Economics 303Y1

The Economic History of Modern Europe to 1914

Topic No. 6: [10]

The Social Consequences of Urban Industrialization, ca. 1770-1840: The British Standard of Living during the Industrial Revolution

READINGS:

All readings are listed in the chronological order of original publication, when that can be ascertained, except for collections of readings (listed in order of the publication of the volumes).

You are expected to read at least two articles or essays: preferably selecting from those by Hobsbawm, Hartwell, Lindert, Williamson, von Tunzelmann, Mokyr, Hunt, Crafts, Flinn, Taylor, etc., as indicated by the asterisks. Some of these contributions, if not the most recent, may also be found in one or more of the essay collections.

Notes:

(1) On econometrics and economic history:

Students without a strong background in econometrics and micro-economic theory (i.e. most students) will generally find those essays written before 1974/75 easier to read than those written subsequently. For this reason, the essays in this debate have been segregated between those written before and after 1974/75: in sections B and C below.

(2) Marxists vs. Conservatives:

The earliest views on this debate were dominated by those socialist opponents of industrial capitalism, most especially Karl Marx and his followers; and much later, their views provoked a conservative reaction, led principally by T.S. Ashton in the post-WW II era. Subsequently, from the late 1950s, the classic debate came to be that between the Marxist economic historian Eric Hobsbawm (of ‘General Crisis’ fame) and the conservative economic historian R.M. Hartwell, and their respective ideological followers. Since the mid-1970s, this debate, relying more and more on econometric analyses of the available data, has been rather less politically motivated, though hardly free from the traditional left-right split on these social issues.
A. **Collections of Essays**: in chronological order of publication.

   
   
   
   
   (c) J.L. and Barbara Hammond, ‘The Industrial Revolution: The Rulers and the Masses’, pp. 34-44.
   
   
   
   
   (g) J. D. Chambers, ‘Enclosures and the Rural Population: A Revision’, pp. 74-84.
   


   
   
   
   
   
   


(c) George Mingay, ‘The Transformation of Agriculture’, pp. 23-60.


   (c) W. A. Cole, ‘Factors in Demand, 1700-80', pp. 36 - 65.

(c) Joel Mokyr, ‘Demand vs. Supply in the Industrial Revolution’, pp. 97 - 118.
(g) E. G. West, ‘Literacy and the Industrial Revolution’, pp. 227-40.


h) Stanley L. Engerman, ‘Mercantilism and Overseas Trade, 1700 - 1800’, pp. 182-204.
m) Jeffrey Williamson, ‘Coping With City Growth’, pp. 332-56.


d) R. V. Jackson, ‘What Was the Rate of Economic Growth During the Industrial Revolution?’ pp. 79-95.


a) Joel Mokyr, ‘Accounting for the Industrial Revolution’, pp. 1-27


B. The Traditional Debate in Articles and Essays: from 1936 to 1974/5:

The classic, and non-mathematical readings: in chronological order of publication, to about 1974/5.


(a) A.J. Taylor, ed., The Standard of Living in Britain (1975), pp. 36-57.

(b) P.A.M. Taylor, ed., The Industrial Revolution in Britain: Triumph or Disaster? (1958): excerpts only as ‘Workers Living Standards’, pp. 45-56.


In chronological order of publication, from 1974/75.


3. T.R. Gourvish, ‘Flinn and Real Wage Trends in Britain: A Comment’, and:
   M.W. Flinn, ‘Real Wage Trends in Britain, 1750-1850: A Reply’, both in:


A reconsideration and reconstructed analysis of the data in:


20. Peter H. Lindert and Jeffrey Williamson, ‘Revising England's Social Tables, 1688-1812’, Explorations in Economic History, 19 (1982), 385-408. See also the following.


In connection with this article, see also the following:


27. Michael Flinn, ‘English Workers' Living Standards During the Industrial Revolution: A Comment’, and:

Peter Lindert and Jeffrey Williamson, ‘Reply to Michael Flinn’, both in:


In this same volume, see also:

(a) Joel Mokyr, ‘The Industrial Revolution and the New Economic History’, pp. 38 - 44, with comments on the Standard of Living Debate in the introduction to this volume.


50. Douglas A. Irwin, ‘Was Britain Immiserized during the Industrial Revolution?’ Explorations in Economic History, 28 (January 1991), 121-24. A brief note, with a mathematical model based on Britain’s export sector, concluding that ‘the possibility that Britain was immiserized during this period can be ruled out in general...’


58. Charles Feinstein, ‘Changes in Nominal Wages, the Cost of Living, and Real Wages in the United Kingdom Over Two Centuries,’ in P. Scholliers and Vera Zamagni, eds., Labour’s Record: Real Wages and Economic Change in Nineteenth and Twentieth-Century Europe (Aldershot, 1995), pp. 3-36.


** 72. Hans-Joachim Voth, ‘Living Standards and the Urban Environment’, in Roderick Floud and


D. *Other Economic and Social Aspects of the Standard of Living Debate and the Problems of Poverty:*

* see also section E. on the Poor Laws,

The Determination and Distribution of Real Wages: Innovations, Changing Patterns of Investment, Consumption, Income Distribution, Health and Nutrition, Physical Living Conditions, Urbanisation, Taxation; and also Regional or Class Studies:


19


55. Joel Mokyr and Cormac O Grada, ‘Poor and Getting Poorer? Living Standards in Ireland


   (d) E. A. Wrigley, ‘Some Reflections on Corn Yields and Prices in Pre-Industrial Economies’, pp. 235 - 78.


64. John Komlos, Nutrition and Economic Development in the Eighteenth-Century Habsburg Monarchy: An Anthropometric History (Princeton, 1989). With some methodological implications for the British standard of living debate. See also the following:

65. J. C. Riley, Sickness, Recovery and Death: A History and Forecast of Ill Health (London:
21


49 (1996), 541-60.


123. Deborah Oxley, ‘“Pitted But not Pitied”, or Does Smallpox Make You Small?’, The Economic History Review, 2nd ser., 59:3 (August 2006), 617-635.


E. The Poor Law and the Problem of Chronic Poverty


4. Sidney and Beatrice Webb, The Prevention of Destitution (London: Longmans Green,
1912).


36. George R. Boyer, ‘Poor Relief, Informal Assistance, and Short Time during the Lancashire
Cotton Famine’, *Explorations in Economic History*, 34:1 (January 1997), 56-76.


**F. The Employment of Women and Children during the Industrial Revolution: Social Issues**


18. Michael Lavalette, ed., A Thing of the Past? Child Labour in Britain in the Nineteenth and


33


G. Anthropometric Studies Concerning Fertility, Stature, and the Standard of Living Debate


F. **British Living Standards in Rural/Agrarian Society, 1760 - 1850**


Other Studies in Labour, Social, and Related Aspects of Economic History:


   

   (b) Roy Church, ‘Gravener Henson and the Making of the English Working Class’, pp. 131-60.


   


37. Peter Bartrip, ‘Success of Failure? The Prosecution of the Early Factory Acts’ and
   Clark Nardinelli, ‘The Successful Prosecution of the Early Factory Acts’, and

   A. E. Peacock, ‘Factory Act Prosecutions: A Hidden Consensus’, all in:


65. Roderick Floud and Donald McCloskey, eds., The Economic History of Britain Since 1700, Volume 1: 1770 - 1860 (Cambridge: Cambridge University Press, 1994). For a list of the essays included, see above section A.8


70. Michael Huberman, Escape from the Market: Negotiating Work in Lancashire (Cambridge


H. **General Surveys and Textbooks**: in chronological order.


  7. Eric J. Hobsbawm, Industry and Empire, in the Pelican Economic History of Britain,


   
   
   


I. **Supplementary: Some Statistical Sources**


now been challenged (by Crafts, Harley, and other).

Debate Topic:

‘Resolved that the processes of modern industrialization depressed the living standards of the English working classes, ca. 1790 - ca. 1840.

QUESTIONS:

1. Did the British standard of living, or more precisely real incomes, rise or fall over this whole period? Or were there rises and falls within the period under debate? What is the overall balance: gains or losses for the workers?

2. More particularly, what was the course of real incomes and real wages of the working classes in the following periods: (a) 1770-1790; (b) 1790-1820; (c) 1820-1830; (d) 1830-1840; (e) after 1840?

3. In terms of income (and occupational wage) distributions, what distinctions can be made in these periods about the following:

(a) per capita incomes on a national basis and the real incomes of the working classes;

(b) urban and rural, industrial and agricultural labourers;

(c) workers in those industries participating in the ‘industrial revolution’ itself and those in industries or crafts relatively unaffected by modern industrialization in these periods; in particular urban factory workers compared to rural industrial workers;

(d) skilled workers & unskilled workers, urban and rural;

(e) the various regions of Britain: London, the South-East and South-West of England, the Midlands, Lancashire, Yorkshire, Wales, Southern Scotland.

4. Was the Industrial Revolution financed ‘at the expense of the working classes’--by ‘exploitation of labour’ (or increased exploitation of labour), in Marxist or non-Marxist terms? In that the levels of capital formation were increased over these periods, whose current consumption was sacrificed or postponed (if any)?

5. What was the more important factor in determining the real incomes of the working classes in this era (or during these periods): the movement of money wages, the course of prices, or taxation (in terms of real disposable incomes)?

6. What had the more powerful influence on consumer prices during these periods: monetary inflation and deflation, taxation, population changes, the weather and harvests, warfare, industrialization and agricultural advancement?

7. If you argue that population growth, ‘Malthusian pressures’, constituted an important variable in determining real wages, was that population growth the result of the processes of industrialization or was it independent of those forces?
8. Apart from the question of real wages, what were the other major factors affecting the ‘standard of life’ of the urban working classes in this period? What were the major social consequences of urban industrialization? Were workers of the pre-Industrial Revolution era better or worse off in the working, living, and general social conditions?

9. On balance, to what extent did industrialization affect the standard of living of the working classes; and to what extent did factors other than industrialization affect living standards?

10. How have recent scholarly contributions employing econometrics, particularly the articles of Jeffrey Williamson and Peter Lindert, changed our perception of the ‘standard of living’ debate? Have we been brought closer to the real truth?

11. What were the Old (1795-1834) and New (post-1834) Poor Laws? What remedies did they seek to provide for what social problems? How successful were they in meeting their objectives--and why did the government replace the Old with the New Poor Law in 1834? How successful were Poor Laws and Factory Legislation in improving the ‘standard of life’ of the working classes in the 19th century?

12. How did industrial trade unions come to be formed in 19th century Britain, and how successful were they in improving the working conditions and standard of living of the working classes?
<table>
<thead>
<tr>
<th>Years</th>
<th>‘Basket of Consumables’ Price Index</th>
<th>Indices of the Purchasing Power of Average Weekly Incomes (normal week) of following workers:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Cotton Factory Workers</td>
<td>Shipbuilding &amp; Engineering</td>
</tr>
<tr>
<td>1770-4</td>
<td>50.8</td>
<td>99.8</td>
<td>99.0</td>
</tr>
<tr>
<td>1775-9</td>
<td>49.8</td>
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<td>50.1</td>
<td>119.8</td>
<td>140.0</td>
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<td>52.9</td>
<td>113.0</td>
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<td>1790-4</td>
<td>56.3</td>
<td>108.7</td>
<td>137.7</td>
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<tr>
<td>1795-9</td>
<td>68.3</td>
<td>108.7</td>
<td>126.2</td>
</tr>
<tr>
<td>1800-4</td>
<td>90.5</td>
<td>77.1</td>
<td>97.2</td>
</tr>
<tr>
<td>1805-9</td>
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</tr>
<tr>
<td>1810-4</td>
<td>108.1</td>
<td>93.3</td>
<td>92.4</td>
</tr>
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<td>1815-9</td>
<td>91.9</td>
<td>108.5</td>
<td>109.7</td>
</tr>
<tr>
<td>1820-4</td>
<td>73.3</td>
<td>132.5</td>
<td>136.5</td>
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<td>1825-9</td>
<td>89.3</td>
<td>117.7</td>
<td>125.5</td>
</tr>
<tr>
<td>1830-4</td>
<td>71.0</td>
<td>129.7</td>
<td>141.4</td>
</tr>
<tr>
<td>1835-9</td>
<td>72.2</td>
<td>126.2</td>
<td>141.2</td>
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<tr>
<td>1840-4</td>
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</tr>
<tr>
<td>1845-9</td>
<td>69.9</td>
<td>130.8</td>
<td>148.7</td>
</tr>
</tbody>
</table>

**SOURCES:**


(b) Average weekly money incomes of cotton factory workers, compositors, and those in shipbuilding & engineering and agriculture, calculated from indices (recalculated to base 1810-9) in B.R. Mitchell and P. Deane, *Abstract of British Historical Statistics* (London, 1962), 348-9. [The indices of money incomes so adjusted were divided by the price index given in column 1, the Phelps-Brown & Hopkins ‘basket’.]
TABLE 2
Wages and the Standard of Living in 18th Century England
Indices of Money and Real Wages of Labourers in London and Lancashire in decennial averages, 1700 - 1796 (Average of 1700-09 = 100)

<table>
<thead>
<tr>
<th>Decade</th>
<th>Cost of Living</th>
<th>LONDON WAGES</th>
<th>LANCASHIRE WAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Money</td>
<td>Real</td>
</tr>
<tr>
<td>1700-9</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>1710-9</td>
<td>104.0</td>
<td>102.3</td>
<td>98.4</td>
</tr>
<tr>
<td>1720-9</td>
<td>99.6</td>
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<td>1760-9</td>
<td>110.7</td>
<td>112.5</td>
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<td>1770-9</td>
<td>125.8</td>
<td>112.4</td>
<td>89.3</td>
</tr>
<tr>
<td>1780-9</td>
<td>130.8</td>
<td>115.2</td>
<td>88.1</td>
</tr>
<tr>
<td>1790-9</td>
<td>149.7</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation</th>
<th>1755</th>
<th>1781</th>
<th>1797</th>
<th>1805</th>
<th>1810</th>
<th>1815</th>
<th>1819</th>
<th>1827</th>
<th>1835</th>
<th>1851</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1L) Farm laborers</td>
<td>17.18</td>
<td>21.09</td>
<td>30.03</td>
<td>40.40</td>
<td>42.04</td>
<td>40.04</td>
<td>39.05</td>
<td>31.04</td>
<td>30.03</td>
<td>29.04</td>
</tr>
<tr>
<td>(2L) Nonfarm labor</td>
<td>20.75</td>
<td>23.13</td>
<td>25.09</td>
<td>36.87</td>
<td>43.94</td>
<td>43.94</td>
<td>41.47</td>
<td>43.64</td>
<td>39.29</td>
<td>44.83</td>
</tr>
<tr>
<td>(3L) Messengers &amp; porters</td>
<td>33.99</td>
<td>33.54</td>
<td>57.66</td>
<td>69.43</td>
<td>76.01</td>
<td>80.69</td>
<td>81.35</td>
<td>84.39</td>
<td>87.20</td>
<td>88.88</td>
</tr>
<tr>
<td>(4L) Other gov't low-wage</td>
<td>28.62</td>
<td>46.02</td>
<td>46.77</td>
<td>52.48</td>
<td>57.17</td>
<td>60.22</td>
<td>60.60</td>
<td>59.01</td>
<td>58.70</td>
<td>66.45</td>
</tr>
<tr>
<td>(5L) Police &amp; guards</td>
<td>25.76</td>
<td>48.08</td>
<td>47.04</td>
<td>51.26</td>
<td>67.89</td>
<td>69.34</td>
<td>69.18</td>
<td>62.95</td>
<td>63.33</td>
<td>53.62</td>
</tr>
<tr>
<td>(6L) Colliers</td>
<td>22.94</td>
<td>24.37</td>
<td>47.79</td>
<td>64.99</td>
<td>63.22</td>
<td>57.82</td>
<td>50.37</td>
<td>54.61</td>
<td>56.41</td>
<td>55.44</td>
</tr>
<tr>
<td>(1H) Gov't high-wage</td>
<td>78.91</td>
<td>104.55</td>
<td>133.73</td>
<td>151.09</td>
<td>176.86</td>
<td>195.16</td>
<td>219.25</td>
<td>222.95</td>
<td>234.87</td>
<td>62.74</td>
</tr>
<tr>
<td>(2H) Shipbuilding trades</td>
<td>38.82</td>
<td>45.26</td>
<td>51.71</td>
<td>51.32</td>
<td>55.25</td>
<td>59.20</td>
<td>57.23</td>
<td>62.22</td>
<td>64.12</td>
<td></td>
</tr>
<tr>
<td>(3H) Engineering trades</td>
<td>43.60</td>
<td>50.83</td>
<td>58.08</td>
<td>75.88</td>
<td>88.23</td>
<td>94.91</td>
<td>92.71</td>
<td>80.69</td>
<td>77.26</td>
<td>84.05</td>
</tr>
<tr>
<td>(4H) Building trades</td>
<td>30.51</td>
<td>35.57</td>
<td>40.64</td>
<td>55.30</td>
<td>66.35</td>
<td>66.35</td>
<td>63.02</td>
<td>66.35</td>
<td>59.72</td>
<td>66.35</td>
</tr>
<tr>
<td>(5H) Cotton spinners</td>
<td>35.96</td>
<td>41.93</td>
<td>47.90</td>
<td>65.18</td>
<td>78.21</td>
<td>67.60</td>
<td>67.60</td>
<td>58.50</td>
<td>64.56</td>
<td>58.64</td>
</tr>
<tr>
<td>(6H) Printing trades</td>
<td>46.34</td>
<td>54.03</td>
<td>66.61</td>
<td>71.11</td>
<td>79.22</td>
<td>79.22</td>
<td>71.14</td>
<td>70.23</td>
<td>70.23</td>
<td>74.72</td>
</tr>
<tr>
<td>(7H) Clergy</td>
<td>91.90</td>
<td>182.65</td>
<td>238.50</td>
<td>266.42</td>
<td>283.89</td>
<td>272.53</td>
<td>266.55</td>
<td>254.60</td>
<td>258.76</td>
<td>267.09</td>
</tr>
<tr>
<td>(8H) Solicitors/barristers</td>
<td>231.00</td>
<td>242.67</td>
<td>165.00</td>
<td>340.00</td>
<td>447.50</td>
<td>447.50</td>
<td>447.50</td>
<td>522.50</td>
<td>1166.67</td>
<td>1837.50</td>
</tr>
<tr>
<td>(9H) Clerks</td>
<td>63.62</td>
<td>101.57</td>
<td>135.26</td>
<td>150.44</td>
<td>178.11</td>
<td>200.79</td>
<td>229.64</td>
<td>240.29</td>
<td>269.11</td>
<td>235.81</td>
</tr>
<tr>
<td>(10H) Surgeons &amp; doctors</td>
<td>62.02</td>
<td>88.35</td>
<td>174.95</td>
<td>217.60</td>
<td>217.60</td>
<td>217.60</td>
<td>217.60</td>
<td>175.20</td>
<td>81.89</td>
<td>200.92</td>
</tr>
<tr>
<td>(11H) Schoolmasters</td>
<td>15.97</td>
<td>16.53</td>
<td>43.21</td>
<td>43.21</td>
<td>51.10</td>
<td>51.10</td>
<td>69.35</td>
<td>69.35</td>
<td>398.89</td>
<td>81.11</td>
</tr>
<tr>
<td>(12H) Engineers/surveyors</td>
<td>137.51</td>
<td>170.00</td>
<td>190.00</td>
<td>291.43</td>
<td>305.00</td>
<td>337.50</td>
<td>326.43</td>
<td>265.71</td>
<td>479.00</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:**
- (4L) = watchmen, guards, porters, messengers, Post Office letter carriers, janitors;
- (1H) = clerks, Post Office sorters, ware-housemen, collectors, tax surveyors, solicitors clergymen, surgeons, medical officers, architects, engineers;
- (2H) = shipwrights;
- (3H) = fitters, turners, iron-moulders;
- (4H) = bricklayers, masons, carpenters, plasterers;
- (6H) = compositors.

**SOURCE:**
From Williamson, 1982b, Appendix Table 4.
<table>
<thead>
<tr>
<th>Year</th>
<th>(1) Farm laborers</th>
<th>(2) Bowley's farm laborers</th>
<th>(3) Middle group</th>
<th>(4) Phelps Brown-Hopkins building laborers</th>
<th>(5) Labor aristocracy</th>
<th>(6) Tucker's London artisans</th>
<th>(7) All blue collar</th>
<th>(8) White collar</th>
<th>(9) All workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1755</td>
<td>59.16</td>
<td></td>
<td></td>
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<tr>
<td>1781</td>
<td>72.62</td>
<td>75.5</td>
<td>54.88</td>
<td>48.5</td>
<td>50.86</td>
<td>69.8</td>
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<td>21.62</td>
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<td>1797</td>
<td>103.41</td>
<td>93.9</td>
<td>72.92</td>
<td>66.7</td>
<td>64.86</td>
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<td>32.55</td>
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<td>1805</td>
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<td>87.0</td>
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<td>38.88</td>
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<td>144.76</td>
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<td>110.95</td>
<td>97.0</td>
<td>92.03</td>
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<td>100.00</td>
<td>100.00</td>
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<td>52 weeks' earnings in 1851</td>
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<td>£29.04</td>
<td>£52.95</td>
<td>£42.90</td>
<td>£75.15</td>
<td>n.a.</td>
<td>£52.62</td>
<td>£258.88</td>
<td>£75.51</td>
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</table>

**NOTE:** The indices are aggregated from the finer groups listed in Table 9.1, using wage series from Table 9.2 and employment weights. The employment weights for 1755-1815 draw on Lindert, ‘English Occupations, 1670-1811’, Table 3; while those for 1815-1851 are derived from censuses. The derivations of the employment weights are described in DP, Appendix A.

**SOURCE:** For the three previous series, see Bowley, 1900, table in back; Phelps Brown and Hopkins, 1955; Tucker, 1936, pp. 73-84. The conversion of the Phelps Brown-Hopkins series from daily to annual wages assumed 312 working days a year.
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</tr>
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<td>1831</td>
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<td>1848</td>
</tr>
<tr>
<td>1826</td>
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<td>1949</td>
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<td>1827</td>
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<td>1850</td>
</tr>
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<td>1828</td>
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</table>

Source: DP, Appendix B.

TABLE 6
Trends in Real Adult Male Full-Time Earnings for Selected Groups of Workers
1755-1851

<table>
<thead>
<tr>
<th>Benchmark year</th>
<th>Farm labour</th>
<th>Middle group</th>
<th>Artisans</th>
<th>All blue collar</th>
<th>White collar</th>
<th>All workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1755</td>
<td>65.46</td>
<td>47.54</td>
<td>56.29</td>
<td>56.50</td>
<td>23.93</td>
<td>42.74</td>
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<tr>
<td>1781</td>
<td>61.12</td>
<td>46.19</td>
<td>48.30</td>
<td>50.19</td>
<td>22.24</td>
<td>39.24</td>
</tr>
<tr>
<td>1797</td>
<td>74.50</td>
<td>52.54</td>
<td>46.73</td>
<td>53.61</td>
<td>23.45</td>
<td>42.48</td>
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<tr>
<td>1805</td>
<td>74.51</td>
<td>52.96</td>
<td>42.55</td>
<td>51.73</td>
<td>20.82</td>
<td>40.64</td>
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<tr>
<td>1810</td>
<td>67.21</td>
<td>51.54</td>
<td>42.73</td>
<td>50.04</td>
<td>19.97</td>
<td>39.41</td>
</tr>
<tr>
<td>1815</td>
<td>75.51</td>
<td>57.81</td>
<td>52.18</td>
<td>58.15</td>
<td>25.49</td>
<td>46.71</td>
</tr>
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<td>1819</td>
<td>73.52</td>
<td>54.35</td>
<td>50.26</td>
<td>55.68</td>
<td>27.76</td>
<td>46.13</td>
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<td>75.86</td>
<td>70.18</td>
<td>66.39</td>
<td>69.25</td>
<td>39.10</td>
<td>58.99</td>
</tr>
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<td>91.67</td>
<td>85.97</td>
<td>78.62</td>
<td>84.43</td>
<td>66.52</td>
<td>78.69</td>
</tr>
<tr>
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<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Percentage change, 1781-1851, under three sets of cost-of-living weights and price assumptions

<table>
<thead>
<tr>
<th></th>
<th>Most pessimistic</th>
<th>'Best-guess'</th>
<th>Most optimistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.6%</td>
<td>75.1%</td>
<td>68.0%</td>
<td>61.8%</td>
</tr>
<tr>
<td>63.6%</td>
<td>116.5%</td>
<td>107.0%</td>
<td>99.2%</td>
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<tr>
<td>107.0%</td>
<td>175.3%</td>
<td>164.2%</td>
<td>154.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>520.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>220.3%</td>
</tr>
</tbody>
</table>

Note: The indices in the upper panel use the data in Tables 9.3 and 9.4, as does the row of ‘best-guess’ estimates in the lower panel. The most pessimistic and most optimistic variants are based on relatively unrealistic cost-of-living indices, selected as extreme cases from 16 alternatives. The most pessimistic used a cost of living index combining northern urban expenditure weights with Tucker’s institutional clothing prices and Trentham cottage rents, while the most optimistic used an index combining northern rural weights with export clothing prices and no rents. Again, we prefer the ‘best guess’ index, combining southern urban weights with export clothing prices and Trentham rents.

Source: The 1755 figures are derived by relying on the Phelps Brown-Hopkins index to extend the 1781-1850 series (Table 9.4) backwards.

### Table 7

**Revised Measures of English Workers’ Standard-of-Living Gains, 1781-1851**

<table>
<thead>
<tr>
<th>Source of improvement</th>
<th>Farm laborers</th>
<th>All blue-collar workers</th>
<th>All workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Real full-time earnings (‘Best guess’, Table 9.5)</td>
<td>63.6%</td>
<td>99.2%</td>
<td>154.8%</td>
</tr>
<tr>
<td>a. Due to occupational change (DP, Sec. 6)</td>
<td>(0)</td>
<td>(&lt;5.3%)</td>
<td>(&lt;17.2%)</td>
</tr>
<tr>
<td>b. Due to regional migration (DP, Sec. 7)</td>
<td>(&lt;3.6%)</td>
<td>(&lt;3.6%)</td>
<td>(&lt;3.6%)</td>
</tr>
<tr>
<td>c. Residual: real wage gains within occupations and regions</td>
<td>(&gt;60.0%)</td>
<td>(&gt;90.3%)</td>
<td>(&gt;134.0%)</td>
</tr>
<tr>
<td>2. Diminished by an ‘upper-bound’ rise in unemployment, or &lt;7.4% (see Sec. VI above)</td>
<td>63.6%</td>
<td>&gt;91.8%</td>
<td>&gt;147.4%</td>
</tr>
<tr>
<td>3. Diminished by the shift toward higher urban living costs, or &lt;3.3%*</td>
<td>63.6%</td>
<td>&gt;88.5%</td>
<td>&gt;144.1%</td>
</tr>
<tr>
<td>4. Diminished by urban-industrial disamenities, or &lt;2.5%*</td>
<td>63.6%</td>
<td>&gt;86.0%</td>
<td>&gt;141.6%</td>
</tr>
<tr>
<td>5. Augmented by adult mortality gains, which were not negative (Sec. VIII)</td>
<td>&gt;63.6%</td>
<td>&gt;86.0%</td>
<td>&gt;141.6%</td>
</tr>
</tbody>
</table>

* These figures taken from DP, Section 8. Readers preferring the estimates in Section IX above may wish to substitute the 9.7% figure for Rows 3 and 4 together in the ‘blue-collar’ and ‘all workers’ columns.

**Source:** Lindert and Williamson, 1983.
<table>
<thead>
<tr>
<th>Decade</th>
<th>Capital stock (£m)</th>
<th>Repairs and renewals (£m)</th>
<th>Capital formation (£m)</th>
<th>Gross investment (£m)</th>
<th>Labor force (000s)</th>
<th>Wage bill (£m)</th>
<th>Land rents (£m)</th>
<th>Land stock (£m)</th>
<th>Total output</th>
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<td>1761-70</td>
<td>260</td>
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<td>374</td>
<td>66.7</td>
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<td>1771-80</td>
<td>276</td>
<td>24.4</td>
<td>1.8</td>
<td>26.2</td>
<td>908</td>
<td>23.8</td>
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<td>2.1</td>
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<td>32.3</td>
<td>739</td>
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<td>886</td>
<td>112.4</td>
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<table>
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Notes: All figures assume full employment (hence some agricultural series have been revised upward to allow for actual unemployment). Gross investment = Repairs & renewals + Capital formation. Labor force measured as numbers of families (thousands). Labor force and Wage bill figures take into account earnings by some members of chiefly agricultural families in industrial employment. Rents for industry are ‘urban rents,’ derived from Feinstein (1978). Total output (= Gross Investment + Wage Bill + Land Rents) is exclusive of transfer payments, of which the most important were interest payments. Services, etc. excluded (see text).

Source: Von Tunzelmann in Mokyr (1985).