

## Patterns of longevity improvements at older age in India, 1970-2007

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In developing country such as India, there is dearth of literature on old age mortality and as Government future plans for social security for old age depends on elderly growth therefore it is important to examine the nature of mortality improvement over time and explore past and future trends estimate older mortality. Globally, mortality has improved at every ages in past and we expect to live longer than ever. Still, there is no evidence about its improvement or trends at older ages in a developing country like India, which is supposed to be a country of rapid growth of population ageing in coming future. Therefore it is important to analyze longevity improvement at older ages in India. The specific objectives of the paper are as follows-

- 1) To construct period life tables by sex, residence, states and time.
- 2) To examine the past trends and patterns of life expectancy change during 1970 to 2007

**Data and methods** Age-specific death rates (ASDR) by sex, residence and sixteen major states for each year from 1970 to 2007 are taken from sample registration system (SRS) reports. Then single year ASDR are converted in five year moving average. Using these average death rates abridged life table are constructed for the period of 1970 to 2007.

Life expectancy at age sixty plus is considered as measure of old age mortality. To examine the trends of life expectancy, graphical presentation by sex, place of residence and geographical maps are drawn on different point of time. Moran's Index for spatial autocorrelation are calculated over time to examine the geographical clustering of life expectancy.

**Findings and conclusion:** Trends in five year average life expectancy at age sixty shows improvement in mortality in India and its major states with different levels and pace. And it varies by sex and place of residence. Sex differential in old age mortality has widened across time period and evidently female old age life expectancy has improved faster than male old age life expectancy. This pattern of widening gender gap is more apparent in rural place of residence. Further among developed states such as Kerala, Gujarat, Maharashtra, Punjab and Haryana sex differentials in mortality is more and gap has widen with time. On the other hand sex differentials are lower among less developed states such as Bihar, Orissa, and Uttar Pradesh.

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Urban life expectancy is significantly higher than rural but its trend is fluctuation across time periods. It can be observed with trends that rural old age life expectancy has improved faster than urban population.

Standard deviation and coefficient of variation has significantly decline for female life expectancy by states which means there is sigma convergence. Further, sigma convergence is more prevalent in urban female life expectancy. However, in case of male life expectancy sigma convergence is not found and it is only can be observed in urban male.

Figure1a Trends in sex differentials in life expectancy at age 60 in India and its major states, total, 1970-2007

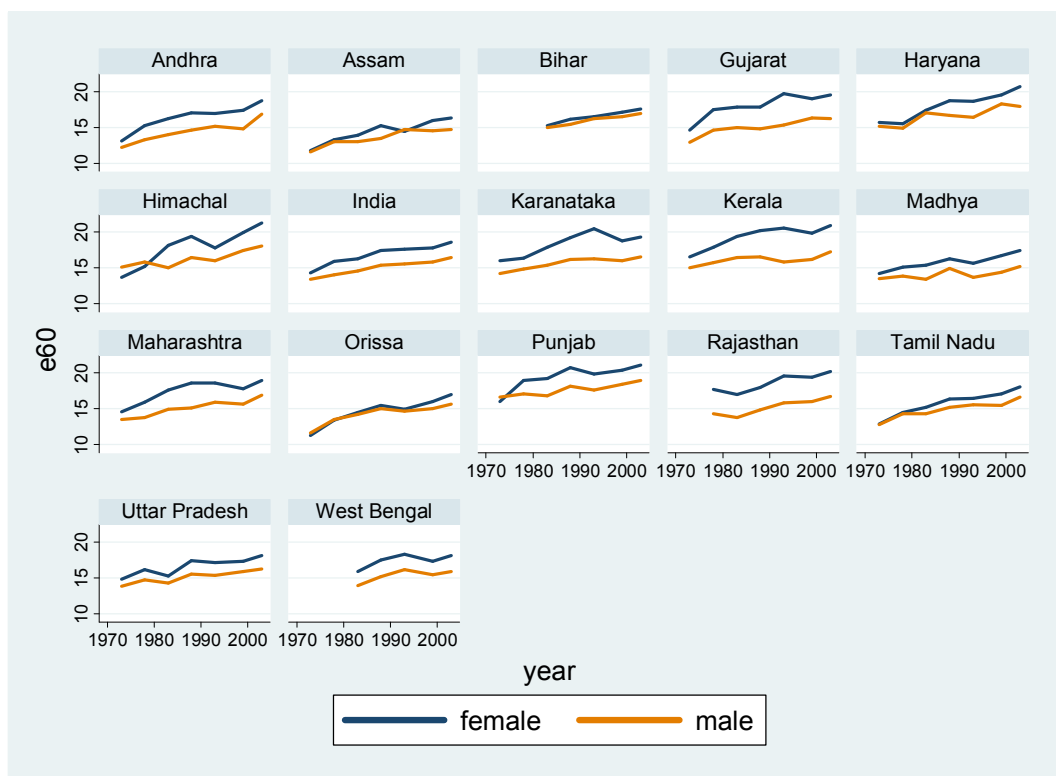


Figure1b Trends in sex differentials in life expectancy at age 60 in India and its major states, rural, 1970-2007

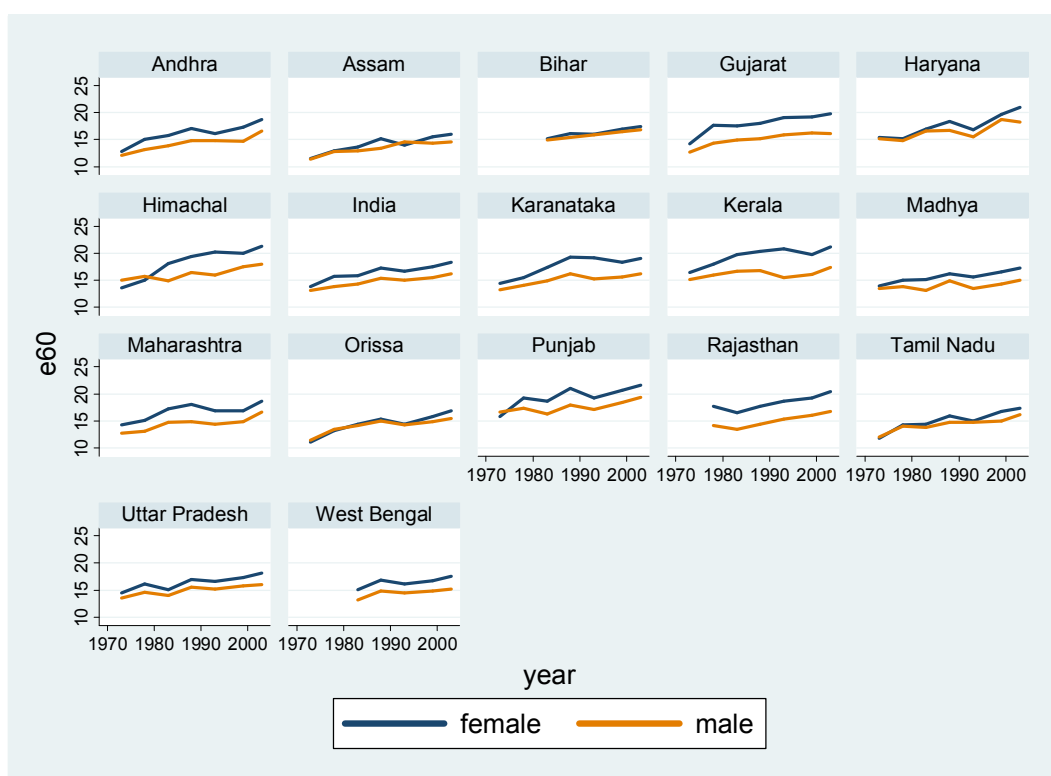


Figure1c Trends in sex differentials in life expectancy at age 60 in India and its major states, rural, 1970-2007

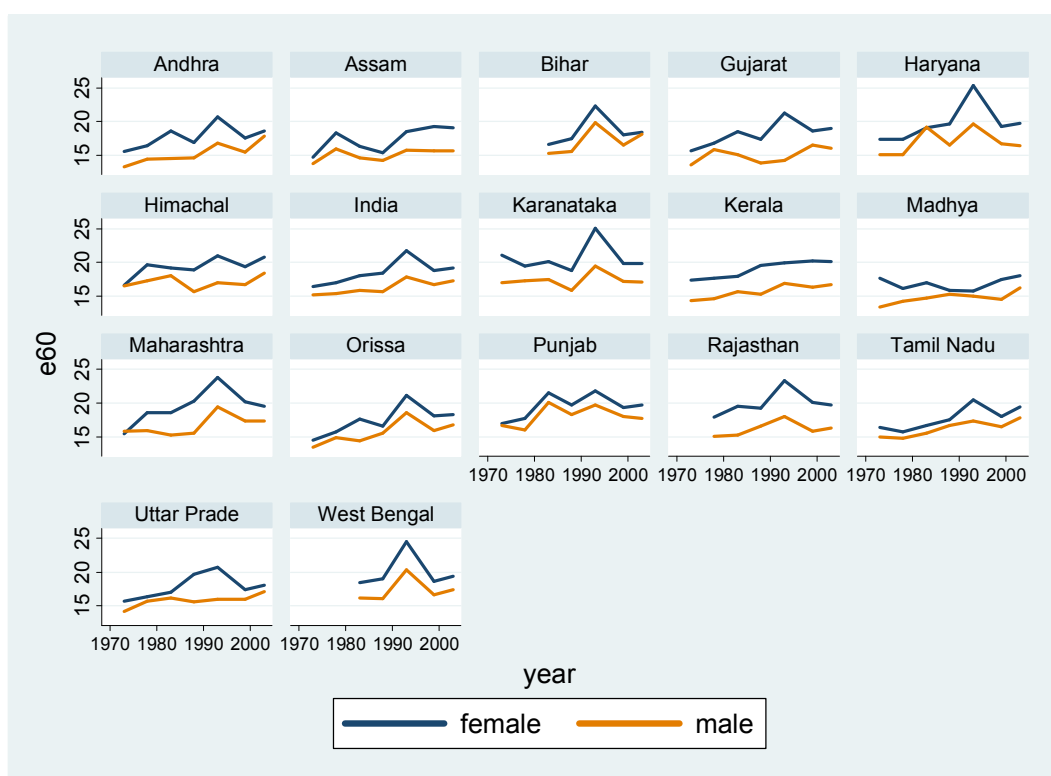


Figure2a Trends in rural-urban differentials in life expectancy at age 60 in India and its major states, rural, 1970-2007

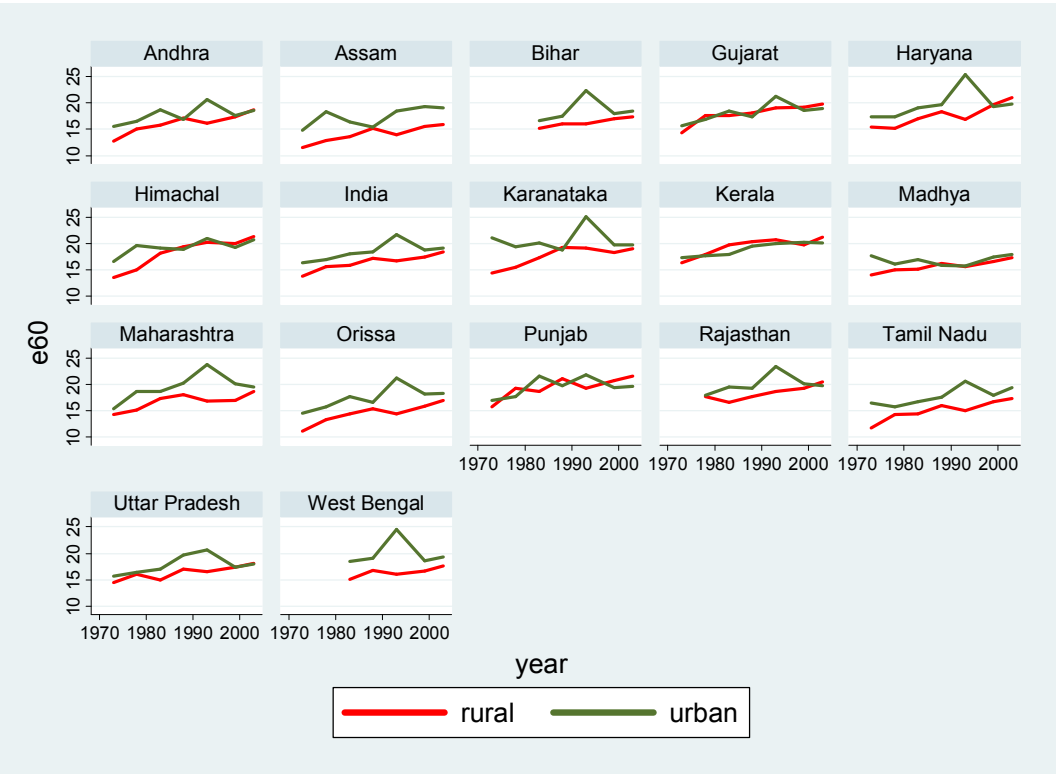


Figure2b Trends in rural-urban differentials in life expectancy at age 60 in India and its major states, rural, 1970-2007

