 in Southern Transylvania and in the Western part (Banat): 25 per thousand. In Eastern Transylvania (Covasna/Harghita counties) the GFR is much higher, even higher than the country level, around 40 per thousand. Near the border with Hungary, in the North-Western part of

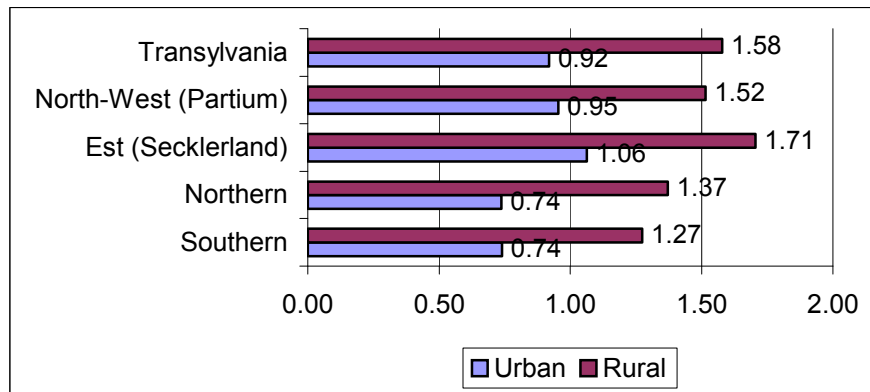
Transylvania the GFR of Hungarians was about 34, almost reaching the average of ethnic Romanians from Transylvania.

Table 5. General Fertility Rates (corrigated values with 2002 census data) of Hungarians from Transylvania by settlement type and geographical region

Region	1997			2002		
	Total	Urban	Rural	Total	Urban	Rural
Southern Transylvania	24,65	20,69	34,73	25,33	21,16	36,42
Northern Transylvania	28,47	23,79	39,65	26,32	21,10	39,20
Eastern Trans. (Secklerland)	40,57	30,14	51,48	39,37	30,39	48,71
Western Transylvania (Partium)	36,17	26,44	47,75	34,62	27,28	43,29
Total Hungarians from Trans.	35,45	26,45	47,69	34,19	26,28	45,10

In 2002 The Total Fertility Rate in Romania was 1,33 per 1 woman, among ethnic Hungarians from Transylvania was 1,21. But we can observe major differences according to the settlement type: in rural area the TFR was 1,58, in urban area only 0,92. We can observe these major differences in all of the regions. While on the country level the urban population represents about 53 percent, in Southern Transylvania almost 70 percent of Hungarians live in urban areas, while in Eastern Transylvania (Secklerland) only 40 percent live in towns.

Fig. 5. General Fertility Rates (corrigated values with 2002 census data) of Hungarians from Transylvania by settlement type and geographical region 2002



According to 1992 census data we can measure the number of the live births per thousand women (children ever born), in age groups and according to ethnicity (table 6).

Table 6. The children ever born in Romania in ethnic distribution by age groups, 1992

The mother's age	Live births per 1000 women
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	Romanians	Hungarians	Roma (Gipsy)	Total	Difference betw. Total and Hung. in percents (e-c)*100/e
a	b	c	d	e	
15-19	59	56	361	67	16.42
20-24	631	582	1607	646	9.91
25-29	1488	1428	3001	1513	5.62
30-34	1941	1883	3743	1967	4.27
35-39	2119	2051	4002	2140	4.16
40-44	2274	2172	4034	2286	4.99
45-49	2348	2136	3873	2343	8.83
50-54	2288	2060	3742	2281	9.69
55-59	2203	1987	3648	2197	9.56
Average values	1798	1708	2700	1802	5.2

Although the fertility of Romanians is higher than for Hungarians in all age groups, the difference between them is relatively constant, between four and eight percent.

According to 1992 and 2002 censuses data, the ethnic Hungarian population is more aged than the Romanian population. The difference between younger age groups under 14 is about four percent (see appendix no. 2). The proportion of the 20–35 age groups are higher with 5 percent among Romanians than among Hungarians. There are 2-3 percent more Hungarians in the age groups between 40 and 60 years. The percentage of all Hungarians who are above age 60 is about four points higher than the percentage over age 60 in the total population. (see appendix no. 4)

According to the territorial point of view, there are major differences in age structure. In Eastern Transylvania (CV, Hr, MS) the population is even younger than the national average. In Northern and Western Transylvania the population structure is moderately aged. In the Southern and Western part of Transylvania the ethnic Hungarians have a very aged population structure, especially in Timis county, where the age-tree has the “mushroom” form: The number of the 0 – 10 cohorts is with four times smaller than the average number of the cohorts between 60 and 70 years age. In these counties the local ethnic Romanian population is also aged, but this fact is not evident on the county population level, because the age structure of Timiș county’s population was improved by the inter-county immigration, whose extent reached the 35% of the population in Timiș and Brașov, and it represented more than half of the fertile population in the 1980-ies (Veres V., 1996, 148).

Conclusions

Analyzing the regional differences in fertility decline in Romania between 1980-2000 we can draw the following conclusions. Similarly to the Romanian fertility tendencies, in the last part of the Communist period, due to governmental pressure the number of births was also kept high in Transylvanian counties. The changes that had occurred as a consequence of the political change in December 1989 ceased the above mentioned population policies and the regress of fertility and natural increase was spectacular from one year to the other. The fertility of the counties from Banat and

Southern Transylvania - where fertility is traditionally low - has come close to the other Transylvanian counties, while in Braşov and Timiş counties, due to the great inter-county migration, this low fertility is not characteristic any more. As regarding the reasons of the fertility decline after 1989, we can only partially agree with J. Rychtarikova, who considers that the fertility decline in Eastern Europe after 1989 can be attributed to the social-economic crisis. In the Western counties of Romania this decline is due to conscious choices, because in 1990 the change had not have so spectacular negative effects, although fertility rates declined the most in the whole period. The increase of illegitimate fertility, and the postponing process of the first birth, after 1995 show us the changes in family value system. Furthermore, in those Transylvanian counties where the economic development indicators are worse at the end of the 1990-ies, at the same time fertility rates are higher (see Bistriţa-Năsăud, Sălaj, Maramureş, Hunedoara counties) than in Timiş and Arad counties which are economically better situated, and not vice versa.

The differences between the fertility of Romanians and Hungarians from Transylvania fit into the structure of Transylvanian regional differences. The fertility of the Hungarians and Romanians in a given county is similar in urban as well as in rural areas, but the proportion of the urban population with very low fertility is different among the Romanians and Hungarians in certain counties. Yet, because among Hungarians the aging process is more advanced, the pace of the negative natural increase is faster than among Romanians who live in majority. The question of the disappearance of Hungarians arises, provided that the international migration does not become dramatical.

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Appendix

1. The proportion of the children out of wedlock in certain countries, 1970–2001

Country	Children out of wedlock (%)						TFR
	1970	1980	1990	1999	2000	2001	2001
Ausztralia	8.3	12.4	21.9	29.1	..	..	..
Austria	12.8	17.8	23.6	30.5	31.3	33.1	1.31
Belgium	2.8	4.1	11.6	..	..	..	1.56
Bulgaria	9.4	11.0	12.4	35.1	38.4	42.0	1.24
Cech Republic	5.4	5.6	8.6	20.6	21.8	23.5	1.14
Danmark	11.0	33.2	46.4	44.9	44.6	44.6	1.74
USA	10.7	18.4	28.0	33.0	33.2	..	2.03
Estonia	14.1	18.3	27.1	54.0	54.5	56.2	1.34
Bielorussia	7.3	6.4	8.5	17.8	18.6	20.5	1.27
Finland	5.8	13.1	25.2	38.7	39.2	39.5	1.73
France	6.8	11.4	30.1	41.7	42.6	..	1.90
Greece	1.1	1.5	2.2	3.9	..	..	1.30
Netherlands	2.1	4.1	11.4	22.7	24.9	27.2	1.71
Croatia	5.4	5.1	7.0	8.2	9.0	9.4	1.38
Ireland	2.7	5.0	14.6	30.9	31.8	31.2	1.97
Israel	0.7	1.0	1.6	..	..	..	2.89
Japan	0.9	0.8	1.1	..	..	..	1.33
Yugoslavia	11.7	10.1	12.7	20.2	20.4	..	..
Poland	5.0	4.7	6.2	11.7	12.1	13.1	1.29
Latvia	11.4	12.5	16.9	39.1	40.3	42.1	1.21
Lithuania	3.7	4.6	7.0	19.8	22.6	25.4	1.30
Luxemburg	4.0	6.0	12.9	18.6	22.1	22.3	1.66
Hungary	5.4	7.1	13.1	28.0	29.0	30.3	1.31
United Kingdom	8.0	11.5	27.9	38.8	39.5	40.1	1.63
Germany	7.2	11.9	15.3	22.1	23.4	..	1.42
Norvay	6.9	14.5	38.6	49.1	49.6	49.7	1.78
Italy	2.2	4.3	6.5	9.2	9.7	..	1.20
Russia	10.8	10.8	14.6	27.9	28.0	28.8	1.25
Portugal	7.3	9.2	14.7	20.8	22.2	23.8	1.46
Romania	3.5	2.8	4.0	24.1	25.5	26.7	1.24
Spain	1.4	3.9	9.6	16.3	17.7	..	1.26
Switzerland	3.8	4.7	6.1	10.0	10.7	11.4	1.41
Sveden	18.4	39.7	47.0	55.3	55.3	55.5	1.57
Slovakia	6.2	5.7	7.6	16.9	18.3	19.8	1.20
Slovenia	8.5	13.1	24.5	35.4	37.1	39.4	1.21
Turkey	..	2.9	4.5	..	..	..	2.51
Ukraina	9.2	8.8	11.2	17.4	..	18.0	1.10

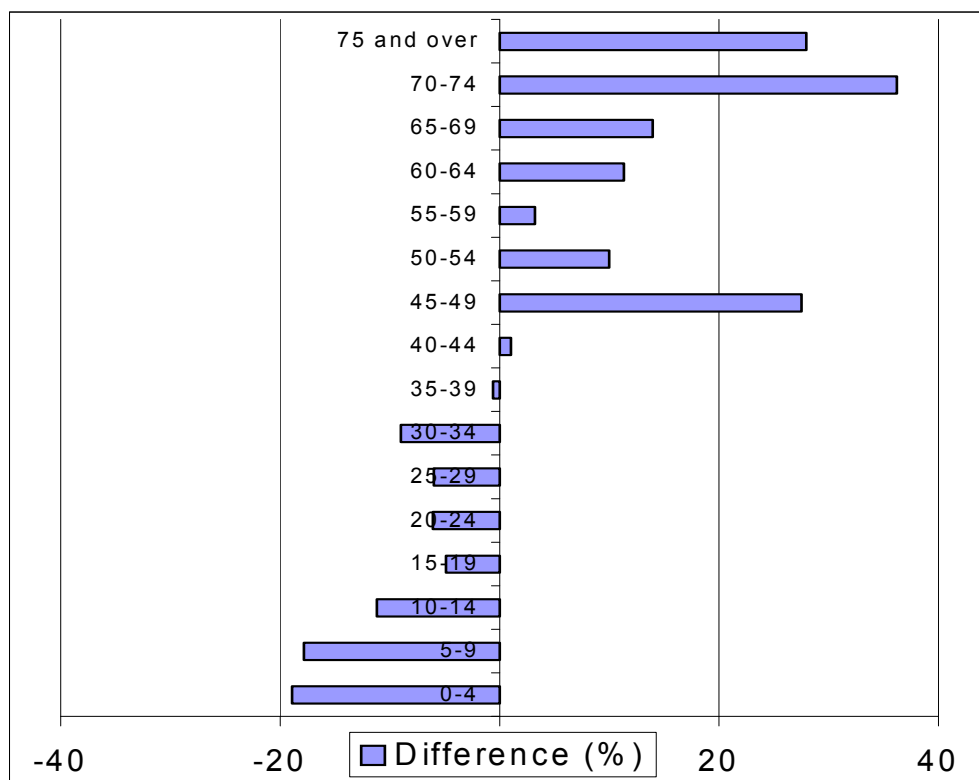
Sources: Demographic Yearbooks, UNO, Hungary, Romania, 2000–2005

2. Natural increase rates in Transylvanian counties, 1980–2000

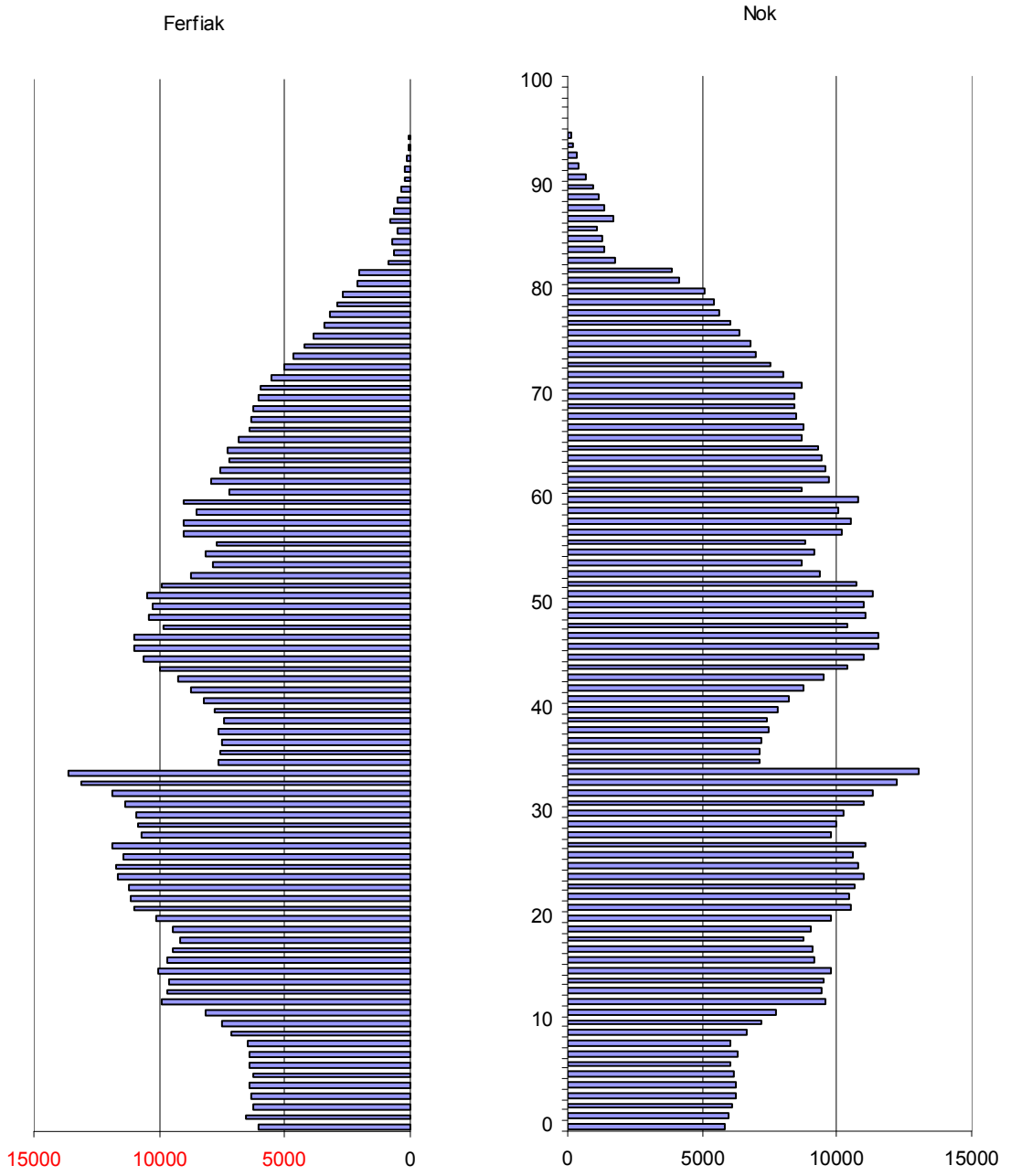
County	1980	1985	1989	1990	1995	2000
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Alba	6,4	4,8	5,1	2,5	-2,4	-1,7
Arad	-2,1	-2,1	-1,4	-3,1	-5,6	-4
Bihor	4	2,4	2,2	0,5	0,8	-2,2
Bistrița-Năsăud	11,5	9,4	8,6	6,7	2,6	2,3
Brașov	8,5	5,7	5,3	3,7	-0,9	0
Caraș-Severin	2,2	1,4	1,3	-0,3	-3,8	-3,8
Cluj	6,5	3	2,8	1,5	-3,2	-3,2
Covasna	9,8	6,6	7,4	4,3	-0,6	1,2
Harghita	8,9	5,2	5,7	3,6	-1,2	0
Hunedoara	5,5	4,2	4,7	3	-2,3	0,1
Maramureș	11,1	9,2	8,3	6,1	1,3	0,4
Mureș	7,3	3,5	5	2,8	-2,2	-0,2
Satu-Mare	7,6	5,3	5,7	3,7	-2,9	-2
Sălaj	5,7	5,3	5,3	2,5	-2,5	-1,4
Sibiu	8,6	6	5,6	3,5	-0,2	0,5
Timiș	1,4	0,3	0,6	0,3	-3,2	-2
Romania	7,6	5,4	5,3	3	-1,6	-0,9

3. Age structure differences between ethnic Hungarians and the total population from Romania (1992, 2002)



4. The age tree of Hungarians from Transylvania, 2002



5. Age tree of Hungarians from Timis county (western part), 2002

