

Historical demography

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Fertility in the past: A global perspective – Tuesday 11 September 11.00am

Descendants over half a millennium: marital fertility in four Zhejiang lineages, 1400–1900
Sijie Hu, Department of Economic History, London School of Economics and Political Science

This paper studies marital fertility of four Chinese lineages in Zhejiang Province from 1400 to 1900. The paper mainly deals with three research questions: how high exactly was Chinese marital fertility from 1400 to 1900? Was it stable over time? Was it a 'natural fertility' regime or did the Chinese control fertility within marriage? By exploiting new genealogical data of 500 years of detailed records on individual births, deaths, and marriages, and studying more than 20,000 individuals in the four lineages, a unique marital fertility pattern is reconstructed and re-examined. The measures used in this paper to estimate marital fertility levels consist of both standard fertility measures relative to females, age-specific marital fertility rates and total marital fertility rates, and also a non-standard fertility measure relative to males, namely net fertility of married males. The paper also runs a new test to examine the existence of the early stopping behaviour in marriages, a type of parity-dependent control. On the one hand, contrary to conventional wisdom on Chinese fertility, the results show that the marital fertility rates in the period were much lower compared to those of Northwest Europe in similar periods. On the other hand, in line with the classic ideas, the paper finds no signs of parity-dependent controls within marriages, which suggests that Imperial China was still largely a "natural fertility" regime.

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Two views of fertility decline in England and Wales from 1851 to 1911
*Eilidh Garrett*¹, *Hanna Jaadla*², *Alice Reid*²; ¹University of Essex, ²University of Cambridge

The 1911 Census of England and Wales included questions for married women on the fertility of their current marriage. This retrospective survey formed the basis of an extensive report which has been the subject of considerable scrutiny and debate. Without access to the individual answers of the women who responded, however, scholars have been unable to fully examine and evaluate the conclusions reached. With the release of the Integrated Census Microdata (ICEM), a machine readable database containing transcriptions of the census enumerators' books from the censuses of 1851–1911, it is now possible to reconsider the path of fertility decline in England and Wales and to assess whether the retrospective responses of women surviving to 1911 captured the complete picture of the move towards smaller family sizes. We can, for example, investigate whether in-migrants influenced nuptiality or fertility patterns in Victorian England and Wales. The paper will compare the answers given to the Fertility Census questions by married, spouse present women in different age and marital duration groups in 1911 against fertility measures derived from more conventional data from this, and previous, censuses. A version of the Own Child Method, identifying children aged under 5, living with both of their parents on census night, is used. By comparing the two sets of measures we will provide both a more nuanced understanding of the origins of the fertility decline in England and Wales and an assessment of the relative merits of a 'snap shot' and 'retrospective' measures of fertility behaviour.

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Stopping, spacing and postponing in the British fertility transition: insights from the historic census data
*Alice Reid*¹, *Hannaliis Jaadla*¹, *Eilidh Garrett*², *Kevin Schürer*³, *Ian Timaeus*⁴; ¹University of Cambridge, ²University of Essex, ³University of Leicester, ⁴London School of Hygiene & Tropical Medicine

The traditional story about fertility decline during the demographic transition is that of a move from natural, 'uncontrolled' fertility to a regime where couples embark on childbearing soon after marriage and stop once they reach a desired or 'target' number of children. In this paper we use complete count individual level census data for England and Wales for

1911 to examine whether the initial stages of the British fertility transition fit this pattern. The 1911 census asked married women how many children they had given birth to in their current marriage, how many of those children were still alive and how many had died, as well as asking for the duration of their marriage. We use a method originally suggested by Luther and Cho (1988) to impute the ages of dead and absent children and therefore reconstruct full birth histories. We use these to produce parity progression ratios and the length of closed birth intervals by parity, producing estimates for social groups and types of place in the 17 years leading up to 1911. Results indicate roughly parallel reductions in parity progression across all parities, and little evidence for the emergence of a parity-specific stopping behaviour or a specific family size norm during the early stages of the first demographic transition in England and Wales. The implications for theories of fertility control will be discussed.

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Mortality and health in historical populations – Tuesday 11 September 4.45pm

Death before birth in Italy: Reconstructing long-term trends and geographical patterns

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While considerable research has been dedicated to the analysis of infant and child mortality in the past, stillbirths have received little attention in the Italian literature. This paper aims to fill, at least in part, this gap concerning an important component of the mortality experience. In the first section of our paper after discussing the complex problems of the classification of stillbirths and recording procedures, in the light of the Italian legislation, we analyse the quality of the statistical sources, documenting the progressive process of registration improvement, which has been especially geographically differentiated. Then we reconstruct, for the years 1863–1980, the trends in stillbirth rates at the national and regional level, focusing on the north-south gradient emerging since the beginning of the 20th century. Furthermore, we investigate the distribution of foetal deaths by gender in the long run, while other aspects, such as seasonality or interactions with neonatal mortality are analysed for more limited periods, according to the available sources. This analysis allows us to document the relevance of the improvement in the quality of birth attendance in reducing the number of intrapartum deaths as well as to emphasize the diversified process of health intervention, and childbirth hospitalization, in the Italian regions. Finally, we would like to provide some elements of reflection on the potential role of two other fundamental sets of factors, according to the literature: maternal health conditions before and during pregnancy (nutritional status in particular and its effect on birth weight) and the prevailing disease environment.

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Infant feeding and cohort health: Evidence from the London Foundling Hospital

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What was the relationship between breastfeeding and cohort health in the past? We examine this question using a rich new source of longitudinal data on nearly 1,000 children from London's Foundling Hospital (1892–1919). Specifically, we test the association between the feeding regime in infancy and subsequent health, as manifested in mortality risk and anthropometric growth at later points in childhood and adolescence. We find that breastfeeding was positively associated with both survival and weight-for-age in infancy, with scarring dominating culling on net. However, infant-weight gradients in catch-up growth ensured that by mid childhood, these initial feeding-related health differentials had disappeared.

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Infant and child mortality by socioeconomic status in early 19th century England

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The relationship between socioeconomic status and mortality has proved very difficult to study in English historical populations, due to a lack of status indicators in available sources especially before c.1850. Here we use the paternal occupational descriptors routinely recorded in the Anglican baptism registers from 1813–1837 to compare child (under 5s)

mortality by social status in family reconstitution samples from 8 parishes. Paternal occupations were ranked by the propensity for their movable wealth to be inventoried upon death (a measure of wealth), and survival was analysed using event history models. When data for the eight parishes were pooled, wealth conferred no survival advantage in infancy. Wealth was associated with higher survival rates in early childhood, except in the case of labourers, who were among the poorest of fathers but whose children enjoyed relatively high survival chances. We relate these findings to patterns of birth intervals and differences between individual parishes, and to the effects of parental literacy (as indicated by the ability to sign the marriage register).

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Do historical expenditures on water supply and sewerage correlate with mortality outcomes? New evidence from British cities, 1870–1911

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Water purification and sewerage are widely regarded as key elements underpinning modern gains in life expectancy. However the empirical evidence regarding the effects of these types of public health interventions on mortality and morbidity is often equivocal. Recent meta-analyses in contemporary populations have repeatedly revealed only modest effects of interventions to provide clean water sources (as opposed to point-of-use treatments), with very large differences between studies. This variation is observed in comparative historical studies as well. In the English case, improvements in water and sanitation, as measured by public expenditure, bear a contested relationship to mortality improvements. Previous English studies have relied on loans contracted by urban authorities, and on decennial mortality rates, and these referred to different geographical units (urban sanitary districts, and registration districts respectively). In contrast, our study uses data on expenditure, rather than loans, and high frequency weekly mortality rates reported for the largest urban sanitary districts. Although mortality from cholera, dysentery and typhoid was dramatically reduced by improvements in water supplies in the period c.1850–1900, the timing of these falls was poorly correlated with expenditure. Infant diarrhoeal mortality failed to respond to water and sanitary interventions until the early twentieth century. We explore the relationships between meteorological variables and infant and diarrhoeal mortality to test whether insect vectors could have played a significant role in transmission of diarrhoeal diseases, and why this relationship may have changed after c.1900. We offer an evolutionary biological explanation for the chronology of declines in gastrointestinal diseases.

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