Mobility, social class and fertility transition in England and Wales, 1851–1911

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Background

Prior research on the fertility transition in England and Wales has demonstrated a substantial fall in marital fertility over the second half of the nineteenth century (Woods 1979, 2000; Teitelbaum 1984; Coale and Watkins 1986; Morse 1987). Previous studies have also found substantial variation in fertility levels and declines by social groups in Britain (Woods 1984; Szreter 1996; Anderson 1999; Ó Gráda 2008). However these findings were generally reported at a broad geographical level, disguising local variation and complicated by residential segregation along social class and occupational lines: the causal pathways leading to the changes in behaviour which reduced fertility are far from clear.

Work by Garrett *et al* (2001) on 13 English and Welsh communities in 1891, 1901 and 1911 suggested that 'place' and 'class' worked in tandem to produce patterns of fertility behaviour: the fertility of middle class couples living in predominantly working class areas more closely resembled that of their lower class neighbours than that of the middle class in general. Being an amalgam of both spatial and social factors, the dimensions of such spatio-social groups, referred to by Szreter (1996) as 'communication communities' and dubbed 'environments' by Garrett *et al*, remain relatively unclear. While this work was able to establish nuanced geographical and social patterns, it was limited to a small and disparate group of non-contiguous places. A finely grained analysis with wide geographical coverage, identifying the occupational or social mix of the smaller spatial units, is thus essential in the identification of the forces determining variations and changes in fertility.

This paper will use full count individual level census data for England and Wales to study changes in fertility from 1851 to 1911. Our main aim is to investigate the extent to which fertility differences in England and Wales were determined by individual mobility, social class or geographical location. This will complement similar recent analysis for USA and Sweden (Hacker 2016; Klüsener, Dribe and Scalone 2016).

Data and Methods

The main data source for this paper is individual level census data for England and Wales from 1851–1911 (excepting 1871 which is currently not available for research purposes).

This data has been introduced to the research community by the Integrated Census Microdata (I-CeM) project and covers over 26 million people in the 1851 census and by 1911 more than 36 million people. An enhanced version of I-CeM has been produced for this study.[1] Each individual census record includes information about sex, age, marital status, occupation, place of residence, place of birth and person's relationship to head of household. The latter makes it possible to link each married woman to her spouse and children.

Most previous analysis of the fertility decline in England and Wales has examined differentials at the level of the 55 counties (Teitelbaum 1984) or c.600 registration districts (Woods 2000). In order to gain greater insight into the spread and spatial variation of fertility decline in England and Wales, the first part of the analysis aims to use a finer geographical resolution than has previously been possible – registration sub-districts (RSDs) of which there are over 2000 in each year. We use the own child method to estimate and map fertility measures at registration sub-district (RSD) level for every census year and for social classes in those years. We will also estimate and map fertility measures for native-born and in-migrants to each place. We believe this will help to identify where or among which social groups fertility decline started, when this behaviour emerged, and how it then spread to other groups of the population.

In the second part of the analysis, we apply multi-level OLS regression models to investigate the importance of mobility, social class and location explaining differences in fertility. Because of constraints of census data we must rely on net marital fertility as a dependent variable – the number of own children under the age of five living in the household at the time of census. We run separate models for each census year to estimate the relationship between net fertility and control variables at the individual- and contextual-level (RSDs).

All the models are restricted to married women who are aged 15–49. We only include women with spouse present as we measure social class based on the occupation of the husband. The social classes are defined by the classification introduced by the Registrar General in the 1911 *Fertility of Marriage Census* and are as follows: I upper and middle class, II intermediate class, III skilled workmen, IV intermediate class, V unskilled workmen, VI textile workers, VII miners, and VIII agricultural labourers. We also use distance between the place of birth and the current place of residence as an indication of mobility or net life-time migration. The underlying assumption is that the women who resided further from their place of birth experienced larger social networks and were more likely to have access to exchange of information (Klüsener, Dribe and Scalone 2016). Other independent variables include age of woman, spousal age gap, labour force participation of woman, and other children in household. Contextual variables for RSDs are used to capture differences in local environment and these control for population density, distance from London, proportion of non-native population, female labour force participation and for the infant mortality rate.

Preliminary findings

[1] The enhanced version of I-CeM, produced by the members of the Fertility Atlas project and other members of the Cambridge Group for the History of Population and Social Structure, together with Kevin Schürer, contains a better specification of household variables and improved allocation of individuals to RSDs.

Previous work on the fertility decline in England and Wales has identified textile workers and the middle classes as the vanguard of the change. Our preliminary findings using the own child method to calculate Total Marital Fertility Rates (TMFR) for social classes (ages 20 to 49) confirms this. The upper and middle classes experienced the largest decline in marital fertility from 1881 to 1911. Their TMFR fell from 7.28 in 1881 to 4.15 in 1911. The women married to textile workers had the lowest marital fertility rates in 1881, only 4.73, but still experienced one of the largest reductions in TMFRs, more than 32 per cent. Women married to miners and agricultural labourers had the highest marital fertility rates and there was very little decline over this period. The TMFR for miners declined from 10.16 in 1881 to only 9.22 in 1911.