

ECO 2210Y

TOPICS IN EUROPEAN ECONOMIC AND SOCIAL HISTORY, 1260 - 1600

Topic No. 19: Population and Demographic Changes in the European Economy, 1450 - 1640: from the end of the late-medieval 'Depression' to the Eve of the 'General Crisis'

READINGS:

The most and more important readings are indicated by asterisks: ** and *
Within each section, all readings are listed in chronological order of original publication.

A. Important Readings: General and Particular

- * 1. E.H. Phelps Brown and Sheila V. Hopkins, 'Wage Rates and Prices: Evidence of Population Pressure in the Sixteenth Century,' Economica, 24 (Nov. 1957), 289-305, reprinted in E. H. Phelps Brown and S. V. Hopkins, A Perspective of Wages and Prices (London, 1981), pp. 60-77.
- * 2. 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. 157-92.
- ** 3. Karl F. Helleiner, 'The Population of Europe from the Black Death to the Eve of the Vital Revolution,' in E. E. Rich and C. H. Wilson, ed., The Cambridge Economic History of Europe, Vol. IV: The 16th and 17th Centuries (Cambridge, 1967), pp. 58-95.
- * 4. 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 6 ('Population and the Economy in Pre-Industrial England: A Summary').
- ** 5. Ralph Davis, The Rise of the Atlantic Economies (London, 1973), Chapter 6: 'Sixteenth and Seventeenth Centuries: Population, Prices, and Incomes,' pp. 88-107.
- * 6. Donald Woodward, 'Wage Rates and Living Standards in Pre-Industrial England,' Past and Present, No. 91 (May 1981), 28-46.
- ** 7. D.M. Palliser, 'Tawney's Century: Brave New World or Malthusian Trap?' Economic History Review, 2nd ser. 35 (Aug. 1982), 339-53.
- * 8. Michael Flinn, 'The Population History of England, 1541-1871: A Review,' Economic

History Review, 2nd ser. 35 (Aug. 1982), 443-57. A review of E. A. Wrigley and Roger Schofield, The Population History of England, 1541-1871 (London, 1981), cited below.

- * 9. Peter Lindert, 'English Living Standards, Population Growth, and Wrigley-Schofield,' Explorations in Economic History, 20 (April 1983), 131-55.
- * 10. Peter Lindert, 'English Population, Wages, and Prices: 1541-1913,' Journal of Interdisciplinary History, 15 (Spring 1985), 609-34.
- ** 11. R. A. Houston, The Population History of Britain and Ireland, 1500 - 1750, Studies in Economic and Social History (London: Macmillan Press, 1991).
- 12. Alain Blum, Noël Blum, and Didier Blanchet, eds., Modèles de la démographie historique, Institut National d'Études Démographiques (Paris: Presses Universitaires de France, 1992).
- ** 13. 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.
- 14. 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). Combines three previously published Studies in this series on English/British population: by John Hatcher, R.A. Houston, and Michael Anderson.
- * 15. 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).
- * 16. David Levine, 'Sampling History: The English Population,' Journal of Interdisciplinary History, 28:4 (Spring 1998), 605-32. A review article, very critical in tone, based on: E.A. Wrigley, R.S. Davies, J.E. Oeppen, and R.S. Schofield, English Population History from Family Reconstruction, 1580 - 1837 (Cambridge and New York: Cambridge University Press, 1997).

B. Methodological Studies and Demographic Surveys for Western Europe (excluding specialized studies on England)

- 1. Thomas R. Malthus, An Essay on the Principle of Population, 1st edn. (London, 1798); 6th edn., 2 vols. (London, 1826).
- 2. A.M. Carr-Saunders, The Population Problem: A Study in Human Evolution (Oxford,

1922).

3. A. M. Carr-Saunders, World Population: Past Growth and Present Trends (Oxford, 1936), Chapters 5-8.
4. Roger Mols, Introduction à la démographie historique des villes d'Europe du XIVe au XVIIIe siècles, 3 vols. (Louvain-Gembloux, 1954-56). See Vol. I on methodology.
5. Karl Helleiner, 'New Light on the History of Urban Populations,' Journal of Economic History, 18 (1958), 56-61. A review-article concerning the Mols volumes (1954-56).
6. E.A. Wrigley, Industrial Growth and Population Change (London, 1961).
7. Carlo Cipolla, The Economic History of World Population (London, 1962), pp. 24-31, 62-72, 73-117.
- * 8. B. H. Slicher-Van Bath, The Agrarian History of Western Europe, A.D. 500-1850 (London, 1963), pp. 18-28, 144-45, 192-205, 205-39; but especially Part III, Section A, 'Population,' pp. 77-97.
- * 9. Peter Laslett, The World We Have Lost (London, 1965; 2nd edn. 1971):
 - (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.
- ** 10. 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. 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).
- (e) J.T. Krause, 'The Changing Adequacy of English Registration, 1690-1837,' pp. 379-83. [Original publication.]
- (f) 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.]

Part III: Continental Europe

- (a) Pierre Goubert, 'Recent Theories and Research in French Population between 1500 and 1700,' pp. 457-473.
 - (b) J. Meuvret, 'Demographic Crisis in France from the Sixteenth to the Eighteenth Century,' pp. 507-22.
 - (c) Carlo Cipolla, 'Four Centuries of Italian Demographic Development,' pp. 570-87.
11. J.A. Faber, 'Population Change and Economic Development in the Netherlands: Historical Survey,' Afdeling Agrarische Geschiedenis Bijdragen, 12 (1965), 47-110. [Catalogued under: Wageningen, Landbouwhogeschool.]
 - * 12. Fernand Braudel, Capitalism and Material Life, 1400-1800 (trans. Miriam Koch, London, 1967), Chapter 1, 'Weight of Numbers,' pp. 1-64. See also Chapters 2-3, pp. 66-190.
 - ** 13. Karl Helleiner, 'Population of Europe from the Black Death to the Eve of the Vital

Revolution,' in E.E. Rich and Charles Wilson, eds., Cambridge Economic History of Europe, Vol. IV: 16th and 17th Centuries (Cambridge, 1967), pp. 58-95.

14. M.R. Reinhard, André Armengaud, Jacques Dupâquier, Histoire générale de la population mondiale (Paris, 1968).
- * 15. E.A. Wrigley, Population and History (London, 1969), Chapters 3-4.
16. A.C. Kelley, 'Demographic Cycles and Economic Growth: The Long Swing Reconsidered,' Journal of Economic History, 19 (1969).
17. Michael Drake, ed., Population in Industrialization (London, 1969). Read especially Drake's introduction, pp. 1-10.
18. Harry Miskimin, The Economy of Early Renaissance Europe, 1300-1460 (1969: reissued Cambridge, 1975), Chapter 2, 'Recovery: Population and the Money Supply,' and Chapter 3, 'Agriculture: the Rising Demand for Food,' pp. 20-82 (but especially pp. 20-28).
19. Frederic Mauro, Le XVIe siècle européen: aspects économiques (Paris, 1970), chapter II:1, 'La population,' pp. 156-75.
20. Fernand Braudel, The Mediterranean and the Mediterranean World in the Age of Philip II, Vol. I (London, 1972), Part Two: I.2, 'How Many People?' pp. 394-417.
- * 21. Roger Mols, 'Population in Europe, 1500-1700,' in Carlo Cipolla, ed., Fontana Economic History of Europe, Vol. II: The Sixteenth and Seventeenth Centuries (London, 1974), pp. 15-82.
22. David Loschky, 'Economic Change, Mortality, and Malthusian Theory,' Population Studies, 30 (1975), 439-52.
23. Thomas McKeown, The Modern Rise of Population (London, 1976).
24. Jan De Vries, The Economy of Europe in an Age of Crisis, 1600-1750 (Cambridge, 1976), Chapter 1, 'The Age of Crisis,' and Chapter 2, 'The Agrarian Economies on Divergent Paths,' pp. 1-83, but especially pp. 4-16.
- * 25. 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, Germany.
- ** 26. Wilhelm Abel, Agrarkrisen und Agrarkonjunktur, 3rd edn. (Berlin, 1978). Translated by Olive Ordish and reissued as Agricultural Fluctuations in Europe from the Thirteenth to the Twentieth Centuries (London, 1980). Part II, Chapters 4-6: 'Changes in the Agrarian Economy of Western and Central Europe from the Sixteenth to the Mid-Eighteenth Century,' pp. 99-196.

27. W.R. Lee, ed., European Demography and Economic Growth (London, 1979).
28. David B. Grigg, Population Growth and Agrarian Change: An Historical Perspective (Cambridge, 1980). Part One, 'Methodology' (chapters 2-5), pp. 9 - 48; Part Two: 'Malthus Justified,' chapters 6-9, pp. 49-114; especially chapter 8, 'England in the Sixteenth and Seventeenth Centuries,' pp. 102 -14.
29. Fernand Braudel, Civilization and Capitalism, 15th - 18th Centuries, Vol. I: The Structures of Everyday Life: The Limits of the Possible, translated by Sian Reynolds (New York, 1981), chapter 1: 'Weight of Numbers,' pp. 31 - 103.
- * 30. Michael Flinn, The European Demographic System, 1500-1820 (Baltimore, 1981).
31. Esther Boserup, Population and Technological Change: A Study of Long-Term Trends (Chicago, 1981), part III: 'The Role of Demographic Factors in European Development,' pp. 93-125.
32. Roderick C. Floud, 'Economics and Population Growth: A Comment,' Journal of Interdisciplinary History, 14 (Autumn 1983), 439-44.
33. 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.
34. Jacques Dupâquier and A. Fauve-Chamoux, eds., Malthus Past and Present (London, 1983).
35. 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.
36. George Alter and James C. Riley, 'How to Bet on Lives: A Guide to Life Contingent Contracts in Early Modern Europe,' in Paul Uselding, ed., Research in Economic History, 10 (1986).
37. David Loschky and Maw Lin Lee, 'Malthusian Population Oscillations,' Economic Journal, 97 (1987), 727-39.
38. John Komlos, 'On the Role of Crises in Historical Perspective,' Population and Development Review, 14 (March 1988), 159 - 64.
39. Edward Crenshaw, 'The Demographic Regime of Western Europe in the Early Modern Period: A Review of the Literature,' Journal of Family History, 14 (1989), 177-89.
40. E. D. Jones, 'Going Round in Circles: Some New Evidence for Population in the Later Middle Ages,' Journal of Medieval History, 15 (1989), 329-45.
41. L. R. Poos, 'The Historical Demography of Renaissance Europe: Recent Research and Current Issues,' Renaissance Quarterly, 42 (1989), 749-811.
- * 42. Richard M. Smith, 'Demographic Developments in Rural England, 1300-48: A Survey,' in Bruce M.S. Campbell, ed., Before the Black Death: Studies in the 'Crisis' of the Early Fourteenth Century (Manchester and New York: Manchester University Press, 1991), pp. 25 - 77.

Although this essay may appear to be too early in the period for this tutorial topic, it is in fact very relevant. It is the best analytical survey of the previous demographic crisis, arguably more deserving of the description 'Malthusian'; and Smith makes several useful comparisons between the two. He also provides a very clear analysis of Malthus and the so-called Malthusian model.

43. Ronald Lee, 'Accidental and Systematic Change in Population History: Homeostasis in a Stochastic Setting,' Explorations in Economic History, 30:1 (January 1993), 1 - 30. See in particular 'The Origin of Long Swings in Historical Populations,' pp. 21-28.
44. Christian Pfister, 'The Population of Late Medieval and Early Modern Germany,' Robert Scribner, ed., Germany: A New Social and Economic History, Vol. 1: 1450 - 1630 (London and New York: Arnold, 1996).
45. 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).
46. Michel Morineau, 'Malthus: There and Back, From the Period Preceding the Black Death to the Industrial Revolution,' The Journal of European Economic History, 27:1 (Spring 1998), 137-202.

C. **Fertility and The 'European Marriage Pattern':**

Marriage Patterns, Family Structures, and Fertility in Late Medieval and Early Modern Europe. In chronological order of publication

1. Philip Ariès, Centuries of Childhood: A Social History of Family Life, trans. Robert Baldick (London, 1962).
- ** 2. J. Hajnal, 'European Marriage Patterns in Perspective,' in D.V. Glass and D.E.C. Eversely, eds., Population in History: Essays in Historical Demography (London, 1965), pp. 101-46.
- ** 3. 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.
4. Peter Laslett, 'Mean Household Size in England Since the Sixteenth Century,' in Peter Laslett and R. Wall, eds., Household and Family in Past Time (Cambridge and New York: Cambridge University Press, 1972).
- * 5. R.B. Outhwaite, 'Age at Marriage in England from the Late Seventeenth to the Nineteenth Century,' Transactions of the Royal Historical Society, 5th series, 23 (1973).
6. N.F.R. Crafts and N.J. Ireland, 'Family Limitation and the English Demographic Revolution: A Simulation Approach,' Journal of Economic History, 36 (1976), 598-623. Very technical and econometric.
7. Richard T. Vann, 'Women in Preindustrial Capitalism,' in R. Bridenthal, ed., Becoming Visible: Women in European History (Boston: Houghton Mifflin, 1977), pp. 194-215.
8. E. A. Wrigley, 'Reflections on the History of the Family,' Daedalus, 106 (1977), 71 - 85.
9. 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., 26 (1978), 419-28, 429-36.
10. Richard M. Smith, 'Some Reflections on the Evidence for the Origins of the 'European Marriage Pattern' in England,' in C. Harris, ed., The Sociology of the Family: New Directions for Britain (Keele, 1979), pp. 74-112.
11. Peter Laslett, 'Comparing Illegitimacy over Time and Between Cultures,' in Peter Laslett, Karla Osterveen, and Richard M. Smith, eds., Bastardy and its Comparative History (London, 1980).

12. Michael Anderson, Approaches to the History of the Western Family, 1500 - 1914, New Studies in Economic and Social History (Cambridge and New York: Cambridge University Press, 1980).
13. Richard M. Smith, 'Fertility, Economy, and Household Formation in England Over Three Centuries,' Population and Development Review, 7 (1981), 595 - 622.
14. E.A. Wrigley, 'Marriage, Fertility and Population Growth in Eighteenth-Century England,' in R.B. Outhwaite, ed., Marriage and Society: Studies in the Social History of Marriage (London, 1981), pp. 155-67.
- * 15. P.P.A. Biller, 'Birth Control in the West in the Thirteenth and Early Fourteenth Centuries,' Past and Present, no. 94 (Feb. 1982), 3-26.
- ** 16. John Hajnal, 'Two Kinds of Pre-Industrial Household Formation Systems', in Richard Wall, ed., Family Forms in Historic Europe, SSRC Cambridge Group for the History of Population and Social Structure (Cambridge and New York: Cambridge University Press, 1983), pp. 65-104.
- * 17. Richard Wall, 'The Household: Demographic and Economic Change in England, 1650 - 1970', in Richard Wall, ed., Family Forms in Historic Europe, SSRC Cambridge Group for the History of Population and Social Structure (Cambridge and New York: Cambridge University Press, 1983), pp. 493-512.
18. E.A. Wrigley and R.S. Schofield, 'English Population History from Family Reconstitution: Summary Results, 1600 - 1799,' Population Studies, 37 (1983), 157-84.
- * 19. Richard M. Smith, 'Hypothèses sur la nuptialité en Angleterre aux XIIIe - XIVe siècles,' Annales: Economies, Sociétés, Civilisations, 38 (1983), 107-36.
20. Jack Goody, The Development of the Family and Marriage in Europe (Cambridge University Press, 1983).
21. David Herlihy, 'The Making of the Medieval Family: Symmetry, Structure, and Sentiment,' Journal of Family History, 2 (1983), 116-30.
22. Peter Laslett, The World We Have Lost: Further Explored (London: Methuen, 1983).
23. Chris Wilson, 'Natural Fertility in Pre-Industrial England, 1600 - 1799,' Population Studies, 38 (1984), 225-40.
24. David R. Weir, 'Rather Never than Late: Celibacy and Age at Marriage in English Cohort Fertility, 1541-1971,' Journal of Family History, 9 (1984), 340-54.
25. Roger Schofield, 'English Marriage Patterns Revisited,' Journal of Family History, 10:1 (Spring 1985), 2-20.
26. Antonia Fraser, The Weaker Vessel: Woman's Lot in Seventeenth-Century England

(London: Methuen, 1984).

27. David Herlihy, Medieval Households (Cambridge, Mass. 1985), chapters 4, 5, and 6 (pp. 79 - 156), for later medieval marriage patterns, parenthood, childhood, etc..
28. Mary Prior, 'Women and the Urban Economy,' in Mary Prior, ed., Women in English Society, 1500 - 1800 (London: Methuen, 1985).
29. 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):
 - (a) Richard M. Smith, 'Marriage Processes in the English Past: Some Continuities,' pp. 43-99.
 - (b) Roger Schofield, 'Did Mothers Really Die?' pp. 231-60.
 - (c) P.P. Viazzo, 'Illegitimacy and the European Marriage Pattern: Comparative Evidence from the Alpine Area,' pp. 100-21.
30. David Levine, Reproducing Families: The Political Economy of English Population History (Cambridge, 1987).
31. P. Galloway, 'Basic patterns in Annual Variations in Fertility, Nuptiality, Mortality, and Prices in Pre-Industrial Europe,' Population Studies, 42 (1988), 275-304.
32. Walter Prevenier, ed., Marriage and Social Mobility in the Late Middle Ages/ Mariage et mobilité sociale au bas moyen-âge, Studia Historica Gandensia no. 274 (Ghent, 1989).
33. David Potter, 'Marriage and Cruelty Amongst the Protestant Nobility in 16th Century France,' European History Quarterly, 20 (Jan. 1990), 19-35.
34. Pamela Sharpe, 'Literally Spinsters: A New Interpretation of Local Economy and Demography in Colyton in the Seventeenth and Eighteenth Centuries,' Economic History Review, 2nd ser. 44 (February 1991), 46 - 65.
35. Katrina Honeyman and Jordan Goodman, 'Women's Work, Gender Conflict, and Labour Markets in Europe, 1500 - 1900,' Economic History Review, 2nd ser., 44 (November 1991), 608-28.
36. Jean-Louis Flandrin, Sex in the Western World: The Development of Attitudes and Behavior (Philadelphia: Harwood Academic Publishers, 1991).
37. C. Wilson and R. Woods, 'Fertility in England: A Long-Term Perspective,' Population Studies, 45 (1991), 399 - 415.
38. E. A. Wrigley, 'Mortality and the European Marriage Pattern System,' in Catherine Geissler

and Derek Oddy, eds., Food, Diet, and Economic Change, Past and Present (Leicester: Leicester University Press, 1993), pp. 35-49.

39. Merry E. Wiesner, Women and Gender in Early Modern Europe, New Approaches to European History 1 (Cambridge and New York: Cambridge University Press, 1993).
40. Daniel C. Quinlan and Jean A. Shackelford, 'Economy and English Families, 1500 - 1850,' Journal of Interdisciplinary History, 24:3 (Winter 1994), 431-63.
41. David Weir, 'Family Income, Mortality, and Fertility on the Eve of the Demographic Transition: A Case Study of Rosny-sous-Bois,' The Journal of Economic History, 55:1 (March 1995), 1-26.
42. Anthony Fletcher, Gender, Sex and Subordination in England, 1500 - 1800 (New Haven and London: Yale University Press, 1995).
43. David Kertzer and Peter Laslett, Aging in the Past: Demography, Society and Old Age (Berkeley: University of California Press, 1995).
44. Richard Adair, Courtship, Illegitimacy and Marriage in Early Modern England (Manchester and New York: Manchester University Press, 1996).
- * 45. 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).
46. Laura Gowing, 'Secret Births and Infanticide in Seventeenth-Century England,' Past & Present, no. 156 (August 1997), 87-115.
47. Rebecca Jean Emigh, 'Land Tenure, Household Structure, and Age at Marriage in Fifteenth-Century Tuscany,' Journal of Interdisciplinary History, 27:4 (Spring 1997), 613-36.
48. David Cressy, Birth, Marriage and Death: Ritual, Religion and Life-Cycle in Tudor and Stuart England (Oxford and New York: Oxford University Press, 1997).
- * 49. Maw Lin Lee and David Loschky, 'Interdependency between Fertility and Real Wages in England, 1541 - 1871,' The Journal of European Economic History, 27:1 (Spring 1998), 107-31.
50. Mavis E. Mate, Daughters, Wives, and Widows after the Black Death: Women in Sussex, 1350-1535 (Woodbridge, Suffolk: Boydell Press, 1998).
51. Jane Fair Bestor, 'Marriage Transactions in Renaissance Italy and Mauss's *Essay on the Gift*,' Past & Present, no. 164 (August 1999), 6-46.

D. Mortality: Climate, Harvests, Famine, and Disease

Some Particular Physical Factors and Their Consequences for Demographic Change in Early-Modern Europe:

1. W. G. Hoskins, 'Harvest Fluctuations and English Economic History, 1480-1619,' Agricultural History Review, 2 (1953-54), 28-46; reprinted in W. E. Minchinton, ed., Essays in Agrarian History (1968), Vol. I, pp. 93-116.
2. L. Fabian Hirst, The Conquest of the Plague (Oxford, 1953).
3. R. Pollitzer, Plague (World Health Organization, Geneva, 1954).
4. Gustav Utterstrom, 'Climatic Fluctuations and Population Problems in Early Modern History,' Scandinavian Economic History Review, 3 (1955), 30-47. The article that sparked the debate, and attacked by Le Roy Ladurie (1971, 1972). Use with care, since Utterstrom is largely anecdotal.
5. E. L. Jones, Seasons and Prices: The Role of Weather in English Agricultural History (London, 1964).
6. F.J. Fisher, 'Inflation and Influenza in Tudor England,' Economic History Review, 2nd ser. 18 (1965), 120-29.
7. G. B. Masefield, 'Crops and Livestock,' in E.E. Rich and Charles Wilson, eds., Cambridge Economic History of Europe, Vol. IV: 16th and 17th Centuries (Cambridge, 1967), pp. 276-87, 299-307.
8. J.F.D. Shrewsbury, A History of the Bubonic Plague in the British Isles (Cambridge, 1970).
9. R. B. Outhwaite, 'Dearth and Government Intervention in English Grain Markets, 1590-1700,' Economic History Review, 34 (1971), 389-406.
10. Emmanuel Le Roy Ladurie, Times of Feast, Times of Famine: A History of Climate since the Year 1000 (New York, 1971). Impressive, but less useful than it sounds.
- * 11. Emmanuel Le Roy Ladurie, 'History and Climate,' in Peter Burke, ed., The Economy and Society in Early Modern Europe: Essays from Annales (London, 1972), pp. 134-69.
- * 12. Fernand Braudel, The Mediterranean and the Mediterranean World in the Age of Phillip II, Vol. I (1972), Part I. iv, 'Climate and History,' pp. 231-75.
13. Frederick Cartwright, Disease and History (New York, 1972).
14. Andrew Appleby, 'Disease or Famine? Mortality in Cumberland and Westmorland, 1580-1640,' Economic History Review, 2nd ser. 26 (1973), 403-32.
15. Carlo Cipolla, 'The Plague and Pre-Malthus Malthusians,' Journal of European Economic

History, 3 (1974), 277-84.

16. Michael Flinn, 'The Stabilisation of Mortality in Pre-Industrial Western Europe,' Journal of European Economic History, 3 (1974), 285-318.
17. Andrew Appleby, 'Nutrition and Disease: The Case of London, 1550 - 1750,' Journal of Interdisciplinary History, 6 (Summer 1975), 1-22.
18. David Loschky, 'Economic Change, Mortality, and Malthusian Theory,' Population Studies, 30 (1975), 439-52.
19. J. N. Biraben, Les hommes et la peste en France et dans les pays européens et méditerranées, 2 vols. (Paris and The Hague, 1975-76).
20. William MacNeill, Plagues and Peoples (New York, 1976), Chapters 4-6.
21. J. D. Post, 'Famine, Mortality, and Epidemic Disease in the Process of Modernization,' Economic History Review, 2nd ser. 29 (1976), 14-37.
- * 22. John A. Eddy, 'The 'Maunder Minimum': Sunspots and Climate in the Reign of Louis XIV,' Science, 92 (1976), 1189 - 1202. Republished in Geoffrey Parker and Lesley Smith, eds., The General Crisis of the Seventeenth Century (London, 1978), pp. 226-68. See also Parker's introduction, pp. 6-12.
23. Carlo Cipolla, Faith, Reason, and the Plague in Seventeenth-Century Tuscany, trans. Muriel Kittel (1977; English edn. New York, 1979).
24. Andrew Appleby, 'Famine, Mortality, and Epidemic Disease: A Comment,' Economic History Review, 2nd ser. 30 (1977), 508-12.
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E. English Demography: Some Particular Studies

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 - (b) R.S. Schofield, 'Through a Glass Darkly: The Population History of England as an Experiment in History,' pp. 571-93.
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 - (e) Ronald Lee, 'Population Homeostasis and English Demographic History,' pp. 635-60.
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 - (h) Ann Kussmaul, 'Time and Space, Hoofs and Grain: The Seasonality of Marriage in England,' pp. 755-79.
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57. Larry Poos, A Rural Society after the Black Death: Essex, 1350 - 1525, Cambridge Studies in Population, Economy and Society in Past Time no. 18 (Cambridge: Cambridge University Press, 1991).
- ** 58. R. A. Houston, The Population History of Britain and Ireland, 1500 - 1750, Studies in Economic and Social History (London: Macmillan Press, 1991).
59. E. D. Jones, 'A Few Bubbles More: the Myntling Register Revisited,' Journal of Medieval History, 17 (1991), 263-9.
- * 60. Richard M. Smith, 'Demographic Developments in Rural England, 1300-48: A Survey,' in Bruce M.S. Campbell, ed., Before the Black Death: Studies in the 'Crisis' of the Early Fourteenth Century (Manchester and New York: Manchester University

Press, 1991), pp. 25 - 77.

Although this essay may appear to be too early in the period for this topic, it is in fact very relevant. It is the best analytical survey of the previous demographic crisis, arguably more deserving of the description 'Malthusian'; and Smith makes several useful comparisons between the two. He also provides a very clear analysis of Malthus and the so-called Malthusian model.

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- * 66. 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). Combines three previously published Studies in this series on English/British population: by John Hatcher, R.A. Houston, and Michael Anderson.
- * 67. 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).
- ** 68. Pamela Nightingale, 'The Growth of London in the Medieval English Economy,' in Richard Britnell and John Hatcher, eds., Progress and Problems in Medieval England (Cambridge and New York: Cambridge University Press, 1996), pp. 89-106.
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F. Population, Prices, and Purchasing-Power: The Standard of Living Controversy of the 16th and 17th Centuries

1. J. E. Thorold Rogers, History of Agriculture and Prices in England, Vol. IV: 1401-1583 (1882). The original and still classic study on English prices and wages; but to be used with some care, because of his sampling methods.
2. Earl Hamilton, 'American Treasure and Andalusian Prices, 1503-1660: A Study in the Spanish Price Revolution,' Journal of Economic and Business History, 1 (1928), reprinted in P.H. Ramsey, ed., The Price Revolution in Sixteenth-Century England (London, 1971), pp. 147-81.
3. Earl Hamilton, American Treasure and the Price Revolution in Spain, 1501-1650 (Cambridge, Mass., 1934; reissued 1965). Chapter XII: 'Wages: Money and Real,' pp. 262-82. See also the Appendices (pp. 309-403), with statistical tables on prices and wages.
4. John Nef, 'Prices and Industrial Capitalism in France and England, 1540-1640,' Economic History Review, 1st Ser. 7 (1937), reprinted in E.M. Carus-Wilson, ed., Essays in Economic History, Vol. I (London, 1954), pp. 108-34. Inspired by and written in opposition to the publications of Hamilton, above.
5. William H. Beveridge, ed., Prices and Wages in England, Vol. I: The Mercantile Era (London, 1939; reissued 1965). Note: no other volumes in this proposed series have ever been issued. Many of the price series in Vol. I commence after the 16th century. The prices and wages given here are much more reliable than those in Thorold Rogers.
- ** 6. E.H. Phelps Brown and Sheila V. Hopkins, 'Seven Centuries of Building Wages,' Economica, 22 (August 1955), reprinted in E.M. Carus-Wilson, ed., Essays in Economic History, Vol. II (London, 1962), pp. 168-78. Reprinted also in E.H. Phelps Brown and Sheila V. Hopkins, A Perspective of Wages and Prices (London, 1981).
7. E.H. Phelps Brown and S.V. Hopkins, 'Seven Centuries of the Prices of Consumables Compared with Builders' Wage-Rates,' Economica, 23 (Nov. 1956), reprinted in the following:
 - a) E.M. Carus-Wilson, ed., Essays in Economic History, Vol. II (London, 1962), pp. 179-96;
 - b) Peter Ramsey, ed., The Price Revolution (London, 1971), pp. 18-41.
 - c) E.H. Phelps Brown and Sheila V. Hopkins, A Perspective of Wages and Prices (London, 1981), containing additional statistical appendices not provided in the original publication, or in earlier reprints.

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QUESTIONS

1. When, where, and how did Europe's population begin to recover from the last medieval contractions: in the mid-15th century, late-15th century, or early 16th century? To what extent did Europe's population grow in the course of the later 16th and early 17th centuries? Did it surpass the late-medieval peak (of ca. 1300?)
2. If Europe's population did grow larger than ever before, how was Europe able to feed, clothe, and house such a larger population? In particular how was Europe able to sustain a larger urban population than ever before: in more and larger cities? What were the sources and mechanisms for additional food supplies? How important were overseas discoveries and the New World in feeding the Old?
3. What sources and what kind of evidence have been utilized to estimate the extent of Europe's population growth in the 16th and 17th centuries? How reliable are the data for England and the continent? In particular, how reliable are wage and price data for estimating population growth?
- * 4. Did Europe's population grow to such an extent that Europe began to experience 'Malthusian pressures' (i.e. of overpopulation) by the 17th century? If so, were the population pressures more or less severe than those experienced in the early 14th century? Again, how reliable are wage and price data as evidence for such 'Malthusian pressures': were standards of living for wage-earners depressed in the later 16th century? What happened to real incomes and standards of living of the peasantry, of landowners, of merchants and artisans? To the extent that poverty was a social problem, what factors other than over-population may have been responsible? [See also the readings on Vagrancy].
5. What were the other economic and social consequences of Europe's population growth in the 16th and 17th centuries? How and why did experiences vary in different parts of Europe?
6. In particular what industries seem to have been stimulated by population growth, and which ones were hindered by it? In general, did demographic expansion mean economic expansion and growth?
7. How did population growth encourage producers to economize on scarce resources (those with inelastic supply curves especially): in agriculture and in industry? Why did responses to demographic pressures vary by region and country?
8. How, when, where, and why did Europe's population cease to grow in the 17th century? What roles did famine, disease -- the plague especially -- warfare, limitations on fecundity/fertility play in slowing down or curbing population growth? Why did Germany, Italy, and Spain in particular appear to have suffered severe population losses in the 17th century? What effect did the cessation of demographic expansion have upon general European economic growth?
9. How, when, where, and why did the plague era come to an end in western Europe? In eastern Europe?

10. Why did population begin to grow once more in the 18th century, to constitute the modern 'demographic revolution'?
11. Is there any connection between climatic and demographic changes? What relationships, if any, are to be found between/among climate, the harvest, famine and malnutrition, disease and mortality, average age of first marriage, fecundity and live birth rates?
- * 12. What is Hajnal's 'European Marriage Pattern' and what influence did it have on European demographic change from the 14th to 18th centuries? How does it relate demography to the economy? See section C of the bibliography.

Table 1. THE POPULATION OF ENGLAND (AND WALES)

Quinquennial Demographic Data from Generalised Inverse Projection						
Year	England	with Wales	England: Life	Intrinsic	Crude Birth	Crude Death
	Population	Population	Expectancy	Growth	Rate/1000	Rate/1000
	in millions	in millions	at Birth	Rate	England only	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
1676	5.185	5.552	32.40	-0.39	28.91	30.75

Table 1. THE POPULATION OF ENGLAND

Quinquennial Demographic Data from Generalised Inverse Projection						
Year	England	with Wales	England: Life	Intrinsic	Crude Birth	Crude Death
	Population	Population	Expectancy	Growth	Rate/1000	Rate/1000
	in millions	in millions	at Birth	Rate	England only	England only
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

Table 1. THE POPULATION OF ENGLAND							
	Quinquennial Demographic Data from Generalised Inverse Projection						
Year	England	with Wales	England: Life	Intrinsic	Crude Birth	Crude Death	
	Population	Population	Expectancy	Growth	Rate/1000	Rate/1000	
	in millions	in millions	at Birth	Rate	England only	England only	
1821	11.457	12.269	40.47	1.75	40.22	23.73	
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	18.975	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					

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), Appendix 9, pp. 613-6. See also E.A. Wrigley and R.S. Schofield, *The Population History of England, 1541 - 1871: A Reconstruction* (Cambridge and New York: Cambridge University Press, 1980), pp. 528-29.

For the 19th and 20th centuries, ever since the first official census of 1801, British statistics usually present the population for England and Wales combined together. I have myself estimated the probable combined population of England and Wales by dividing their data for England alone (which omits the county of Monmouthshire, now part of Wales) by the constant: 0.93383. This ratio is indicated in the latter Wrigley-Schofield, on p. 557, as a note to their Table A5.3. All of the other data necessarily pertain to England alone; and you may prefer therefore to use just the English population data, omitting Wales.

Table 2.

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 T.A. Brady, H.A. Oberman, and J.D. Tracy, eds., *Handbook of European History, 1400-1600*, Vol. I: *Structures and Assertions* (Leiden, 1994), p. 13

Table 3. Number of Cities in the Indicated Population Range

YEAR	50,000- 100,000	100,000 400,000	Over 400,000
1300	4	3 (or 4?)	0
1500	5	5	0
1650	14	12	3
1750	512	43	4

Table 4. Prices, Nominal and Real Wages in England and Brabant, 1451-55 to 1696-1700							
Mean of 1451-75 = 100							
Years	England	England	England		Brabant	Brabant	Brabant
	Prices	Wages	Real		Prices	Wages	Real
	Index	Index	Wages		Index	Index	Wages
1451-55	100.25	100.00	100.06		98.5447	100.00	101.82
1456-60	97.06	100.00	103.12		114.5774	100.00	87.74
1461-65	102.73	100.00	99.01		91.0702	100.00	110.15
1466-70	106.74	100.00	93.72		96.9534	100.00	103.52
1471-75	97.76	100.00	102.59		98.8543	100.00	101.31
1476-80	90.06	100.00	111.68		120.6929	100.00	67.50
1481-85	127.38	100.00	80.74		155.7517	107.50	62.20
1486-90	102.77	100.00	98.06		174.0982	101.67	88.73
1491-95	106.80	100.00	93.93		133.2164	102.08	81.55
1496-00	96.70	100.00	103.51		115.3515	102.08	89.19
1501-05	106.79	100.00	93.75		125.4494	112.08	81.30
1506-10	103.77	100.00	96.39		114.8011	125.00	83.37
1511-15	108.52	100.00	92.53		137.9040	126.67	71.55
1516-20	120.44	100.00	83.66		150.2641	128.75	72.31
1521-25	146.05	100.00	69.13		179.9384	125.42	72.96
1526-30	157.34	100.00	64.27		178.5192	143.33	77.48
1531-35	155.64	100.00	65.01		173.9949	159.17	76.74
1536-40	152.33	108.33	71.39		185.6411	185.83	94.17
1541-45	176.54	115.00	65.36		208.3398	197.50	76.05
1546-50	229.64	120.00	52.82		199.4203	218.75	74.55
1551-55	275.45	140.00	50.89		260.5150	356.67	114.93
1556-60	315.85	160.00	53.34		300.7173	297.08	93.59
1561-65	289.31	166.67	57.74		313.9375	290.83	69.10
1566-70	292.29	166.67	57.03		318.2897	442.50	92.27
1571-75	296.09	170.00	58.09		423.4316	542.50	95.63
1576-80	336.50	190.00	56.62		480.7160	495.00	68.78
1581-85	337.52	200.00	59.29		617.4244	510.00	76.41
1586-90	387.17	200.00	52.53		799.7540	560.00	74.84
1591-95	416.01	200.00	49.05		688.3332	600.00	98.76
1596-00	540.54	200.00	37.81		752.9459	600.00	99.09
1601-05	461.26	200.00	43.73		612.3239	600.00	95.66
1606-10	497.00	200.00	40.47		615.8934	600.00	96.45
1611-15	532.84	200.00	37.74		636.1322	600.00	74.90
1616-20	520.39	200.00	38.55		626.9632	600.00	65.83
1621-25	529.72	200.00	37.99		815.7524	600.00	66.10
1626-30	525.06	203.33	38.94		919.6470	600.00	62.03

Years	England	England	England		Brabant	Brabant	Brabant
	Prices	Wages	Real		Prices	Wages	Real
	Index	Index	Wages		Index	Index	Wages
1631-35	608.38	226.67	37.43		908.5342	600.00	60.98
1636-40	615.12	248.33	40.68		967.6679	600.00	59.78
1641-45	560.50	268.33	47.92		987.1669	600.00	68.30
1646-50	734.39	283.33	39.32		1015.1382	600.00	71.58
1651-55	601.33	296.67	49.98		904.3282	600.00	69.45
1656-60	640.26	300.00	47.16		843.4656	600.00	81.36
1661-65	672.97	300.00	44.82		880.6145		
1666-70	599.64	300.00	50.18		738.1088		
1671-75	615.65	300.00	49.03		828.7059		
1676-80	611.62	300.00	49.17		785.9576		
1681-85	595.14	300.00	50.54		736.5519		
1686-90	547.58	303.33	55.52		652.2165		
1691-95	604.84	315.00	52.88		896.1570		
1696-00	719.99	326.67	45.54		967.9947		

N.B. The arithmetic means that compose the real wage index in this table are the means of the five years in each quinquenniums, which are calculated individually by dividing each year's nominal wage index by the composite price index for that year; they are not calculated by dividing the quinquennials mean of the nominal wage index by the quinquennials means of the price index. The latter method will produce slight differences (as the difference between arithmetic and geometric means).

**Table 5: English and French Population, 1681 - 1821
in millions:**

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 6: 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 7.

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 8. Changing Demography of Colyton, Devonshire (England)

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

<u>Period</u>	<u>Men</u>	<u>Women</u>
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 9. 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	28.0	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	27.0	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

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 10. Estimated Population Totals and Percentage Growth Rates*

	<u>Population Totals (millions)</u>			
	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

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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 Monmouth. 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), ch. I, tables 2, 7; M. Reinhard, A. Armengaud and J. Dupaquier, *Histoire générale de la population mondiale*, 3rd edn. (Paris, 1968); J. Dupaquier, *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).