

CHAPTER

9

Standards of living

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In 1844, Friedrich Engels, the son of a German textile merchant who had lived in Manchester during the early 1840s, published *The Condition of the Working Class in England in 1844* (originally in German), in which he presented a very pessimistic analysis of the “standard of living” of English laborers at the time. Because the book was initially written for a German audience, he often made comparisons with the – in his view – more favorable position of the German population. “But far more demoralizing than his poverty in its influence upon the English working-man is the insecurity of his position, the necessity of living upon wages from hand to mouth, that in short which makes a proletarian of him. The smaller peasants in Germany are usually poor, and often suffer want, but they are less at the mercy of accident, they have at least something secure. The proletarian, who has nothing but his two hands, who consumes today what he earned yesterday, who is subject to every possible chance, and has not the slightest guarantee for being able to earn the barest necessities of life, whom every crisis, every whim of his employer may deprive of bread, this proletarian is placed in the most revolting, inhuman position conceivable for a human being.”¹

To this stark assessment was added a wealth of information about the crime rate (which was rising rapidly), health care (death rates in the big industrial cities were much higher than elsewhere), the poor state of the education of the proletariat, and the harmful effects of child and female labor – all leading up to the conclusion that the workers in England were worse off than they had been in the past, or than their counterparts in Germany. For this, “the invention of the steam-engine and of machinery for working cotton” was to be blamed: “These inventions gave rise, as is well known, to an industrial revolution, a revolution which altered the whole civil society.”

Since 1844, when Engels’s book was published, the debate on the long-term consequences of the Industrial Revolution for the living standards of the working class has remained center stage in social and economic history. With hindsight it is clear that in the long run this led to a strong acceleration of economic growth in Europe and to a vast increase in the standard of living of Europeans, continuing until today (a fact which was also acknowledged by Engels in the 1892 preface to the English translation of the book: “Accordingly, the most crying abuses described in this book have either disappeared or have been made less conspicuous”). For contemporaries this was not always clear, however. Industrialization often led to the increased concentration of the poor in urban conglomerates dominated by “dark satanic mills,” to increased exploitation of women and children, to declining incomes for craftsmen who had to

¹ We cite the translation of 1969, available on line at www.marxists.org/archive/marx/works/1845/condition-working-class/.

compete with the new steam-driven technology, and to increased inequality in income and wealth, fuelling the social movements rising in the wake of industrialization that tried to resist or modify these changes. Recent research has added that, indeed, there was an “early growth paradox,” that economic growth (in terms of an increase in per capita GDP) only after some decades resulted in increases in real wages earned by industrial and agricultural laborers, and that the “biological standard of living” as read from the evidence on heights, sometimes tended to lag behind even more. All this points to the fact that industrialization went hand in hand with a major redistribution of income – few profited quickly, many had to wait a lifetime before returns came in. But to this must be added that no industrialization – or economic stagnation – was of course no alternative, and also that patterns of rising inequality inside Britain and across Europe began to be reversed after 1870.

We shall focus on two related questions: what were the consequences of industrialization for the standard of living, and how did it affect (income and wealth) inequality in different parts of Europe and across Europe as a whole? The direction of change in standards of living in the first industrializing country during this period has been the focus of extensive debate between the so-called optimists and the pessimists. The inconclusive nature of the evidence has encouraged the search for new measures of the standard of living and evidence, supplementing the information on the development of real wages and of GDP per capita. A quarter of a century later, it is clear that improvements in standards of living were limited until 1870, especially in comparison with later decades. This chapter will present and analyze evidence related to the standard of living – including data on heights, literacy, and life expectancy. We will also study what happened in those countries and regions which did not industrialize – or began to industrialize only after 1830 or 1850, for which less evidence has been available until recently.

A closely related debate focuses on what happened to income and wealth inequality during the 1700–1870 period. This discussion goes back to Simon Kuznets’s (1955) seminal contribution on the relationship between income distribution and economic growth, in which he argued that during the first stages of growth inequality tended to increase, due to processes of structural change and widening income gaps within sectors of the economy. In the later stages of “modern economic growth,” he found a decline in income inequality. This Kuznets curve has been the subject of much research, which will be briefly reviewed in this chapter. Again, the discussion of Britain will be the starting point, but we shall also pay attention to what is known about levels and trends in income and wealth inequality in the rest of the continent. In the conclusion we hope to be able to offer an answer to the question of how the benefits from industrialization and economic growth in Europe were distributed before 1870.

Economic growth

Before examining the various measures of standards of living, we shall briefly review the existing evidence regarding income per capita across Europe. Economic historians agree that increases in per capita GDP remained limited across Europe during the eighteenth century and even during the early decades of the nineteenth century. In the period before 1820, the highest rates of economic growth were experienced in Great Britain. Recent estimates suggest that per capita GDP increased at an annual rate of 0.3 percent per annum in England or by a total of 45 percent during the period 1700–1820 (Table 9.1). In other countries and regions of Europe, increases in per capita GDP were much more limited – at or below 0.1 percent per annum or less than 20 percent for 1700–1820 as a whole. As a result, sometime in the second half of the eighteenth century per capita incomes in England (but not the United Kingdom) began to exceed those in the Netherlands, the country with the highest per capita incomes until that date. The gap between the Netherlands and Great Britain on the one hand, and the rest of the continent on the other, was already significant around 1820. Italian, Spanish, Polish, Turkish, or southeastern European levels of income per capita were less than half of those occurring around the North Sea (Table 9.1). In view of the higher rates of growth in Great Britain before 1820, it is clear that these inter-country or regional differences inside Europe were smaller during the eighteenth century (van Zanden, 2001). With the acceleration of industrialization and economic growth, however, these west–east differences would increase considerably until World War I.

From the 1830s and especially the 1840s onwards, the pace of economic growth accelerated significantly. Whereas in the eighteenth century England, with a growth rate of 0.3 percent per annum, had been the most dynamic, from the 1830s onwards all European countries realized growth rates that were unheard of during the preceding century. Between 1830 and 1870 the growth of GDP per capita in the United Kingdom accelerated to more than 1.5 percent per year; the Belgian economy was even more successful, with 1.7 percent per year, but countries on the periphery, such as Poland, Turkey, and Russia, also registered annual rates of growth of 0.5 percent or more (Table 9.1). Parts of the continent then tended to catch up, with rates of growth exceeding 1 percent per annum after 1870. Catch-up or convergence applied especially to France, Germany, Austria, and the Scandinavian countries. Southern European countries such as Italy and Spain experienced rates of growth only marginally higher than those of Great Britain after 1870. As a result, their catch-up was weak, but the gap between them and the higher-income parts of the continent did not continue to expand in the years before World War I. In contrast, even though eastern and southeastern Europe began to experience increases in per capita

Table 9.1 Estimates of GDP per capita in European countries, 1700–1913 (United Kingdom, 1820 = 100)

	c. 1700	c. 1750	1820	1870	1913
England/UK	73	87	100	187	288
Netherlands	109	109	107	162	237
Belgium	69	76	77	158	247
France	n.a.	n.a.	72	110	205
Italy	71	76	65	88	150
Spain	61	58	62	71	132
Sweden	66	67	70	97	181
Poland	38–42	34–37	41	55	102
Russia	n.a.	n.a.	40	55	84
Turkey	35	38	40	52	71

Sources: van Zanden, 2001; Maddison, 2001; Pamuk, 2006; Álvarez-Nogal and Prados de la Escosura, 2007.

incomes after 1820, rates of increase in GDP per capita in most countries of these two regions remained below those of the rest of the continent in the years before World War I. It would thus be more appropriate to use the term “growth without convergence” for the experience of these two regions during both sub-periods of the nineteenth century (Maddison, 2003a).

To sum up, the gap in per capita incomes between northwestern Europe and the rest of the continent was wider in 1870 than it had been in 1820. The disparities between the early industrializers and the rest of the continent tended to decline for parts of Europe after 1870. Other countries of western Europe and the Scandinavian countries, and to some extent Italy, tended to catch up until 1914, but the income per capita gap between other parts of the continent and the northwest widened even further. On the eve of World War I, the gap, measured in percentage terms, between western and northern Europe, on the one hand, and southern, eastern and southeastern Europe, on the other, was wider than it had been in 1820. At the same time, however, average income per head had increased enormously, compared with the eighteenth century – already in 1870 all Europeans enjoyed an average income that was 50 to 200 percent higher than in the eighteenth century (Maddison, 2003a). What this average tells us about the living standards of the mass of the population is the focus of the rest of this chapter.

Real wages

One of the big debates among economic and social historians in the 1960s and 1970s was whether and to what extent the growth that occurred during the

Industrial Revolution resulted in an increase or a decline in the standard of living of the working population – in particular in Great Britain, but also in Belgium, the Netherlands and elsewhere on the Continent. The development of real wages was one of the key variables on which the debate focused. One of the limitations of this debate was that it tended to deal with individual countries in isolation, because an international comparative framework for analyzing real wage trends was missing. In recent years, however, indices of the real wages of construction workers have been developed for many parts of the continent for the period since the fourteenth century. Even if these wage series offer narrow coverage and exclude manufacturing, they have the very attractive advantage of providing a common measure for virtually the entire continent. For these reasons, the wage series are probably the best place to begin to compare standards of living in different regions of the continent during and after the Industrial Revolution. In fact, for the period before the Industrial Revolution, real wage evidence arguably provides more insights into income levels and the standards of living in different parts of Europe than any other measure.

The British Industrial Revolution standard of living debate between optimists and pessimists has greatly expanded the coverage and improved the quality of wage and cost of living indices. Thanks to this effort, the wage series for Great Britain now include farm laborers, artisans engaged in various trades, and white collar employees, as well as manufacturing and construction workers. In the early 1980s Lindert and Williamson constructed new indices with broader coverage to argue that standards of living improved sharply in Britain, by as much as 50 percent or more from 1780 to 1830, and about 100 percent for the period 1780 to 1850 as a whole (Lindert and Williamson, 1983). The optimists' position was later challenged, however, by Feinstein, whose critical contribution to the debate was a new cost of living index including many new goods, which indicated that prices fell less in the decades after the Napoleonic wars than was earlier thought (Feinstein, 1998). In contrast, there was little disagreement about the nominal wage series. The Feinstein indices showed much smaller increases for real wages, about 20 percent for the period 1820–50 and less than 40 percent for the entire period 1780–1850. They indicated another increase of 9 percent for the period 1850–1870. When adjustments were made for unemployment, the gains were even lower for the period before 1850 and higher for the later period.

Another development that has important implications for this debate is the recalculation of the growth rates in Great Britain for the early decades of industrialization. GDP series constructed by Crafts and Harley indicate that industrial and overall growth in Britain until the 1830s was much slower than estimated earlier. These estimates made it very difficult to sustain the optimists' case for the period before 1830, because they argued for wage increases

Table 9.2 Estimates of economic growth and real wages in Great Britain, 1780–1870

	GDP per capita		Real Wages		
	Crafts–Harley, Maddison	Lindert and Williamson	Feinstein	Allen	Clark
	Total increase for each sub-period, %				
1780–1830	25	50	14	12	35
1830–1850	33	30	20	4	13
1850–1870	37	n.a.	9	20	24

Sources: Estimates for GDP per capita increases are from Crafts and Harley (1992) for 1780–1830 and from Maddison (2003a) for 1830–1870.

significantly higher than the rates of increases in GDP per capita until 1850 suggested by Crafts and Harley. The downward revision in economic growth rates indicates that standards of living improved slowly in the early decades of industrialization, not only because of the uneven distribution of the benefits of growth as assumed earlier, but also because these benefits were limited. Even with the lower rates of economic growth, however, the pessimists' case remains: Feinstein's indices continue to indicate that real wage increases lagged well behind GDP per capita increases until 1870 (Table 9.2; Harley, 1982; Crafts, 1985b, 1997a; Crafts and Harley, 1992).

More recently, two additional indices of real wages have been constructed for Great Britain during and after the Industrial Revolution. These long-term indices are limited to skilled and unskilled construction workers, but are still useful for the light they shed on the standard of living debate. The series by Allen, which will be discussed in greater detail below, are limited to London and Oxford, and indicate that real wages increases until 1850 were small, comparable with or even less than those suggested by Feinstein. On the other hand, the long-term series constructed by Clark for England point to real wage increases somewhere between the original optimist and pessimist positions for the period 1780–1870. (Table 9.1) (Allen, 2001; Clark, 2005). These more recent indices for the wages of construction workers also suggest that wage increases lagged behind increases in per capita GDP, not only in the earlier decades of industrialization, until 1830, but also in the mid-century decades, until 1870.

Evidence for real wages in the rest of the continent has not been studied to the same extent. In an important recent study, however, Allen (2001) examined the real wages of skilled and unskilled construction workers in the leading cities in Europe from the second half of the fifteenth century until World War I. He utilized a large body of data, most of which had been compiled during the early part of the last century by studies commissioned by the International Scientific Committee on Price History (Cole and Crandall, 1964). In order to facilitate

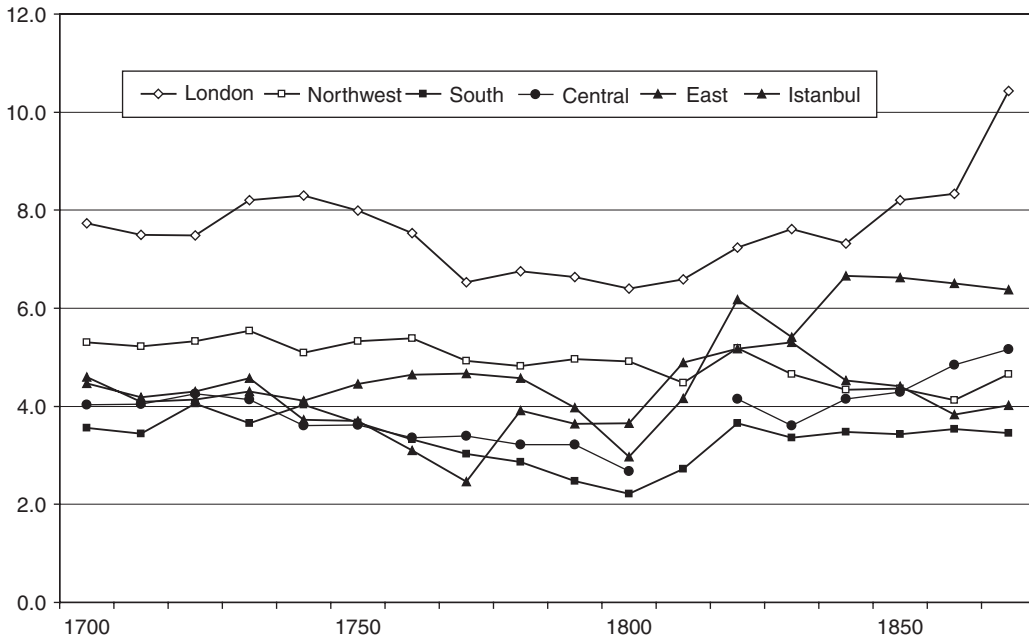


Figure 9.1 Real wages of European unskilled construction workers, 1700–1870

cross-sectional and inter-temporal comparisons, he converted all price and wage series into grams of silver, and deflated nominal wages in grams of silver by a common consumer price index which allowed for north–south differences in the consumer basket to arrive at new real wage series. While his series cover only one sector, they have the important advantage of facilitating intertemporal and interregional comparisons.

Allen's series indicate that while there were short- and medium-term movements, urban real wages did not show upward or downward trends during the eighteenth century in any region of Europe. Moreover, levels of urban wages were close to each other in most parts of Europe, with one significant exception. Real wage levels in Great Britain and the Low Countries were distinctly higher than the rest of the continent during the eighteenth century, even as real wage levels in the Low Countries were declining (Figure 9.1).

Since increases in real wages in Great Britain were limited before the middle of the nineteenth century, one should not perhaps expect large real wage movements in the rest of the continent until the 1850s or even 1870. In most parts of western and northern Europe real wages declined modestly, by 10 to 20 percent during the last decades of the eighteenth century and the Napoleonic wars, and then recovered in varying degrees after 1820. The impact of the Industrial Revolution on real wages was limited outside Great Britain until the middle of the nineteenth century and even until 1870, except for the recovery

after the Napoleonic wars. Allen's real wage series also indicate that there was a slight widening of the gap in urban real wages between Great Britain and northwestern Europe, on the one hand, and the rest of the continent, on the other, during the decades before 1870. One exception to this pattern was Poland, where urban wages rose faster than they did in Great Britain during the first half of the nineteenth century. Similarly, indices recently constructed for Istanbul by Ozmuur and Pamuk (2002) and for St. Petersburg by Boris Mironov (2004) indicate that real wages in these cities rose sharply between 1800 and 1870. Real wages in Leipzig also went up more than in other parts of Germany. There may be a common pattern here for eastern and southeastern Europe. One possible cause of these wage increases may be the rise in the prices of cereals and other agricultural commodities which were being exported by these regions during this period.

Workers in all parts of western Europe seem to have benefited only marginally from the large advances in productivity taking place during the Industrial Revolution. Nonetheless, it is also clear that wages did not decline in the face of rapid population growth during this period. In previous periods – in particular during the sixteenth century (and the thirteenth century) – rapid population growth had resulted in a strong decline in real wages, arguably as a result of Malthusian forces (Wrigley and Schofield 1989; Clark 2007b). That this did not happen before 1870 can also be seen as proof of the emerging economic resilience of the new economy.

The rest of the chapter will discuss the extent to which one may observe a similar pattern in other measures of the standards of living and measures of inequality.

The pessimistic case revisited

Incomes or wages as a measure of economic welfare or well-being have been greatly criticized in recent decades. Focusing on incomes tends to ignore the various disamenities of urban life and economic growth, for example. Real wages generally concern the earnings of men, who developed into the “male breadwinner,” but trends in the standard of living of children and women may have been different. More generally, while incomes are an “input,” welfare or well-being is an “output” or an outcome measure. For this reason, other, broader measures of welfare or human development have been gaining in popularity. Similarly, recent attempts to use body measurements, and height in particular, to establish trends in living standards have generated much enthusiasm. The search for evidence about the standard of living of children and women has also led to the use of indicators related to health, mortality, and life expectancy.

John Komlos has recently reviewed the evidence on height from different parts of Europe and what it might mean for the possible links between urbanization, economic growth, and the biological standard of living in the early stages of industrialization (Komlos, 1998). A large body of evidence indicates that average heights of males born in different parts of western and northern Europe began to decline, beginning with those born after 1760 for a period lasting until 1800. After a recovery, average heights resumed their decline for males born after 1830, the decline lasting this time until about 1860. The total reduction in average heights of English soldiers, for example, reached 2 cm during this period. Similar declines were found elsewhere: in the Netherlands, for example, where the economy did rather well from the 1820s onwards, from the mid-1830s to the mid-1850s the average height of recruits tended to decline. In particular, in the case of England, it is clear that the decline in the average height of males born after 1830 occurred at a time when real wages were rising, albeit gradually, as we have seen.

This pattern has brought into question the conventional wisdom that increases in per capita income should bring about an unambiguous improvement in human welfare. It has also led some to question whether height and socioeconomic variables were causally related during this period. Komlos emphasizes that the causal linkage between socioeconomic and structural changes and heights should be retained for this period as well. He argues that a number of developments may have adversely influenced average height during the early decades of industrialization. Amongst them, he cites rapid population growth and rising relative prices of nutrition that may have led to the substitution of more carbohydrates for proteins, rapid urbanization, which may have put town dwellers at a disadvantage as regards nutrition, growing inequalities in income, and intensification of labor. These structural changes may have created a divergence between average incomes and wages, on the one hand, and biological well-being on the other. Komlos concludes that the limited gains in incomes during these early decades of industrialization may have been too low to offset the decline in health in the newly created social environment. Baten, on the other hand, found that in most cases real wages and height appear to move more or less in the same direction, suggesting that the “early growth paradox” is limited to England (and the United States) (Baten, 2000).

Another important piece of evidence that has become available in recent years is life expectancy at birth, which takes into account infant as well as adult mortality. Life expectancy at birth for selected countries, as summarized in Table 9.3, points to a similar pattern: in the period 1820–70, the greatest improvement in life expectancy at birth occurred not in Great Britain but in other western and northwest European countries, such as France, Germany, the Netherlands, and especially Sweden. The demographic record of industrializing

Table 9.3 Life expectancy at birth across Europe, 1820–1870

	UK	France	Germany	Netherlands	Sweden	Italy	Spain	Poland	Turkey	Russia
1820	40	37	32	32	37	30	30	29	27	25
1870	41	42	36	37	45	33	34	32	31	30

Source: Baten and Pamuk (2007) and Riley (2005).

Europe is indeed mixed: population growth accelerated, but life expectancy rose very slowly until the 1870s – and in some regions not at all. Some of the best evidence pointing towards “pessimistic” interpretations of changes in the standard of living relate to infant mortality, which increased in large parts of western Europe until the middle decades of the nineteenth century. The record is better only in Scandinavia, where infant mortality declined continuously from about 1810 onwards. Even in industrializing northern England this measure of the standard of living only began to register progress after the middle of the nineteenth century – before the 1850s, infant mortality still went up (Huck, 1995). Similar, rather pessimistic stories of increasing infant mortality are found in Germany and Austria (where it continued to be extremely high: three out of ten babies died before age 1 in Germany in the 1860s), the Netherlands, Belgium, and Spain (Lee and Marschalck, 2002; Chesnais, 1992, pp. 58–59, 580–81).

Urban disamenities are clearly part of this story. Simon Szreter (1997) has demonstrated that in “laissez-faire” England investment in social overheads by cities lagged behind urban growth, causing four “D”s to occur: “disruption, deprivation, disease, and death.” Cities on the Continent generally did not fare much better – in the case of Hamburg, for example, the wake-up call came only during the cholera epidemic of 1892, which disclosed the extent to which investment in social overheads had lagged behind the strong economic expansion of the city (Evans, 2005). Spatial patterns in this measure of hygiene and health care show no clear correlation with income per capita; Scandinavia led the way in the mortality decline (except for Finland), but the dismal record of Germany in particular is striking. One of the explanations for this poor demographic record is the decline in breast feeding: as more and more women participated in the labor market, breast feeding gave way to less hygienic ways of feeding infants.

The evidence thus points strongly to slow improvements in the standard of living in industrializing western Europe before the 1870s. Changes in relative prices are another important part of any explanation of this pattern. For the Netherlands, for example, it has been established that the agricultural sector profited a lot from the industrialization that occurred in the United Kingdom, leading to growing exports of livestock products across the North Sea. This

drove up food prices (and especially the prices of high-quality products such as butter, cheese, and meat), and led to a worsening diet, helping to explain the stagnation in average height until the mid-1850s (van Zanden and van Riel, 2004). More generally, until the “agricultural invasion,” beginning in the 1860s and 1870s, food prices in Europe showed a rising trend, which tended to undermine some of the gains in terms of purchasing power resulting from the increase in nominal wages. In this respect, the real breakthrough in standards of living only occurred after *circa* 1865 (or even 1870), when growing imports of cheap cereals and livestock products from the other side of the Atlantic radically changed price trends and led to a sudden and very strong increase in real wages during the “agricultural depression” of the 1873–96 period.

The other side of the same price movement applied to the more agricultural areas of Europe. The sharp decline in the prices of cotton textiles and the rise in agricultural prices in eastern and southeastern Europe from the 1820s onwards encouraged the importation of factory-made cotton textiles and led, in varying degrees, to the decline in existing manufacturing activity and increased specialization in agriculture. While these price movements benefited consumers and the rural producers in the short and medium term, they may have also delayed the onset of industrialization and more rapid economic growth in these poorer regions of the continent. (Williamson, 2006)

More generally, while improvements in average life expectancy at birth occurred only slowly in industrializing western Europe, less detailed evidence, as summarized in Table 9.3, indicates that increases in average life expectancy at birth were even more limited in the rest of the continent until 1870. As a result, along with average incomes and real wages, the gap in average life expectancy at birth between western Europe, on the one hand, and southern (Italy and Spain) and eastern Europe (Russia and Turkey, as well as others), on the other, widened during the period 1820–70.

A third element in the pessimistic interpretation is related to the negative effects of the rise of the factory system. This meant that laborers had to be disciplined (because the capital-intensive mode of production of the factory system demanded constant labor input to keep the machines going), that working hours were extended, and that on top of this the labor of women and children was also increasingly “exploited.” It this transformation (as analyzed already by Engels in 1844; see also Thompson, 1967) that may have held back real improvements in the standard of living of the urban or industrial population. That working hours went up until the middle decades of the nineteenth century is now well documented, in particular for England (Voth 2001a), but similar tendencies are apparent in other industrializing countries as well. Social reformers from the 1840s onwards saw this as one of the main

drawbacks of the factory system, and began to argue in favor of new social policies to limit the harm that was being done.

The story is probably more complex, however. According to Jan de Vries's hypothesis of an "industrious revolution," the increased working hours and more intensive use of women's and children's labor were a response by households to growing market opportunities or incentives arising from a developing market economy offering new goods (tea, sugar, coffee, etc.) in return for the extra income that was generated in this way (de Vries 1994). There is a substantial literature arguing that already, in the eighteenth century, western Europe underwent a "consumer revolution," of which the increased consumption of these colonial goods was perhaps just the tip of the iceberg, since, for example, consumers also owned increasing numbers of "luxury" consumer goods, such as high-quality textiles, clocks, stoves, and porcelain. The jury is still out on this issue, but it is clear that the arrival of new consumer goods to Europe – from potatoes and polenta to coffee, tobacco, and tea – meant that consumers had more options for satisfying their needs – an advance in living standards that standard measures of real wages and purchasing power omit to take into account.

The increased labor input of women and children had its negative effects as well, however. What is remarkable about England's development in the eighteenth and nineteenth century is that it probably made much more intensive use of female and child labor than did industrialization on the Continent (Horrell and Humphries 1995). A side effect of this specific pattern of labor-intensive industrialization that was arguably characteristic of the English Industrial Revolution (in which textiles and other industries making heavy use of cheap female and child labor were quite important) was that in a period of strong economic expansion human capital formation stagnated.

Another important indicator of the standard of living is literacy. The level of literacy remained more or less constant during the eighteenth century, and increased rather slowly during the first half of the nineteenth century. As Table 9.4 indicates, and as Crafts (1985a, p. 64) has demonstrated in greater detail, levels of human capital formation during the British Industrial

Table 9.4 Literacy* across Europe, 1820–1870

	UK	France	Germany	Netherlands	Sweden	Italy	Spain	Turkey	Russia
	%								
1820	53	38	65	67	75?	22	20	6?	8
1870	76	69	80	81	80?	32	30	9?	15

* Ability to sign a document.

Source: Crafts (1997b, 2002), Baten and Pamuk (2007).

Revolution were much lower than those of similar continental countries during their industrialization. Sweden, Norway, Denmark, Scotland, the Netherlands, and Prussia simply outperformed England in this respect; only Belgium seems to have followed the same path of labor-intensive industrialization based on low, perhaps even declining, levels of human capital formation (Vandenbroeke, 1985). The catching-up of the south in terms of literacy – of Spain, Italy, and also Austria – did not begin until the second half of the nineteenth century. Until 1850 or even 1870, the gap between the north and the south as well as the east continued to widen (Boonstra, 1993, pp. 20–28).

On top of this, under the guidance of liberal economics, states developed policies that hardly favored the working population. Following the new insights of political economists, commons – traditional sources of subsistence for large parts of the rural population – were distributed among their owners, often leaving the poor dispossessed (de Moor et al., 2002). Guilds, in many cities an important part of the urban networks supplying social security, were similarly abolished in the wake of the French Revolution. Poor laws were “reformed” in order to limit the number of people dependent on them and thus lower their costs; most famous is again the 1834 reform of the English poor law, but similar reforms were carried out elsewhere (the Netherlands carried out a similar reform in 1854). The economic rationale behind this program was perhaps sound, and some measures may even have enhanced the living standard of the working population (such as the abolition of the Corn Laws and other forms of protectionism), but in the most developed parts of Europe it was often the poor who in particular bore the burden of the liberal reforms.

Liberal economic policies were not always bad news for the mass of the population, however. Jerome Blum has shown in his seminal study, *The End of the Old Order in Rural Europe* (1978), how traditional forms of bondage and serfdom were abolished in large parts of Europe, a reform movement that began as a result of the initiatives of enlightened rulers in Savoy, Denmark, and Austria in the 1760s and 1770s, accelerated under the impact of the French Revolution, and culminated in the abolition of serfdom in central Europe and Russia in the 1840–60 period. It is unclear to what extent these reforms had an impact on the standard of living, however – often peasants had to pay for their liberation quite heavily, and sometimes, as in the Russian case, they continued to be bound to the village and to the debts incurred during emancipation.

The Human Development Index

Growing dissatisfaction with GDP per capita or real wages as a measure of living standards, and the conviction that more attention needs to be paid both

Table 9.5 Human Development Index, 1820–1870

	UK	France	Germany	Netherlands	Sweden	Italy	Spain	Turkey	Russia
1820	0.383	0.303	0.344	0.380	0.403	0.221	0.210	0.134	0.129
1870	0.489	0.456	0.448	0.473	0.481	0.284	0.284	0.182	0.196

Source: Calculations based on Crafts, 2002, and Baten and Pamuk, 2007.

to aspects of well-being that are not determined by purchasing power, and to the quality of life, has led in recent years to the development of alternative measures. One more comprehensive measure of socioeconomic welfare that has gained popularity recently is the Human Development Index (HDI) which has been devised and is regularly used by the United Nations in its annual Human Development Reports. In this approach human development is seen as a process of expanding people's choices. The HDI is then defined as an index with three basic components, longevity, knowledge, and income. Longevity is measured by life expectancy at birth in years, knowledge by a weighted average of adult literacy and school enrolment percentages, and income by purchasing power parity adjusted GDP per capita in 1990 US dollars. These three components are combined into a single index by measuring each in terms of the percentage of the distance travelled between an assumed minimum and maximum. The HDI thus takes values between 0 and 1. While the United Nations has focused on gathering information and calculating annual values for HDI for individual countries for the recent period, economic historians have been pushing the estimates of HDI backwards in time towards the nineteenth century (Crafts, 1997b, 2002). With the information on the three components already presented above, we can calculate the HDI for selected countries and obtain another view of the changes in standards of living in different parts of Europe between 1820 and 1870. Table 9.5 summarizes these calculations.

The HDI values presented in Table 9.5 are consistent with our earlier conclusions. They show that rapid increases in GDP per capita in the United Kingdom after 1820 were not matched by similar improvements in human development. In fact, despite the more rapid rise in GDP per capita in the United Kingdom, improvements in human development were more significant in other west European countries until 1870. On the other hand, improvements in both income and social-economic welfare were even slower in the rest of the continent, in southern and eastern Europe where industrialization was slow, or did not begin at all during the same period. In other words, while differences in human development tended to decline inside western Europe, they tended to increase in comparison with the rest of the continent, including southern Europe, until 1870.

A Kuznets curve?

Summing up the evidence so far, we have seen that GDP per capita started to grow quite rapidly after about 1820, whereas real wages and other measures of the (biological) standard of living tended to lag behind. It has been argued that social inequality exploded, in particular in those parts of Europe that profited most from the new industrial age (Williamson 1985). This increase in inequality came on top of an already rising inequality in distribution of income and wealth, the result of economic expansion and urbanization in the centuries before 1700. In the most dynamic parts of the continent— in England, Holland, and France – levels of inequality in the eighteenth century were already very high – due to the concentration of land ownership and of mercantile wealth (van Zanden, 1995). Proto-industrialization often added to the growing inequality, creating a class of wage laborers, on the one hand, and a group of wealthy merchants, on the other. In other parts of western Europe – in southern Italy for example – income inequality was probably much lower than in the northwest (Malanima, 2006a).

Different explanations have been offered for the growing inequality of income. Kuznets's original insight was that changes in sectoral composition and increases in the urbanization ratio may in themselves have led to growing inequality; in a simple "unlimited supply of labor" model, in which real wages in the urban sector are determined by low productivity in agriculture, "modern economic growth" will initially result in an increase in income inequality, until about 50 percent of the wages earners are in the urban sector or until real wages begin to increase substantially because of the drying up of the labor surplus in agriculture. The real-wage evidence reviewed here suggests that such a turning point occurred in the post-1850 (or even 1870) period, when real-wage growth accelerated. A different interpretation of the Kuznets curve has been supplied by Williamson (1985) in his study of British capitalism; he saw as the driving force the "race between technology and education" (already analyzed by Tinbergen (1975). During the first stages of the industrialization process, the increased demand for skilled labor led to an increase in the skill premium, driving up income inequality. Williamson argued that education expansion seriously lagged behind the demand for skills during this early period, and that only after a few generations was the supply of skills sufficiently large to result in a decline in skill premia. The evidential basis for this analysis has been questioned, however, by Feinstein (1998). Finally, there is probably a political economy story here as well: the rise of parliamentary democracy during the (second half of) the nineteenth century, and in particular the extension of the franchise to middle and lower social classes, had important consequences for government policies. It led, for example, to a growing supply of education,

resulting in a further acceleration of growth (Lindert, 2004), and to social programs aimed at transferring income to the lower classes (Acemoglu and Robinson, 2005; for a case study of the Netherlands, see van Zanden and van Riel, 2004). Again, the third quarter of the nineteenth century was probably the turning point: the “social question” that emerged in the consciousness of European politicians after 1848 – the long-term question of how to integrate the “proletariat” into the political system – led in many countries to the gradual reforms that helped to stem the tide of rising inequality. Not all states responded in this way, however; where the checks and balances of parliamentary democracy were absent or weak, as was the case outside western Europe, the road to reform was not equally available. The evidence we have presented also indicated, however, that economic growth and the increases in the already existing inequalities did not occur to the same extent outside western Europe.

Conclusion

This assessment demonstrates that Friedrich Engels was addressing real concerns about the growing inequality and the continued poverty of the mass of the British working population, but that he was not entirely correct on all counts. It is clear that economic growth accelerated during the 1700–1870 period – in northwestern Europe earlier and more strongly than in the rest of the continent; that real wages tended to lag behind (and again, were higher in the northwest than elsewhere); and that real improvements in other indicators of the standard of living – height, infant mortality, literacy – were often (and in particular for the British case) even more delayed. The fruits of the Industrial Revolution were spread very unevenly over the continent – both in spatial terms (but that is perhaps not altogether surprising, since the Industrial Revolution emerged in one corner of Europe), and in socio-economic terms. Spatial inequality increased, and social inequality exploded, in particular in those parts of Europe that profited most from the new industrial age (Williamson, 1985). This increase in inequality came on top of an already rising inequality in the distribution of income and wealth, the result of economic expansion and urbanization in the centuries before 1700. It should also be added, however, that many of the basic patterns of rising intra- and inter-country inequality that we have examined in this chapter began to be reversed between 1870 and 1914, but that is a story for another chapter.

Industrialization in western Europe did therefore occur in an environment of high income inequality, and tended to sharpen it. Theorists who have sought to understand the links between inequality and growth can therefore not refer to western Europe as an example of growth occurring in an environment of low

income or low wealth inequality. This statement has to be qualified, however; in terms of political rights, and the protection of their property rights, citizens of western Europe may have been better off than the inhabitants of other parts of the world. In the wake of the “Atlantic Revolution” and of course in particular of the French Revolution, new concepts of citizenship developed which – in theory at least – gave the citizens of western Europe increased political rights, a change that was not really undone by the conservative movement that dominated national and international politics in the decades after 1815. The price paid was that traditional ways of organizing a “voice” – through guilds, cities, and other corporations – were suppressed. Again, the rather difficult transformation of political systems occurring in the 1776–1848 period laid the basis for the real progress that was made during the second half of the nineteenth century.