

Mortality and living standards in Asia and Europe, 1700-1900.

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Short abstract:

Comparing populations in China, Japan, Italy, Belgium, and Sweden using individual level longitudinal data, for which we know population at risk and occupation, we find the mortality response to short-term economic stress is quite similar in size but have different patterns in Asia and Europe. While Europe has a clear socio-economic gradient in the response—the landless proletariat suffers but not the farmers—in Asia almost all households suffer, but not all of their members. In Asia the mortality response followed the golden rule of biology, in that members closely related to the household head are doing well, while more distant household members suffer from increasing mortality in years of high food prices. We also find that the response diminished during the latter part of the nineteenth century, both in Asia and Europe, indicating improvements in living standards for the vulnerable groups. The result not only questions the classical view on the immense population pressure and poverty in Asia, comparative to Europe, but also casts a new view of the demographic transition theory.

Extended abstract:

Inequality in global living standards is a major challenge facing humanity in the new millennium. Real output per capita in Western Europe and North America is more than ten times that of many less developed countries. Differences are also substantial with respect to educational attainment, average length of life, and the general health of the population. Several dichotomies have been used to label this gap including rich and poor, developed-underdeveloped, developed-developing, North-South; the latter referring to its geographical boundaries. It has, however, also an East-West dimension – more obvious in the 1960s than today after that some of the East-Asian countries have experienced rapid industrialisation and

tremendous economic growth. The main concern of this paper is to assess when the gap between the East and the West *emerged* and to not only take the economic perspectives into consideration but social and demographic ones as well. The established view, stemming from the classical economists and still influential, is that the gap originated far back in history, perhaps thousands of years ago. This paper contributes to this debate by presenting a comparison of the people ability to overcome short-term economic stress in two Asian and three European locations covering both the pre-industrial and early industrial period. The focus is on mortality.

Normal fluctuations in grain prices caused fluctuations of 10 to 20 percent in the calorie consumption of the poor, and the high grain prices following bad harvests had an even greater impact. The poor were less able than the rich to borrow money, and that inability compounded their difficulties. Poor labourers were even more vulnerable than poor cultivators; at least the latter grew some food, while the former had to purchase their consumption. Poor labourers, in particular, were forced to rely on charity or public assistance.

There were demographic responses—some intentional, some not—to high food prices. In the worst case, high prices caused death for those unable to buy enough to eat. In less extreme situations, people resorted to demographic strategies in response to high food prices. These included postponed marriages, migration and delayed births. Studies of the correlation of death, migration, marriage, and child bearing with food prices, therefore, provide a new approach to the measurement of the standard of living. When aggregate data show that high food prices raised mortality or reduced fertility, one can conclude that the bulk of the population had a low standard of living. If disaggregate data show that only labourers exhibited such responses, then we know that average living standards were higher, but the

poor were still vulnerable. With careful attention to the data, the study of the demographic response to price fluctuations tells much about the average standard of living in a society and about the situation of the least well off.

Comparing populations in China, Japan, Italy, Belgium, and Sweden we find the mortality response to short-term economic stress is quite similar in size but have different patterns in Asia and Europe. While Europe has a clear socio-economic gradient in the response—the landless proletariat suffers but not the farmers—in Asia almost all households suffer, but not all of their members. In Asia the mortality response followed the golden rule of biology, in that members closely related to the household head are doing well, while more distant household members suffer from increasing mortality in years of high food prices. We also find that the response diminished during the latter part of the nineteenth century, both in Asia and Europe, indicating improvements in living standards for the vulnerable groups. The results not only question the classical view on the immense population pressure and poverty in Asia, comparative to Europe, but also cast a new view of the demographic transition theory.

#### References:

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