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Socioeconomic and cultural determinants of fertility transition. A comparative micro-level study from Western and Southern Transdanubia (Hungary), 19th and 20th centuries.**Abstract**

The analysis of fertility decline and its socioeconomic and cultural determinants during the demographic transition is a hardly researched topic in Hungary. By applying the processing of aggregated data previous research have examined the question only at country and regional level. Therefore, we can claim that, similar to the international historical demographic literature, little attention has been paid to non-aggregated data and to micro level. Previous family reconstitution studies, the most feasible method for micro-level analysis in Hungary, focused only on the analysis of pre-transitional fertility.

The objective of this paper is to retrace, by using longitudinal micro-level data, reconstructed for several communities from Western and Southern Transdanubia (Hungary), the path towards fertility control followed by these populations. The analysis will cover the period before and during the fertility transition, mainly from the second part of the 19th century up to the Second World War, a period in the Hungarian demographic transition up to now never explored at the micro-level. The analysis compares the fertility patterns of rural communities differing from one another in terms of geographic, socioeconomic and cultural terms. We analyze the fertility differentials between various socioeconomic and religious groups over time using the method of event history analysis.

Preliminary results from Western Transdanubia show that fertility decline started from the First World War. Roman Catholics had higher fertility than Lutherans, but these differentials merely reflected their socioeconomic features. Before the fertility transition High status families had higher fertility, but fertility decline started first in this group. In the first phase of fertility decline the socioeconomic differentials widened, than Artisans and Farmers followed the High status group. Unskilled Laborers were last in the process of fertility decline. The fertility decline by socioeconomic status was a process of divergence. During the period analyzed we could not see a process of convergence, the fertility differentials were high also at the end of the study period.

Introduction

The analysis of fertility decline during the demographic transition is a hardly researched topic in Hungary. By applying the processing of aggregated data previous research have examined the question only at country or regional level. Therefore, we can claim that, similar to the

international historical demographical literature¹, little attention has been paid to non-aggregated data and to micro level. Hungarian demographers drew the attention for the first time to regional and cultural (religious) differences in the fertility decline from the start of the 20th century when official statistics of number of births and births by mother's age at birth become available (Kovács 1923, 1930, 1936). Data on fertility by religion were published from the same period (Szél 1936).

In decades before World War I and during the period between the two World Wars, scholars with international reputation were alarmed by the constant decline of fertility in Hungary. Alajos Kovács, Lajos Thirring and others – by joining the discourse of Hungarian intellectuals on single-child system (Vásáry 1989; Bodó 2001) – focused on the decrease of fertility and aimed at unearthing its reasons (Kovács 1923, 1930, 1936; Thirring 1930, 1936, 1959; Andorka 1969). By doing so, they chiefly relied on the data of census held in each decade and the vital registration data. Based on census data, they tried to identify the regional, cultural – mainly regarding religion and mother tongue – and occupational differences in fertility decline. Census data on number of children born grouped by women's age, duration of marriage and other factors – for instance occupational group, occupational relation, religious affiliation, mother tongue etc. – were first compared during the process of census held in 1930². These studies focused mainly on differences in the level of fertility of the major religious groups, especially Calvinist and Roman Catholics, and showed that Calvinists had lower fertility than Roman Catholics. They gave an explanation which linked the beginning and diffusion of birth control to religious 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.

The examination of social-economic and occupational factors of fertility data of the census was carried out by Lajos Thirring (Thirring 1936, 1941). His results proved that “economic, social, financial and well-being factors” played an important role in the process of fertility decline. Thirring unearthed unambiguous differences by number of children born between the workers groups (agricultural workers, farm servants, day labourers etc.) of highest average number

¹ The new studies are exceptions from the above-mentioned as they highlighted differences by social-economic status during the comparative analysis of European and Asian micro communities by processing individual level longitudinal data (Tsuya et al. 2010).

² The census held in 1910 aimed at focusing on the number of children born for the first time, however, data was not processed then. Such data gathered in 1920 was processed in various grouping but age and duration of marriage were not filtered. Hungarian vital registration statistics contains the birth data by occupational groups from 1954.

children and groups of clerks with the lowest number of children born. According to his argumentation, fertility decline progressed more among groups of higher occupational groups where maintaining the living standard and social mobility was of importance. On the contrary, decrease of fertility was less significant in lower occupational groups selling young children's labor at an early age (Thirring 1941: 46).

The settlement level family reconstruction studies, which are the most adequate for micro level examination of fertility differences by religious and social groups, started at the end of 1960's in Hungary (Benda 2006). In the 1970's, these studies received a new impetus when Rudolf Andorka joined, who studied the question of low fertility and the single-child phenomenon in Hungary. Therefore, he turned his attention to the south-west part of the country as it had been a countryside of "single-child" inhabitants – known from ethnographic field works between the two world wars – belonging to the Reformed Church (Andorka 1975, 1981). Later, he involved the other parts of the country in his studies and carried out the family reconstruction examination of 13 parishes of different denominations (Andorka 1984, 1991a). Based on this, Andorka claimed that in certain parts of the country –chiefly in the villages of Southern Transdanubian region – the spread of fertility control was around the end of the 18th century and the beginning of the 19th century and, moreover, marital fertility and other demographical indicators cannot be related to denominations. According to his hypothesis, the birth controlling behavior of land-owning peasantry – copyholders – could have been a logical response to impoverishment and to avoid the fragmentation of properties and pauperization in the special context of the equal inheritance among male heirs and early and general marriage (Andorka 1991b; 1998). He claims that the frequently cited question of birth control regarding Reformed – Catholic difference could have arisen, since "Reformed farmers were 'overrepresented' and landless agricultural workers were 'underrepresented' in all or almost all regions of Hungary" (Andorka 1991b: 39).

Hungarian family reconstruction studies regarded denominational and ethnic background as main explanatory hypothesis and this assumption played the most important role when selecting the settlements for analysis. Marital fertility and other demographical indicators are not detailed by socioeconomic groups in these analyses. These studies mainly focused on the pre-transitional fertility and, in general, were stopped in 1895, when birth certificates issued by the state were introduced; that is, they do not involve the period between the two world wars, which bears great significance on the fertility decline. While the socioeconomic differences – farmers versus

landless agricultural workers – were phrased as hypothesis, the actual testing of was not carried out. Therefore, it is high time that we explored fertility differences by religious and social groups focusing on the period before and during the fertility decline in Hungary.

Aim and object of this study

The aim of this study is to reconstruct fertility differences by socioeconomic and religious groups before and during the fertility transition in two rural area in Western and Southern Transdanubia. Based on previous research we want to test empirically whether fertility differentials of religious subgroups merely reflected their prevailing socioeconomic features. This is the well known “characteristics hypothesis” (Goldsheider 1971: 272-273).

The two rural areas in Western and Southern Transdanubia, which we study in this paper, was heterogenous in terms of religion. The population of Western Transdanubian communities (Bük, Szakony and Gyalóka) belonged partly to Roman Catholic partly to Lutheran churches. The population of Southern Transdanubian communities (Vajszló, Besence, Baranyahídvég, Hirics) belonged to Calvinist and Roman Catholic churches. Western Transdanubian communities are located in the western part of the country, close to Austrian border. Southern Transdanubian communities are located in the southern-western part of the country in a historical region called “Ormánság” – a countryside who became famous from the “single-child” system that prevailed there.

In 1838 the total population of Western Transdanubian communities was 2600, and this figure raised by 1941 to 4000. The population growth was due to immigration to Bük, which resulted from the modernization of agriculture of the 1860’s. The railway reached the village in 1865, while a sugar factory was established in 1867-69. The sugar factory provided employment for the poor living in Bük and surrounding villages. By the end of the 19th century industry had become an important factor in Bük, the society becoming more differentiated during the period of analysis, while the other two communities remained mainly agricultural.

Data and sources

Data was gathered from Roman Catholic, Lutheran and Calvinist parochial registers dating from the 19th century and state registers from 1895 by applying family reconstruction method (Henry

– Blum 1988). Family reconstitution data has been created by applying a semi-automatic record linkage.

Methods

In the first, descriptive part of the analysis we compute and explain 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 religious differentials of marital fertility over time controlling for a basic set of covariates. The analysis is made separately for first births and higher order births. We use piecewise constant exponential hazard models (Blossfeld et al. 2007) with a shared frailty at the individual (woman) level to account for repeated events for the same woman (in the analysis of higher order births).

The fertility transition in the Transdanubian communities

Figure 1 shows the general marital fertility rate (births to married women divided by the person years at risk for married women 15-49 years) annually 1838-1939. The social and economic changes could even increase the level of general marital fertility in the second half of the 19th century. A slow decrease of general marital fertility can be observed from 1880s, but the general decline of marital fertility rate did not start before the first decade of 20th century. The period of first World War is a serious breakpoint in this respect when fertility suddenly dropped down. At the end of the first WW, there is a return to the previous trend of fertility decline, and at the end of the 1930s the general marital fertility rate reached again the level of the first WW period.

Figure 1 here

Figure 2 shows the development of age-specific marital fertility for subsequent time periods. The effect of the first WW is highly visible diminishing marital fertility especially in the younger age groups. It is quite visible that the mid 19th century increase of marital fertility was due primarily to increase of marital fertility in younger age groups. The general decline of marital fertility at

the end of the 19th century, first decade of 20th century and in the last period was a consequence of lower fertility of “older” (25-49 years) women.

Figure 2 here

Figure 3 and figure 4 displays the marital fertility rates (15-49 years) by denominational status and socioeconomic status of the family head by time periods. In every time period Roman Catholics had higher fertility than Lutherans. 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. In the first period (1838–1869) there was not much difference between socioeconomic groups. Generally, High status families were at the top and Farmers at down, with Artisans and Laborers between. With economic modernization in 1860's the fertility of High status group started to decline. The Artisans and Farmers followed the High status families, and the fertility decline afterwards was quite similar in this three social groups. From the 1870s the fertility of Laborers even increased, and from these years started a long period which can be characterized as a divergence process in fertility. While the marital fertility of Laborers remained high until the first WW period, the marital fertility of the other groups decreased continuously from decade to decade. The last period (1920-1939) is characterized by acceleration of fertility decline of High status and Laborer families, while it was a period of moderation of fertility decline for Farmers and Artisans. As a consequence in the last decade of analysis serious fertility differences existed between High status and Laborers, but also a moderate difference on the one hand between High status and Artisans and Farmers, and between the latter and Laborers on the other hand.

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Figure1. General marital fertility rates (15-49) in the Western Transdanubian sample 1838–1939.

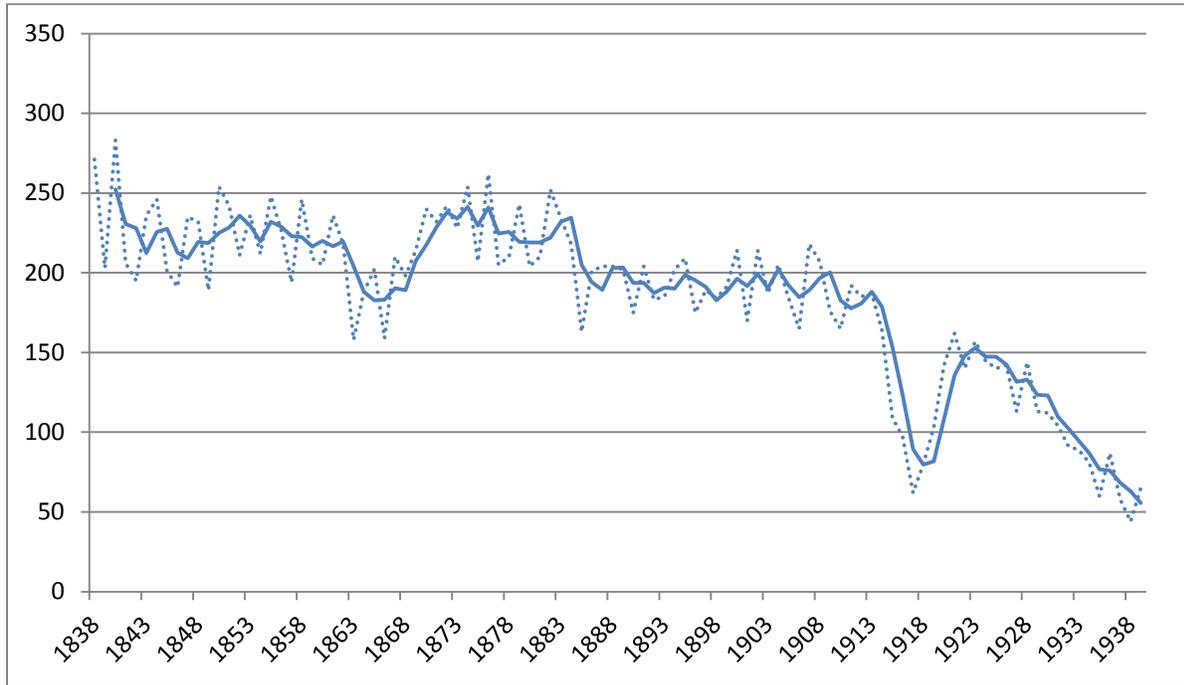


Figure 2. Age-specific marital fertility rates by period in the Western Transdanubian sample 1838–1939.

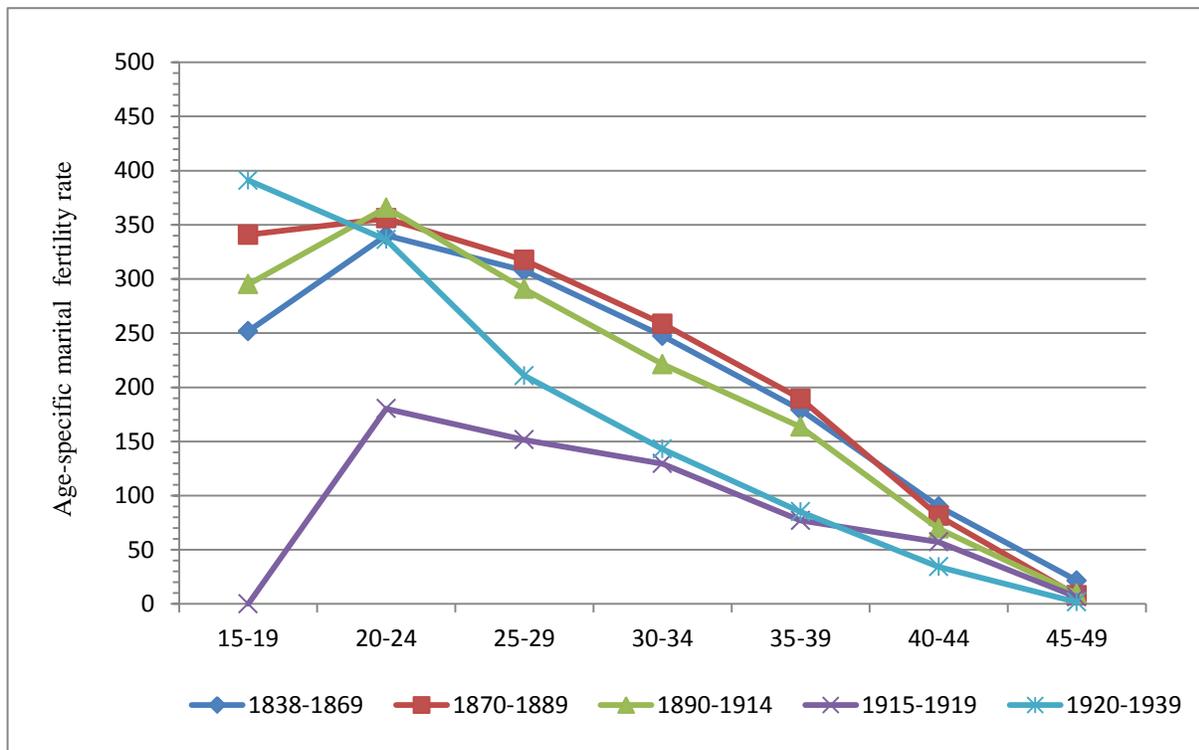


Figure 3. Marital fertility by SES in the Western Transdanubian sample 1838–1939.

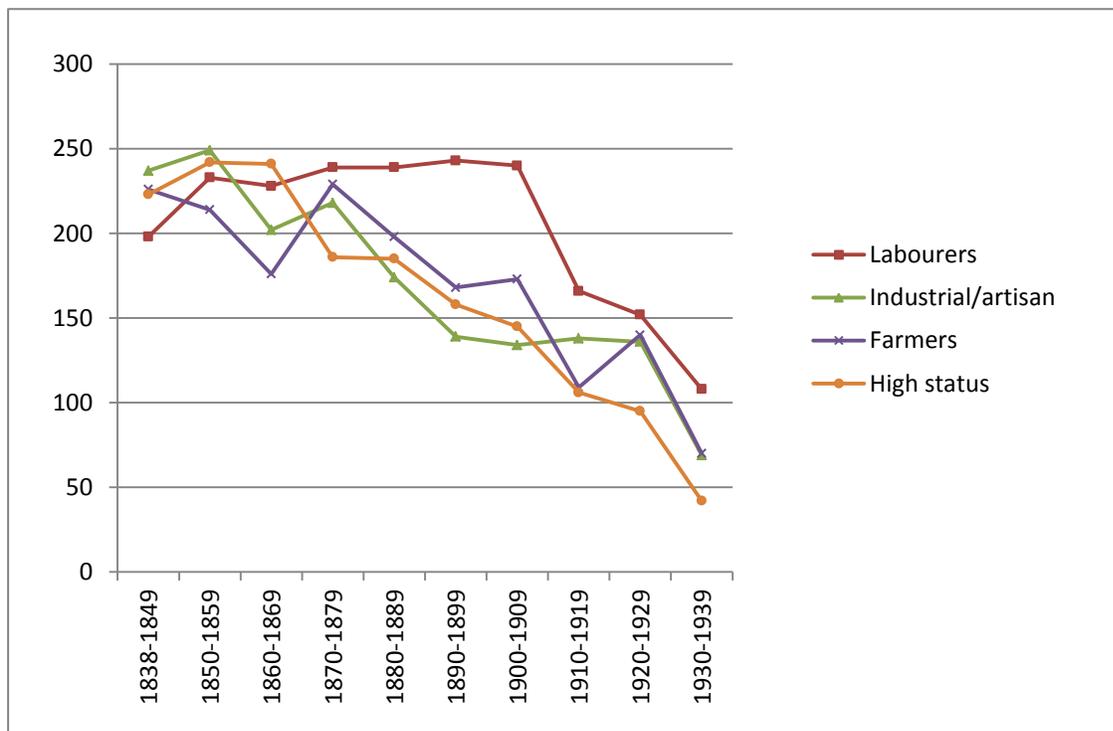


Figure 4. Marital fertility by denominational status in the Western Transdanubian sample 1838–1939.

