

The fertility rate in Japan and England. Alan Macfarlane

Looking firstly at the crude birth rates, that is the number of births per thousand population, not taking account of the age and sex composition of the population, in the majority of agrarian societies outside Europe before the 1950s, these were usually in the range between 45 and 55 per thousand. A rate of 45 per thousand was not unusual, despite the fact that more than half the females were aged under 15 years of age.¹

The rates in historical Europe were probably not as high as this. By the middle of the nineteenth century, west European populations had crude birth rates of about 35 per thousand in comparison to the rates of 45 to 50 for developing countries.² Up to the middle of the eighteenth century, the rates were probably normally higher, of the order of 40 per thousand, as in eighteenth century France.³ In England the rates were lower. It has now been established that during the second half of the seventeenth century and early eighteenth century, crude birth rates were well below the expected 45 per thousand of a 'normal' pre-industrial population. (XXX Fill in the English crude birth rates; I suspect that they fluctuated, given the number not married and age at marriage, around 30 per thousand or so - i.e. about 15 points below the expected level. Thus they were a little higher than average mortality - the surpluses being killed off in cities, or emigrating. These low crude birth rates then rose during the industrial revolution to figures closer to those we would associate with an agrarian population. Expand and document, with Wrigley, Goldstone et al. XXX)

If we turn to Japan, we find that when the results of detailed studies began to emerge in the 1950's the crude birth rates were 'so low as to be inconceivable.'⁴ Hayami was among the first to show the sort of figures. The birth rates for Yokouchi between 1671-1871 fluctuated from a low of 20.1 in 1776-1800 to a high of 39.8 in 1701-1725. The average for the whole period was 26.3. For a pre-industrial population to achieve a rate of 20.1 for a period of years, less than half that of most pre-industrial countries, is indeed difficult to believe. Yet Smith's study of Nakahara supported these findings. 'Compared to rates in underdeveloped countries today, which run consistently in the 40s and 50s, the Nakahara average is distinctly low...'⁵ though it was 'about the average for the Japanese communities.'

¹Goode, *World Revolution*, 114, Nag, *Human Fertility*, 174; Clark, *Population*, 2ff

²Coale, *Malthus*, 8

³Wrigley and Schofield, *Population*, 479

⁴Tauber, *Population*, 33

⁵Nakahara, 39

The adjusted figures between 1721 and 1820 fluctuated between 25 and 43 per thousand.⁶

Hanley and Yamamura made detailed studies of four villages over periods from 1693 and 1871. In Fujito, the Crude Birth Rate fluctuated between 15.4 and 33.1, with a mean of 24.2; in Fukiage, between 19.4 and 31.9, with a mean of 26; in Numa, between 15.7 and 24.9, with a mean of 19.6; in Nishikata, between 16.7 and 19.9, with a mean of 18.5.⁷ As the authors conclude, this shows crude birth rates which 'seem extraordinarily low for a premodern society', for 'If we envision preindustrial societies as resembling many of the underdeveloped countries of the mid-twentieth century, then we would expect birth rates nearly double those calculated for these Tokugawa villages...'⁸

Crude birth rates are indeed crude. Let us examine some other features of the fertility situation. Firstly there is the question of age-specific fertility, that is rates which take into account the age and sex structure of the population in question. Thomas Smith found that the results of his study of this index for Nakahara showed that it was 'low compared with all of the European parishes'⁹ with two interesting exceptions, Colyton in England in 1647-1719, and a parish 'in the region of puzzlingly low fertility in southwestern France.'¹⁰

A second feature, is the gap between childbirths. If we take France in the seventeenth and eighteenth century as a fairly typical pre-contracepting population, then we find birth intervals which varied between 19 and 28 months in three different parishes.¹¹ In the parish of Crulai, there was normally a birth interval of 29.6 months, but only 20.7 months when the preceding child died before reaching its first birthday.¹² It would therefore seem reasonable to see an interval of between 20 and 30 months as 'normal', depending on the birth order and whether the previous child had died. (For other European

⁶Nakahara, 40

⁷Table 8.4, 211

⁸Economic, 212; cf also Hanley and Wolf (eds), Family (xerox), 212

⁹Native Sources, table 4.1 and fig. 4.1

¹⁰Native Sources, 105; for European figures, see Flinn, European (xerox), table 3.3, 31

¹¹Glass, Population, 617

¹²Wirgley, Population, 124

figures, see Flinn, *European* (xerox), 33, table 3.5 who gives birth intervals of XXX, and for England in the seventeenth century McLaren, *Fertility*, 384, who shows figures of XXX). The English intervals were markedly longer than most European countries, which has led Wilson to conclude that the lower English fertility must be related to the 'factors which caused the intervals between births to be longer in England than elsewhere.'¹³

It may well be that the intervals were at least a year longer in Japan. One author states that in Japan they were about three and a half years.¹⁴ Another claims that 'there typically were about three years between each child.'¹⁵ If it is indeed the case that there was between six months and a year longer gap in Japan, this may provide a clue to the mechanisms of the preventive check.

The result of the low birth rates was a smaller number of children ever born. The completed family size in four out of the five French parishes which Smith tabulated, lay between 8.2-10.4 live births.¹⁶ In England, the figures for Colyton 1647-1719 were much lower. For instance, for those who married at under 24, the mean completed family size varied between about 5 and 7.3.¹⁷ But Japan was even lower still. For instance, in Yokouchi 1701-1750 it was 5, in 1751-1800 it was 4, and in Yokouchi after 1800 it was 4.2. Other villages were higher, but none exceeded 7. Nakahara, for instance, was 6.5 in 1717-1830.¹⁸ The study of four villages by Hanley and Yamamura has found figures in line with those for Yokouchi. The number of children ever born averaged from just under three to between three and four for all of the villages. While the average was around three, the modal number of children born was sometimes only two, as was the case of Fukiage between 1773 and 1801.¹⁹ Elsewhere Hayami reports completed family size of under 4, except in the highest class.²⁰ To achieve an average of

¹³Wilcox, *Proximate* (xerox), 210

¹⁴Feeney, *Rice*, 24

¹⁵Kalland, *Famines*, 54; what says Smith and Hanley XXX

¹⁶Table 4.1 *Native*

¹⁷Wrigley, *Family Limitation*, 97

¹⁸Table 4.1. 106, *Native*

¹⁹*Economic*, 228; cf also Hanley and Wolf (eds), *Family* (xerox), 217

²⁰Hayami, *Class Differences*, 13

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between three and six live births per marriage, with long periods at around three or four is unprecedented.