

Fertility trends, timing and postponement

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Abstract

This paper addresses the issue of the trend and the level of fertility in India during the coming decades. It also reexamines the determinants of fertility levels and fertility decline, using panel data on Indian States. We find that women's education is the most important factor explaining fertility differences across the country and over time. Low levels of child mortality and son preference also contribute to lower fertility. The paper also discusses about the change in the age patterns of fertility. The study also gives the differences in the rate of fertility in the rural and urban level.

Keywords: *Fertility, trends, decline, education.*

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Introduction

The twentieth century has been witness to remarkable changes in India's society, polity and economy. The country became independent of foreign rule, there was economic development, and the society changed in many ways.

India contains one sixth of humanity, the future of its population is clearly of great interest. And the question of what will happen to the country's total fertility rate (TFR) is crucial- because it will doubtlessly be the most important variable determining by how much the population will grow. The nature of fertility declined in India. I examine the subject of regional fertility variation – a discussion which inter alia touches upon how low future total fertility may fall.

Why is fertility declining in the developing world?

The answer to this question is “mortality decline”. Sustained mortality leads to bigger and bigger cohorts entering the working ages it has a depressing effect upon relative wages. Cohorts of young people are eventually forced to choose between experiencing a fall (or significantly reduced rate of improvement) in their levels of living, or limiting fertility. When people restrict their fertility they usually rationalize the decision with proximate explanations (eg: they can't afford many children).

Why do some countries now have below-replacement fertility?

The answer to this question is that because of mortality decline and still more fertility decline, women have become more like men. In all societies women not only give birth to children, but they also do most of the childcare. Therefore, circumstances of high fertility tend to lock them up within the domestic domain. In high fertility societies women's relatively short lives were and in small places still are dominated by the responsibilities of childbirth and childcare. But this is not true of places where fertility is low and life expectation at birth (LEB) is high.

India is in the midst of demographic transition. In Kerala, a state well known for its advanced social indicators, fertility is below the replacement level (2.1 children per women). For instance, fertility is also below replacement level in Tamil Nadu and in Andhra Pradesh is only a couple of years away from the same benchmark. The decline, however, is highly uneven: in the 1980s, for instance, the total fertility rate declined by 25% in Punjab but virtually stagnated in Bihar.

What caused the decline?

Certainly there are clear signs that the developments are already underway in India. Fertility decline has been occurring for several decades now. And this is new phenomenon, above all, which is opening up completely new employment and educational prospects for young women. There has also been fall in male-female wage differentials. Young women are often more motivated. These processes are contributing to a reduction in the traditional preference for sons.

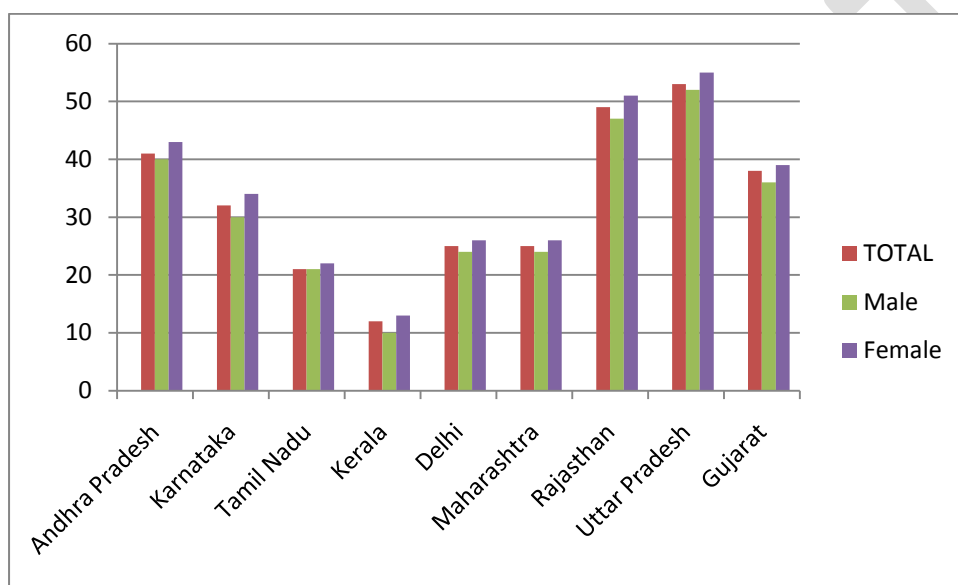
The bulk of effect of female literacy on fertility is a direct effect, rather than an indirect effect mediated by child mortality the fact that female education plays such a role in fertility decline is not surprising, given that women are primary agents of change in this context. In addition to education, plus the mass media are raising women's aspirations. It is increasingly apparent that young women can lead lives largely independent of men. Among the growing urban elite many couples are content to have just one child even if it is daughter.

Women become more like men. Marriage and child bearing become less important. The implication of what I am saying is that unless there is a renegotiation below replacement fertility will eventually be a fact almost everywhere, including India.

The role of urbanization has also been emphasized in the literature. Urbanization is believed to reduce fertility because children are less likely to contribute to household production and more difficult to supervise in an urban setting. In so far as fertility decline is in part a “diffusion process”.

Endogenous factors

High fertility itself is likely to raise infant mortality, due to both biological and behavioral reasons. Likewise high fertility labour force participation may both lead to and result from low fertility. Age at marriage and fertility are likely to be jointly determined by factors such as education and culture.



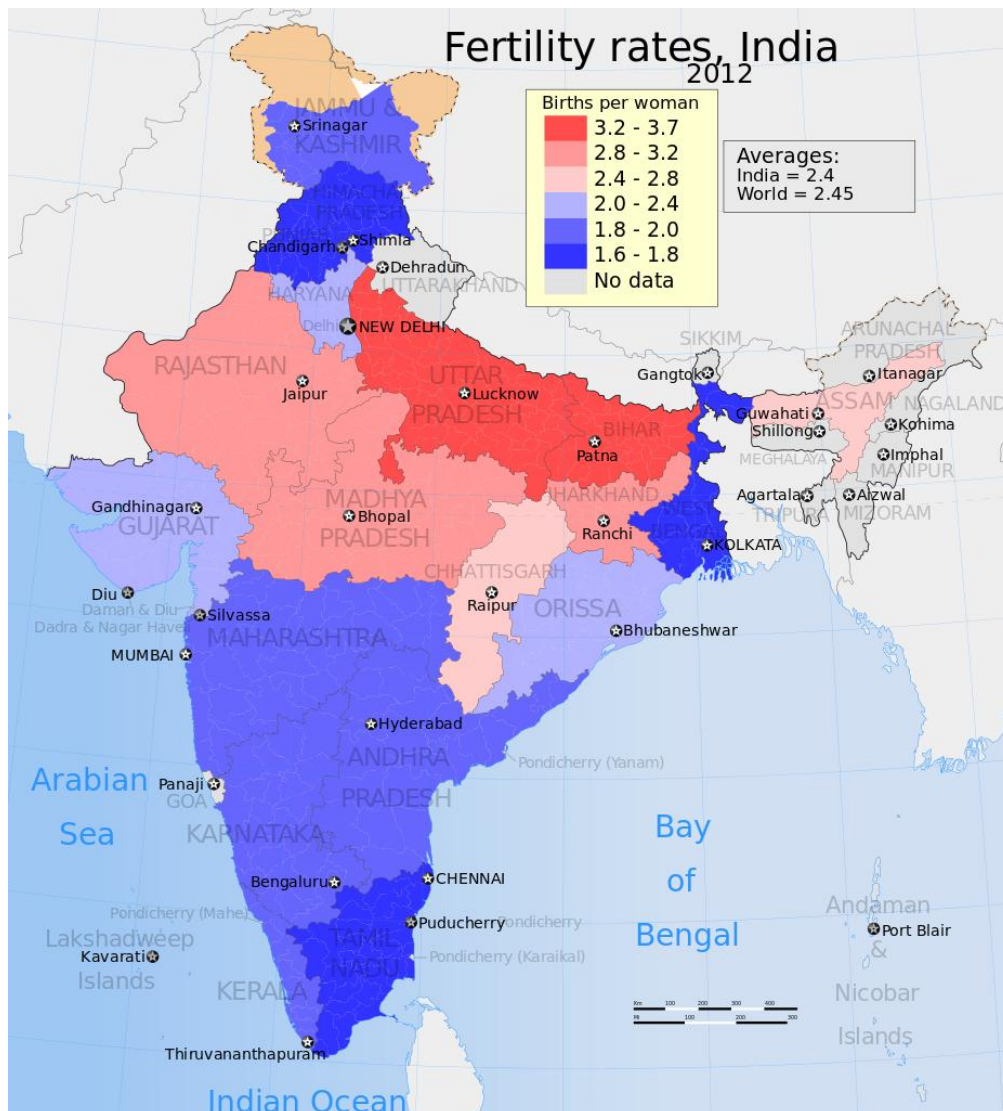
Trends in fertility

While it is generally accepted that fertility in India was high in the distant past, good estimates are not available as the vital registration system had not functioned well. But indirect estimates by census actuaries and demographers show that at the beginning of the twentieth century the Crude Birth Rate (CBR) was in the range 45-50 per thousand

Annual Estimate of Total Fertility Rate (TFR), India and Bigger States (2006-2011)

India and Bigger States	2006	2007	2008	2009	2010	2011
India	2.8	2.7	2.6	2.6	2.5	2.4
Andhra Pradesh	2.0	1.9	1.8	1.9	1.8	1.8
Karnataka	2.1	2.1	2.0	2.0	2.0	1.9
Kerala	1.7	1.7	1.7	1.7	1.8	1.8
Tamil Nadu	1.7	1.6	1.7	1.7	1.7	1.7
Uttar Pradesh	4.2	3.9	3.8	3.7	3.5	3.4
Chattisgarh	3.3	3.1	3.0	3.0	2.8	2.7
Bihar	4.2	3.9	3.9	3.9	3.7	3.6

Here considering Southern and some of the northern states We see that compared to Southern states Northern States have more fertility rates.



In this map we see that the fertility rate is high in Northern states like Uttar Pradesh, Bihar and also Union Territory New Delhi. While fertility rate is low in Southern States Kerala, Karnataka, Andhra Pradesh, Tamil Nadu. In states like Uttarakhand and Orissa the fertility rate is not available

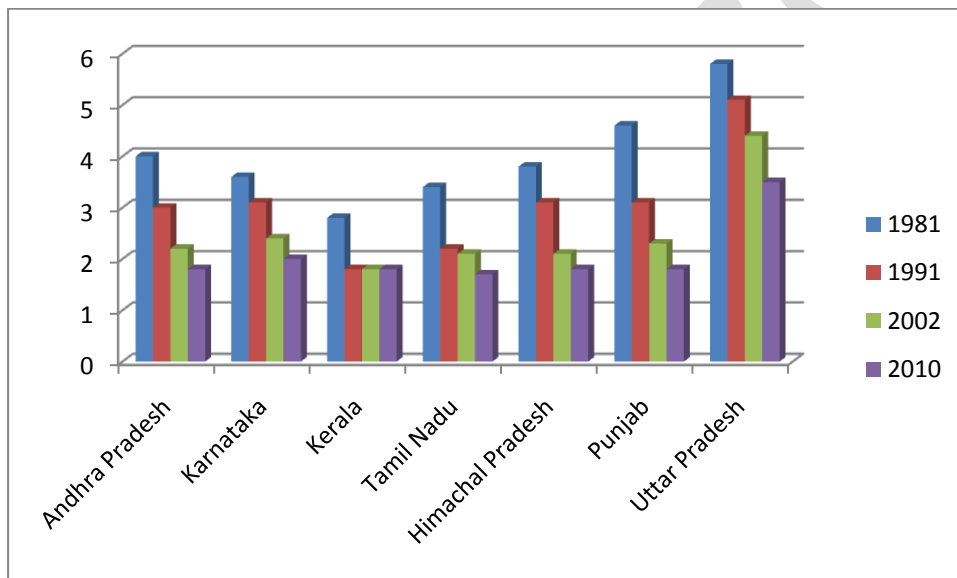
The Sample Registration Survey (SRS), conducted by the Registrar General of India, the country's official source of birth and death data, was released in 2013. The SRS shows that the Total Fertility Rate – the average number of children that will be born to a woman during her lifetime – in eight States has fallen below two children per woman, new official data shows.

Just nine States – all of them in the north and east, except for Gujarat – haven't yet reached replacements levels of 2.1, below which populations begin to decline. West Bengal now has India's lowest fertility, with the southern States, Jammu & Kashmir, Punjab and Himachal Pradesh. Among backward States, Orissa too has reduced its fertility to 2.1.

“At 2.3, India is now just 0.2 points away from reaching replacement levels. Fertility is declining rapidly, including among the poor and illiterate. At these rates, India will achieve its demographic transition and reach replacement levels as early as 2020 or 2022,”

Further comments on the nature of future fertility decline

The fertility is falling in virtually all of India’s states, including the core northern ones. Perhaps the only exceptions to this statements are Kerala and Tamil Nadu-where according to the SRS total fertility is already below 2.1. TFR in Kerala first fell below. SRS time series provide little support for the idea that total fertility in any state will plateau for long at that might be termed an intermediate level (say anything as high as 2.6 births). In my view the ongoing state level fertility declines will continue during the medium term future largely independently of trends in conventional socio-economic variables like per capita incomes and urbanization. In other words, to a considerable extent the TFR declines now have a ‘life of their own’.



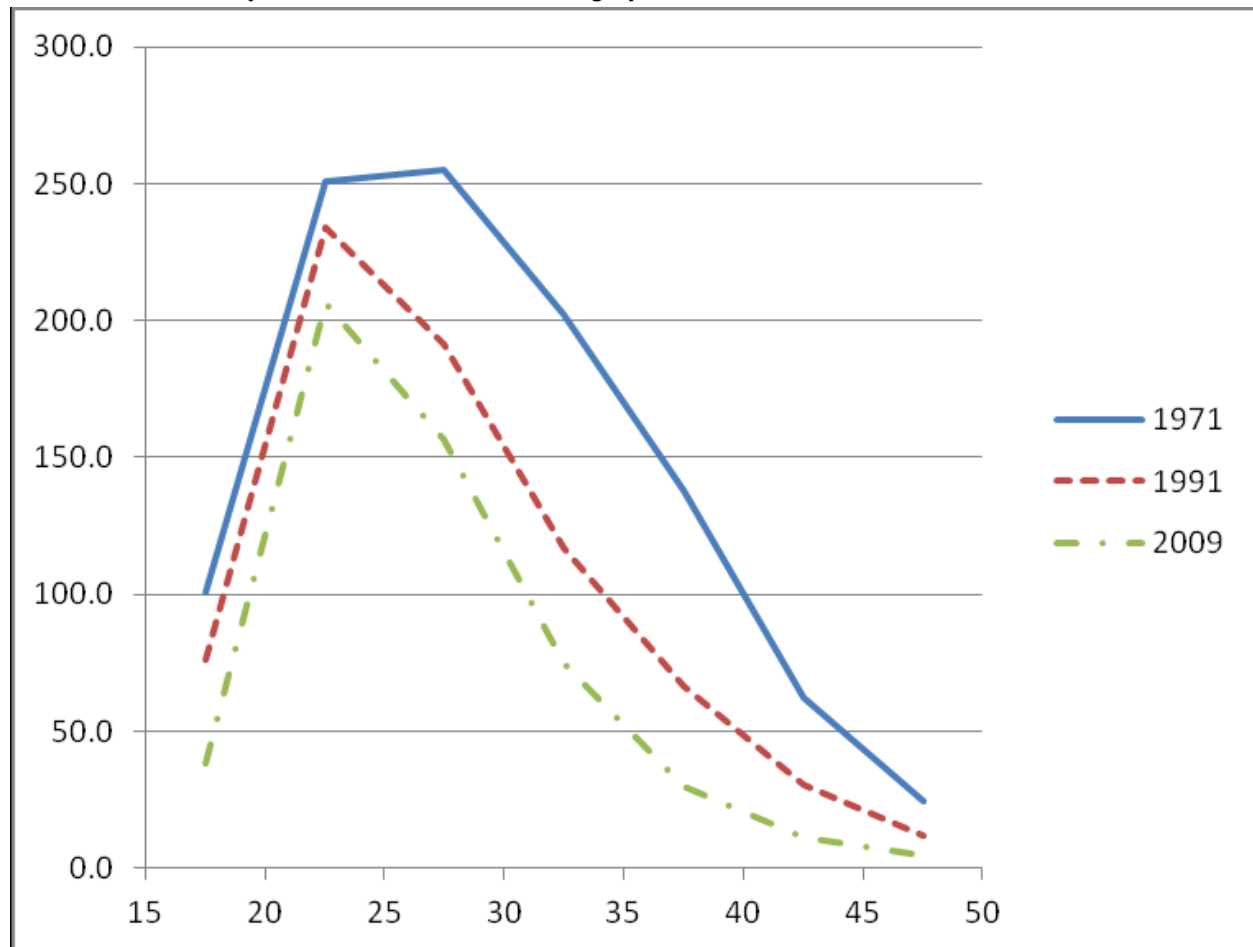
Source: Sample Registration System (SRS) Estimates of Total Fertility Rate.

Considering the southern states, Andhra Pradesh had a TFR of 4.0 in 1981 but in it decreased to 3.0 in 1991 and in subsequent years it decreased to 1.8 in 2010. That is the fertility rate decreased by 2.52 in subsequent years. In Karnataka the TFR was 3.6 in 1981 it decreased by the rate 3.35 and came to 2.0 in 2010. In Tamil Nadu it was 3.4 in 1981 it decreased to 1.7 in 2010.

Change in Age Patterns

During the course of the transition, the age pattern of fertility has changed substantially. First, an impressive fall has been seen in the young ages, especially 15-19. The ASFR for this age group declined from 101 per thousand in 1971 to 38 in 2009, that is, by 62 percent. This was entirely on account of rise in the age at marriage; the Age-Specific Marital Fertility Rate (ASMFR) remained almost constant through most of the period. Only a modest fall of 18 percent was seen in the 20-24

age group, mostly attributable to rise in the age at marriage. Large decline was seen in the 25-29 age group, nearly 40 percent and this was due to corresponding decline in marital fertility. Fertility at ages beyond 30 years of age fell sharply, by over 60 percent, and beyond 40 years, by over 80 percent. As a result, fertility is now highly concentrated in the 20s.

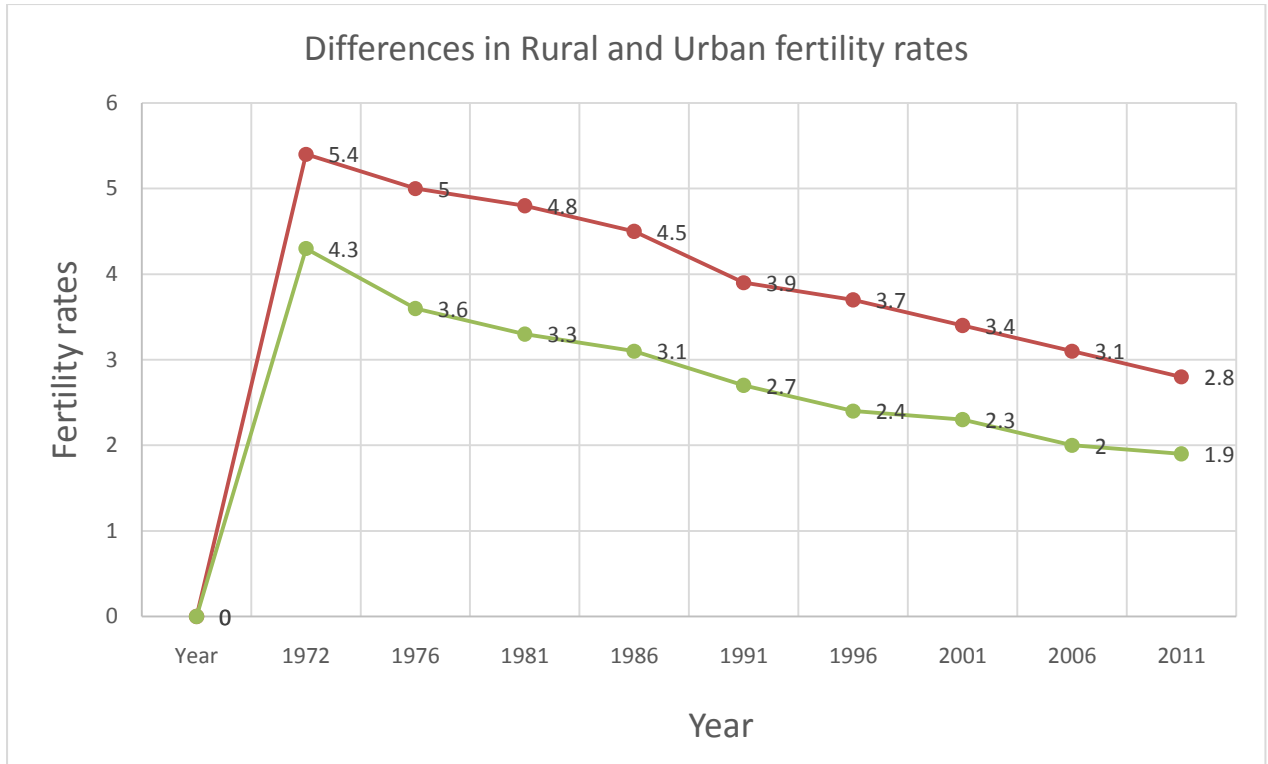


Change in the Age Pattern of India's Fertility: 1971 to 2009.

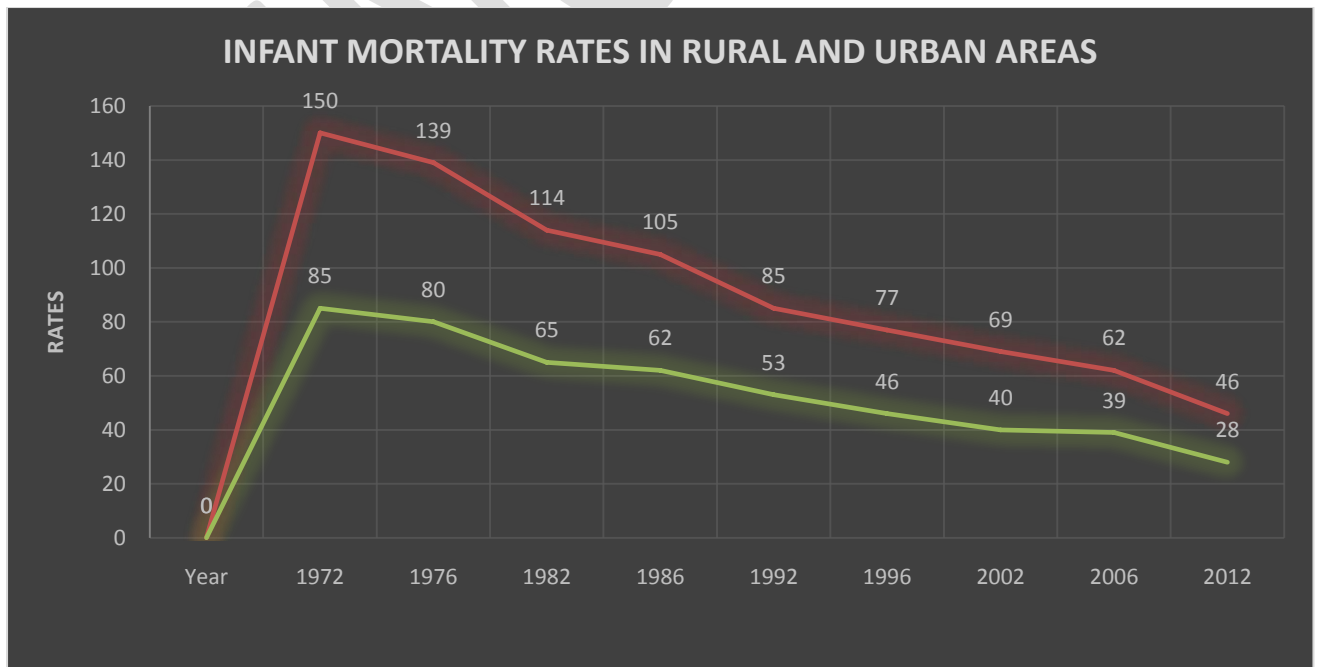
Source: Prepared from SRS estimates given in India, Registrar General (2010a, 2011b).

Rural-urban differences:

The 1950s showed falling fertility in urban areas but mainly due to a rise in age at marriage. The National Sample Surveys of 1951 and 1952 did not show much difference between rural and urban marital fertility; the NSS report on Couple Fertility noted: "It thus appears that there is little rural-urban difference in fertility, excepting the part arising out of premature marriages in the rural sector". Some studies in Maharashtra in the early 1950s also did not find clear rural-urban differences in marital fertility but overall fertility was lower in urban areas than rural, on account of the higher age at marriage in urban areas.



Source: SRS, Register general (vol8).



Conclusions:

Forecasting the future is certainly risky. There is always the danger that one will be swept along by the herd. The thrust of this piece has been that a consideration of future fertility trends in India should really be concluded at the state level. The fertility declines which are occurring are ultimately a response to a massive and sustained mortality decline. India seems set to experience continued social and economic progress, and this should do future fertility decline no harm. Therefore, however, I envisage that all India total fertility will fall below replacement.

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