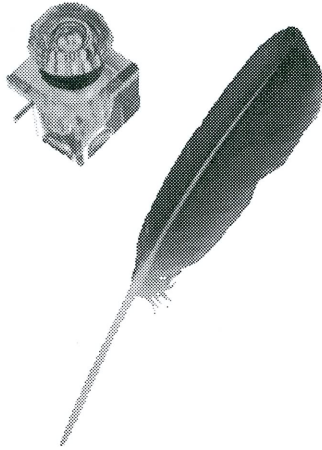


Standards of Living in Britain During the Industrial Revolution (1770-1820)

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INTRODUCTION 1770-1820

There can be no doubt that the proletariat's lifestyle changed the most as a result of the Industrial Revolution. This can be seen clearly through quantitative and qualitative evidence from the period between 1770 and 1820. It was only after 1820, that the level of real wages earned by the working class in Britain began to improve. The rate at which it increased is also heavily debated. Williamson argues that average real wages of adult males nearly doubled between 1820 and 1850.¹

Economic historians were quick to dispute his findings and Feinstein ascertained that real wages merely increased 15% during this same time period.² There are also others such as Ashton who believe that the positive and negative effects of the Industrial Revolution

cannot be generalized and must be examined on a case-by-case basis according to industry and region.³ Many believe that there was a wide disparity between earnings in the south compared with wages in the north of Britain.⁴ Evidence can be found to argue the standard of living debate from a number of different angles but I will focus on the beginning stages of the Industrial Revolution and map wage growth compared to cost of living indexes. I will also examine the degree in which the proletariat's standard of living changed as a result of industrialization with respect to more qualitative aspects of living such as human development, workers rights and living conditions.

QUANTITATIVE FACTORS OF INDUSTRIALIZATION

A) WAGE GROWTH

The argument of wage growth has been heavily debated in recent years by economic historians. There have been arguments concerning the degree in which wages increased from Feinstein's pessimistic viewpoint to Williamson's highly debated optimistic stance, but there is clear consensus that wages did increase from 1770 to 1820 but at a much slower rate than between the period of 1820 to 1850. This paper will focus primarily on Feinstein's estimates of income, cost of living and real wages. Lindert and Williamson state that, "it is unreasonable to conclude that the average worker was much better off in any decade from the 1830's on than in any decade before 1820."⁵

Botham and Hunt believe that economic historians should be cautious and not over-generalize findings across an entire country

¹ J. G. Williamson, "Why Was British Growth So Slow During the Industrial Revolution?" *Journal of Economic History* 44, no.1 (1984), 687.

² C. H. Feinstein, "Pessimism Perpetuated: Real Wages and the Standard of Living in Britain During and After the Industrial Revolution," *Journal of Economic History* 58, no.3 (1998), 625.

³ T. S. Ashton, "The Standard of Life of the Workers in England, 1790-1830," in F. A. Hayek, ed. *Capitalism and the Historians* (1954), 152.

⁴ F. W. Botham & E. H. Hunt, "Wages in Britain During the Industrial Revolution," *Economic History Review* 40, no.3 (1987), 382.

⁵ P. H. Lindert & J. G. Williamson, "English Workers' Living Standards During the Industrial Revolution: A New Look," *Economic History Review* 36, no.1 (1983), 12.

or time period. They believe that regional differences were high with respect to the positive and negative effects of industrialization and can be most clearly seen through their research of the county of North Staffordshire.⁶ It was only after 1820 that a steady rise in nominal wages was accompanied by stabilization in the cost of living that brought about improvements in the real wage. They believe that the relationship between industrialization and wages is highly related to the supply and demand of labour within any given region.⁷

Feinstein's estimates for wage growth in Britain show a clear trend in steady wage increases between 1770 and 1820. Feinstein's data is believed to be the most accurate estimate of wage growth and although generalized in nature,⁸ gives an accurate summation of wage data for further comparisons.

A) COST OF LIVING INDEXES

As demonstrated earlier, workers in Britain began to experience slight increases in their nominal wages during the period of 1770 to 1820. Had this increase been accompanied by stabilization in the cost of living then industrialization would have resulted in a steady rise in living standards much like Britain's experience after 1820 and primarily up to 1850. Feinstein explains that during the early stages of industrialization "an unprecedented doubling of the population of England... and a succession of harvest failures caused by abnormal weather conditions"⁹ caused the cost of food to rise dramatically, bringing a large increase in the cost of living.

The cost of living for the working class was highly sensitive to changes in the price of food.¹⁰ As population rose sharply within Britain, the demand for foodstuffs increased dramatically. This increase in demand was sharply offset by decreasing supplies due to adverse weather conditions. There emerged a great need for Britain to expand its imports of agricultural products to counter the rising prices in food. Difficulties rose as the price of textile exports began to drop in relation to agricultural imports and the terms of trade in Britain began to deteriorate. As time passed, it became increasingly costly to import adequate supplies of food from abroad to satisfy the demand of the growing British population.

Feinstein constructs a new cost of living index for this period by measuring the prices in Britain of 12 types of food and prices of fuel, clothing and rent. Many previous indexes failed to take prices of rent into consideration and his index will be used to show the rising costs of living experienced by the working class over this time period. In addition, Feinstein's index is reflective of the budgetary allocations of the typical working class family. Previous indexes were more general in nature and reflected the consumption patterns of the overall population including highly skilled workers and the upper classes. Feinstein allocates the following percentages to each consumption commodity: Food (69%), rent (10%), fuel (4%), light (1%), drink (10%) and clothing (6%).¹¹ This cost of living index demonstrates the degree in which the working class was sensitive to changes in the price of foodstuffs in particular bread, flour and

⁶ F. W. Botham & E. H. Hunt, "Wages in Britain During the Industrial Revolution," *Economic History Review* 40, no.3 (1987), 385.

⁷ Ibid.

⁸ Ibid.

⁹ C. H. Feinstein, "Pessimism Perpetuated: Real Wages and the Standard of Living in Britain During and After the Industrial Revolution," *Journal of Economic History* 58, no.3 (1998), 628.

¹⁰ C. H. Feinstein, "Pessimism Perpetuated: Real Wages and the Standard of Living in Britain During and After the Industrial Revolution," *Journal of Economic History* 58, no.3 (1998), 637.

¹¹ C. H. Feinstein, "Pessimism Perpetuated: Real Wages and the Standard of Living in Britain During and After the Industrial Revolution," *Journal of Economic History* 58, no.3 (1998), 635.

oatmeal, which accounted for over 60% of food expenditures or approximately 40% of the overall expenditures of the working class.¹² Food prices rose dramatically between 1780 and 1820. It is clear that as food prices increased, the working class were forced to reduce their consumption of other goods and relocate to smaller dwellings. During this period, Feinstein states that nominal earnings kept roughly in step with the rising cost of living, but that the overall result was stagnant real wages.¹³

B) REAL WAGES

Feinstein's estimates of income and cost of living converge to give a quantitative estimate of living standards in Britain. A conflicting nature of rising incomes emerged and was countered by an increasing cost of living, resulting in stagnant real wage growth. Although real wages are not an absolute means to answering the standard of living debate, they are in fact a good indicator regarding the ability of the working class to increase their utility as a result of consumption. During the classical stage of the Industrial Revolution, it can be seen that the working class did not dramatically improve their ability to consume as a result of rising nominal wages.

An important consideration when examining wage growth in Britain is whether the observed increase in nominal wages was as a result of increasing productivity, a rising cost of living or simply a result of longer working hours. It is plausible to concede that workers were forced to work longer hours because of the high supply of labor and the rising cost of living. They simply had no choice but to work 18 hour shifts and sacrifice their family life and leisure time to support their family in the face of rising costs of living. Because nominal income is not based on an average

¹² Ibid.

¹³ C. H. Feinstein, "Pessimism Perpetuated: Real Wages and the Standard of Living in Britain During and After the Industrial Revolution," *Journal of Economic History* 58, no.3 (1998), 643.

hourly rate, it is possible to conclude that real wages may be inflated somewhat at the expense of a decreased standard of living resulting from longer days at the factory.

QUALITATIVE FACTORS OF INDUSTRIALIZATION

A) RURAL-URBAN MIGRATION

The years between 1770 and 1820 in Britain were characterized by the first stages of industrialization and a dramatic increase in the rate of rural-urban migration. During the late 18th century, a mass influx of low skilled workers penetrated the cities of Britain in search of work. Agricultural productivity was increasing and seasonal farm laborers were being displaced from the land and flowed into the urban centers. By the end of the 19th century, nearly 1/3 of Britain's population lived in cities.

The high supply of unskilled labor in the urban centers helped to keep wages profitably low for the factory owners that demanded their employment. During this period, capital was highly mobile as the working class was on a subsistence level and could not afford to own their own dwellings. Because of this high mobility of labor, workers would migrate with families from city to city in search of the best possible employment and a suitable environment in which to raise their families.

B) WORKER'S RIGHTS

During this period, laborers had no power of collective bargaining and were often treaded upon by the capitalists who reaped the rewards of high profits due to rising productivity and low wage growth. Prior to the industrialization, the majority of low skilled workers were farm laborers. They worked to support their families by growing their own food, working for others during harvest season and operating craft workshops during the off season. This cottage industry helped to subsidize the incomes of farmers,

but the transition to wage earning during industrialization kept the laborers at a mere subsistence level. The working class was unable to save or invest to advance to higher levels of class within British society. They were unable to collectively organize to bring about improvements in the conditions of the workplace and wages remained relatively depressed throughout the classical stage of the Industrial Revolution.

C) THE CLASS DIVIDE

Another impact of industrialization was a deepening divide between the classes. Before industrialization, there was communication between master and servant (or apprentice). Industrialization brought about an end to this interaction as the relationship changed from provider (capitalist) to servant (wage earner). This led to rising ignorance of the living conditions of the very poor. The workplace began to be more fragmented and growing resentment occurred as a result of the dissatisfaction of the working classes.

D) STATURE

Crafts explain that the trend in heights across a population could be a more accurate indicator of economic welfare than monetary indicators such as income per capita and real wages. He also infers that changes in stature can also reflect work effort and the influence of disease and nutrition on the working class.¹⁴ Crafts uses data obtained from height surveys conducted by military recruiters in England for men between the ages of 20 and 23 to demonstrate the trend in heights in Britain during this time period.

There were distinct differences across years for the data obtained. The heights of those

surveyed between 1760 and 1800 were approximately 168 cm. Heights began to improve after 1800 and until 1830 where the observed height was approximately 170 cm. A surprising change occurs in 1850 as heights drop dramatically over twenty years to approximately 165 cm.¹⁵ Taking into account the time lag involved in such an analysis, the preliminary evidence reflects the fact that there were factors leading to a decrease in height as a result of conditions between the late 18th century and early 19th century. It is debatable whether these observed changes were as a result of declining standards of living; however, the evidence is provocative and warrants more in depth analysis to explain the observed trend.

E) QUALITY OF HOUSING AND ACCESS TO FOOD

There was difficulty obtaining food (in particular meat) and affordable rental housing for much of the working class within Britain. Often, families were unable to afford proper housing and were forced to live in deplorable conditions sharing one family rentals between upwards of 20 people. It was not uncommon to find entire families sharing a single bed as wages were simply not high enough to accommodate a better lifestyle.¹⁶ Crafts observes that comparisons between 19th century Britain and Europe point to disappointing mortality conditions. He states that this difference in mortality rates can be correlated in considerable part due to unusually rapid industrialization and the growth of cities.¹⁷

¹⁵ N. F. R. Crafts, "Some Dimensions of the 'Quality of Life' During the British Industrial Revolution," *Economic History Review* 50, no.4 (1997), 623.

¹⁶ P. H. Lindert & J. G. Williamson, "English Workers' Living Standards During the Industrial Revolution: A New Look," *Economic History Review* 36, no.1 (1983), 7.

¹⁷ N. F. R. Crafts, "Some Dimensions of the 'Quality of Life' During the British Industrial

¹⁴ N. F. R. Crafts, "Some Dimensions of the 'Quality of Life' During the British Industrial Revolution," *Economic History Review* 50, no.4 (1997), 619.

Infrastructure was also poor during the classical era of industrialization and this contributed to poor sanitation and rampant water-borne diseases such as typhoid fever. It wasn't until the 1850's that city infrastructure began to improve and the spread of disease began to subside. Urban living was certainly bleak for those who dared to venture into the slums surrounding the factories. Polluting smokestacks spilled toxins and ash into the air and houses were often erected on factory land in order to facilitate a reliable source of labor.

F) SOCIAL WELFARE

Social welfare also changed for the working classes as compared to pre-industrialized Britain. Prior to 1770, there was a greater degree of social welfare prevalent in the agrarian communities. During poor harvests, many families could depend on their neighbors and community to provide assistance during times of need. During industrialization, workers relied on wages and were often displaced from their homes if the primary wage earner was afflicted with an illness and could not continue to work. The other members of the community were at a subsistence level and were more often than not unable to provide assistance to an afflicted neighbor. Factory owners were unconcerned with the needs or lifestyle of their workers as they could simply substitute a sick worker with a healthy worker due to the abundant supply of labor.

Women and children were often forced to work to make ends meet; however, their wages were only fractionally as high as the typical adult male wage. Williamson and Lindbert state that, "the rise of their employment in mills and mines is deplored as much today as it was during the public outcry prior to the Factory Acts. The increasing

dependence of working-class families on the earnings of children, and the shifting of both children and single young women from the authority of fathers to the discipline of capitalists, are thought to have undermined traditional family roles and fathers' self-esteem."¹⁸

H) REGULARITY IN THE

WORKPLACE

Another qualitative impact of industrialization was the tyranny of the clock that low-skilled workers had to contend with. Prior to industrialization, laborers worked by the season and could produce crafts in between harvest seasons. They quickly learned that punch clocks and time stamps would now govern their lives. Seasons were reduced to minutes and seconds and they were often restricted through long hours from spending quality time with their families. The lives of workers were undergoing a degree of dehumanization at the expense of the capitalists as they were forced to perform repetitive tasks under the watchful eye of the factory foremen.

I) HUMAN DEVELOPMENT INDEX

Economic historians have increasingly attempted to construct human development indexes to analyze the living standards of the British population during the Industrial Revolution. Crafts was successful in constructing a human development index for Britain from 1760-1850. He includes the following parameters in his index: Stature, life expectancy, infant mortality, literacy, years of schooling and political and civil rights. Crafts observes an increase in HDI

Revolution," *Economic History Review* 50, no.4 (1997), 634.

¹⁸ P. H. Lindert & J. G. Williamson, "English Workers' Living Standards During the Industrial Revolution: A New Look," *Economic History Review* 36, no.1 (1983), 17.

from 0.272 in 1760 to .337 in 1820.¹⁹ This increase is primarily due to falling rates of infant mortality, increasing literacy and rising income per capita figures.

The index shows trends in the overall welfare across the population, but it is not the best indicator of trends in the living standards of the proletariat. For instance, many working class families could not afford to have their children attend school because they had to work in the factories and mills for fractional wages. Income per capita is also a poor indicator of economic welfare for the working class because it reflects the rising incomes of the upper classes and it tends to overestimate the incomes of general laborers.²⁰ Although the index may be biased in nature, it does show a trend in improving conditions over time that materialize for the working class in the years after 1820.

CONCLUSION

During the Classical era of industrialization in Britain, the quality of living of the working class eroded dramatically compared to life in rural settings. When making conclusions concerning the living standards of the working class in Britain, a proper balance must be made between the quantitative and qualitative aspects of industrialization. Williamson and Lindert contend that it is difficult to match figures associated with the monotony of work, the disruption of traditional family values and the noise, filth and crowding of urban slums.²¹ This period

was definitely the golden age for the capitalists as they grew in wealth at the expense of the working classes. It wasn't until after 1820 that real wages began to improve and working conditions began to change. Any great development must come at a cost. Workers during this period suffered greatly and paid the costs of industrialization through great sacrifices. Although wages kept roughly in line with increasing cost of living, it can be clearly seen that the period of industrialization between 1770 and 1820 was a definitely a dark era for the working class proletariat.

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¹⁹ N. F. R. Crafts, "Some Dimensions of the 'Quality of Life' During the British Industrial Revolution," *Economic History Review* 50, no.4 (1997), 623.

²⁰ N. F. R. Crafts, "Some Dimensions of the 'Quality of Life' During the British Industrial Revolution," *Economic History Review* 50, no.4 (1997), 618.

²¹ P. H. Lindert & J. G. Williamson, "English Workers' Living Standards During the Industrial Revolution: A New Look," *Economic History Review* 36, no.1 (1983), 21.

Appendix

Figure #1 ²²

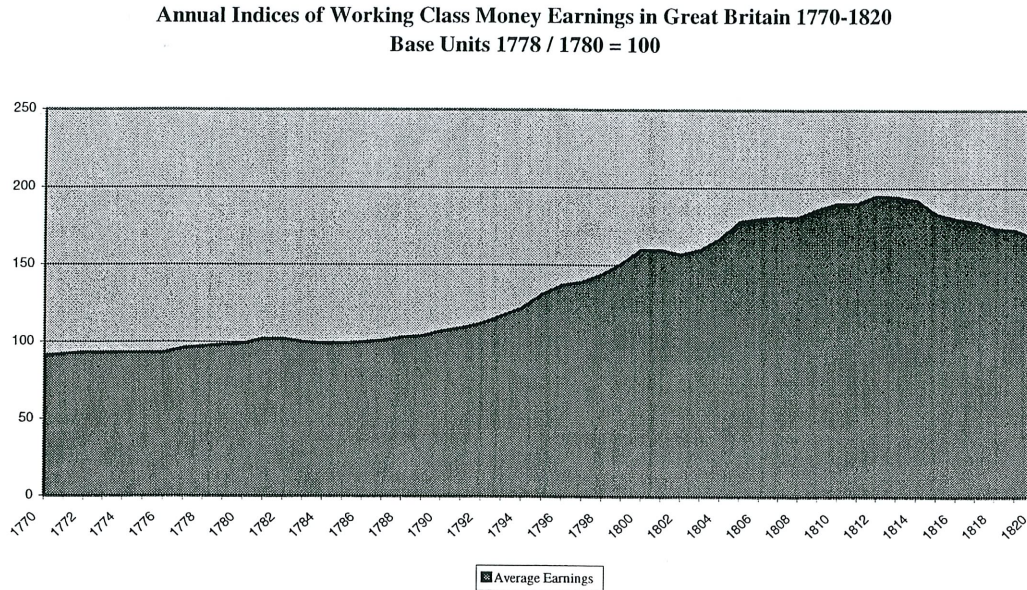
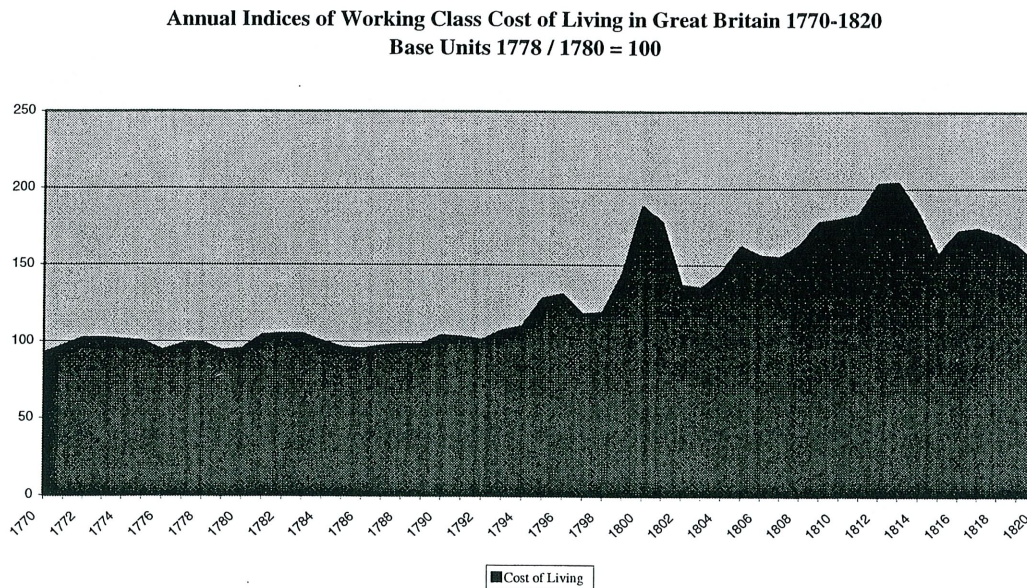


Figure #2 ²³



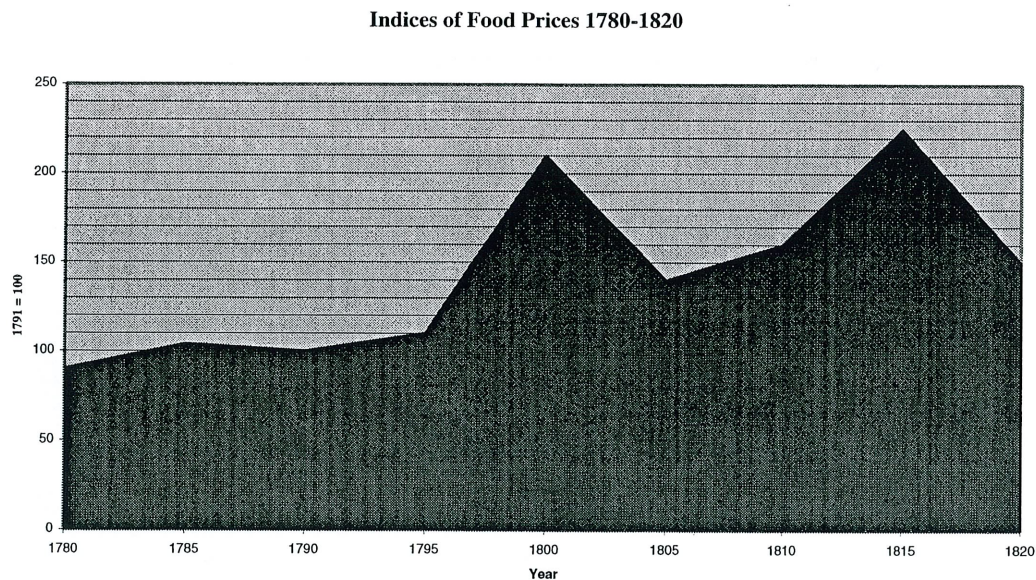
²² C. H. Feinstein, "Pessimism Perpetuated: Real Wages and the Standard of Living in Britain During and After the Industrial Revolution," *Journal of Economic History* 58, no.3 (1998), 652.

²³ C. H. Feinstein, "Pessimism Perpetuated: Real Wages and the Standard of Living in Britain During and After the Industrial Revolution," *Journal of Economic History* 58, no.3 (1998), 652.

Figure #3 ²⁴



Figure #4 ²⁵



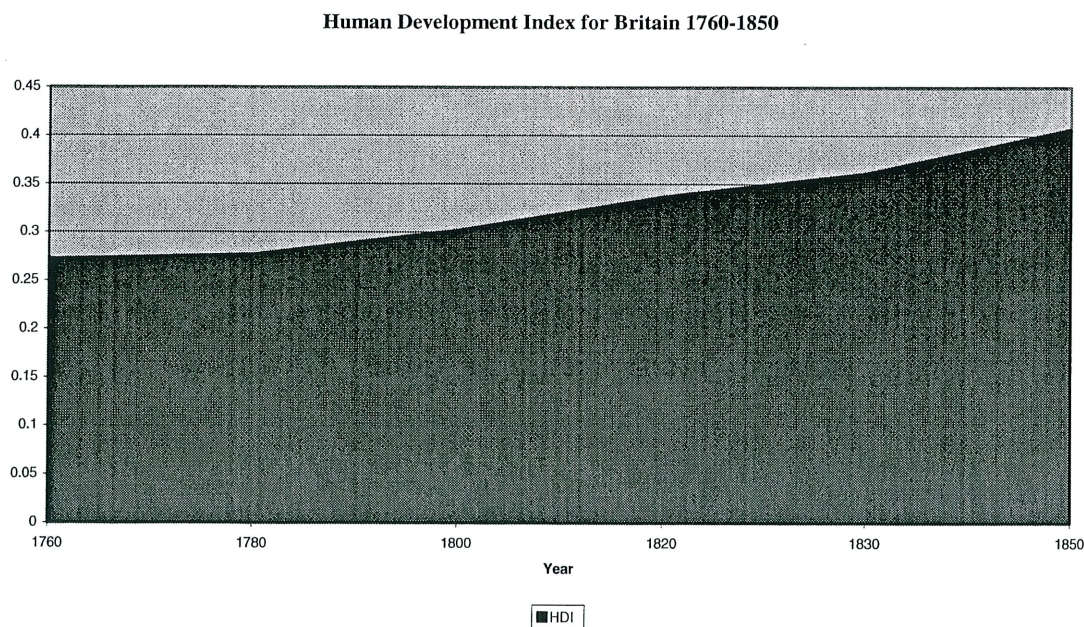
²⁴ C. H. Feinstein, "Pessimism Perpetuated: Real Wages and the Standard of Living in Britain During and After the Industrial Revolution," *Journal of Economic History* 58, no.3 (1998), 652.

²⁵ C. H. Feinstein, "Pessimism Perpetuated: Real Wages and the Standard of Living in Britain During and After the Industrial Revolution," *Journal of Economic History* 58, no.3 (1998), 637.

Figure #5 ²⁶



Figure #6 ²⁷



²⁶ P. H. Lindert & J. G. Williamson, "English Workers' Living Standards During the Industrial Revolution: A New Look," *Economic History Review* 36, no.1 (1983), 12.

²⁷ N. F. R. Crafts, "Some Dimensions of the 'Quality of Life' During the British Industrial Revolution," *Economic History Review* 50, no.4 (1997), 625.