Religion, socio-economic status and fertility transition: results of a micro-level study from Hungary, 1828-1899

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Abstract

Recent analysis is based on the family reconstitution data of three communities from the territory of historic Hungary: all of them are situated in the western part of the country, close to the Austrian boarder. Two of them (Bük and Szakony) are partly Roman Catholic, partly Lutheran, while the population of the third one (Gyalóka) is entirely Roman Catholic. The analysis compares the fertility patterns of three localities differing from one another in terms of geographic, socio-economic and cultural terms. It investigates the determinants of fertility level and changes both in pre-transitional period and at the beginning of demographic transition. It also focuses on the analysis of fertility differences between socio-professional and denominational groups.

These preliminary results of a longer social historical analysis demonstrated the lower level of fertility among Lutherans. At the same time, fertility changed a lot during the 19th century. In the period of industrialisation rapid population growth and increasing fertility can be pointed out in the case of Bük. In the rural communities fertility was lower and population size remained more stable. The impact of social composition appears to be important but this correlation changed in the course of the century proving that the impact of social composition should be interpreted in its full context. Industrialisation, railway, population growth and increasing migration could change the context of social affiliation as we can observe in the case of the parish of Bük.

1. Introduction

Hungarian research on historical demography has pointed out considerable local differences both in the level of pre-industrial fertility and the timing and measure of fertility decline in the 19th century. At the same time, the fertility behaviour of different denominational groups also differed considerably. The differences appear to be significant at macro and micro level alike. It has not been clarified so far (and at macro level it does not seem possible) whether locality (through differing social and economic conditions) or denominational composition (through the existing religious norms) or the combination of those factors influenced the level and changes of fertility in the 19th century. In Hungary the lacks of our knowledge can be partly related to the prevailing macro perspective in historical demographic research.

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The analysis compares the fertility patterns of three localities differing from one another in terms of geographic, socio-economic and cultural terms. It investigates the determinants of fertility level and changes both in pre-transitional period and at the beginning of demographic transition. It also focuses on the analysis of fertility differences between socio-professional and denominational groups. As for fertility decrease, it tries to explore whether the diminishing level of fertility was caused by prolonged birth intervals or can be linked to parity specific stopping behaviour, and the possible geographic, socio-professional and religious differences are considered also in this case.

2. Theory

Considerable differences in the level of pre-transitional fertility and in the timing of fertility transition have been demonstrated many times both by macro- and micro level historical demographic research. Differing fertility level can be found either by region, ethnic or denominational group or social group. Regional fertility differences are obviously due to the differing social composition of the given populations. Denomination could influence fertility behaviour directly, through norms and values characteristic of the given religion, or indirectly through the differing social composition of the denominational groups (Van Poppel – Derosas 2006). Common religion could be the possible way of communication which eases the spread of new forms of fertility behaviour e.g. in the period of fertility transition. At the same time, it is very important to see the varying ideas of different religions about sexuality, fertility behaviour and childbearing generally and actually in different historic periods and on given places, the attitudes of people towards those thoughts, the content and character their religiousness etc. As for differences by region or social composition one should also take a lot of factors into account. It is clear that many aspects of family life could also vary in pre-industrial societies which might have been connected with reproductive behaviour. Thus marriage customs (age at first marriage, the rate of definitive celibacy), household composition, the age at leaving parental household, weaning practices, possibilities and propensity to migrate, rules of inheritance, the type of farming and the possibilities of using the labour force of servants could be all very important factors influencing the level of fertility (Dribe 2000; 2003a; Lundh 1997, Wrigley 1978; see also Dribe 2000: chapter6; Hajnal 1983; Laslett 1977; Mitterauer 1988)). Very detailed micro data are inevitable to demonstrate clear differences by denominational or social groups or to distinguish between causes of the differences.

Hungarian research on historical demography has pointed out considerable local differences in the level of pre-industrial fertility. At the same time, the fertility behaviour of different denominational groups also differed considerably. It has been also proved by the research of Rudolf Andorka that the low fertility experienced in some regions of Hungary (especially in the southern and western part of the country) from the end of the 18th century onwards was caused by conscious birth control (Andorka 1998). From the middle of the 19th century a gradual fertility decrease was also noticeable even at the national level (Dányi 1991). An existing 'cultural' explanation links the beginning and diffusion of birth control to denominational conditions trying to prove that early birth control emerged in Hungarian Calvinist population and Calvinism was the main factor in the spread of fertility decrease. According to the 'economic' explanation suggested by Andorka, birth control was a logical reply of land-owning peasantry under certain circumstances to avoid the fragmentation of properties and pauperisation where equal division of property among male heirs and early and general marriage was the norm (Andorka 1998).

According to the research findings both regional and denominational differences of fertility were considerable in the 18–19th centuries. The timing and measure of fertility decline

was also very varied in the 19th century. The differences appear to be significant at macro and micro level alike. However, it has not been clarified so far (and at macro level it does not seem possible) whether locality (through differing social and economic conditions) or denominational composition (through the existing religious norms) or the combination of those factors influenced the level and changes of fertility in the 19th century. In Hungary the lacks of our knowledge can be partly related to the prevailing macro perspective in historical demographic research. In the course of macro-level analyses one cannot distinguish between the fertility behaviours of different denominational or socio-professional groups, so the role of the possible main influencing factors remains unknown.

Recent analysis aims at better understanding the causes behind pre-transitional fertility differences and to some extent at exploring the mechanisms and driving forces of fertility decrease in 19th century Hungary. It tries to test the above mentioned 'cultural' and 'economic' explanations by the help of longitudinal micro-data collected from localities different in terms of geographic, economic, social conditions and denominational composition.

3. Data used for the analysis

In the course of the analysis Roman Catholic and Lutheran parish register data were used. These data cover about 99% of the population living in the villages under investigation. The data used are as follows:

a.) Lutheran registers:

1.) Lutheran parish of Bük: Bük (three smaller villages) and the Lutheran population of some neighbouring villages (Gór, Szeleste, Lócs);

2.) Lutheran parish of Szakony: the Lutheran population of the villages Szakony and Csepreg.

b.) Roman Catholic registers:

1.) Roman Catholic parish of Bük: the Roman Catholic population of Bük

2.) Roman Catholic parish of Szakony: the Roman Catholic population of the villages Szakony and Gyalóka.

The analysis refers to the elaboration of the parish register data of two parishes (at least three villages). Family reconstitution data-base has been created by the method of semi-automatic record linkage. Complete family sheets relating to about 70% of the Lutheran population of Bük were available as a part of Rudolf Andorka's bequest. This material has been completed by the death records relating to the period after 1895 and by the data of the Roman Catholic parish record. Including the data of the neighbouring Roman Catholic and Lutheran parishes of Szakony we intended to increase the amount of the family sheets which could be used for demographic analysis. According to the marriage customs of the period, the couples got married on the bride's place of residence. Therefore, we do not know the exact date of those marriages (or the exact age of the brides in some cases) where the bride came from another parish. Similarly, if the bridegroom came from another parish the couple got married in the village under investigation but after that they moved to the bridegroom's place of residence and the demographic events of their common life were recorded there. This problem (that we have no dates of marriages in the case of couples living in the given parish or couples who got married in the given parish disappeared after their marriages) is rather common which fact can be explained by the existence of broader marriage markets and kin networks extending to other neighbouring villages. This lack of data can be later resolved by surveying the records of more neighbouring parishes (Csepreg, Káptalanvis, Nemeskér).

Another important feature of the parish records is that they contain systematically the age of the spouses only from the 1850s onwards. Therefore, the age of brides can be

calculated by linking partly their birth partly their death records, providing these data remained and the record linkage was correct. We omitted those family sheets where the age of bride remained unknown.

Death registers contain the name of wives seldom registering the deaths of adult men up to the third forth of the 19th century. In turn, the name of husband was registered (although there was a short period at the beginning of the 19th century when the deaths of married women were registered in the Roman Catholic parish register of Szakony indicating only the name of their husbands). Therefore, these lacks of data decrease the number of closed family sheets, and in some cases we had to estimate the length of risk period in which a given demographic event could occur.

4. The sample: selection of couples for the analysis

The data of baptisms, burials and marriages have been linked completely for the period between 1800 and 1900. To complete the analysis the death records of the spouses up to 1940 have been included into the database.

For the purpose of fertility analysis we used the family sheets according to the following criteria:

1.) The date of the dissolution of the marriage is known because the date of one of the spouses' death is known (type EF and MF), and their marriage or the birth of their first child was between 1800 and 1899.

2.) Beyond the above mentioned criteria, the age of the wife is known either by her marriage or birth or death record (type MF1 and MF2). Therefore, we omitted the family sheets of type MF3 where the wife's age is unknown.

Summing up, we used the 47% of family sheets and 65% of legitimate births of the period.

Table 1: Types and distribution of family sheets

Type of family sheets			
	F (the exact death date of at least one spouse was given)	O (the date of the end of the union was unknown)	F and O
M (an exact marriage date was given: marriage cohorts 1800-1899)	1540 (*55.9%*)	1217 (*44.1%*)	2757 (*100%*)
E (couples without marriage date: first observed birth between 1800-1899)	342 (*27.3%*)	910 (*72.7%*)	1252 (*100%*)
M and E	1882 (*46.9%*)	2127 (*53.1%*)	2549 (*100%*)

Table 2: the number and percentage of births by the type of family sheets

Type of family sheets	Legitimate births between 1828 and 1899	
	Number	Percent
MF	5004	53.2
EF	1097	11.7

MO	930	9.9
EO	2372	25.2
Total	9403	100.0

The period studied in the course of the fertility analysis is from 01.01. 1828 up to 31.12. 1899. Thus the beginning of the observation is 01.01.1828: the date of the marriage or the date of the first child's birth (analysing the second and higher order birth intervals).

The end of the observation is as follows:

1.) 31.12.1899: if the marriage still existed and the wife was under 50;

2.) the 50th birthday of the wife if the marriage still existed and the wife reached her 50th birthday before 31.12.1899;

3.) the date of the dissolution of the marriage if it happened before 31.12.1899 or the 50th birthday of the wife.

The data set is longitudinal at the individual level, it contains information at individual, family and community level. In the course of the multivariate analysis we deal mostly with second or higher order births, excluding the interval between marriage and first birth. We used variables at individual, family and community level and tried to comprehend theoretically relevant determinants of marital fertility.

4. Methods

The analysis has been based on family reconstitution data gained from parish registers. In the first, descriptive part of the analysis stress has been laid on computing and explaining age specific marital fertility rates (for women aged 15-49) taking into account differences by period, socio-economic status and denominational group.

Multivariate analysis in the second part aims at estimating the changes in socio-economic and denominational differences of marital fertility over time controlling for a basic set of covariates. Only higher order births (1+) have been analysed. We used piecewise constant exponential hazard models, and 3-month time periods for the baseline hazard. We analysed all higher order birth intervals simultaneously instead of focusing entirely on stopping by, examining for example only the third or the fourth birth intervals.

We used a basic model which includes socioeconomic status, denominational groups, life status of the previously born child, time period, age of women, parish of residence and number of children ever born.

5. Descriptive analysis

All the studied communities are located in the Western part of Hungary close to Austria. This part of the country is regarded as open to western economic and cultural impact where the flow of people and goods was continuous between the two neighbouring countries.

In Bük the number of inhabitants was around 3,000 at the end of the 19th century (3,030 in 1880 and 2,965 in 1910). About one third of the population belonged to the Lutheran denomination while the others were Roman Catholics. A significant noble community lived in the village (almost 40% of the adult male population at the end of the 18th century) enjoying privileges and higher social status and forming the majority of the landowning part of the community. Society was well differentiated in other respects too: the proportion of 'peasants' (copyholders using landlords' land) and 'others' (small tenants with little fragments of land or landless people living on handicraft industry, forestry, transport or as day-labourers) was also considerable at the end of the 18th century. By the end of the 19th century industry had become an important factor in Bük, more than 20% of the breadwinners

were industrial workers (working in handicraft industry and in the sugar factory established in 1869). The railway also reached the village in 1865. Regarding the population living on agriculture, the proportion of landowners was around 50% including the owners of large estates and smallholders alike. Farm hands and waged labourers had also a considerable role in the agricultural production, most of them lived and worked on the large estates. We would say that the village were gradually becoming more 'modern' and differentiated in the course of the 19th century.
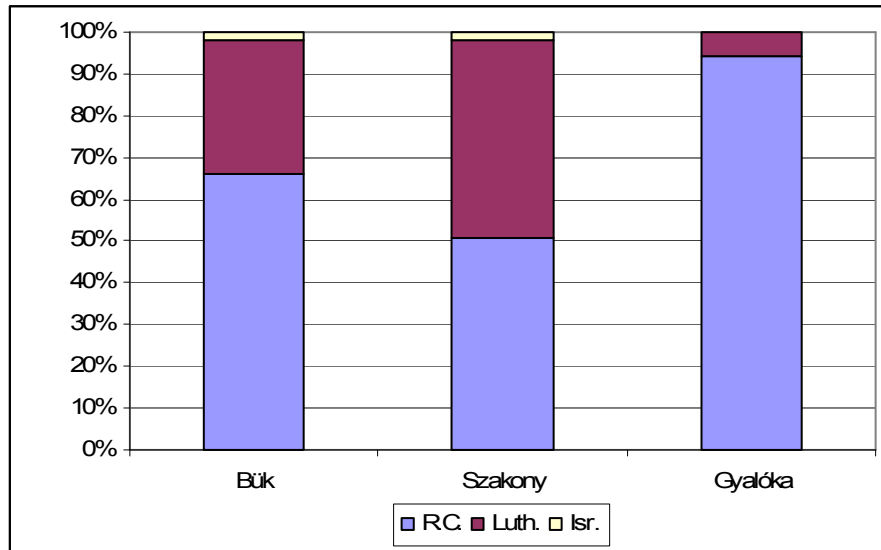
Source: Census, 1880

Figure 1: Denominatinal distribution of the population, Bük, Szakony, Gyalóka, 1880

Szakony was a partly Roman Catholic, partly Lutheran village, while the neighbouring Gyalóka was almost entirely Roman Catholic. The size of their population was around half of the size of Bük's population. Before the abolition of serfdom (1848) both villages were inhabited by serfs (copyholders) living on the landlords' estates. In the second half of the 19th century large estates and the parcels of smallholders (formerly serfs) were the characteristic locations of the agricultural production. The role of agriculture was dominating in these two villages, therefore the percentage of landowners was considerably higher than in the case of Bük (Figure 2).
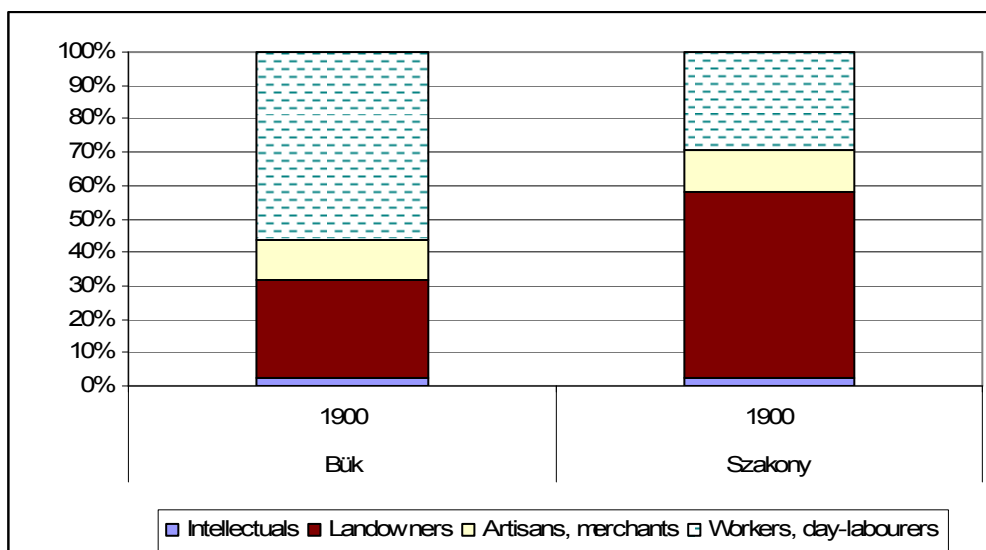
Figure 2: The distribution of the breadwinners by broad occupational groups, Bük and Szakony, 1900

Population size changed in entirely different ways in the two communities. In Bük we witness a rapid population growth in the second half of the 19th century when the sugar factory was established in the village. The growth was due to in-migration but the immigrating young population increased also the level of fertility in this period. The basically rural villages show very slow increase and stagnation/decrease after 1880. Here out-migration caused that change while the surplus of births over deaths was characteristic during the examined period.
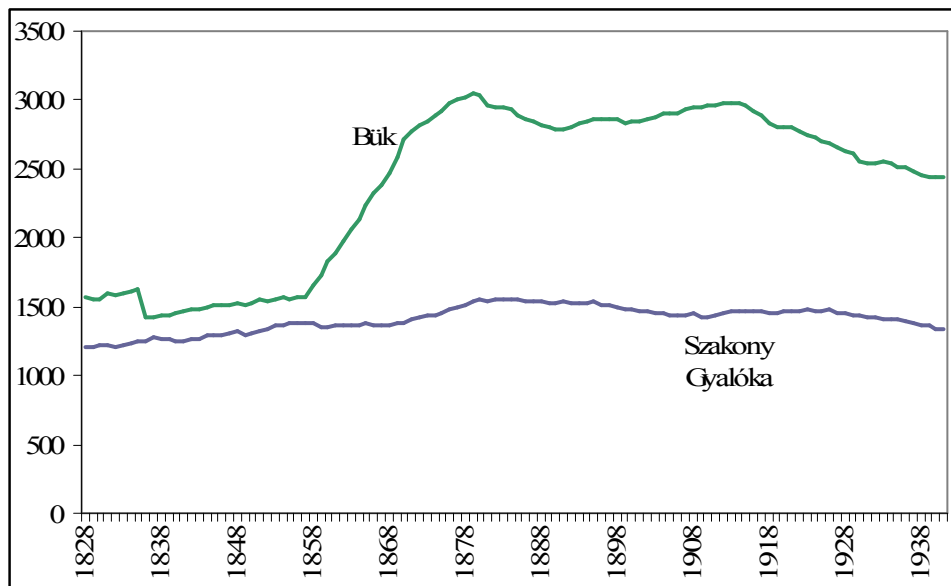
Figure 3: Estimated size of the population, Bük, Szakony and Gyalóka, 1828–1940

The increase of marital fertility between 1865 and 1884 appears on Figure 4, especially in the younger age-groups. After that fertility decreased except for the youngest age-group. We can conclude that general decline of fertility did not start before 1900 in the examined communities, social and economic changes could even increase the level of marital fertility in the second half of the 19th century (Figure 4).
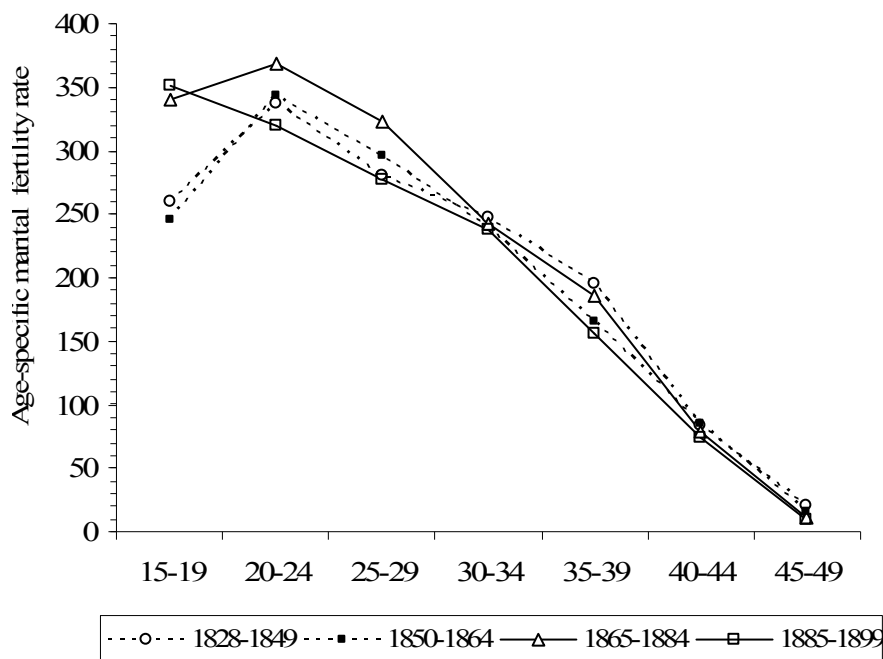
Figure 4: Age-specific marital fertility rates in Bük, Szakony and Gyalóka, by period
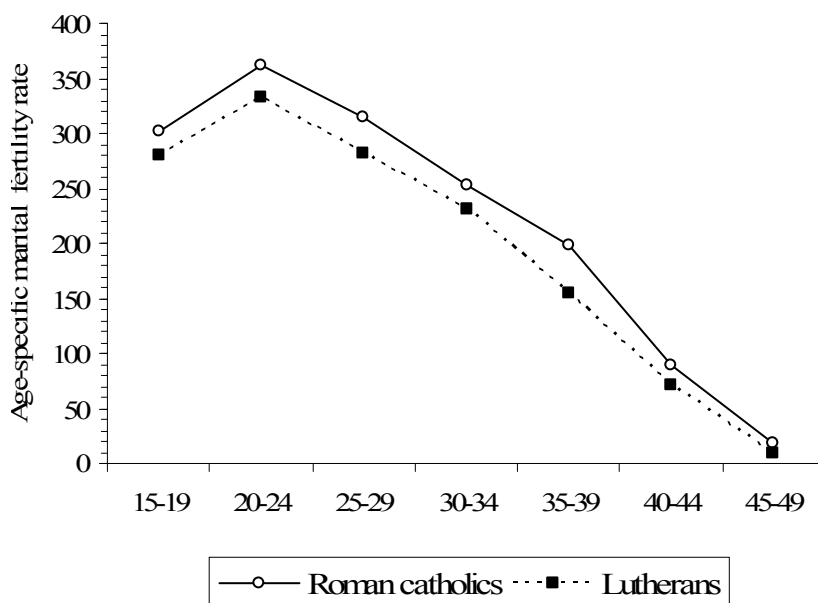
Figure 5: Age-specific marital fertility rates in Bük, Szakony and Gyalóka, by denomination

It is also clear that the fertility of Lutherans was lower in each age-group than that of Roman Catholic. Protestants' lower fertility in the 18-19th centuries is a general experience (Dányi 1991), it was pointed out many times. Since we do not know the socio-occupational composition of the two denominational groups (population censuses at aggregate level do not contain data about this, and we have individual data indicating both religion and profession only for Bük in 1857), the role of denomination and socio-professional status can be examined separately only by multivariate analysis (next chapter).
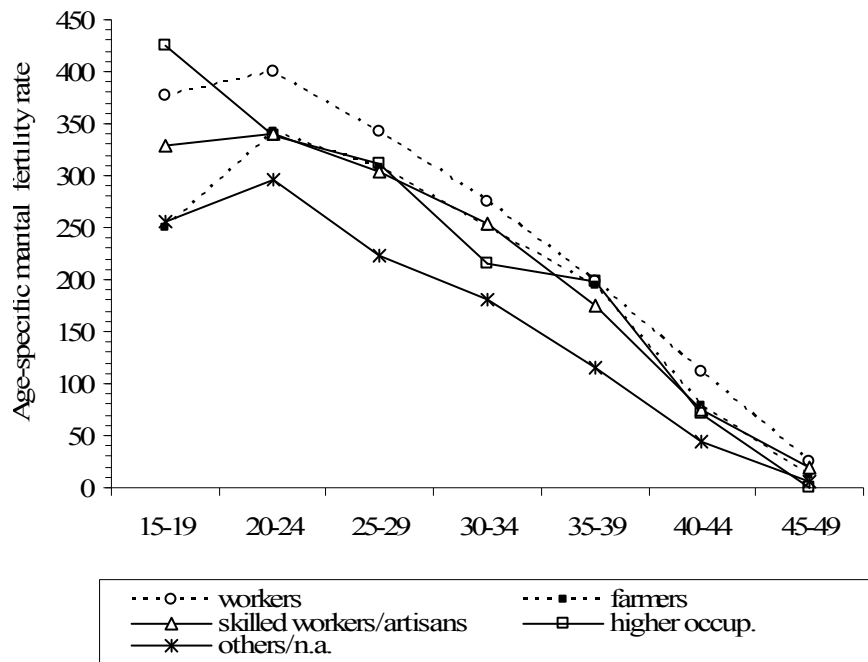
Figure 6: Age-specific marital fertility rates in Bük, Szakony and Gyalóka, by socio-occupational groups

Parish records contain information on the socio-professional status of the fathers. Workers (agricultural day-labourers, waged workers, farm hands and workers on the estates belonging to the sugar factory) had the highest marital fertility in each age group. The category of others (no data) can be characterised by considerably lower fertility the cause of which can be hardly explained. The curves relating to the other three categories move together except for the youngest age-group. Above 40 their marital fertility decreased significantly, showing that we should look for any deliberate control in these social groups and in these age-groups.

6. Multivariate results

In this part we examine the relative risk of a next birth by the help of multivariate analysis (piecewise exponential hazard model). Regarding the whole examined period, it is quite clear that Lutheran fertility was lower than Roman Catholic but the results by period are not significant. So this difference can hardly be interpreted and the significance of other factors e.g. socio-economic status appears to be decisive. Before the age of industrialization the fertility of social groups with higher prestige (landowners or 'farmers', skilled workers or artisans and local intelligentsia) seems to be higher comparing to landless agricultural workers. In the period between 1865 and 1884 the fertility of the local elite began to decline considerably while that of farmers and artisans was still increasing. This fact can explain the increasing fertility level in that period. After 1885, fertility decline reached the landowning group and artisans slightly decreasing the level of fertility in the examined villages. Landowners', artisans' and the elite groups' relatively high fertility can be explained by their favourable position on the local agricultural market, the possibilities of migrating, the relatively wide local marriage market expanding to more neighbouring villages. These advantages might increase after 1865, with the beginning of modernisation in the region. But we have to take into account that all socio-economic categories used here are very general with more strata in different social position. We need to involve more sources to create a more suitable classification.

Examining period effects we can see the fertility peak of the period of rapid population growth and modernisation. Here the more favourable economic position, the widening possibilities on the rural market and the immigrating young population might increase the level of fertility. After that from the 1880s onwards, fertility decline started, at least among those being in more favourable social position. But decline seems to be considerable only compared to the previous period, fertility rather diminished to its former level. The life status of the previous child significantly affected the probability of the next birth, this effect even increased at the end of the 19th century which fact shows a considerable intention to replacement. The age of mothers also influenced the risk of next birth, we witness a linear decrease in probabilities as mother got older. Considering the fertility differences among the parishes, we can conclude that particularly Szakony with a higher proportion of landowning peasantry shows a lower level of fertility compared to the rapidly changing population of Bük.

We can conclude that multivariate analysis helped us to interpret the demographic development of the examined parishes. At the same time, our results should be considered preliminary, the first stage of a complex study on the social history of a community very varied in terms of denomination, social and economic conditions. Our social classification and statistical methods should be refined, we should involve newer sources and variables into the analysis, and we should extend the limits of the examined period up to WW2. Later we should analyse the interactions between replacement effects and denomination on the one hand and between replacement and social category on the other.

Table 3: Relative risks from piecewise exponential hazard model. Higher order births

	1828-1899		1828-1849		1850-1864		1865-1884		1885-1899	
	RR	**p**	**RR**	**p**	**RR**	**p**	**RR**	**p**	**RR**	**p**
SES										
Higher occ.	0.991	0.955	1.281	0.459	1.485	0.110	0.670	0.242	0.787	0.413
Farmers	1.018	0.681	1.073	0.420	0.913	0.362	1.153	0.063	0.802	0.029
Skilled workers	1.030	0.575	0.897	0.359	1.141	0.237	1.230	0.017	0.776	0.059
Agric. workers	1	rc	1	rc	1	rc	1	rc	1	rc
NA	0.820	0.000	0.611	0.103	0.893	0.408	0.817	0.025	0.807	0.083
Denomination										
Roman cath.	1	rc	1	rc	1	rc	1	rc	1	rc
Lutherans	0.927	0.048	0.939	0.388	0.911	0.292	0.955	0.497	0.930	0.450
Period										
1828-1849	1	rc	1	rc	1	rc	1	rc	1	rc
1850-1864	1.064	0.186	---	---	---	---	---	---	---	---
1865-1884	1.142	0.002	---	---	---	---	---	---	---	---
1885-1899	1.037	0.451	---	---	---	---	---	---	---	---
Life status of previous child										
Alive	1	rc	1	rc	1	rc	1	rc	1	rc
Dead<2y s pb	2.970	0.000	3.196	0.000	3.044	0.000	2.879	0.000	2.894	0.000
Dead>2y s pb	2.327	0.000	2.757	0.005	1.568	0.279	2.236	0.001	4.664	0.000
Age of woman										
15-19	1.285	0.005	1.403	0.060	1.260	0.235	1.317	0.068	1.174	0.478
20-24	1	rc	1	rc	1	rc	1	rc	1	rc
25-29	0.761	0.000	0.682	0.000	0.767	0.006	0.771	0.001	0.825	0.073
30-39	0.505	0.000	0.509	0.000	0.470	0.000	0.526	0.000	0.493	0.000
40-49	0.132	0.000	0.121	0.000	0.155	0.000	0.154	0.000	0.099	0.000
Parish										
Bük	1	rc	1	rc	1	rc	1	rc	1	rc
Szakony	0.805	0.000	0.941	0.401	0.861	0.076	0.702	0.000	0.818	0.048
Gyalóka	0.988	0.848	1.107	0.407	0.903	0.498	1.018	0.867	0.922	0.554
CEB										
1	1	rc	1	rc	1	rc	1	rc	1	rc
2	0.976	0.634	1.039	0.701	1.107	0.344	0.917	0.300	0.816	0.092
3	0.986	0.797	1.095	0.415	1.077	0.520	0.903	0.263	0.872	0.286
4	1.058	0.344	1.169	0.205	1.228	0.128	0.911	0.361	0.955	0.743
5	1.109	0.123	1.427	0.010	1.077	0.625	0.940	0.582	0.999	0.999
6	1.194	0.019	1.176	0.311	1.534	0.010	1.007	0.952	1.084	0.635
7	1.275	0.004	1.340	0.097	1.355	0.134	1.008	0.955	1.348	0.101
8+	1.107	0.217	1.255	0.164	1.167	0.433	0.834	0.255	1.129	0.486
N (birth intervals)	5865		1589		1372		2220		1411	
Events	4098		1008		846		1421		823	
Time at risk	195736		49645		40072		64312		41706	
Chisq	5018	0.000	1327	0.000	1065	0.000	1820	0.000	1061	0.000

7. Conclusions

In this paper we analysed the fertility development of two 19th century communities situated in Western-Hungary. One of them, Bük is a rapidly changing village where modern traffic and industrialisation went together with rapid population growth and increasing fertility from the 1860s onwards. Bük's society was also more complex than that of the other parish, the share of agricultural workers and day-labourers was considerably higher than in the parish of Szakony. In the latter one fertility was significantly lower than in the case of Bük. But the impact of social conditions on fertility level seems to be complex and changing over time. First the fertility of higher social groups was higher a bit, but after 1865 this hierarchy gradually changed. Denominational differences can be demonstrated, but this result seems to be uncertain, the differences are not significant if we examine it period by period. Social conditions appear to be more important in this respect. We can also see that industrialization caused a significant growth of fertility in Bük between 1865 and 1884, but after that fertility began decreasing gradually, but this decline reached only some social groups and did not cause a general fertility decline prior to 1900. In order to see clearly the beginning of irreversible fertility decrease we should extend the limits of the analysis up to WW2.

It is quite clear that denomination was an important factor influencing the level of fertility and the timing of fertility decrease but the interpretation remained uncertain and difficult. The role of social conditions is more obvious but their impact could alter place by place and period by period, particularly in the age of rapid social and economic change proving that this impact should be interpreted in its full context. Industrialisation, railway, population growth and increasing migration could change the context of social affiliation as we can observe in the case of the parish of Bük. Local economic and social development, other demographic phenomena like infant and child mortality and migration also mattered in this respect but their role can be explore only by further research using more sources, variables and more subtle models for the purpose of analysis.

References

Alter, George – Oris, Michel – Neven, Muriel (2007): When Protoindustry Collapsed. Fertility and the Demographic Regime in Rural Eastern Belgium During the Industrial Revolution. *Historical Social Research*, 32/2. 137–159.

Anderton, Douglas (1985): Birth Spacing and Fertility Limitation: A Behavioral Analysis of a Nineteenth Century Frontier Population. *Demography*, 22/2. 169–183.

Andorka Rudolf (1975): Az ormánsági születéskorlátozás története. *Valóság*, 18/6. 45–61.

Andorka Rudolf (1981): A gyermekszám alakulásának társadalmi tényezői paraszti közösségekben (18–19. század). *Ethnográfia*, 42/1. 94–110.

Andorka Rudolf (1991b): Településszintű családrekonstitúciós vizsgálatok első eredményei. *KSH Népességtudományi Kutató Intézet Történeti Demográfiai Füzetek*, Budapest, 35–41.

Andorka Rudolf (1998): La population hongroise du XVIIIe siècle à 1914. In: Bardet, Jean-Pierre – Dupâquier, Jacques (eds.): *Histoire des populations de l'Europe 2. La revolution démographique, 1750–1914*. Fayard, Paris, 427–439.

Becker, Gary S. (1981): *A Treatise on the Family*. Harvard University Press, Cambridge, Mass.

Benda Gyula (2006): A magyarországi családrekonstitúciós vizsgálatok mérlege. In: Benda Gyula: *Társadalomtörténeti tanulmányok*. Osiris, Budapest, 67–76.

Bengtsson, Tommy – Dribe, Martin (2006): Deliberate Control in a Natural Fertility Population: Southern Sweden, 1766–1864. *Demography*, 43/4. 727–746.

Blossfeld, Hans-Peter – Golsch, Katrin – Rohwer, Götz (2007): *Event History Analysis with Stata*. Lawrence Erlbaum Associates, Publishers, Mahwah, NJ.

Coale, J. Ansley – Watkins, C. Susan (1986): *The decline of fertility in Europe*. Princeton University Press, Princeton, New Jersey.

Dányi Dezső (1991a): Regionális családrekonstitúció 1830–39, 1850–1859. *KSH Népességtudományi Kutató Intézet Történeti Demográfiai Füzetek* (9), Budapest, 99–156.

Demeny, Paul (1972): Early Fertility Decline in Austria-Hungary: a Lesson in Demographic Transition. In Glass, David V. – Revelle, Roger (eds.): *Population and Social Change*. Crane, Russak, London, New York, 153–172.

Derosas, Renzo – van Poppel, Frans (eds.) (2006): *Religion and the Decline of Fertility in the Western World*. Springer.

Easterlin, Richard A. – Crimmins, Eileen M. (1985): *The Fertility Revolution: A Supply Demand Analysis*. University of Chicago Press, Chicago.

Gutmann, Myron – Alter, George (1993): Family Reconstitution as Event History Analysis. In Reher, David – Schofield, Roger (eds.): *Old and New Methods in Historical Demography*, Clarendon Press, Oxford, 159–177.

Livi-Bacci, Massimo (1986). Social-Group Forerunners of Fertility Control in Europe. In:
Coale, A.J. and Watkins, S.C. (eds.). *The Decline of Fertility in Europe*. Princeton University Press, Princeton, NJ.

McQuillan, Kevin (1999): *Culture, Religion and Demographic Behaviour: Catholics and Lutherans in Alsace, 1750–1870*. McGill-Queen's University Press, Montréal & Kingston.

Őri Péter (2007b): *Demographic Patterns and Transitions in 18–20th Century Hungary. County Pest-Pilis-Solt-Kiskun in the 18th and Early 20th Centuries*. Working Papers on Population, Family and Welfare No. 10. Demographic Research Institute Central Statistical Office, Budapest.

Reher, S. David – Sanz-Gimeno, Alberto (2007): Rethinking Historical Reproductive Change: Insights from Longitudinal Data for a Spanish Town. *Population and Development Review*, 33/4. 703–727.

Schneider, C. Jane – Schneider, T. Peter (1996): *Festival of the poor: fertility decline and ideology of class in Sicily, 1860–1980*. The University of Arizona Press, Tucson.

Szreter, Simon (1996): *Fertility, class and gender in Britain, 1860-1940*. Cambridge University Press, Cambridge.

Van Bavel, Jan (2004c): Deliberate birth spacing before the fertility transition in Europe: Evidence from nineteenth-century Belgium. *Population Studies*, 58/1. 95–107.

Van Bavel, Jan – Kok, Jan (2010): A mixed effects model of birth spacing for pre-transition populations. Evidence of deliberate fertility control from nineteenth century Netherlands. *The History of the Family: An International Quarterly*, 15/2. 125–138.