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The Economic History of Modern Europe to 1914

Topic No. 3 [7]

Population Growth and the Industrial Revolution (1750 - 1850): Was Demographic Growth a Cause or Consequence of British Industrialization?

Within each section, all publications are listed in the chronological order of original publication, when that can be ascertained. The more important are indicated by asterisks *.

A. Readings on the Population Debate during the Industrial Revolution era (late 17th - early 19th century): in the form of Monographs and Essays in Books, on Great Britain and Continental Europe

- * 1. Thomas R. Malthus, An Essay on the Principle of Population, 1st edn. (London, 1798); 6th edn., 2 vols. (London, 1826). The first edition of 1798 has been edited with an introduction by Antony Flew (Penguin Books, London, 1970).
2. A.M. Carr-Saunders, The Population Problem: A Study in Human Evolution (Oxford, 1922).
3. G.T. Griffith, The Population Problems of the Age of Malthus (London, 1926). A venerable classic, important as one of the early monographs sparking the demographic debate.
4. M.C. Buer, Health, Wealth, and Population in the Early Days of the Industrial Revolution (London, 1926).
5. A. M. Carr-Saunders, World Population: Past Growth and Present Trends (Oxford, 1936), Chapters 5-8.
6. E.A. Wrigley, Industrial Growth and Population Change (London, 1961).
7. Carlo Cipolla, The Economic History of World Population (1962), especially pp. 24-31, 62-72, 73-117.
8. B.R. Mitchell and Phyllis Deane, eds., Abstract of British Historical Statistics (Cambridge, 1962), section I: 'Population and Vital Statistics,' pp. 1-54. In part superseded by Wrigley-Schofield's statistics (1981), especially for the pre-1820 period.

9. E.A. Wrigley, ed., Introduction to English Historical Demography: From the Sixteenth to the Eighteenth Centuries (1964).
- * 10. Peter Laslett, The World We Have Lost (London, 1965; 2nd edn. 1971). See especially:
- (a) Chapter 4, 'Births, Marriages, and Deaths,' pp. 84-112.
- (b) Chapter 5, 'Did the Peasants Really Starve? Famine and Pestilence in Pre-Industrial Society,' pp. 113-34.
- ** 11. D.V. Glass and D.E.C. Eversley, eds., Population in History (London, 1965). See the following essays:

Part I: General

- (a) D.V. Glass, 'Introduction,' pp. 1-22. [Original essay].
- (b) D.E.C. Eversley, 'Population, Economy, and Society,' pp. 23-69. [Original essay.]
- (c) Louis Chevalier, 'Towards a History of Population,' pp. 70-78. [Reprinted from Population, 1 (1948), 245-56.]
- (d) Karl F. Helleiner, 'The Vital Revolution Reconsidered,' pp. 79-86. [Reprinted from The Canadian Journal of Economics and Political Science, 23 (1957), with minor revisions.]
- (e) J. Hajnal, 'European Marriage Patterns in Perspective,' pp. 101-43. [Original essay.]

Part II: Great Britain

- (a) H.J. Habakkuk, 'The Economic History of Modern Britain,' pp. 147 - 58. [Reprinted from The Journal of Economic History, 18 (1958), 486-501]
- (b) D.V. Glass, 'Two Papers on Gregory King,' pp. 159 - 220.
- i) 'Introductory Note,' pp. 159 - 67.
- ii) 'Gregory King and the Population of England and Wales at the End of the Seventeenth Century,' pp. 167 - 83. [Reprinted from Eugenics Review (Jan. 1946), 170 - 83.
- iii) 'Gregory King's Estimate of the Population of England and Wales, 1695,' pp. 183 - 220. [Reprinted from Population Studies, 2 (1950), 338 - 74.]
- * (c) D.V. Glass, 'Population and Population Movements in England and Wales, 1700 to 1850,' pp. 221-46. [Unpublished paper, written in 1945.]
- (d) T.H. Marshall, 'The Population Problem during the Industrial Revolution,'

- pp. 247-68. A classic. [Reprinted from Economic History, 1 (1929); and also republished in E.M. Carus-Wilson, ed., Essays in Economic History, Vol. I (London, 1954), pp. 306-30.]
- (e) H.J. Habakkuk, 'English Population in the Eighteenth Century,' pp. 269-84. [Reprinted from Economic History Review, 2nd ser. 6 (1953). 117 - 33.]
- (f) Thomas McKeown and R.G. Brown, 'Medical Evidence Related to English Population Changes,' pp. 285-307. [Reprinted from Population Studies, 9 (1955), 119 - 41.]
- (g) J.D. Chambers, 'Enclosure and the Labour Supply in the Industrial Revolution,' pp. 308 - 27. [Reprinted from Economic History Review, 2nd ser., v (1953), 319 - 43.]
- (h) J.D. Chambers, 'The Course of Population Change,' pp. 327 - 34. [Reprinted from J.D. Chambers, The Vale of Trent, 1670 - 1800: A Regional Study of Economic Change, Economic History Review Supplement no. 3 (London, 1957).]
- (i) J.D. Chambers, 'Population Change in a Provincial Town: Nottingham, 1700 - 1800,' pp. 334 - 53. [Reprinted from L.S. Presnell, ed., Studies in the Industrial Revolution: Essays Presented to T.S. Ashton (London, 1960).]
- (j) T.H. Hollingsworth, 'A Demographic Study of the British Ducal Families,' pp. 354 - 78. [Reprinted from Population Studies, 11 (1957), 4 - 26. See also the revised and extended article, 'The Demography of the British Peerage,' Population Studies, 18 (1964).]
- (k) J.T. Krause, 'The Changing Adequacy of English Registration, 1690-1837,' pp. 379-83. [Original publication.]
- (l) D.E.C. Eversley, 'A Survey of Population in an Area of Worcestershire from 1660 to 1850, on the Basis of Parish Registers,' pp. 394 - 419. [Reprinted from Population Studies, 10 (1957), 253-79.]
- (m) K.H. Connell, 'Land and Population in Ireland, 1780 - 1845,' pp. 423-33. [Reprinted from Economic History Review, 2nd ser., 2 (1950), with minor amendments.]
12. D.V. Glass, 'World Population, 1800-1950,' in H. J. Habakkuk and M. M. Postan, eds., Cambridge Economic History, Vol. VI, part 1: Industrial Revolutions and After (1965), chapter 2, pp. 65-138.
13. William Woodruff, Impact of Western Man: A Study of Europe's Role in the World Economy, 1750-1960 (London, 1966). For population growth and migration, see pp. 60-113.

14. Herbert Moller, ed., Population Movements in Modern European History (1966).
- * 15. Karl Helleiner, 'The Population of Europe from the Black Death to the Eve of the Vital Revolution,' in E.E. Rich and C.H. Wilson, eds., Cambridge Economic History of Europe, Vol. IV: Sixteenth and Seventeenth Centuries (Cambridge, 1967), 58-95.
16. E.L. Jones and G.E. Mingay, eds., Land, Labour, and Population in the Industrial Revolution: Essays Presented to J.D. Chambers (London, 1967):
 - (a) J.T. Krause, 'Some Aspects of Population Change, 1690-1790,' pp. 187-205.
 - * (b) D.E.C. Eversley, 'The Home Market and Economic Growth in England, 1750-1780,' pp. 206-59.
 - (c) P. E. Razzell, 'Population Growth and Economic Change in Eighteenth- and Early Nineteenth-Century England and Ireland,' pp. 160-81.
17. M.R. Reinhard, André Armengaud, Jacques Dupâgnier, Histoire générale de la population mondiale (Paris, 1968).
- * 18. Michael Drake, ed., Population in Industrialization (London, 1969).
 - (a) Michael Drake, 'Introduction,' pp. 1-10.
 - (b) K.H. Connell, 'Some Unsettled Problems in English and Irish Population History, 1750-1845,' pp. 30-39.
 - (c) Thomas McKeown and R.G. Brown, 'Medical Evidence Related to English Population Changes in the Eighteenth Century,' pp. 40-72. Also republished in Glass and Eversley (1965).
 - (d) J.T. Krause, 'English Population Movements between 1700 and 1850,' pp. 118-27.
 - (e) P.E. Razzell, 'Population Change in Eighteenth-Century England: A Re-appraisal,' pp. 128-56. [Reprinted from Economic History Review, 2nd ser. 18 (1965).]
 - (f) E.A. Wrigley, 'Family Limitation in Pre-Industrial England,' pp. 157-94. [Reprinted (in part) from Economic History Review, 2nd ser. 19 (1966).]
- * 19. E.A. Wrigley, Population and History (London, 1969). Especially chapter 5.
- * 20. Michael W. Flinn, British Population Growth, 1700-1850 (Studies in Economic History series, London, 1970), pp. 9-58.
21. H. J. Habakkuk, Population Growth and Economic Development Since 1750 (New York, 1971), especially chapter 2, 'The Demographic Revolution,' pp. 25 - 51.
- * 22. J.D. Chambers, Population, Economy, and Society in Pre-Industrial England (London,

1972):

Chapter 1, 'The General Course of Population Change, 1086-1801,' pp. 9-32. But see also Chapters 2 ('Marriage and Mobility'), 3 ('Marriage and Fertility'), 4 ('The Chances of Life and the Autonomous Death Rates'), and especially 6 ('Population and the Economy in Pre-Industrial England: A Summary,' pp. 128-51).

23. Alan Milward and S.B. Saul, The Economic Development of Continental Europe, 1780-1870 (London, 1973): chapter 2, 'Population,' pp. 118-70.
24. D.V. Glass, Numbering the People: The Eighteenth Century Population Controversy and the Development of the Census and Vital Statistics in Britain (Farnborough, 1973).
25. André Armengaud, 'Population in Europe, 1700-1914,' in Carlo Cipolla, ed., The Fontana Economic History of Europe, Vol. III: Industrial Revolution (1973), pp. 22-56.
26. N. L. Tranter, Population Since the Industrial Revolution: the Case of England and Wales (London, 1973).
27. N. L. Tranter, Population and Industrialisation: The Evolution of a Concept and its Practical Application (London, 1973).
28. Thomas McKeown, The Modern Rise of Population (London, 1976).
29. Michael Flinn, ed., Scottish Population History from the Seventeenth Century to the 1930s (Cambridge, 1977).
30. Charles Wilson and Geoffrey Parker, eds., Introduction to the Sources of European Economic History, 1500-1800 (London, 1977). See the population tables commencing each section, for Italy, Spain, Portugal, the Low Countries, British Isles, France, and Germany.
31. Richard M. Smith, 'Population and its Geography in England, 1500 - 1730,' in R. A. Dodgshon and R. A. Butlin, eds., An Historical Geography of England and Wales (London, 1978).
32. W.R. Lee, ed., European Demography and Economic Growth (London, 1979).
- ** 33. David Grigg, Population Growth and Agrarian Change: An Historical Perspective (Cambridge University Press, 1980).

Part One, chapters 1-5 on 'Methodology,' pp. 1-48; chapter 13, 'Breaking Out: England in the Eighteenth and Nineteenth Centuries,' pp. 163-89.
- ** 34. E.A. Wrigley and R.S. Schofield, The Population History of England, 1541-1871: A Reconstruction (1st edn., London and Cambridge, Mass., 1981; 2nd edn. with a new introduction, Cambridge, England, and New York, 1989).

See also the review article on this book by Michael Flinn, in The Economic History Review, 2nd ser. 35 (1982), 443-57.

- * 35. Michael Flinn, The European Demographic System, 1500-1820 (Baltimore: Johns Hopkins Press, 1981).
- * 36. R.D. Lee and Roger S. Schofield, 'British Population in the Eighteenth Century,' in Roderick Floud and Donald McCloskey, eds., The Economic History of Britain Since 1770, vol. I (Cambridge, 1981), pp. 17-35. See below the updated version of this chapter, as: Roger Schofield, 'British Population Change, 1700-1871,' in Roderick Floud and Donald McCloskey, eds., The Economic History of Britain Since 1700, 2nd edition, vol. 1: 1770 - 1860 (Cambridge, 1994), pp. 60-95.
- 37. Esther Boserup, Population and Technological Change: A Study of Long Term Trends (Chicago, 1981).

See especially part III: 'The Role of Demographic Factors in European Development,' pp. 93-125.
- 38. Peter Laslett, The World We Have Lost: Further Explored (London: Methuen, 1983).
- 39. Jacques Dupâquier and A. Fauve-Chamoux, eds., Malthus Past and Present (London, 1983).
- 40. N. L. Tranter, Population and Society, 1750 - 1940: Contrasts in Population Growth (London, 1985).
- 41. Michael Teitelbaum, The British Fertility Decline: Demographic Transition in the Crucible of the Industrial Revolution (Princeton, 1985).
- 42. Ronald D. Lee, 'Inverse Projection and Back Projection: A Critical Appraisal and Comparative Results for England, 1539 to 1871,' Population Studies, 39 (1985), 233-62.
- * 43. R. I. Rotberg, T. K. Rabb, Roger Schofield, and E.A. Wrigley, eds., Population and Economy: Population and History from the Traditional to the Modern World (Cambridge, 1986). This is a reprint in book form of Journal of Interdisciplinary History, 15 (Spring 1985), in all which all of the following articles thus may also be found (with the pagination that of the journal):
 - (a) Roger S. Schofield, 'Through a Glass Darkly: The Population History as an Experiment in History,' pp. 571-94.
 - (b) Michael Anderson, 'Historical Demography after The Population History of England,' pp. 595 - 608.
- ** (c) Peter Lindert, 'English Population, Wages, and Prices, 1541 - 1913,' pp. 609 - 34.
- (d) Ronald Lee, 'Population Homeostasis and English Demographic History,' pp. 609 -

- 34.
- (e) E. Anthony Wrigley, 'Urban Growth and Agricultural Change: England and the Continent in the Early Modern Period,' pp. 683 - 728.
- ** (f) Brinley Thomas, 'Escaping from Constraints: The Industrial Revolution in a Malthusian Context,' pp. 729 - 54.
- (g) Ann Kussmaul, 'Time and Space, Hoofs and Grain: The Seasonality of Marriage in England,' pp. 755 - 79.
44. Michael Turner, ed., Malthus and His Time (London, 1986). Collected essays.
45. David Coleman and Roger Schofield, The State of Population Theory: Forward from Malthus (Oxford, 1986). See especially:
- (a) Roger Schofield and David Coleman, 'Introduction: the State of Population Theory,' pp. 1-13.
- (b) David Coleman, 'Population Regulation: A Long Range View,' pp. 14-41.
- (c) Richard Stone, 'Robert Malthus: An Appreciation,' pp. 42-46.
- (d) E.A. Wrigley, 'Elegance and Experience: Malthus at the Bar of History,' pp. 46-64.
- (e) G.N. von Tunzelmann, 'Malthus's `Total Population System': A Dynamic Reinterpretation,' pp 65 - 95.
- (f) Ronald D. Lee, 'Malthus and Boserup: A Dynamic Synthesis,' pp. 96 - 130.
- (g) Philip Kreager, 'Demographic Regimes as Cultural Systems,' pp. 131 - 55.
- (h) R. M. Smith, 'Transfer Incomes, Risk and Security: The Roles of the Family and the Collectivity in Recent Theories of Fertility Changes,' pp. 188 - 211.
- (i) Stephen J. Kunitz, 'Mortality Since Malthus,' pp. 279 - 302.
46. L. Bonfield, Keith Wrightson, and Richard M. Smith, eds., The World We have Gained: Histories of Population and Social Structure (Oxford: Oxford University Press, 1986). See in particular:
- (a) Richard M. Smith, 'Marriage Processes in the English Past: Some Continuities,' pp. 43-99.
- (b) P.P. Viazzo, 'Illegitimacy and the European Marriage Pattern: Comparative Evidence from the Alpine Area,' pp. 100-21.
- (c) Roger Schofield, 'Did Mothers Really Die?' pp. 231-60.

47. David Levine, Reproducing Families: The Political Economy of English Population History (Cambridge, 1987).
48. Michael Anderson, Population Change in North-Western Europe, 1750 - 1850, Studies in Economic and Social History series (London, 1988).
49. John E. Knodel, Demographic Behaviour in the Past: A Study of Fourteen German Village Populations in the Eighteenth and Nineteenth Centuries (Cambridge University Press, 1988).
50. Paul Bairoch, Jean Batou, Pierre Chèvre, La population des villes européennes de 800 à 1850/ The Population of European Cities from 800 to 1850, Centre of International Economic History, University of Geneva, Geneva, Librairie Droz, 1988.
- * 51. W. A. Armstrong, 'Labour I: Rural Population Growth, Systems of Employment, and Incomes,' in George E. Mingay, The Agrarian History of England and Wales, Vol. VI: 1750 - 1850 (Cambridge University Press, 1989), pp. 641 - 728.
52. Ann Kussmaul, A General View of the Rural Economy of England, 1538 - 1840, Cambridge Studies in Population, Economy, and Society in Past Time (Cambridge University Press, 1990). With considerable emphasis on demographic factors, especially in chapter two.
53. Massimo Livi-Bacci, Population and Nutrition: An Essay on European Demographic History, trans. by Tania Croft-Murray, Cambridge: Cambridge University Press, 1991.
54. Roger Schofield, David Reher, and Alain Bideau, eds., The Decline of Mortality in Europe (Oxford: Clarendon Press, 1991).
55. John R. Gillis, Louis A. Tilly, and David Levine, eds., The European Experience of Declining Fertility: A Quiet Revolution, 1850 - 1970 (Blackwell: Cambridge, Mass., 1992).
- ** 56. Robert Woods, The Population of Britain in the Nineteenth Century, Studies in Economic and Social History Series (London: MacMillan, 1992). Republished in Michael Anderson, ed., British Population History from the Black Death to the Present Day, Studies in Social and Economic History (Cambridge and New York: Cambridge University Press, 1996).
57. Alain Blum, Noël Blum, and Didier Blanchet, eds., Modèles de la démographie historique, Institut National d'Études Démographiques (Paris: Presses Universitaires de France, 1992).
58. Massimo Livi-Bacci, A Concise History of World Population, trans. by Carl Ipsen, 2nd edn. (London: Blackwell, 1997. [1st edn: Italian, 1989; English trans., 1992])
59. John Landers, Death and the Metropolis: Studies in the Demographic History of London,

1670 - 1830, Cambridge Studies in Population, Economy, and Society in Past Time no. 20 (Cambridge: Cambridge University Press, 1993).

- ** 60. Jan de Vries, 'Population,' in Thomas A. Brady, jr., Heiko O. Oberman, and James D. Tracy, eds., Handbook of European History, 1400-1600: Late Middle Ages, Renaissance and Reformation, Vol. I: Structures and Assertions (Leiden/New York/Cologne: E.J. Brill, 1994), pp. 1 - 50.
- ** 61. Roger Schofield, 'British Population Change, 1700-1871,' in Roderick Floud and Donald McCloskey, eds., The Economic History of Britain Since 1700, 2nd edition, vol. 1: 1770 - 1860 (Cambridge, 1994), pp. 60-95.
- * 62. Peter Razzell, Essays in English Population History (London: Caliban, 1994).
- ** 63. Michael Anderson, ed., British Population History from the Black Death to the Present Day, Studies in Social and Economic History (Cambridge and New York: Cambridge University Press, 1996). Republished in Michael Anderson, ed., British Population History from the Black Death to the Present Day, Studies in Social and Economic History (Cambridge and New York: Cambridge University Press, 1996).
- ** 64. E. A. Wrigley, R.S. Davies, J.E. Oeppen, and R. S. Schofield, English Population History from Family Reconstitution, Cambridge Studies in Population, Economy and Society in Past Time no. 32 (Cambridge and New York: Cambridge University Press, 1997).
65. P.M.G. Harris, The History of Human Populations, vol. I: Forms of Growth and Decline (Westport: Praeger, 2001).
66. R. I. Rotberg, ed., Population History and the Family (Cambridge, Mass., MIT Press, 2001).
67. Robert Lawton and Robert Lee, eds., Population and Society in Western European Port-Cities: c. 1650 - 1939 (Liverpool: Liverpool University Press, 2002).
68. Pamela Sharpe, Population and Society in an East Devon Parish: Reproducing Colyton, 1540 - 1840 (Exeter: University of Exeter Press, 2002).
- * 69. Andrew Hinde, England's Population: A History Since the Domesday Survey (London: Hodder Arnold, 2003).
70. John Landers, The Field and the Forge: Population, Production, and Power in the Pre-Industrial West (Oxford and New York: Oxford University Press, 2003).
71. P.M.G. Harris, The History of Human Populations, vol. II: Migration, Urbanization, and Structural Change (Westport: Praeger, 2003).
72. Timothy W. Guinnane, William A. Sundstrom, and Warren C. Whatley, eds., History Matters: Essays on Economic Growth, Technology, and Demographic Change

(Stanford: Stanford University Press, 2004). A festschrift for Paul David.

73. E. Anthony Wrigley, Poverty, Progress, and Population (Cambridge and New York: Cambridge University Press, 2004).
- ** 74. E. Anthony Wrigley, 'British Population during the "Long" Eighteenth Century, 1680 - 1840', in Roderick Floud and Paul Johnson, eds., Cambridge Economic History of Modern Britain, 3 vols. (Cambridge and New York: Cambridge University Press, 2004), Vol I: Industrialization, 1700 - 1860, pp. 67-95.
75. Susannah R. Ottaway, The Decline of Life: Old Age in Eighteenth-Century England (Cambridge and New York: Cambridge University Press, 2004).
76. James P. Huzel, The Popularization of Malthus in Early Nineteenth-Century England: Martineau, Cobbett and the Pauper Press (Aldershot: Ashgate, 2006).
- * 77. Gregory Clark, A Farewell to Alms: A Brief Economic History of the World (Princeton and Oxford: Princeton University Press, 2007). A strongly Malthusian approach to world economic history. See below: on Real Incomes and Living Standards
- 'Symposium of Gregory Clark's *A Farewell to Alms*': in European Review of Economic History., 12:2 (August 2008): in book form.
- Deirdre N. McCloskey, '“You Know, Ernest, the Rich Are Different From You and Me:” A Comment on Clark's *A Farewell to Alms*, pp. 138-48.
- Hans-Joachim Voth, 'Clark's Intellectual Sudoku', pp. 149-55.
- George Grantham, 'Explaining the Industrial Transition: a Non-Malthusian Perspective', pp. 155-65.
- Karl Gunnar Persson, 'The Malthus Delusion', pp. 165-73.
- Gregory Clark, 'In Defense of the Malthusian Interpretation of History', pp. 175-99.
- * 78. George Alter and Gregory Clark, 'The Demographic Transition and Human Capital', in Stephen Broadberry and Kevin O'Rourke, eds., The Cambridge Economic History of Modern Europe, Vol. I: 1700 - 1870 (Cambridge and New York, Cambridge University Press, 2010), pp. 43-69. For all of Europe, and not just Great Britain.
- * 79. Oded Galor, 'The Demographic Transition: Causes and Consequences', Cliometrica: Journal of Historical Economics and Econometric History, 6:1 (January 2012), 1-28.

B. Journal Articles on 18th- and 19th-Century Population Growth:

1. T. H. Marshall, 'The Population Problem during the Industrial Revolution: A Note on the Present State of the Controversy,' Economic History, 1 (1929). Supplement to the Economic Journal (1929).

2. T. H. Marshall, 'The Population of England and Wales from the Industrial Revolution to the World War,' Economic History Review, 1st ser. 5 (1935):

Both of the Marshall articles are reprinted in:

E.M. Carus-Wilson, ed., Essays in Economic History, Vol. I (London, 1954), pp. 306-30, and 331-43, respectively.

3. Karl Helleiner, 'The Vital Revolution Reconsidered,' Canadian Journal of Economics and Political Science, 23 (1957). Reprinted in D.V. Glass and D.E.C. Eversley, eds., Population in History (London, 1965), pp. 79-86.
4. J. T. Krause, 'Changes in English Fertility and Mortality, 1781-1850,' Economic History Review, 2nd ser. 11 (1958).
5. G.S.L. Tucker, 'English Pre-Industrial Population Trends,' Economic History Review, 2nd ser. 16 (1963).
6. T.H. Hollingsworth, 'The Demography of the British Peerage,' Population Studies, 18 (1964): Supplement. Now regarded as a classic.
7. P.E. Razzell, 'Population Change in Eighteenth-Century England: A Re-appraisal,' Economic History Review, 2nd ser. 18 (1965). Reprinted in Michael Drake, ed., Population in Industrialization (London, 1969), pp. 128-56.
- * 8. E.A. Wrigley, 'Family Limitation in Pre-Industrial England,' Economic History Review, 2nd ser. 19 (1966), 82-109. Reprinted in Michael Drake, ed., Population in Industrialization (London, 1969), pp. 157 - 94.
9. D.J. Loschky and D.F. Krier, 'Income and Family Size in the Eighteenth-Century Lancashire Parishes: A Reconstruction Study,' The Journal of Economic History, 29 (1969).
10. A.C. Kelly, 'Demographic Cycles and Economic Growth: the Long Swing Reconsidered,' Journal of Economic History, 29 (1969).
11. James P. Huzel, 'Malthus, the Poor Law, and Population in Early Nineteenth-Century England,' Economic History Review, 2nd ser. 22 (1969), 430-52.
12. L.J. White, 'Enclosures and Population Movements in England, 1700 - 1830,' Explorations in Entrepreneurial History, 2nd ser. 6 (1969).
13. D.J. Loschky and D.F. Krier, 'Income and Family Size in Three Eighteenth-Century Lancashire Parishes,' Journal of Economic History, 29 (1969), 429-48.
14. Edward Shorter, 'Illegitimacy, Sexual Revolution, and Social Change in Modern Europe,' Journal of Interdisciplinary History, 11 (1971).
15. D.J. Loschky, 'Urbanization and England's Eighteenth-Century Crude Death Rate', Journal

of European Economic History, 1 (1972), 697-712.

- * 16. R.D. Lee, 'Population in Pre-Industrial England: An Econometric Analysis,' Quarterly Journal of Economics, 87 (1973), 581-607.
- 17. David Loschky, 'Economic Change, Mortality, and Malthusian Theory,' Population Studies, 30 (1975), 439-52.
- 18. Gordon Philpot, 'Enclosure and Population Growth in Eighteenth Century England,' Explorations in Economic History, 12 (Jan. 1975), 29-46.
- * 19. Michael Turner, 'Parliamentary Enclosure and Population Change in England, 1750 - 1830,' and: Gordon Philpot, 'Reply,' both in: Explorations in Economic History, 13 (Oct. 1976), 463-72.
- 20. N.F.T. Crafts and N.J. Ireland, 'Family Limitation and the English Demographic Revolution: A Simulation Approach,' Journal of Economic History, 36 (1976), 598-623.
- 21. J.M. Martin, 'Marriage and Economic Stress in the Felden of Warwickshire during the Eighteenth Century,' Population Studies, 31 (1977).
- 22. R.B. Morrow, 'Family Limitation in Pre-Industrial England: A Re-Appraisal,' and: E.A. Wrigley, 'Marital Fertility in Seventeenth-Century Colyton: A Note,' both in: Economic History Review, 2nd ser. 31 (1978), 419-28, 429-36.
- 23. Allan Sharlin, 'Natural Decrease in Early Modern Cities: A Reconsideration,' Past and Present, no. 79 (1978).
- 24. David Levine, 'Some Competing Models of Population Growth during the First Industrial Revolution,' Journal of European Economic History, 7 (1978), 517-26.
- 25. J.P. Huzel, 'The Demographic Impact of the Old Poor Law: More Reflections on Malthus,' Economic History Review, 2nd ser. 33 (1980), 367-81.
- 26. Joel Mokyr, 'Malthusian Models and Irish History,' Journal of Economic History, 40 (1980), 159- .
- 27. Stuart Daultrey, David Dickson, and Cormac O'Grada, 'Eighteenth-Century Irish Population: New Perspectives from Old Sources,' Journal of Economic History, 41 (1981), 601-28.
- 28. W.A. Armstrong, 'The Trend of Mortality in Carlisle Between the 1790s and the 1840s: A Demographic Contribution to the Standard of Living Debate,' Economic History Review, 2nd ser. 34 (1981), 94-114.

29. W. G. Armstrong, 'The Influence of Demographic Factors on the Position of the Agricultural Labourer in England and Wales, c. 1750 - 1914,' Agricultural History Review, 29 (1981).
30. Roger Finlay, 'Natural Decrease in Early-Modern Cities,' and Allan Sharlin, 'Natural Decrease in Early Modern Cities: A Rejoinder,' both in: Past and Present, no. 92 (1981), 169-74, 175, debating Sharlin (1978).
31. Richard M. Smith, 'Fertility, Economy, and Household Formation in England Over Three Centuries,' Population and Development Review, 7 (Dec. 1981), 595-622.
- * 32. Michael Flinn, 'The Population History of England, 1541-1871,' Economic History Review, 2nd ser. 35 (Aug. 1982), 443-57. A review article concerning the Wrigley-Schofield (1981) study.
33. E.A. Wrigley and R.S. Schofield, 'English Population History from Family Reconstitution: Summary Results, 1600-1799,' Population Studies, 37 (1983).
34. Martha Olney, 'Fertility and the Standard of Living in Early-Modern England: In Consideration of Wrigley and Schofield,' Journal of Economic History, 43 (1983), 71-88.
- ** 35. Peter Lindert, 'English Living Standards, Population Growth, and Wrigley-Schofield,' Explorations in Economic History, 20 (April 1983), 131-55. Do not be daunted by the econometrics.
- ** 36. E.A. Wrigley, 'The Growth of Population in Eighteenth-Century England: A Conundrum Resolved,' Past and Present, no. 98 (February 1983), 121-50.
37. Roger S. Schofield, 'The Impact of Scarcity and Plenty on Population Change in England, 1541 - 1871,' Journal of Interdisciplinary History, 14 (1983).
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QUESTIONS ON POPULATION

- ** 1. Did population growth help to foster industrial growth in Great Britain in the 18th and 19th centuries -- was it one of the 'causes' of the Industrial Revolution? Or did the prior processes of economic growth and then of industrialization itself directly promote British population growth?
2. Why was English (and European) population either stagnant or declining during the mid and later 17th century and early 18th century? And why did both English and European population begin to grow again from about the mid-18th century?
3. Why did British and European population grow so much faster from the mid-18th through the 19th century, than ever before, earning the term 'Demographic Revolution'? If you believe that some type of 'Malthusian' or other checks had halted population growth in the past, why did such 'checks' fail to halt population growth after ca. 1750?
4. Which was the more powerful factor in that population growth in the 18th and 19th centuries: the birth rate or the death rate? Did their relative demographic importance change over this period? Discuss all the factors influencing birth and death rates.
- * 5. During the early-modern and Industrial Revolution eras, in Britain, what was the effect of population growth upon real wages and living standards; and conversely, what were the effects of changes in real wages and employment opportunities upon population growth: in terms of marriage rates, fertility, live birth rates, death rates?
6. What is the evidence for a 'European marriage pattern' (Hajnal)? What evidence is there that in early-modern Europe the average age of first marriage, fertility, birth rates, and completed

family size were related to economic circumstances?

7. Evaluate the significance of disease as a factor in British demographic change and growth from ca. 1650 to 1900? Did death rates increase with urbanization -- industrial urbanization?
8. How important were advances in medicine, public health and nutrition as factors in British population growth during the 18th and 19th centuries?
9. How did the processes of both agricultural modernization (with Enclosures) and urban industrialization affect or influence both the growth of British population and the distribution of that larger population from ca. 1750 to ca. 1870?
10. In what areas of England did population grow faster in this period: the north or the south, or the Midlands; in rural or urban areas; in agricultural or industrial-commercial counties?
11. How, when, where, and why did British industries secure their labour supplies during the later 18th and 19th centuries: from migration or from natural increases (in industrial regions), or both?
12. How did England manage to feed and support a population that had grown six-fold, from about 6 million in the 1740s to 36 million in 1910?

Table 1. The Populations of Europe, by Regions, 1500 - 1800**in millions**

Region	1500	1550	1600	1650	1700	1750	1800
North West	7.6	9.5	11	14.25	15.1	17.4	25.3
NW %	12.5%	13.6%	14.1%	19.2%	18.1%	17.9%	20.7%
Central	29	33.75	36.9	33.5	38.2	43.8	53.5
Cent %	47.6%	48.3%	47.4%	45.0%	45.7%	45.1%	43.8%
Mediterranean	18.3	20	22.3	19.6	22.8	26.5	31.2
Med %	30.0%	28.6%	28.6%	26.3%	27.3%	27.3%	25.5%
Eastern	6	6.6	7.7	7.1	7.4	9.4	12.2
East %	9.9%	9.5%	9.9%	9.5%	8.9%	9.7%	10.0%
TOTAL	60.9	69.85	77.9	74.45	83.5	97.1	122.2

Source: Jan De Vries, 'Population,' in *Handbook of European History, 1400-1600: Late Middle Ages, Renaissance, and Reformation*, Vol. I: *Structures and Assertions*, ed. Thomas Brady, Heiko Oberman and James Tracy (Leiden and New York, 1994), adapted from Table 1, p. 13.

Table 2: Estimated Populations of England and Wales in Millions, and Crude Birth and Death Rates per 1000: according to Wrigley-Schofield (1541 - 1871)

THE POPULATION OF ENGLAND (with WALES)						
Quinquennial Demographic Data from Generalised Inverse Projection, 1541 - 1871						
Year	England: Population in millions	with Wales Population in millions	England: Life Expectancy at Birth	Intrinsic Growth Rate	Crude Birth Rate/1000 England only	Crude Death Rate/1000 England only
1541	2.830	3.031	33.94	0.92	37.17	30.34
1546	2.908	3.115	38.82	1.42	37.88	25.98
1551	3.065	3.282	39.59	1.31	35.62	24.82
1556	3.213	3.440	22.38	-1.17	30.24	40.16
1561	3.036	3.251	36.66	0.97	37.06	26.70
1566	3.174	3.398	39.67	0.91	34.16	24.21
1571	3.310	3.545	41.06	0.77	32.37	22.73
1576	3.448	3.692	41.56	1.02	34.20	22.43
1581	3.631	3.889	42.70	1.27	34.12	21.56
1586	3.841	4.113	37.05	0.75	32.09	25.70
1591	3.938	4.217	38.05	0.81	32.12	24.75
1596	4.057	4.344	37.82	0.63	31.50	24.95
1601	4.162	4.457	38.53	0.75	33.24	24.77
1606	4.310	4.616	39.59	0.76	33.05	24.07
1611	4.476	4.793	36.79	0.41	31.60	26.14
1616	4.568	4.892	40.31	0.81	32.30	23.37
1621	4.745	5.081	33.39	0.11	30.91	28.85
1626	4.762	5.099	39.69	0.74	31.81	23.68
1631	4.926	5.275	39.72	0.71	31.66	23.80
1636	5.090	5.450	34.03	0.18	31.47	28.59
1641	5.130	5.494	36.32	0.43	31.97	26.79
1646	5.231	5.602	39.74	0.29	27.79	23.63
1651	5.308	5.684	39.14	0.31	28.55	24.22
1656	5.391	5.773	33.04	-0.60	25.74	28.68
1661	5.280	5.654	33.27	-0.38	28.22	28.92
1666	5.229	5.600	32.48	-0.47	28.53	30.03
1671	5.159	5.524	37.41	-0.04	28.40	26.25

THE POPULATION OF ENGLAND (with WALES)						
Quinquennial Demographic Data from Generalised Inverse Projection, 1541 - 1871						
Year	England: Population in millions	with Wales Population in millions	England: Life Expectancy at Birth	Intrinsic Growth Rate	Crude Birth Rate/1000 England only	Crude Death Rate/1000 England only
1676	5.185	5.552	32.40	-0.39	28.91	30.75
1681	5.109	5.471	31.27	-0.26	30.32	32.14
1686	5.036	5.393	35.93	0.47	31.87	28.56
1691	5.094	5.455	36.35	0.42	30.05	28.06
1696	5.118	5.481	38.06	0.71	31.25	26.67
1701	5.211	5.580	38.47	0.83	32.06	26.39
1706	5.334	5.712	38.50	0.45	28.48	25.67
1711	5.382	5.764	36.89	0.34	29.47	26.77
1716	5.428	5.813	35.75	0.38	31.65	27.91
1721	5.503	5.893	35.49	0.39	32.80	28.21
1726	5.602	5.999	25.34	-0.95	31.16	36.99
1731	5.414	5.798	36.34	0.58	35.13	27.46
1736	5.599	5.996	35.26	0.46	33.79	28.47
1741	5.723	6.129	34.27	0.24	31.71	28.78
1746	5.782	6.191	36.47	0.62	32.68	27.02
1751	5.922	6.342	39.77	0.99	32.97	24.61
1756	6.149	6.584	38.12	0.75	31.87	25.82
1761	6.310	6.757	35.37	0.61	33.48	28.29
1766	6.449	6.906	36.19	0.68	33.88	27.69
1771	6.623	7.093	39.09	1.01	34.90	25.47
1776	6.913	7.403	37.74	0.99	35.76	26.57
1781	7.206	7.717	35.81	0.76	34.86	27.81
1786	7.434	7.960	38.97	1.25	36.89	25.23
1791	7.846	8.402	37.92	1.22	37.17	26.07
1796	8.256	8.841	38.93	1.15	35.51	24.82
1801	8.671	9.286	40.02	1.43	37.60	24.08
1806	9.232	9.887	40.58	1.52	37.90	23.68
1811	9.864	10.563	41.25	1.69	39.18	23.25
1816	10.628	11.381	40.84	1.70	39.48	23.54
1821	11.457	12.269	40.47	1.75	40.22	23.73

THE POPULATION OF ENGLAND (with WALES)						
Quinquennial Demographic Data from Generalised Inverse Projection, 1541 - 1871						
Year	England: Population in millions	with Wales Population in millions	England: Life Expectancy at Birth	Intrinsic Growth Rate	Crude Birth Rate/1000 England only	Crude Death Rate/1000 England only
1826	12.374	13.250	41.43	1.56	37.30	22.40
1831	13.254	14.193	40.89	1.36	36.03	22.43
1836	14.100	15.099	40.56	1.19	35.27	22.47
1841	14.937	15.995	41.71	1.23	35.61	21.61
1846	15.910	17.037	38.99	0.92	35.06	23.71
1851	16.732	17.918	40.46	1.11	35.98	22.65
1856	17.781	19.040	41.53	1.22	35.89	21.92
1861	18.976	20.320	40.62	1.24	36.30	22.71
1866	20.222	21.655	41.47	1.31	35.95	22.06
1871	21.501	23.024			35.00	22.60
1881		26.046			33.90	18.90
1891		29.086			31.40	20.20
1901		32.612			28.50	16.90
1911		36.136			24.30	14.60

Source: E. A. Wrigley, R.S. Davies, J.E. Oeppen, and R. S. Schofield, *English Population History from Family Reconstitution*, Cambridge Studies in Population, Economy and Society in Past Time no. 32 (Cambridge and New York: Cambridge University Press, 1997), pp. 613-17. See also: E.A. Wrigley and R.S. Schofield, *The Population History of England, 1541 - 1871: A Reconstruction* (Cambridge, 1980), pp. 528 - 29, for the years 1541 - 1871. The figures they present are for England alone, less the now Welsh country of Monmouthshire. To present the figures in the usual form, for England and Wales together, I have divided their annual data by 0.93383 (as indicated on p. 557, note to Table A5.3).

Other Estimates of English Population Growth, 1880 - 1910

Year	Population in Millions	Birth Rates per 1000	Death Rates per 1000
1880	26.000	32.9	19.2
1890	29.000	30.0	18.3
1900	32.500	27.6	15.9
1910	36.100	21.8	14.5

Sources: B. R. Mitchell and Phyllis Deane, eds., *Abstract of British Historical Statistics* (Cambridge, 1962), pp. 29 - 37 for 1880-1910.

Table 3. Changing Demography of Colyton, Devonshire (England)

Average (Mean) Age of First Marriage, 1560-1837

Period	Men	Women
1560 - 99	28.1 years	27.0 years
1600 - 29	27.4	27.3
1630 - 46	25.8	26.5
1647 - 59	26.9	30.0
1660 - 99	27.6	28.8
1700 - 19	28.1	30.7
1720 - 49	26.2	27.2
1750 - 69	25.0	26.3
1770 - 99	27.6	26.4
1800 - 24	25.6	24.9
1825 - 37	25.9	23.3

Table 4.**Demographic Profile of Colyton, 1560 - 1837**

Period	Average Age of First Marriage for:		Completed Family Size of Women who married under 30	Period	Life Expectancy of Both Sexes at Birth
	Males	Females			
1560-1646	27	27	6.4	1538-1624	43 years
1647-1719	28	30	4.2	1625-1699	37
1720-1769	26	27	4.4	1700-1774	42
1770-1837	27	25	5.9		

Sources:

E.A. Wrigley, 'Family Limitation in Pre-Industrial England,' *Economic History Review*, 2nd ser. 19 (1966), 82-109.

E.A. Wrigley, *Population and History* (1969), p. 87.

Table 5. Mean Age of First Marriage, i.e., in Bachelor-Spinster Marriages in England (various counties, over time), in ten-year intervals

DECADE	MALES	FEMALES
1590 - 99	29.3	25.6
1600 - 09	28.3	25.7
1610 - 19	27.5	25.6
1620 - 29	27.6	25.2
1630 - 39	27.3	25.2
1640 - 49	27.4	25.7
1650 - 59	27.5	25.6
1660 - 69	27.4	25.9
1670 - 79	28	26.2
1680 - 89	27.7	25.8
1690 - 99	27.1	25.9
1700 - 09	27.4	26.0
1710 - 19	27.3	26.3
1720 - 29	27	25.9
1730 - 39	26.9	25.5
1740 - 49	26.5	24.8
1750 - 59	26.1	25.0
1760 - 69	25.9	24.5
1770 - 79	26.1	24.3
1780 - 89	25.9	24.0
1790 - 99	25.3	24.0
1800 - 09	25.3	24.0
1810 - 19	25.1	23.6

DECADE	MALES	FEMALES
1820 - 29	25.2	23.8
1830 - 39	24.9	23.1

Source: E.A. Wrigley, R.S. Davies, J.E. Oeppen, and R.S. Schofield, *English Population History from Family Reconstitution, 1580- 1837* (Cambridge and New York: Cambridge University Press, 1997), pp. 130- 34.

Table 6: English and French Population, 1681 - 1821

Year	England and Wales	England only	France	England as % of France
1681	5.28	4.93	22.4	22%
1821	12.31	11.49	30.2	38%

Table 7: Growth Rates of English, French, and Dutch Populations from 1681 to 1821 (% per annum)

Country	% per annum	Overall % growth
England	0.95%	133%
France	0.28%	39%
Netherlands	0.06%	8%

Table 8. Estimated Population Totals and Percentage Growth Rates*

	Population Totals (millions)			
	1550	1680	1820	1900
England	3.0	4.9	11.5	30.5
France	17.0	21.9	30.5	38.5
Netherlands	1.2	1.9	2.0	5.1
Spain	9.0	8.5	14.0	18.6
Italy	11.0	12.0	18.4	32.5
Germany	12.0	12.0	18.1	43.6
Western Europe	61.1	71.9	116.5	201.4

Percentage Growth Rates (Overall: for periods designated)

	1550-1680	1680-1820	1820-1900
England	64	133	166
France	29	39	26
Netherlands	58	8	149
Spain	-6	64	33
Italy	9	53	77
Germany	0	51	142
Western Europe	18	62	73

* **Notes and sources:** The totals shown become progressively more accurate. Some of those for 1550 and 1680 are subject to very wide margins of error. In many cases the figures used are based on estimates for dates close to the year heading each column rather than for the year itself. The estimates refer to the present territories of the countries shown. The English data exclude Wales and Monmouthshire. For 1820 and 1900 all totals are taken from or estimated from B.R. Mitchell, *European Historical Statistics*, 2nd edn. (Cambridge, 1981), table BI, except for England in 1820. Otherwise the most important sources used were the following: E.A. Wrigley and R.S. Schofield, *The Population History of England, 1541-1871: A Reconstruction* (London, 1981), table 7.8; B.R. Mitchell and P. Deane, *Abstract of British Historical Statistics* (Cambridge, 1962), chapter I, tables 2, 7; M. Reinhard, A. Arnmengaud and J. Dupaquier, *Histoire générale de la population mondiale*, 3rd edn. (Paris, 1968); J. Dupâquier, *La population française aux XVIIe et XVIIIe siècles* (Paris, 1979); C. McEvedy and R. Jones, *Atlas of World Population History* (London, 1978); M. Flinn, ed., *Scottish Population History from the 17th Century to the 1930s* (Cambridge, 1977); C.M. Cipolla, 'Four Centuries of Italian Demographic Development', and K.H. Connell, 'Land and Population in Ireland, 1780-1845', both in D.V. Glass and D.E.C. Eversley, eds., *Population in History* (London, 1965); J.A. Faber, H.K. Roessingh, B.H. Slicher van Bath, A.M. Van der Woude and H.J. Van Xanten, 'Population Changes and Economic Developments in the Netherlands: A Historical Survey', *A.A.G. Bijdragen*, 12 (1965).

Table 9.

Estimates of the Population of London

1500 (estimate)	50,000 (or more)
1600	200,000
1650	350,000
1750	550,000
1801 (census)	1,088,000
1851 (census)	2,491,000

**Table 10. The Populations of Selected European Countries in
Millions, in decennial intervals, 1800-1910**

Year	Great Britain	Belgium	France	Germany	Russia
1800	10.7	3.1	27.3	n.a.	35.5
1810	12.0	n.a.	n.a.	n.a.	n.a.
1820	14.1	n.a.	30.5	25.0	48.6
1830	16.3	4.1	32.6	28.2	56.1
1840	18.5	4.1	34.2	31.4	62.4
1850	20.8	4.3	35.8	34.0	68.5
1860	23.2	4.5	37.4	36.2	74.1
1870	26.0	4.8	36.1 ^a	40.8 ^b	84.5
1880	29.7	5.3	37.7	45.2	97.7
1890	33.0	6.1	38.3	49.4	117.8
1900	37.0	6.6	39.0	56.4	132.9
1910	40.9	7.4	39.6	64.9	160.7

Great Britain: England, Wales, and Scotland

^a Excluding Alsace-Lorraine.

^b Including Alsace-Lorraine.

Sources: B.R. Mitchell and P. Deane, *Abstract of British Historical Statistics* (Cambridge, 1962), pp. 8-10.

Carlo Cipolla, ed., *Fontana Economic History of Europe* (1972), Vol. IV:2, pp. 747-48.