

## Chapter 3 Questions – with answers

1. Consumers in England in 1800 had access to goods that were impossibly expensive, or non-existent, for consumers in 1200. Examples are cane sugar, pepper, coffee, tea, cotton clothing, potatoes, tomatoes, eyeglasses, and newspapers. How can we be sure that living standards in England in 1800 had advanced little on those of 1200?

*The overall consumption pattern of the English in 1800 did not change very much from the consumption pattern in 1200. The amount of new goods such as sugar, tea, coffee and tobacco consumed by the average Englishman in 1800 was small both in absolute quantity and in proportion of expenditure (see p. 51). Therefore we can conclude that they had almost no impact on real wages.*

*Also while it is very hard to directly compare England in 1800 with England in 1200 because of the different goods, we can more easily compare England in 1800 with England in 1799 when the only difference is in the price of some goods. By iteration – 1799 versus 1798 - we can chain back all the way to 1200 and make the comparison.*

2. What roughly is the minimum wage for physical subsistence, in terms of the amount of wheat the wage can buy per day? What society in 1800 comes closest to this minimum?

*The minimum wheat wage just for physical subsistence of the worker is about 2 lbs of wheat per day (2 lbs wheat = 1.4 lbs wheat flour = 2,000 kcal). Japan comes closest to this minimum.*

3. What are the limitations of using “wheat wages” to compare living standards around 1800?

*There are several problems with respect to consumption habits. In the first place, most Asian and American societies do not use wheat as a staple crop so there is some conversion involved, but because these are all starches this problem is relatively minor compared to the difficulty of converting between wheat and other forms of goods such as meat and alcohol and non-food goods such as housing and clothing. Since the relative prices can be quite different across societies, it can be difficult to determine which societies are better off.*

*Wheat wages make grain exporting countries such as Poland, where grains are relatively cheap, seem rich, and grain importing countries such as England, where grains are relatively expensive, seem poor.*

4. To compare living standards between hunter-gatherer societies and England in 1800 we

can measure calorie and protein consumption per day. Why is this measure biased in favor of England?

*Since the English worked 9 hours per day, and hunter gatherers only 6 hours, the English had to work harder to get the same consumption. Also greater work drives up food demands, so that relative to their needs the English were getting less food.*

5. Are modern hunter-gatherers likely to represent the living standards of the Stone Age?

*Modern hunter-gatherers operate almost entirely with the same technology that they did thousands of years ago, so it is unlikely that their living standards have improved, if they have changed at all. Height evidence seems to indicate that Stone Age Europeans compared favorably with Europeans in 1800, so it is not unreasonable to think that the comparison holds.*

6. What is an Engel curve? What defines each type of good: inferior, normal, necessity, luxury?

*The goods are defined by changes in consumption relative to income. Inferior goods are goods for which consumption declines as income increases; normal goods are goods for which consumption increases with income. Luxury goods are normal goods for which the share of consumption increases with income, that is, that their consumption increases proportionally more quickly than total income does. Necessity goods are normal goods that are not luxury goods and so for which expenditure on the good rises more slowly than total income. Engel curves are a plot of the relationship between income and the consumption of a good. When a good is inferior it will slope downwards, while a normal good has an Engel curve with positive slope. A luxury good's slope will be steeper than parity.*

7. How can we use Engel curves to compare living standards across societies?

*Since an Engel curve shows the relationship between income and consumption of a good, we can see from them the relationship between income and the shares in income of different types of goods. As people become wealthier they spend less on food and less in particular on basic starches. This aids in comparing living standards across societies because we can then estimate the value of consumption by the shares spent on basic starches as compared to proteins, luxury foods such as spices and tea, and non-food goods.*

8. Urbanization rates are another measure popularly used to measure living standards. Explain the reasoning behind this.

*Since consumption shares of societies for the raw materials of food declines as societies become wealthier, the share of agriculture in the economy will also decline. Agricultural societies are by necessity rural, whereas non-agricultural societies will become urbanized for reasons of efficiency. In the modern world there is a strong relationship between urbanization rates and income levels.*

9. Is urbanization a good measure for pre-industrial living standards?

*This is a subject of some controversy. The evidence against is that we have accurate wage data for England from after 1200, which shows that incomes were very high in 1450 when urbanization was under 10% compared to the 1860s, when urbanization rates were over 50%. (Additionally, this is true for the early United States, where we know that income levels were high compared to Europe but urbanization was quite low.)*

10. Heights have been used as a measure of living standards in the past. What does human height depend on? Do all major human populations have the same genetic potential for height?

*Human height depends on conditions during childhood, mainly nutrition and exposure to disease. Poor nutrition, especially in the area of protein consumption, reduces and slows growth. Disease can also stall or stop growth for the period of illness, which can have long-term effects on adult height. There is some evidence both for and against the idea that major human populations have the same genetic potential. Japanese, in spite of having similar real wages to other developed societies, are still relatively short; but their increase in height has been even greater than that of Europeans relative to pre-industrial times so it is not clear if they are still converging.*

11. Why might measures of material living standards in the Mesolithic and Neolithic from skeletons be biased in favor of earlier populations?

*More robust people will tend to leave more robust skeletons. The skeletons of people who were in good physical condition are thus more likely to survive, which can be seen in the relatively high frequency of adult male skeletal remains as compared to those of women and especially children. These skeletons will tend to be of the largest and best-fed members of Mesolithic and Neolithic populations, so they will exhibit some upward bias in favor of those populations.*

12. Comparing living standards in Europe and Asia before 1800 is difficult because relative prices were very different in both societies: in England bread, beer, meat, and woolen cloth were all relatively cheap; in Asia rice, tea, and cotton clothing were relatively cheap. Using the Allen article on the web page, explain why this is so.

*The trouble is that consumers and producers will both attempt to optimize based on what can be made and what is available. Since the prices of goods in a different society may be very different, the cost of a consumption bundle can be much higher in a society other than the one that it originally arose in. Thus the Chinese consumer appears to be better off in China, but the English consumer is better off in England. If we are to compare real living standards, it is necessary to reach some sort of intermediate measure, which is fraught with difficulty.*