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ECO 301Y1:

Economic History of Later Medieval and Early Modern Europe, 1250 - 1750

Revised: 20 August 2013

Topic No. 4 [6]:   **Money and Economic *Conjuncture* in Late-Medieval Europe: Monetary and Price Changes (Inflation and Deflation), and Economic Crises during the 14th and 15th Centuries**

   READINGS: arranged, by topic section, in the chronological order of original publication. The more important readings are indicated by asterisks (*).

A.   **General Studies in Monetary History: Monographs and Collections of Essays**

   1.   W.A. Shaw, <u>The History of Currency, 1252-1894</u> (London, 1896), pp. 1-60. Rather outdated, but useful in a few places.

   2.   Earl Hamilton, <u>Money, Prices, and Wages in Valencia, Aragon, and Navarre, 1351 - 1500</u> (Cambridge, Massachusetts: Harvard University Press, 1936).

*   3.   Marc Bloch, <u>Esquisse d'une histoire monétaire de l'Europe</u> (Paris: Cahiers des Annales nos. 9, 1954), especially pp. 40-83.

   4.   Philip Grierson, 'The Coin List of Pegolotti', in <u>Studi in onore di Armando Sapori</u>, 2 vols. (Milan: Istituto Editoriale Cisalpino, 1957), vol I, pp. 485-92

*   5.   Sir Albert Feavearyear, <u>The Pound Sterling: A History of English Money</u>, 2nd rev. edn. by E. V. Morgan (Oxford: Clarendon Press, 1963), pp. 1-45.

   6.   Pierre Vilar, <u>Oro y moneda en la historia, 1450-1920</u> (Barcelona, 1969); reissued in translation as <u>Or et monnaie en histoire, 1450-1920</u> (Paris, 1969); and as <u>History of Gold and Money, 1450-1920</u> (London, 1976). See especially chapters 2 and 3.

   7.   E. Fournial, <u>Histoire monétaire de l'occident médiéval</u> (Paris, 1970). Despite its title, almost entirely on France.

   8.   Eliyahu Ashtor, <u>Les métaux précieux et la balance des payements du Proche-Orient à la basse époque</u> (Paris, 1971).

   9.   C.H.V. Sutherland, <u>English Coinage, 600-1900</u> (London, 1973), chapters 6 and 7, pp. 66-85.

*   10.   Philip Grierson, <u>Les Monnaies du moyen âge</u> (Paris, 1976).

   11.   Nicholas J. Mayhew, ed., <u>Coinage in the Low Countries (800 - 1500): The Third Oxford Symposium on Coinage and Monetary History</u>, British Archeological Reports, BAR International Series 54 (Oxford, 1979):

      (a)   N. J. Mayhew, 'The Circulation and Imitation of Sterlings in the Low Countries', pp. 54 - 68.

(b) Frans and Willem P. Blockmans, 'Devaluation, coinage and seignorage under Louis de Nevers and Louis de Male, counts of Flanders, 1330-84', pp. 69 - 94.

(c) John H. Munro, 'Monetary Contraction and Industrial Change in the late-medieval Low Countries, 1335 - 1500', pp. 95 - 162.

(d) Pierre Cockshaw, 'La politique monétaire den Flandres des ducs de Bourgogne de la maison de Valois, 1384 - 1430', pp. 163-9.

(e) Peter Spufford and Peter Woodhead, 'Calais and its mint', pp. 171 - 202.

(f) H. Enno Van Gelder, 'Coins and accounts in the eastern Netherlands', pp. 203-15.

12. Artur Attman, The Bullion Flow Between Europe and the East, 1000-1750 (Goteborg, Acta Regaie Societatis Scientarum et Litterarum Gothoburgensis: Humaniora no. 20, 1981), pp. 7-29, 61-7, 104-24.

* 13. John F. Richards, ed., Precious Metals in the Later Medieval and Early Modern Worlds (Durham, N.C., 1983):

(a) Thomas Walker, 'The Italian Gold Revolution of 1252: Shifting Currents in the Pan-Mediterranean Flow of Gold', pp. 29-52.

(b) Louise Robert, 'Monetary Flows--Venice 1150 to 1400', pp. 53 -78.

(c) Harry Miskimin, 'Money and Money Movements in France and England at the End of the Middle Ages', pp. 79-96.

(d) John Munro, 'Bullion Flows and Monetary Contraction in Late-Medieval England and the Low Countries', pp. 97-158.

(e) Jere Bacharach, 'Monetary Movements in Medieval Egypt, 1171-1517', pp. 159-82.

(f) John F. Richards, 'Outflows of Precious Metals from Early Islamic India', pp. 183-207.

(g) John Deyell, 'The China Connection: Problems of Silver Supply in Medieval Bengal', pp. 207-30.

(h) Philip Curtin, 'Africa and the Wider Monetary World, 1250-1850', pp. 231-68.

14. John Day, ed., Études d'histoire monétaire, XIIe-XIXe siècles (Université de Paris VII, Lille, 1984):

(a) Frederic Lane, 'Exportations vénitiennes d'or et d'argent de 1200 à 1450', pp. 29-48. Reprinted in Frederic C. Lane, Studies in Venetian Social and Economic History, ed. Benjamin Kohl and Reinhold Mueller, Variorum Reprints CS 247 (London: Variorum Reprints, 1987).

(b) Nicholas Mayhew, 'Les frappes de monnaies et hausse des prix en Angleterre de 1180 à 1220', pp. 159-78.

(c)   Reinhold Mueller, ' `Chome l'ucciello di passegio': la demande saisonnière des espèces et le marché des changes à Venise au moyen âge', pp. 195-220.

(d)   Pedro Roqué, '153 000 florins d'or d'Aragon, de 1414 à 1428: Avatars politiques et avatars monétaires en Sardaigne médiévale', pp. 221-48.

(e)   John Munro, 'Monnayage, monnaies de compte et mutations monétaires au Brabant à la fin du moyen âge', pp. 263-94.

(f)   Nicolas Morard, 'Florins, ducats et marc d'argent à Fribourg et à Genève au XVe siècle (1420-1481)', pp. 295-34.

(g)   Peter Spufford, 'Le rôle de la monnaie dans la révolution commerciale du XIIIe siècle', pp. 355-96.

15.   Eddy Van Cauwenberghe and Franz Irsigler, eds., Münzprägung, Geldumlauf und Wechselkurse /Minting, Monetary Circulation and Exchange Rates, Akten des 8th International Economic History Congress, Budapest, Trierer Historische Forschungen vol. 7 (Trier, 1984):

(a)   Natalie Fryde, 'Silver, Recoinage and Royal Policy in England, 1180-1250', pp. 11-30.

(b)   John H. Munro, 'Mint Outputs, Money, and Prices in Late-Medieval England and the Low Countries', pp. 31-122.

(c)   Eddy Van Cauwenberghe and Didier Haencaert, 'Mintage and Coin Circulation in the Southern Low Countries (14th-18th Centuries): Some Theoretical Considerations', pp. 151-80.

(d)   Franz Irsigler, Rainer Metz, and Christian Reinicke, 'Zur Rekonstruktion des Geld- und Wahrungssystems im niederrheimischen Raum, 1350-1800', pp. 201-19.

*   16.   Frederic C. Lane and Reinhold Mueller, Money and Banking in Medieval and Renaissance Venice, Vol. I: Coins and Moneys of Account (Baltimore, 1985), especially Part III: 'The Genesis and Persistence of Bimetallism', pp. 257 - 492.

*   17.   Peter Spufford, Handbook of Medieval Exchange (London: Royal Historical Society, 1986), Introduction, pp. xix - lx.

*   18.   Robert Lopez, The Shape of Medieval Monetary History (London: Variorum Reprints, 1986).

*   19.   John Day, The Medieval Market Economy (Oxford, 1987): collected essays, some of which have been translated into English for the first time:

(a)   'The Great Bullion Famine of the Fifteenth Century', pp. 1 - 54.

(b)   'The Question of Monetary Contraction in Late Medieval Europe', pp. 55 - 71.

(c)   'The Decline of a Money Economy: Sardinia Under Catalan Rule', pp. 72 - 89.

(d)   'Late Medieval Price Movements and the `Crisis of Feudalism'', pp. 90 - 107.

(e)   'The Fisher Equation and Medieval Monetary History', pp. 108 - 15.

(f)   'Monetary Colonialism in the Medieval Mediterranean', pp. 129 - 40.

(g)   'The Monetary Circulation in Tuscany in the Age of Dante', pp. 129 - 40.

(h)   'Money and Credit in Medieval and Renaissance Italy', pp. 141 - 61.

(i)   'Crises and Trends in the Late Middle Ages', pp. 185 - 223.

*   20.   Peter Spufford, <u>Money and Its Use in Medieval Europe</u> (Cambridge: Cambridge University Press, 1988). Especially Part III, chapter 12: 'The Late Middle Ages: the Victory of Gold ', pp. 267 - 396; chapter 13, 'The Scourge of Debasement', pp. 289-318; chapter 14, 'The Money of Europe around 1400', pp. 319-338; and in particular, chapter 15: 'The Bullion-Famines of the Later Middle Ages', pp. 339-62.

21.   Françoise Dumas-Dubourg, <u>Le monnayage des ducs de Bourgogne</u>, Institut supérieur d'archéologie et d'histoire de l'art (Louvain-la-Neuve, 1988).

22.   Eddy Van Cauwenberghe, ed., <u>Precious Metals, Coinage, and the Changes of Monetary Structures in Latin-America, Europe and Asia (Late Middle Ages - Early Modern Times)</u> (Leuven University Press, 1989):

(a)   Eddy Van Cauwenberghe and Rainer Metz, 'Coinage and the Coin (Money) Stock: Problems, Possibilities and First Results (the Southern Low Countries, 1334 - 1789), pp. 7 - 24.

(b)   John H. Munro, 'Petty Coinage in the Economy of Late-Medieval Flanders: Some Social Considerations of Public Minting', pp. 25 - 57.

(c)   Michael North, 'Bullion Transfer from Western Europe to the Baltic and the Problem of Trade Balances: 1550 - 1750', pp. 67 - 64.

23.   Carlo M. Cipolla, <u>Money in Sixteenth-Century Florence</u> (Berkeley: University of California Press, 1989).

24.   Harry Miskimin, <u>Cash, Credit, and Crisis in Europe, 1300 - 1600</u> (London: Variorum Reprints, 1989).

a)   'Price Movements and Specie Debasement in France, 1295 - 1395', from <u>Yale Economic Essays</u>, 1 (1961), 233-73.

b)   'Two Reforms of Charlemagne? Weights and Measures in the Middle Ages', from <u>The Economic History Review</u>, 2nd ser., 20 (1967), 35-52.

c)   'The Economic Depression of the Renaissance', with R.S. Lopez, from <u>The Economic History Review</u>, 2nd ser., 14 (1962), 408-26.

d)   'Le problème de l'argent au moyen âge', from <u>Annales: Économies, sociétés, civilisations</u>, 17:6 (1962), 1125-30.

e)   'The Last Act of Charles V: The Background to the Revolts of 1382', from <u>Speculum</u>, 38 (1963), 433- 42.

f)   'The Legacies of London: 1259 - 1330', from H.A. Miskimin, D. Herlihy, and A. Udovitch, eds., <u>The Medieval City</u> (New Haven, 1977), pp. 209-27.

g)   'Monetary Movements and Market Structure: Forces for Contraction in Fourteenth- and Fifteenth-Century England', from <u>Journal of Economic History</u>, 24 (1964), 470-90.

h)   'England to Egypt, 1350 - 1500: Long-Term Frends and Long-Distance Trade', with R.S. Lopez and A. Udovitch, in M.A. Cook, ed., <u>Studies in the Economic History of the Middle East</u> (Oxford, 1970), pp. 93-128.

i)   'The Enforcement of Gresham's Law', from <u>Credito, banche e investimenti, secoli XIII-XX: Atti della quarta Settimana di Studio (Prato, 14-21 aprile 1972)</u>, Istituto Internazionale di Storia Economica 'Francesco Datini' (Florence, 1985), pp. 147-61.

j)   'Money, the Law, and Legal Tender', from Georges Depeyrot and Tony Haeckens, eds., <u>Rythmes de la production monétaire, de l'Antiquité à nos jours: Actes du Colloque international Paris, 10-12 janvier 1986</u>, Numismatica Lovaniensia 7 (Louvain-la-Neuve, 1987), pp. 697-705.

k)   'Money and Money Movements in France and England at the End of the Middle Ages', from John Richards, ed., <u>Precious Metals in the Later Medieval and Early Modern Worlds</u> (Durham, N.C., 1983), pp. 79-96.

l)   'L'or, l'argent, la guerre dans la France médiévale', from <u>Annales: Économies, sociétés, civilisations</u>, 40 (1985), 171-84.

m)   'Agenda for Early Modern Economic History', from <u>Journal of Economic History</u>, 31 (1971), 172-83.

n)   'Population Growth and the Price Revolution in England', from <u>The Journal of European Economic History</u>, 4 (1975), 179 - 86.

o)   'The Impact of Credit on Sixteenth-Century English Industry', from Fredi Chiapelli, ed., <u>The Dawn of Modern Banking</u> (New Haven, 1979), pp. 275-89.

25. Michael North, ed., <u>Geldumlauf, Währungssysteme und Zahlungsverkehr in Nordwesteuropa, 1300 - 1800: Beiträge zur Geldgeschichte der späten Hansezeit</u>, Quellen und Darstellungen zur hansischen Geshichte, new series, vol. 35 (Cologne-Vienna, 1989):

(a) Peter Berghaus, 'Hansisches Geld in Westfalen', pp. 7-18.

(b) J. S. Jensen, 'Lübecker und Hamburger Münzen in dänischen Schatzfunden, 1450 - 1660', pp. 19 - 24.

(c) Erik Aerts, 'Der Geldumlauf in den Burgundischen Niederlanden im 15. Jahrhundert', pp. 25 - 44.

(d) Franz Irsigler, 'Währunggen im oberlothringischen Raum, 1350 - 1600: Ein Projektbericht', pp. 75 - 92.

(e) Eddy Van Cauwenberghe, 'Die Müunzproduktion in den Niederlanden, 14. - 18. Jahrhundert', pp. 93 - 108.

(f)   Peter Spufford, 'Münzverschlechterung und Inflation im spätmittelalterlichen und frühneuzeitlichen Europa', pp. 109 - 26.

(g)   Stuart Jenks, 'Hartgeld und Wechsel im hansish-englischen Handel des 15. Jahrhunderts', pp. 127 - 66.

26.   Michael North, <u>Geldumlauf und Wirtschaftskonjunktur im südlichen Ostseeraum an der Wende zur Neuzeit (1440-1570)</u>, Kieler Historische Studien vol. 35 (Sigmaringen: Jan Thorbecke Verlag, 1990), especially chapter 3, 'Gold und Silber als Bestandteile des Geldumlaufs', pp. 85-104.

27.   Michael North, ed., <u>Kredit im spätmittelalterlichen und frühneuzeitlichen Europa</u>, Quellen und Darstellungen zur hansischen Geshichte, new series. Vol. 37 (Cologne-Vienna, 1991).

a)   Giuseppe Felloni, 'Kredit und Banken in Italien, 15. - 17. Jahrhundert', pp. 9 - 24.

(b)   Natalie Fryde, 'Die Kaufleute aus Cahors im England des 13. Jahrhunderts', pp. 25 - 38.

(c)   John Munro, 'Die Anfänge der Übertragbarkeit: einige Kreditinnovationen im englisch-flämischen Handel des Spätmittelalters (1360-1540)', pp. 39 - 70.

(d)   Stuart Jenks, 'Kredit im Londoner Aussenhandel um die Mitte des 15. Jahrhunderts', pp. 71 - 102.

(e)   Klaus-Joachim Lorenzen-Schmidt, 'Kaufmanskredite in nordwestdeutschen Städten im 15. und 16. Jahrhundert', pp. 121 - 32.

(f)   Rudolf Holbach, ''Im auff arbait gelihen': zur Rolle des Kredits in der geweblichen Produktion, 13. - 16. Jahrhundert', pp. 133 - 58.

(g)   Henryk Samsonowicz, 'Die Rolle des Kredits im Wirtschaftsleben des mittelalterlichen Polen', pp. 159 70.

(h)   Troels Dahlerup, 'Kirche und Kredit: ein Beitrage zur Geldswirtschaft im spätmittelalterlichen und frühneuzeitlichen Dänemark', pp. 171 - 80.

28.   Roberto Lopez, <u>I monetieri del primo medioevo: la più antica aristocrazia professionale laica che la storia recordi</u>, Rassegna di studi del civico musea archeologico e del civico gabinetto numismatico di milano, no. 48 (Milan, 1991).

*   29.   John Munro, <u>Bullion Flows and Monetary Policies in England and the Low Countries, 1350 - 1500</u> (London: Variorum, 1992): with original pagination.

(a)   'An Economic Aspect of the Collapse of the Anglo-Burgundian Alliance, 1428-1442', from <u>English Historical Review</u>, 85 (1970), pp. 225-44. [No. 1].

(b)   'An Aspect of Medieval Public Finance: The Profits of Counterfeiting in the Fifteenth-Century Low Countries', from <u>Revue belge de numismatique et de sigillographie</u>, 118 (1972), pp. 127-48. [No. 2]

(c)   'Billon - Billoen - Billio: From Bullion to Base Coinage', from <u>Revue belge de philologie et d'histoire</u>, 52 (1974), pp. 293-305. [No. 3]

(d)   'Bullionism and the Bill of Exchange in England, 1272-1663: A Study in Monetary

Management and Popular Prejudice', from Fredi Chiappelli, Center for Medieval and Renaissance Studies, UCLA, ed., The Dawn of Modern Banking (New Haven and London, 1979) pp. 169-239. [No. 4]

(e) 'Mint Policies, Ratios, and Outputs in England and the Low Countries, 1335-1420', from Numismatic Chronicle, 141 (1981), pp. 71-116 [no. 5]

(f) 'Bullion Flows and Monetary Contraction in Late-Medieval England and the Low Countries', from John F. Richards, ed., Precious Metals in the Later Medieval and Early Modern Worlds (Durham, N.C., 1983), pp. 97-158. [No. 6]

(g) 'Monnayage, monnaies de compte, et mutations monétaires au Brabant à la fin du moyen âge',from John Day, ed., Études d'histoire monétaire, XIIe-XIXe siècles (Université de Paris VII, Lille, 1984) pp. 263-94. [No. 7]

(h) 'Deflation and the Petty Coinage Problem in the Late-Medieval Economy: The Case of Flanders, 1334 - 1484', from Explorations in Economic History, 25 (October 1988), pp. 387-423. [No. 8]

* 30. Christopher Challis, ed., A New History of the Royal Mint (Cambridge: Cambridge University Press, 1992).

a) Ian Stewart, 'The English and Norman Mints, c.600-1158', pp. 1-82.

b) Nicholas J. Mayhew, 'From Regional to Central Minting, 1158-1464', pp. 83-178.

c) Christopher Challis, 'Lord Hastings to the Great Silver Recoinage, 1464 - 1699', pp. 179-397.

31. John F. Chown, A History of Money: From AD 800 (London and New York: Routledge, 1994). Rather superficial and disappointing.

32. Michael North, Das Geld und seine Geschichte: vom Mittelalter bis zur Gegenwart (Munich: C.H. Beck, 1994).

33. John Day, Monnaies et marchés au moyen âge, Comité pour l'histoire économique et financière de la France (Paris, 1994). Many of these essays are also contained in English versions in his collection listed above.

(a) 'Prix agricoles en Méditerranée à la fin du XIVe siècle (1382)', pp. 1-28 [republished from Annales: Économies, sociétés, civilisations, 23 (1968), 629-56.]

(b) 'La circulation monétaire en Toscane au temps de Dante', pp. 29-39 [republished from Annales: Économies, sociétés, civilisations, 23 (1968), 1054-1066.]

(c) 'La grande famine monétaire du XVe siècle', pp. 41-82 [republished in translation from 'The Great Bullion Famine of the Fifteenth Century', Past & Present, no. 79 (1978), pp. 3-54.]

(d) ' "Crise du féodalisme" et conjoncture des prix à la fin du Moyen Âge', pp. 83-100 [republished from Annales: Économies, sociétés, civilisations, 34 (1979), 305-18.]

(e) 'Contraction monétaire et déclin économique aux XIVe-XVe siècles', pp. 101-16

[republished in translation from 'The Question of Monetary Contraction in Late Medieval Europe', <u>Nordisk Numismatisk Arsskrift</u> (1981): special issue, ed. Jorgen Steen Jensen, <u>Coinage and Monetary Circulation in the Baltic Area, c. 1350 -c.1500</u>, pp. 12-29.]

(f)   'Monnaie et crédit dans l'Italie de la Renaissance', pp. 117-36 [republished in translation from 'Moneta metallica e moneta creditizia', in Ruggiero Romano and Ugo Tucci, eds., <u>Economia naturale, economia monetaria</u>, <u>Storia d'Italia</u> Annali 6 (Turin: Einaudi, 1983), pp. 337-60.]

(g)   'Colonialisme monétaire en Méditerranée au Moyen Age', pp. 137-48 [republished from <u>Acte du IIe Colloque International de l'Histoire: Économies méditerranéennes: Équilibres et Intercommunications, XIIIe-XIXe siècles</u>, Vol. I (Athens, 1985), pp. 305-19.]

(h)   'Les frappes de monnaie en France et en Europe aux XIVe-XVe siècles', p. 149-90 [republished from G. Depeyrot and Tony Hackens, eds., <u>Rythmes de la production monétaire, de l'Antiquité à nos jours</u> (Louvain, 1987), pp. 537-77.]

(i)   'Marchands et banquiers au Moyen Age', pp. 191-212 [republished in translation from 'Mercanti et banchieri dal XII al XV secolo', in Nicola Tranfagli and Massimo Firpo, eds., <u>La Storia: I grandi problemi dal Medioevo all'Età Contemporanea</u>, Vol. II: <u>Medioevo</u> (Turin: UTET, 1988), pp. 207-25.]

(j)   'Crises et conjonctures à la fin du Moyen Age', pp. 213-50 [republished in translation from 'Crisi e congiunture nei secoli XIV-XV', in Nicola Tranfagli and Massimo Firpo, eds., <u>La Storia: I grandi problemi dal Medioevo all'Età Contemporanea</u>, Vol. II: <u>Medioevo</u> (Turin: UTET, 1988), pp. 145-73.]

(k)   'Les monnaies de compte médiévales et le problème de l'étalon', pp. 251-70 [republished in translation from 'The Problem of the Standard in Medieval Coinage Systems', in Mario Gomes Marques and D.M. Metcalf, eds., <u>Problems of Medieval Coinage in the Iberian Area</u>, Vol. III (Santerem, 1988), pp. 461-83.]

(l)   'L'histoire de la monnaie dans les écrits de Marc Bloch', pp. 271-82

[republished in translation from 'The History of Money in the Writings of Marc Bloch', in Mario Gomes Marques and D.M. Metcalf, eds., <u>Problems of Medieval Coinage in the Iberian Area</u>, Vol. II (Avila, 1986), pp. 15-27.]

34.   Glyn Davies, <u>A History of Money: From Ancient Times to the Present Day</u> (Cardiff: University of Wales Press, 1994), chapter 4, pp. 138-74.

35.   Michael North, ed., <u>Von Aktie bis Zoll: Ein historische Lexikon des Geldes</u> (Munich: Verlag C.H. Beck, 1995). An encyclopedia-dictionary of monetary-financial terms, concepts, ideas, institutions, etc.

36.   Elizabeth Gemmill and Nicholas Mayhew, <u>Changing Values in Medieval Scotland: A Study of Prices, Money, and Weights and Measures</u> (Cambridge and New York: Cambridge University Press, 1995).

37.   David Hackett Fischer, <u>The Great Wave: Price Revolutions and the Rhythm of History</u> (Oxford and New York: Oxford University Press, 1996), pp. 10-70. To be used

with great care. See my review of this book on the internet: *EH.Net Review* <ehreview@eh.net>, 24 February 1999.

38.   S. M. H. Bozorgnia*, The Role of Precious Metals in European Economic Development from Roman Times to the Eve of the Industrial Revolution*, Contributions in Economics and Economic History no. 192 (Westport, Connecticut, and London: Greenwood Press, 1998). *Note:* Beware of this book, which is truly a very, very bad book. See my (rather hostile) review in The Journal of Economic History, 59:4 (December 1999), 1090-91.

39.   Joel Kaye, Economy and Nature in the Fourteenth Century: Money, Market Exchange and the Emergence of Scientific Thought, Cambridge Studies in Medieval Life and Thought, 4th series 35 (Cambridge and New York: Cambridge University Press, 1998).

40.   Jean Favier, Gold and Spices: the Rise of Commerce in the Middle Ages, trans. Caroline Higgitt (London and New York: Holmes and Meier, 1998). Translation of Jean Favier, De l'or et des épices: Naissance de l'homme d'affaires au moyen âge (Paris: Librairie Arthème Fayard, 1987). Not all that good, but it does have some interesting chapters. See my lukewarm review in The International History Review, 21:4 (December 1999), 976-78.

*   41.   Thomas Sargent and François Velde, The Big Problem of Small Change (Princeton and Oxford: Princeton University Press, 2002).

*   42.   Diana Wood, ed., Medieval Money Matters (Oxford: Oxbow Books, 2004):

    a)   James L. Bolton, 'What is Money? What is a Money Economy? When Did a Money Economy Emerge in Medieval England?', pp. 1-15.

*   b)   Richard Britnell, 'Use of Money in Medieval England', pp. 16-30.

*   c)   Martin Allen, 'The English Currency and the Commercialization of England Before the Black Death', pp. 31-50.

*   d)   Pamela Nightingale, 'Money and Credit in the Economy of Late Medieval England', pp. 51-71.

*   e)   Nicholas H. Mayhew, 'Coinage and Money in England, 1086 - 1500', pp. 72-86.

43.   Om Prakash, Bullion for Goods: European and Indian Merchants in the Indian Ocean Trade, 1500 - 1800 (New Delhi: Manohar, 2004).

44.   Ian Blanchard, Mining, Metallurgy and Minting in the Middle Ages, Vol. 3: Continuing Afro-European Supremacy, 1250 - 1450: African Gold Production and the Third European Silver Production Long-Cycles (Stuttgart: Franz Steiner Verlag, 2005)

45.   Petr Vorel, Monetary Circulation in Central Europe at the Beginning of the Early Modern Age: Attempts to Establish a Shared Currency as an Aspect of the Political Culture of the 16th Century, Univerzita Pardubice Filozofická fakulta, Monographica VI (Pardubice, 2006). Not readily accessible.

46.   Angela Redish, 'Recent Contributions to the History of Monetary and International Financial Systems: A Review Essay', European Review of Economic History, 10:2 (August 2006), 231-48. Includes medieval monetary history.

47.   Deborah Valenze, <u>The Social Life of Money in the English Past</u> (Cambridge and New York: Cambridge University Press, 2006).

B.   **<u>Particular Studies on Late-Medieval Monetary Problems and Crises</u> (excluding coinage debasements: the next topic)**

1.   Émile Bridrey, <u>La Théorie de la monnaie au XIVe siècle: Nicole Oresme: étude d'histoire des doctrines et des faits économiques</u> (Paris, Giard et Brière, 1906).

2.   Georges Bigwood, <u>Le régime juridique et économique du commerce de l'argent dans la Belgique du moyen âge</u>, 2 vols. (Brussels, 1921-22).

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4.   Henri Laurent, <u>La loi de Gresham au moyen âge: essai sur la circulation monétaire entre la Flandre et le Brabant à la fin du XIVe siècle</u> (Brussels, 1933), pp. 3-36.

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QUESTIONS ON MONETARY PROBLEMS

1.   How did western Europe obtain its gold and silver supplies in the 13th, 14th, and 15th centuries?

2.   What were the consequences for the monetary system of adoption of gold coinages by northern European countries in the 14th century?

3.   Did western Europe suffer from an increasing scarcity of precious metals in the late Middle Ages? If so, when did this scarcity begin, in your view--begin to become a serious problem: in the late 13th, early 14th, late 14th, or 15th centuries?

4.   If there was such a scarcity, what were its causes? Was the scarcity more serious in gold or in silver coinages?

5.   What were the chief motivations for coinage debasements in the 14th and 15th centuries: fiscal or monetary? Did they reflect, remedy, or aggravate monetary scarcities? What were the economic consequences of coinage debasements?

6.   What problems did European mining for precious metals encounter in the late Middle Ages? How were these problems eventually remedied?

7.   Did western Europe suffer a balance of payments deficit in the late Middle Ages? How, when, and why?

8.   What was the relationship between population and money? Between depopulation and monetary scarcity, particularly in terms of the Miskimin thesis? Defend or attack the Miskimin thesis.

9.   In sum: did late medieval Europe experience monetary crises? How were they manifested? How were they caused, and finally remedied? What were their economic and social consequences?

10.   In the recent past, the American economist and historian Peter Temin published a provocative book entitled *Did Monetary Forces Cause the Great Depression* (New York, 1976) -- referring, of course, to the Great Depression of 1929-39.

        For our purposes, therefore, the question may be rephrased as: 'Did Monetary Forces Cause the 'Great Depression' of the Later Middle Ages?' An important difference, however, is that nobody seriously disputes the fact that western economies suffered from a severe depression in the 1930s; but economic historians still hotly dispute the issue of a 'depression' in the later Middle Ages. Thus an answer to this question partly depends on your view of macro-economic changes in the late-medieval economy. Consider also the following two questions.

11.   In particular, were the monetary problems of late-medieval Europe a contributing cause or merely a reflection, a passive reaction to, the economic contraction of this era? If a cause of that contraction, a primary or merely a secondary cause?

12.   If western Europe, or more particularly north-western Europe, suffered from periodically severe deflation in the later Middle Ages, what then were the specific economic consequences of deflation: in agriculture, industry, and trade? Did deflation matter? What impact did inflation have upon the factor costs for labour (wages), land (rents), and capital (interest)?

Table 1

English Mint Outputs, 1266-70 to 1536-40
in kilograms of pure silver and gold
and in pounds sterling values
with the Phelps Brown & Hopkins Composite
Price Index: 1451-75 = 100
in quinquennial means

Years	Silver in kg	Silver in £ sterling	Gold kg	Gold £ sterling	Total Value in £ sterling	PB&H CPI
1266-70	8,550.489	26,637.383			26,637.383	81.25
1271-75	3,559.688	11,089.515			11,089.515	103.84
1276-80	22,194.388	69,353.587			69,353.587	96.61
1281-85	21,913.309	68,548.734			68,548.734	104.80
1286-90	17,280.596	54,056.784			54,056.784	80.52
1291-95	1,552.352	4,856.034			4,856.034	107.45
1296-00	12,071.417	37,761.545			37,761.545	102.34
1301-05	16,017.465	50,105.484			50,105.484	92.35
1306-10	40,226.553	125,835.827			125,835.827	109.81
1311-15	10,706.712	33,492.502			33,492.502	115.33
1316-20	7,275.676	22,759.610			22,759.610	161.91
1321-25	1,780.107	5,568.492			5,568.492	137.97
1326-30	121.857	381.190			381.190	111.07
1331-35	209.056	665.131			665.131	114.12
1336-40	429.488	1,551.599			1,551.599	94.32
1341-45	5,077.456	17,710.473	240.011	9,859.484	27,569.958	90.06
1346-50	1,991.051	7,090.874	675.837	27,123.297	34,214.171	102.70
1351-55	17,442.905	67,245.275	1,939.777	83,567.731	150,813.007	132.18
1356-60	4,423.016	17,081.461	1,726.695	74,406.844	91,488.305	129.46
1361-65	1,630.811	6,298.107	2,415.242	104,077.756	110,375.864	146.64
1366-70	293.822	1,134.727	1,729.027	74,507.352	75,642.079	146.10
1371-75	316.966	1,224.108	802.608	34,586.019	35,810.127	135.26
1376-80	356.898	1,378.322	235.330	10,140.847	11,519.169	110.62
1381-85	317.412	1,225.829	161.835	6,973.804	8,199.633	112.90
1386-90	247.514	955.887	504.811	21,753.331	22,709.218	102.53
1391-95	193.489	747.245	626.546	26,999.152	27,746.397	106.33

Years	Silver in kg	Silver in £ sterling	Gold kg	Gold £ sterling	Total Value in £ sterling	PB&H CPI
1396-00	175.596	678.143	391.143	16,855.142	17,533.285	110.84
1401-05	66.344	256.216	168.671	7,268.390	7,524.606	114.84
1406-10	10.592	40.907	69.005	2,973.568	3,014.475	111.23
1411-15	967.484	4,483.340	1,870.669	89,519.896	94,003.236	108.11
1416-20	837.763	3,882.476	1,035.150	49,563.076	53,445.552	113.40
1421-25	3,186.020	14,765.093	2,557.314	122,444.369	137,209.462	101.48
1426-30	6,858.608	31,785.107	599.478	28,703.069	60,488.176	112.27
1431-35	8,059.545	37,350.656	220.785	10,571.183	47,921.839	108.48
1436-40	977.025	4,527.863	132.274	6,333.298	10,861.161	122.01
1441-45	130.700	605.707	90.778	4,346.467	4,952.174	92.53
1446-50	517.373	2,397.681	64.336	3,080.422	5,478.103	100.90
1451-55	1,460.637	6,769.085	63.526	3,041.629	9,810.714	100.25
1456-60	1,415.094	6,558.024	26.719	1,279.288	7,837.312	97.06
1461-65	3,432.915	18,067.349	488.118	29,731.331	47,798.679	102.73
1466-70	5,168.090	29,938.348	1,288.157	83,263.992	113,202.339	106.75
1471-75	2,422.654	14,034.247	538.669	34,818.552	48,852.799	97.76
1476-80	834.683	4,835.252	404.477	26,144.624	30,979.875	90.06
1481-85	995.231	5,765.296	219.449	14,184.753	19,950.049	127.38
1486-90	926.785	5,368.794	129.749	8,386.730	13,755.524	102.77
1491-95	1,270.840	7,361.876	268.983	17,386.525	24,748.402	106.80
1496-00	2,490.940	14,429.823	278.926	18,029.238	32,459.060	96.70
1501-05	4,313.544	24,988.026	516.604	33,392.271	58,380.297	106.79
1506-10	3,633.212	21,046.916	1,523.115	98,451.267	119,498.183	103.77
1511-15	1,089.012	6,308.562	694.599	44,897.564	51,206.126	108.52
1516-20	79.145	458.481	743.656	48,068.530	48,527.011	120.44
1521-25	3,148.207	18,237.317	442.135	28,578.780	46,816.096	146.05
1526-30	9,244.701	60,248.025	736.421	54,079.255	114,327.280	157.35
1531-35	4,616.832	30,088.071	189.160	13,890.972	43,979.043	155.64
1536-40	5,684.094	37,043.459	406.719	29,826.052	66,869.511	152.33

Sources: Challis (1992); Munro (1973, 1981, 1983a, 1984, 1991).

Table 2

**The Mint Outputs of Flanders (1341 to 1420) and of the
Burgundian Low Countries (1421-1500) in kilograms of
pur silver and gold and in pounds groot Flemish values
with Flemish Composite Price Index (1451-75=100)
in quinquennial means, 1341-45 to 1496-1500**

Years	Silver in kg	Silver in £ groot Flem	Gold kg	Gold £ groot Flem	Total Value £ groot Flem	Flemish CPI 1451-75=100
1336-40	3,641.114	4,873.432	266.769	3,975.690	8,849.122	
1341-45	176.761	310.860	1.322	26.600	337.460	
1346-50	5,553.490	11,138.594	315.965	6,596.362	17,734.956	50.57
1351-55	5,178.951	11,397.252	1,096.661	24,811.554	36,208.806	60.65
1356-60	8,820.730	21,251.516	3,191.827	80,870.028	102,121.544	87.54
1361-65	3,992.165	11,141.966	2,629.891	77,350.494	88,492.460	94.43
1366-70	10,030.194	32,269.760	1,586.502	50,200.530	82,470.290	107.40
1371-75	2,215.757	8,315.146	825.209	32,921.278	41,236.424	115.22
1376-80	915.615	3,648.742	261.200	10,555.072	14,203.814	111.66
1381-85	2,816.883	11,467.496	529.809	22,941.630	34,409.126	119.19
1386-90	1,787.714	7,792.290	423.106	20,865.908	28,658.198	124.72
1391-95	3,676.062	14,958.400	368.614	14,458.242	29,416.642	88.51
1396-00	5,791.306	23,507.520	324.589	12,731.424	36,238.944	89.80
1401-05	691.661	2,826.540	31.535	1,236.902	4,063.442	88.53
1406-10	1,113.700	3,887.994	19.025	636.250	4,524.244	105.26
1411-15	2,484.269	8,665.846	5.884	196.762	8,862.608	95.31
1416-20	3,124.468	15,052.698	4.308	181.634	15,234.332	107.38
1421-25	12,143.547	58,804.340	41.056	2,195.696	61,000.036	112.18
1426-30	7,999.913	43,326.036	1,105.072	69,470.408	112,796.444	117.77
1431-35	6,609.816	34,252.100	1,774.868	115,353.244	149,605.344	123.51
1436-40	5,015.219	25,788.386	511.935	28,534.390	54,322.776	140.17
1441-45	102.683	527.552	111.931	6,466.290	6,993.842	113.50
1446-50	5.911	40.786	2.550	148.084	188.870	109.98
1451-55	164.611	880.316	827.293	50,701.692	51,582.008	100.90
1456-60	64.066	408.310	253.139	15,513.918	15,922.228	117.86
1461-65	0.000	0.000	6.596	404.224	404.224	88.71
1466-70	4,628.964	27,867.694	253.594	16,400.726	44,268.420	96.52
1471-75	7,313.984	45,191.724	261.202	18,927.514	64,119.238	96.02

Years	Silver in kg	Silver in £ groot Flem	Gold kg	Gold £ groot Flem	Total Value £ groot Flem	Flemish CPI 1451-75=100
1476-80	9,341.495	67,636.251	380.051	29,208.498	96,844.749	117.213
1481-85	6,534.304	56,337.184	58.536	5,216.392	61,553.576	156.853
1486-90	6,803.602	78,323.898	144.641	24,136.964	102,460.862	184.511
1491-95	2,780.071	19,521.098	20.320	1,336.341	20,857.439	144.981
1496-00	5,109.489	43,603.013	474.633	44,464.280	88,067.293	100.255

sources: Munro (1973, 1981, 1983a, 1984, 1998, 1992); Verlinden, Scholliers, Craeybeckx (1959-65).

Table 3. **Values in Pence of the Main Commodity Groups in the English Basket of Consumables Price Index:**
The Phelps Brown & Hopkins Index Revised by John Munro

commodity values in pence sterling and their percentage shares of the total consumption basket

in quinquennial means, 1266-70 to 1516-20
with index numbers for the total basket: mean of 1451-75=100

Year 5 Year Means	Grains & Drink (Barley & Hops) in d sterling	Meat Fish Dairy in d sterling	Industrial: Fuel, Light Textiles in d sterling	Total value of the basket in d sterling	Index number 1451-75=100 Munro 112.801d sterling	Grains Drink (Barley) Hops) as percent total	Meat Fish Dairy as percent total	Industrial: Fuel, Light Textiles as percent total
1266-70	45.693	30.945	19.073	95.711	84.850	47.74%	32.33%	19.93%
1271-75	60.300	40.026	18.942	119.267	105.733	50.56%	33.56%	15.88%
1276-80	51.566	41.440	19.822	112.827	100.023	45.70%	36.73%	17.57%
1281-85	61.669	40.321	16.658	118.648	105.184	51.98%	33.98%	14.04%
1286-90	41.581	36.477	14.386	92.444	81.953	44.98%	39.46%	15.56%
1291-95	68.542	35.681	14.640	118.863	105.375	57.66%	30.02%	12.32%
1296-1300	57.257	39.703	16.162	113.122	100.285	50.62%	35.10%	14.29%
1301-05	49.163	37.105	17.146	103.414	91.679	47.54%	35.88%	16.58%
1306-10	58.224	43.141	15.641	117.006	103.728	49.76%	36.87%	13.37%
1311-15	56.096	50.895	17.588	124.580	110.443	45.03%	40.85%	14.12%
1316-20	100.359	54.667	19.318	174.344	154.560	57.56%	31.36%	11.08%
1321-25	78.288	50.301	18.846	147.434	130.704	53.10%	34.12%	12.78%
1326-30	54.550	44.100	19.467	118.116	104.712	46.18%	37.34%	16.48%
1331-35	60.016	44.551	18.507	123.074	109.108	48.76%	36.20%	15.04%
1336-40	41.997	41.660	17.025	100.682	89.256	41.71%	41.38%	16.91%
1341-45	41.585	38.899	15.999	96.482	85.533	43.10%	40.32%	16.58%
1346-50	51.221	41.597	20.055	112.873	100.064	45.38%	36.85%	17.77%
1351-55	68.656	48.430	25.575	142.661	126.472	48.13%	33.95%	17.93%
1356-60	59.555	48.017	25.636	133.209	118.092	44.71%	36.05%	19.25%
1361-65	77.057	53.063	25.518	155.637	137.976	49.51%	34.09%	16.40%
1366-70	73.347	53.496	27.085	153.928	136.460	47.65%	34.75%	17.60%
1371-75	60.083	56.820	26.743	143.646	127.345	41.83%	39.56%	18.62%
1376-80	48.326	50.545	25.087	123.958	109.891	38.99%	40.78%	20.24%

Year 5 Year Means	Grains & Drink (Barley & Hops) in d sterling	Meat Fish Dairy in d sterling	Industrial: Fuel, Light Textiles in d sterling	Total value of the basket in d sterling	Index number 1451-75=100 Munro 112.801d sterling	Grains Drink (Barley) Hops) as percent total	Meat Fish Dairy as percent total	Industrial: Fuel, Light Textiles as percent total
1381-85	52.673	48.493	26.513	127.679	113.190	41.25%	37.98%	20.77%
1386-90	44.449	47.393	22.348	114.191	101.233	38.93%	41.50%	19.57%
1391-95	51.005	44.093	22.161	117.259	103.953	43.50%	37.60%	18.90%
1396-1400	53.816	49.719	21.277	124.812	110.648	43.12%	39.83%	17.05%
1401-05	58.498	47.457	21.118	127.073	112.653	46.04%	37.35%	16.62%
1406-10	52.646	49.584	21.768	123.998	109.927	42.46%	39.99%	17.55%
1411-15	48.726	50.018	23.375	122.119	108.261	39.90%	40.96%	19.14%
1416-20	55.549	50.041	22.548	128.139	113.598	43.35%	39.05%	17.60%
1421-25	49.284	44.618	23.118	117.020	103.740	42.12%	38.13%	19.76%
1426-30	55.745	47.861	23.419	127.025	112.610	43.89%	37.68%	18.44%
1431-35	53.252	47.420	22.418	123.090	109.122	43.26%	38.52%	18.21%
1436-40	66.745	51.010	22.363	140.118	124.218	47.63%	36.40%	15.96%
1441-45	36.681	45.505	22.238	104.424	92.574	35.13%	43.58%	21.30%
1446-50	44.519	48.482	21.199	114.200	101.241	38.98%	42.45%	18.56%
1451-55	47.534	46.528	20.712	114.774	101.750	41.42%	40.54%	18.05%
1456-60	42.531	47.008	20.961	110.500	97.961	38.49%	42.54%	18.97%
1461-65	48.251	46.781	19.457	114.489	101.497	42.14%	40.86%	16.99%
1466-70	46.067	48.073	21.729	115.869	102.720	39.76%	41.49%	18.75%
1471-75	45.745	42.228	20.397	108.370	96.072	42.21%	38.97%	18.82%
1476-80	43.615	38.688	22.227	104.529	92.667	41.72%	37.01%	21.26%
1481-85	67.062	48.205	21.653	136.921	121.383	48.98%	35.21%	15.81%
1486-90	45.334	47.027	21.871	114.232	101.269	39.69%	41.17%	19.15%
1491-95	45.836	48.417	21.418	115.671	102.545	39.63%	41.86%	18.52%
1496-1500	44.531	45.161	21.460	111.152	98.538	40.06%	40.63%	19.31%
1501-05	53.526	44.578	21.901	120.005	106.386	44.60%	37.15%	18.25%
1506-10	44.637	52.336	21.526	118.499	105.052	37.67%	44.17%	18.17%
1511-15	49.015	48.157	22.413	119.584	106.014	40.99%	40.27%	18.74%
1516-20	54.594	61.580	23.504	139.678	123.827	39.09%	44.09%	16.83%

See Table 4 below, for the index numbers for each of the seven major components in the basket.

Sources:

Archives of the British Library of Economic and Political Science (London School of Economics), The Phelps Brown Papers, BOX Ia: 324

This significantly revised version should be compared with the the price indexes in the original version presented in E. Henry Phelps Brown and Sheila Hopkins, 'Seven Centuries of the Prices of Consumables, Compared with Builders' Wage Rates', *Economica*, 23:92 (November 1956), 296-314; reprinted in E.H. Phelps Brown and Sheila V. Hopkins, *A Perspective of Wages and Prices* (London, 1981), pp. 13-39 (with price indexes not in the original). That comparison may be seen in the fnal two columns (nos. 9 and 10) of the following Table 2.

Table 4. **Phelps Brown & Hopkins Composite Price Index for Southern England (Revised by Munro)**

in quinquennial means: 1266-70 to 1516-20

mean of 1451-75 = 100

index numbers for each commodity component of the basket and for the total basket

Years Five-Year Means	Grains: wheat, rye barley peas base value in d.	Meat: pigs mutton beef base value in d.	Fish: herring cod base value in d.	Dairy Products: butter cheese base value in d.	Drink: malt hops base value in d.	Fuel/Light: charcoal candles lamp oil base value in d.	Textiles: Woollens Canvas Linen base value in d.	Total Basket: Munro Revised Index base value in d.	Phelps Brown & Hopkins Original Index numbers
	21.799	**23.950**	**6.595**	**15.579**	**24.227**	**8.153**	**12.499**	**112.801**	
1266-70	93.495	69.780	26.764	80.027	104.481	137.304	63.040	84.850	78.667
1271-75	129.148	106.889	25.766	81.694	132.691	129.628	66.995	105.733	104.200
1276-80	105.241	107.620	34.043	86.140	118.151	120.480	80.002	100.023	96.800
1281-85	111.528	103.705	46.023	79.908	154.197	101.642	66.978	105.184	102.200
1286-90	79.081	91.023	33.411	80.065	100.476	92.576	54.718	81.953	80.600
1291-95	139.541	85.490	36.166	82.300	157.360	92.038	57.099	105.375	107.200
1296-1300	108.480	101.148	45.871	79.936	138.728	97.346	65.813	100.285	102.400
1301-05	93.544	94.467	34.119	78.503	118.760	114.210	62.685	91.679	92.400
1306-10	117.048	109.551	44.633	89.608	135.013	116.569	49.105	103.728	110.600
1311-15	116.607	123.486	56.592	112.898	126.625	125.881	58.613	110.443	115.200
1316-20	194.864	132.724	65.478	119.145	238.913	127.026	71.704	154.560	162.000
1321-25	164.702	111.064	57.876	127.634	174.948	131.758	64.843	130.704	138.200
1326-30	101.931	105.950	43.723	101.686	133.446	128.719	71.789	104.712	111.000
1331-35	110.302	110.021	50.913	95.281	148.479	123.733	67.359	109.108	114.200
1336-40	84.730	96.346	58.293	94.622	97.109	115.110	61.129	89.256	94.400
1341-45	81.356	89.666	55.033	88.547	98.444	106.893	58.279	85.533	90.000
1346-50	101.499	94.572	57.459	97.299	120.095	118.731	83.008	100.064	102.400

Years Five-Year Means	Grains: wheat, rye barley peas base value in d.	Meat: pigs mutton beef base value in d.	Fish: herring cod base value in d.	Dairy Products: butter cheese base value in d.	Drink: malt hops base value in d.	Fuel/Light: charcoal candles lamp oil base value in d.	Textiles: Woollens Canvas Linen base value in d.	Total Basket: Munro Revised Index base value in d.	Phelps Brown & Hopkins Original Index numbers
	21.799	23.950	6.595	15.579	24.227	8.153	12.499	112.801	
1351-55	131.100	113.987	77.273	102.921	165.428	131.392	118.918	126.472	132.800
1356-60	115.863	108.455	67.796	112.790	141.572	131.870	119.097	118.092	130.800
1361-65	130.413	131.419	79.927	104.738	200.720	127.247	121.164	137.976	146.600
1366-70	150.487	131.607	80.875	106.830	167.344	143.980	122.784	136.460	146.200
1371-75	133.638	143.653	86.182	107.403	127.757	153.580	113.786	127.345	135.400
1376-80	96.219	118.580	87.597	105.066	112.898	139.896	109.466	109.891	110.600
1381-85	104.029	110.890	82.897	105.709	123.810	136.484	123.102	113.190	113.200
1386-90	83.336	108.055	98.061	96.590	108.486	129.251	94.497	101.233	102.400
1391-95	96.639	106.471	109.181	73.130	123.578	131.190	91.735	103.953	106.200
1396-1400	105.084	111.064	112.214	100.898	127.583	122.933	90.044	110.648	110.600
1401-05	117.530	110.071	77.058	102.790	135.709	111.724	96.083	112.653	114.800
1406-10	108.229	106.555	112.425	106.878	119.921	109.523	102.721	109.927	111.200
1411-15	91.411	105.599	114.787	110.132	118.876	120.772	108.239	108.261	108.000
1416-20	114.066	103.055	129.702	107.879	126.654	123.370	99.931	113.598	112.800
1421-25	94.999	93.213	122.294	91.331	117.948	131.817	98.984	103.740	102.000
1426-30	107.222	99.581	116.106	104.979	133.620	122.182	107.674	112.610	112.600
1431-35	110.106	106.078	81.498	106.810	120.734	120.031	101.071	109.122	108.600
1436-40	148.525	109.585	114.857	110.342	141.862	118.457	101.656	124.218	122.000
1441-45	75.504	96.624	109.282	97.290	83.469	116.799	101.740	92.574	92.800
1446-50	97.399	106.245	96.604	106.978	96.123	108.833	98.617	101.241	101.000
1451-55	102.327	100.600	100.898	101.294	104.133	103.918	97.930	101.750	100.400
1456-60	94.082	101.948	100.070	102.652	90.899	101.898	101.243	97.961	97.000
1461-65	103.681	101.972	96.494	102.675	105.874	92.172	95.549	101.497	102.800
1466-70	100.888	105.161	96.911	105.886	99.373	104.869	105.447	102.720	106.400
1471-75	99.022	90.320	105.628	87.492	99.721	97.143	99.832	96.072	97.800
1476-80	107.053	83.116	100.299	78.102	83.701	93.890	116.589	92.667	91.000
1481-85	148.173	110.420	84.839	103.760	143.487	101.428	107.085	121.383	129.800

Years Five-Year Means	Grains: wheat, rye barley peas base value in d.	Meat: pigs mutton beef base value in d.	Fish: herring cod base value in d.	Dairy Products: butter cheese base value in d.	Drink: malt hops base value in d.	Fuel/Light: charcoal candles lamp oil base value in d.	Textiles: Woollens Canvas Linen base value in d.	Total Basket: Munro Revised Index base value in d.	Phelps Brown & Hopkins Original Index numbers
	21.799	23.950	6.595	15.579	24.227	8.153	12.499	112.801	
1486-90	109.393	106.973	87.146	100.521	88.693	93.340	114.103	101.269	102.800
1491-95	100.342	111.863	79.611	105.115	98.909	81.642	118.110	102.545	103.400
1496-1500	103.260	102.599	84.438	96.411	90.899	86.299	115.406	98.538	96.800
1501-05	128.266	100.137	90.008	94.097	105.526	93.464	114.259	106.386	110.600
1506-10	104.004	119.888	92.077	112.656	90.666	88.070	114.780	105.052	99.800
1511-15	121.826	108.781	93.701	102.219	92.698	95.511	117.022	106.014	108.600
1516-20	116.520	148.352	84.375	131.498	120.502	99.745	122.987	123.827	120.600

Sources:

Archives of the British Library of Economic and Political Science (LSE), The Phelps Brown Papers, BOX Ia: 324

Commodity weights: see John Munro, 'The Late-Medieval Decline of English Demesne Agriculture: Demographic, Monetary, and Political-Fiscal Factors', in *Town and Countryside in the Age of the Black Death: Essays in Honour of John Hatcher*, ed. Mark Bailey and Stephen Rigby, The Medieval Countryside, vol. 12 (Turnhout: Brepols, 2012), Table 27, p. 338.

Table 5.   **National Means of Manorial Agricultural Wages in England**

In quinquennial means: 1266-70 to 1496-1500

in pence and in index numbers, for nominal and real wages

Index: Mean of 1451-75 = 100

		REAPING AND BINDING GRAINS per acre of grains			THRESHING AND WINNOWING GRAINS Piece rates per razed quarter (8 bushels)		
Year Michaelmas Five-year period	Phelps Brown & Hopkins CPI (Munro) revised version)	Reaping & Binding per acre of grains pence	Reaping & Binding per acre of grains Index: 1451-75=100 9.966d	Real Wage Index RWI=NWI/CPI harmonic means 1451-75=100	Threshing & Winnowing razed quarter of grains pence	Threshing & Winnowing razed quarter of grains Index: 1451-75=100 10.366d	Real Wage Index RWI=NWI/CPI harmonic means 1451-75=100
1266-70	84.850	4.681	46.970	55.367	3.502	33.787	39.707
1271-75	105.733	4.349	43.636	41.228	3.648	35.188	33.315
1276-80	100.023	4.784	48.000	47.142	3.802	36.676	35.575
1281-85	105.184	5.158	51.758	49.043	3.909	37.714	34.224
1286-90	81.953	4.530	45.455	55.327	4.057	39.132	47.621
1291-95	105.375	4.844	48.606	45.995	4.595	44.322	41.587
1296-1300	100.285	4.941	49.576	49.445	4.519	43.596	43.269
1301-05	91.679	5.243	52.606	57.296	4.982	48.059	51.808
1306-10	103.728	5.641	56.606	54.342	4.508	43.492	41.802
1311-15	110.443	6.390	64.121	58.012	4.648	44.841	40.427
1316-20	154.560	6.644	66.667	42.366	5.025	48.474	30.356
1321-25	130.704	6.245	62.667	47.913	5.488	52.938	40.421
1326-30	104.712	6.535	65.576	62.282	5.111	49.305	46.875
1331-35	109.108	6.402	64.242	58.730	5.358	51.692	46.586
1336-40	89.256	5.919	59.394	66.710	5.358	51.692	57.893
1341-45	85.533	6.076	60.970	71.277	5.402	52.107	60.912
1346-50	100.064	7.055	70.788	66.331	5.832	56.259	55.738

		REAPING AND BINDING GRAINS per acre of grains			THRESHING AND WINNOWING GRAINS Piece rates per razed quarter (8 bushels)		
Year Michaelmas Five-year period	Phelps Brown & Hopkins CPI (Munro) revised version)	Reaping & Binding per acre of grains pence	Reaping & Binding per acre of grains Index: 1451-75=100 9.966d	Real Wage Index RWI=NWI/CPI harmonic means 1451-75=100	Threshing & Winnowing razed quarter of grains pence	Threshing & Winnowing razed quarter of grains Index: 1451-75=100 10.366d	Real Wage Index RWI=NWI/CPI harmonic means 1451-75=100
1351-55	126.472	7.876	79.030	62.273	6.262	60.411	46.468
1356-60	118.092	6.572	65.939	55.741	5.746	55.429	46.704
1361-65	137.976	8.033	80.606	58.291	6.252	60.307	43.542
1366-70	136.460	8.299	83.273	60.776	6.671	64.355	46.566
1371-75	127.345	8.480	85.091	65.891	7.414	71.518	55.280
1376-80	109.891	9.954	99.879	90.925	7.704	74.320	67.418
1381-85	113.190	9.072	91.030	78.986	8.038	77.538	68.007
1386-90	101.233	9.205	92.364	91.244	7.500	72.348	71.425
1391-95	103.953	8.734	87.636	83.473	7.414	71.518	68.700
1396-1400	110.648	8.734	87.636	77.934	7.962	76.811	69.165
1401-05	112.653	9.241	92.727	82.430	8.436	81.378	69.795
1406-10	109.927	9.918	99.515	90.550	8.726	84.181	76.101
1411-15	108.261	10.038	100.727	93.009	7.812	75.358	69.618
1416-20	113.598	9.857	98.909	86.918	8.920	86.049	74.925
1421-25	103.740	9.362	93.939	90.009	8.317	80.237	77.243
1426-30	112.610	9.048	90.788	79.884	8.221	79.302	70.570
1431-35	109.122	9.386	94.182	86.265	8.070	77.849	71.231
1436-40	124.218	9.561	95.939	77.596	10.254	98.920	77.342
1441-45	92.574	10.981	110.182	118.832	9.415	90.824	97.297
1446-50	101.241	9.942	99.758	98.561	8.920	86.049	84.038
1451-55	101.750	9.821	98.545	96.827	9.447	91.136	88.540
1456-60	97.961	10.268	103.030	105.470	10.448	100.789	102.479
1461-65	101.497	10.026	100.606	114.032	10.674	102.969	101.542
1466-70	102.720				10.340	99.751	96.804
1471-75	96.072				10.921	105.355	109.663
1476-80	92.667						
1481-85	121.383	10.026	100.606	82.833*			

REAPING AND BINDING GRAINS
per acre of grains

THRESHING AND WINNOWING GRAINS
Piece rates per razed quarter (8 bushels)

Year Michaelmas Five-year period	Phelps Brown & Hopkins CPI (Munro) revised version)	Reaping & Binding per acre of grains pence	Reaping & Binding per acre of grains Index: 1451-75=100 9.966d	Real Wage Index RWI=NWI/CPI harmonic means 1451-75=100	Threshing & Winnowing razed quarter of grains pence	Threshing & Winnowing razed quarter of grains Index: 1451-75=100 10.366d	Real Wage Index RWI=NWI/CPI harmonic means 1451-75=100
1486-90	101.269						
1491-95	102.545						
1496-1500	98.538						

* arithmetic means based on nominal wages for 1480-81 only

Sources:

David L. Farmer, 'Crop Yields, Prices and Wages in Medieval England', *Studies in Medieval and Renaissance History,* old series, 6 (1983), 117-55; David L. Farmer, 'Prices and Wages', in *The Agrarian History of England and Wales*, Vol. II: *1042-1350*, ed. H. E. Hallam (Cambridge: Cambridge University Press, 1988), pp. 760-78, 811-17; David L. Farmer, 'Prices and Wages, 1350-1500', in *The Agrarian History of England and Wales*, Vol. III: *1348-1500*, ed. Edward Miller (Cambridge: Cambridge University Press, 1991), pp. 467-90, 516-24.

Note that Farmer's wage data do not go beyond 1500; and there are few agricultural wages available from manorial sources after ca. 1450.

Table 6.   **National Means of Manorial Industrial Wages in England**

Part A: for Carpenters and Masons (Masters)

In quinquennial means, 1266-70 to 1496-1500
in pence per day and in index numbers, for nominal and real wages

Index: Mean of 1451-75 = 100

		CARPENTERS: MANORIAL in pence per day			MASONS: MANORIAL in pence per day		
Year Michaelmas Five-year period	**Phelps Brown & Hopkins CPI (Munro) revised version)**	**Carpenter solo per day in pence**	**Carpenter solo per day Index: 1451-75=100 5.508d**	**Real Wage Index RWI=NWI/CPI harmonic means**	**Mason solo per day pence**	**Mason solo per day Index: 1451-75=100 5.695d**	**Real Wage Index RWI=NWI/CPI harmonic means**
1266-70	84.850	2.836	51.489	58.407			
1271-75	105.733	3.205	58.195	54.083			
1276-80	100.023	2.379	43.192	44.665			
1281-85	105.184	2.398	43.533	41.241			
1286-90	81.953	2.529	45.920	54.590			
1291-95	105.375	2.704	49.102	46.535			
1296-1300	100.285	3.092	56.149	55.482			
1301-05	91.679	2.742	49.784	53.739			
1306-10	103.728	2.886	52.398	50.588			
1311-15	110.443	2.861	51.944	47.006			
1316-20	154.560	3.337	60.582	38.920			
1321-25	130.704	3.249	58.991	45.063			
1326-30	104.712	2.999	54.444	52.063			
1331-35	109.108	3.243	58.877	54.050			
1336-40	89.256	3.136	56.945	63.373			
1341-45	85.533	2.999	54.444	63.364			
1346-50	100.064	3.293	59.786	59.090			
1351-55	126.472	3.524	63.992	50.181	3.901	68.495	54.123
1356-60	118.092	3.956	71.835	60.774	4.031	70.770	59.784

Year Michaelmas Five-year period	Phelps Brown & Hopkins CPI (Munro) revised version)	Carpenter solo per day in pence	Carpenter solo per day Index: 1451-75=100 5.508d	Real Wage Index RWI=NWI/CPI harmonic means	Mason solo per day pence	Mason solo per day Index: 1451-75=100 5.695d	Real Wage Index RWI=NWI/CPI harmonic means
1361-65	137.976	4.188	76.040	55.102	4.331	76.039	55.057
1366-70	136.460	4.332	78.654	57.697	4.215	74.003	53.838
1371-75	127.345	4.194	76.154	59.602	4.488	78.793	60.605
1376-80	109.891	4.194	76.154	69.304	4.713	82.745	75.299
1381-85	113.190	4.319	78.427	69.095	4.788	84.062	73.735
1386-90	101.233	4.207	76.381	75.388	4.269	74.961	73.418
1391-95	103.953	4.269	77.518	74.465	4.528	79.511	75.455
1396-1400	110.648	4.276	77.631	70.193	4.324	75.919	68.453
1401-05	112.653	4.639	84.224	74.644	4.651	81.667	71.885
1406-10	109.927	4.733	85.929	77.377	5.054	88.732	80.270
1411-15	108.261	4.344	78.882	72.716	4.849	85.140	77.680
1416-20	113.598	4.582	83.201	73.118	5.296	92.983	80.323
1421-25	103.740	4.657	84.565	81.328	5.429	95.318	91.175
1426-30	112.610	4.970	90.248	80.267	5.313	93.282	82.142
1431-35	109.122	4.826	87.634	79.953	4.979	87.415	78.991
1436-40	124.218	5.396	97.977	79.105	5.569	97.773	77.873
1441-45	92.574	5.064	91.953	99.365	5.224	91.726	98.609
1446-50	101.241	5.283	95.931	94.597	5.531	97.114	95.690
1451-55	101.750	5.321	96.613	94.979	5.592	98.192	96.412
1456-60	97.961	5.590	101.500	103.403	5.490	96.396	98.141
1461-65	101.497	5.390	97.863	96.414	5.487	96.336	94.422
1466-70	102.720	5.446	98.886	96.013	5.954	104.538	101.697
1471-75	96.072	5.791	105.138	109.609	5.954	104.538	108.307
1476-80	92.667	5.878	106.729	114.305	5.886	103.341	111.453
1481-85	121.383	5.584	101.387	83.131	5.333	93.641	76.871
1486-90	101.269	5.834	105.933	104.362	5.647	99.150	97.402
1491-95	102.545	5.872	106.615	103.621	5.797	101.784	99.217
1496-1500	98.538	5.647	102.523	103.518	5.575	97.892	99.135

Sources:

David L. Farmer, 'Crop Yields, Prices and Wages in Medieval England', *Studies in Medieval and Renaissance History,* 6 (1983), 117-55.

David L. Farmer, 'Prices and Wages', in *The Agrarian History of England and Wales*, Vol. II: *1042-1350,* ed. H. E. Hallam (Cambridge, 1988), pp. 760-78, 811-17; David L. Farmer, 'Prices and Wages, 1350-1500', in *The Agrarian History of England and Wales*, Vol. III: *1348-1500,* ed. Edward Miller (Cambridge, 1991), pp. 467-90, 516-24.

Note that Farmer's wage data do not go beyond 1500.

Table 7.   National Means of Manorial Industrial Wages in England

Part B: For Thatchers and Slaters (Masters and Servants)

In quinquennial means, 1266-70 to 1496-1500
in pence per day and in index numbers, for nominal and real wages

Index: Mean of 1451-75 = 100

		THATCHER & MATES: MANORIAL in pence per day			SLATER/TILERS & MATES: MANORIAL in pence per day		
Year Michaelmas Five-year period	Phelps Brown & Hopkins CPI (Munro) revised version)	Thatcher & mate per day pence	Thatcher & mate per day Index: 1451-75=100 9.108d	Real Wage Index RWI=NWI/CPI harmonic means	Slater/Tiler & mate per day pence	Slater/Tiler & mate per day Index: 1451-75=100 9.698d	Real Wage Index RWI=NWI/CPI harmonic means
1266-70	84.850	2.715	29.813	34.266	5.788	59.680	68.969
1271-75	105.733	3.258	35.767	33.259	5.740	59.187	54.330
1276-80	100.023	3.093	33.960	33.793	7.129	73.505	n.a.
1281-85	105.184	4.002	43.939	46.619	5.310	54.753	48.292
1286-90	81.953	3.433	37.697	45.543	5.767	59.461	71.162
1291-95	105.375	3.620	39.750	37.145	5.071	52.289	n.a.
1296-1300	100.285	3.531	38.765	38.410	5.615	57.901	n.a.
1301-05	91.679	3.613	39.668	43.006	5.299	54.643	57.687
1306-10	103.728	3.523	38.683	37.242	5.055	52.124	49.494
1311-15	110.443	3.987	43.775	39.686	5.979	61.651	55.768
1316-20	154.560	4.107	45.089	29.503	5.650	58.257	37.338
1321-25	130.704	3.882	42.625	32.672	5.066	52.234	38.460
1326-30	104.712	3.531	38.765	36.901	5.023	51.796	49.556
1331-35	109.108	3.792	41.639	38.030	5.565	57.381	52.569
1336-40	89.256	3.882	42.625	47.834	5.135	52.946	59.428
1341-45	85.533	3.553	39.011	45.560	5.246	54.095	63.104
1346-50	100.064	4.204	46.156	45.180	5.172	53.329	52.674
1351-55	126.472	4.682	51.413	40.626	6.011	61.980	49.061
1356-60	118.092	4.608	50.591	42.687	6.117	63.075	53.339

		THATCHER & MATES: MANORIAL in pence per day			SLATER/TILERS & MATES: MANORIAL in pence per day		
Year Michaelmas Five-year period	Phelps Brown & Hopkins CPI (Munro) revised version)	Thatcher & mate per day pence	Thatcher & mate per day Index: 1451-75=100 9.108d	Real Wage Index RWI=NWI/CPI harmonic means	Slater/Tiler & mate per day pence	Slater/Tiler & mate per day Index: 1451-75=100 9.698d	Real Wage Index RWI=NWI/CPI harmonic means
1361-65	137.976	5.333	58.558	42.389	6.499	67.017	48.544
1366-70	136.460	5.685	62.418	45.798	7.041	72.602	53.385
1371-75	127.345	5.887	64.635	50.731	7.668	79.063	60.777
1376-80	109.891	6.066	66.606	60.747	7.052	72.711	66.205
1381-85	113.190	6.171	67.756	59.676	7.519	77.530	68.059
1386-90	101.233	6.119	67.181	66.293	7.492	77.256	76.249
1391-95	103.953	6.313	69.317	66.240	7.190	74.135	71.409
1396-1400	110.648	6.253	68.660	62.010	7.381	76.106	68.835
1401-05	112.653	6.567	72.109	63.613	8.050	83.005	73.674
1406-10	109.927	6.829	74.984	67.938	7.848	80.924	73.568
1411-15	108.261	6.552	71.945	66.124	7.816	80.596	73.867
1416-20	113.598	6.882	75.558	66.445	8.326	85.852	75.202
1421-25	103.740	6.171	67.756	65.038	8.358	86.180	83.027
1426-30	112.610	7.667	84.182	74.515	8.167	84.209	74.237
1431-35	109.122	7.443	81.718	74.736	8.454	87.166	79.566
1436-40	124.218	8.774	96.337	77.113	9.006	92.860	74.641
1441-45	92.574	8.767	96.255	102.614	9.091	93.736	101.119
1446-50	101.241	8.804	96.666	95.316	9.154	94.393	92.497
1451-55	101.750	9.260	101.675	99.135	9.547	98.445	96.740
1456-60	97.961	9.544	104.796	106.531	9.696	99.978	101.526
1461-65	101.497	9.013	98.965	97.505	9.462	97.569	95.970
1466-70	102.720	9.013	98.965	96.344	10.025	103.373	100.246
1471-75	96.072	8.707	95.598	99.170	9.760	100.635	104.876
1476-80	92.667	9.500	104.304	103.620	9.919	102.278	109.830
1481-85	121.383				9.186	94.722	77.814
1486-90	101.269	9.986	109.642	105.206	8.974	92.532	88.788
1491-95	102.545	9.874	108.410	104.366	9.016	92.970	87.332
1496-1500	98.538	9.175	100.745	100.799	8.990	92.696	96.476

Sources:

David L. Farmer, 'Crop Yields, Prices and Wages in Medieval England', *Studies in Medieval and Renaissance History,* 6 (1983), 117-55.
David L. Farmer, 'Prices and Wages', in *The Agrarian History of England and Wales*, Vol. II: *1042-1350*, ed. H. E. Hallam (Cambridge, 1988), pp. 760-78, 811-17; David L. Farmer, 'Prices and Wages, 1350-1500', in *The Agrarian History of England and Wales*, Vol. III: *1348-1500*, ed. Edward Miller (Cambridge, 1991), pp. 467-90, 516-24.

Note that Farmer's wage data do not go beyond 1500.

Table 8. **Nominal and Real Wages for Master Building Craftsmen in Small Towns of SE England:**
in pence sterling and in index numbers

in quinquennial means: 1266-70 to 1516-20

Mean of 1451 - 75 = 100

RWI = NWI/CPI

5 Year Means	Total Value of PBH Basket in d ster Arithmetic mean	PBH Prices Consumer Price Index Munro version 1451-75=100 Arithmetic mean	Master Nominal Day Wage in d. for a Arithmetic mean	Master Mason: Nominal Wage Index 1451-75=100 [= 6d. daily] Arithmetic mean	Master Mason: Real Wage Index (Munro) 1451-75=100 Harmonic mean	Index Numbers Master RWI No. of Baskets Consumed in one year 1451-75=100 Harmonic mean	Master RWI No. of Baskets Consumed in one year (210 days) Harmonic mean
1266-70	95.711	84.850	3.000	50.000	58.928	58.928	6.582
1271-75	119.267	105.733	3.000	50.000	47.289	47.289	5.282
1275-80	112.827	100.023	3.000	50.000	49.988	49.988	5.584
1281-85	118.648	105.184	3.000	50.000	47.536	47.536	5.310
1286-90	92.444	81.953	3.000	50.000	61.010	61.010	6.815
1291-95	118.863	105.375	3.000	50.000	47.450	47.450	5.300
1296-1300	113.122	100.285	3.000	50.000	49.858	49.858	5.569
1301-05	103.414	91.679	3.300	55.000	59.714	59.714	6.670
1306-10	117.006	103.728	3.600	60.000	57.971	57.971	6.475
1311-15	124.580	110.443	4.000	66.667	60.363	60.363	6.743
1316-20	174.344	154.560	4.000	66.667	43.133	43.133	4.818
1321-25	147.434	130.704	4.000	66.667	51.006	51.006	5.697
1326-30	118.116	104.712	4.000	66.667	63.666	63.666	7.112
1331-35	123.074	109.108	4.000	66.667	61.102	61.102	6.825
1336-40	100.682	89.256	3.600	60.000	66.986	66.986	7.482
1341-45	96.482	85.533	3.000	50.000	58.457	58.457	6.530
1346-50	112.873	100.064	3.000	50.000	49.968	49.968	5.582
1351-55	142.661	126.472	3.600	60.000	46.552	46.552	5.200
1356-60	133.209	118.092	4.600	76.667	64.611	64.611	7.217
1361-65	155.637	137.976	5.000	83.333	60.397	60.397	6.746
1366-70	153.928	136.460	5.000	83.333	61.068	61.068	6.821

5 Year Means	Total Value of PBH Basket in d ster Arithmetic mean	PBH Prices Consumer Price Index Munro version 1451-75=100 Arithmetic mean	Master Nominal Day Wage in d. for a Arithmetic mean	Master Mason: Nominal Wage Index 1451-75=100 [= 6d. daily] Arithmetic mean	Master Mason: Real Wage Index (Munro) 1451-75=100 Harmonic mean	Index Numbers Master RWI No. of Baskets Consumed in one year 1451-75=100 Harmonic mean	Master RWI No. of Baskets Consumed in one year (210 days) Harmonic mean
1371-75	143.646	127.345	5.000	83.333	65.439	65.439	7.310
1376-80	123.958	109.891	5.000	83.333	75.832	75.832	8.471
1381-85	127.679	113.190	5.000	83.333	73.622	73.622	8.224
1386-90	114.191	101.233	5.000	83.333	82.319	82.319	9.195
1391-95	117.259	103.953	5.000	83.333	80.165	80.165	8.955
1396-1400	124.812	110.648	5.000	83.333	75.314	75.314	8.413
1401-05	127.073	112.653	5.100	85.000	75.156	75.156	8.395
1406-10	123.998	109.927	5.800	96.667	88.115	88.115	9.843
1411-15	122.119	108.261	6.000	100.000	92.369	92.369	10.318
1416-20	128.139	113.598	6.000	100.000	88.030	88.030	9.833
1421-25	117.020	103.740	6.000	100.000	96.395	96.395	10.767
1426-30	127.025	112.610	6.000	100.000	88.802	88.802	9.919
1431-35	123.090	109.122	6.000	100.000	91.641	91.641	10.236
1436-40	140.118	124.218	6.000	100.000	80.504	80.504	8.992
1441-45	104.424	92.574	6.000	100.000	108.022	108.022	12.066
1446-50	114.200	101.241	6.000	100.000	98.774	98.774	11.033
1451-55	114.774	101.750	6.000	100.000	98.280	98.280	10.978
1456-60	110.500	97.961	6.000	100.000	102.082	102.082	11.403
1451-65	114.489	101.497	6.000	100.000	98.525	98.525	11.005
1466-70	115.869	102.720	6.000	100.000	97.352	97.352	10.874
1471-75	108.370	96.072	6.000	100.000	104.088	104.088	11.627
1476-80	104.529	92.667	6.000	100.000	107.913	107.913	12.054
1481-85	136.921	121.383	6.000	100.000	82.384	82.384	9.202
1486-90	114.232	101.269	6.000	100.000	98.747	98.747	11.030
1491-95	115.671	102.545	6.000	100.000	97.518	97.518	10.893
1496-1500	111.152	98.538	6.000	100.000	101.483	101.483	11.336
1501-05	120.005	106.386	6.000	100.000	93.997	93.997	10.500
1506-10	118.499	105.052	6.000	100.000	95.191	95.191	10.633
1511-15	119.584	106.014	6.000	100.000	94.327	94.327	10.537
1516-20	139.678	123.827	6.000	100.000	80.758	80.758	9.021

5 Year Means	Total Value of PBH Basket in d ster Arithmetic mean	PBH Prices Consumer Price Index Munro version 1451-75=100 Arithmetic mean	Master Nominal Day Wage in d. for a Arithmetic mean	Master Mason: Nominal Wage Index 1451-75=100 [= 6d. daily] Arithmetic mean	Master Mason: Real Wage Index (Munro) 1451-75=100 Harmonic mean	Index Numbers Master RWI No. of Baskets Consumed in one year 1451-75=100 Harmonic mean	Master RWI No. of Baskets Consumed in one year (210 days) Harmonic mean

Sources:

(1) Prices:
Archives of the British Library of Economic and Political Science (LSE), The Phelps Brown Papers, BOX Ia: 324

(2) Wages:
Phelps Brown, E. Henry; and Sheila V. Hopkins, 'Seven Centuries of Building Wages', *Economica*, 22:87 (August 1955), 195-206, reprinted in Henry Phelps Brown and Sheila Hopkins, *A Perspective of Wages and Prices* (London: Methuen, 1981), pp. 1- 12.

Table 9

Nominal and Real Wages of Building Labourers (Journeymen) in the Small Towns of SE England:

in pence and index numbers: in quinquennial means, 1266-70 to 1516-20:

mean of 1451-75 = 100

Years Five-Year Means	Labourer Nominal Day Wage in d. Arithmetic	Labourer's Wage as Percent of Master Arithmetic	Mason Labourer Nominal Wage Index 1451-75 = 100 [= 4d. daily] Arithmetic	Mason Labourer Real Wage Index (Munro) 1451-75 = 100 Harmonic	Master RWI No. of Baskets Consumed in one year (210 days) Harmonic	Labourer RWI No. of Baskets Consumed in one year (210 days) Harmonic
1266-70	1.500	50.00%	37.500	44.196	6.582	3.291
1271-75	1.500	50.00%	37.500	35.467	5.282	2.641
1276-80	1.500	50.00%	37.500	37.491	5.584	2.792
1281-85	1.500	50.00%	37.500	35.652	5.310	2.655
1286-90	1.500	50.00%	37.500	45.758	6.815	3.407
1291-95	1.500	50.00%	37.500	35.587	5.300	2.650
1296-1300	1.500	50.00%	37.500	37.393	5.569	2.785
1301-05	1.650	50.00%	41.250	44.786	6.670	3.335
1306-10	1.800	50.00%	45.000	43.478	6.475	3.238
1311-15	2.000	50.00%	50.000	45.272	6.743	3.371
1316-20	2.000	50.00%	50.000	32.350	4.818	2.409
1321-25	2.000	50.00%	50.000	38.254	5.697	2.849
1326-30	2.000	50.00%	50.000	47.750	7.112	3.556
1331-35	2.000	50.00%	50.000	45.826	6.825	3.413
1336-40	1.800	50.00%	45.000	51.019	7.482	3.741
1341-45	1.500	50.00%	37.500	43.843	6.530	3.265
1346-50	1.500	50.00%	37.500	37.476	5.582	2.791
1351-55	1.800	50.00%	45.000	34.914	5.200	2.600
1356-60	2.600	56.22%	65.000	54.039	7.217	4.024
1361-65	3.000	60.00%	75.000	54.357	6.746	4.048
1366-70	3.000	60.00%	75.000	54.961	6.821	4.093
1371-75	3.000	0.600	75.000	58.895	7.310	4.386
1376-80	3.000	0.600	75.000	68.249	8.471	5.082
1381-85	3.000	0.600	75.000	66.260	8.224	4.934
1386-90	3.000	0.600	75.000	74.087	9.195	5.517
1391-95	3.000	0.600	75.000	72.148	8.955	5.373

Years Five-Year Means	Labourer Nominal Day Wage in d.	Labourer's Wage as Percent of Master	Mason Labourer Nominal Wage Index 1451-75 = 100 [= 4d. daily]	Mason Labourer Real Wage Index (Munro) 1451-75 = 100	Master RWI No. of Baskets Consumed in one year (210 days)	Labourer RWI No. of Baskets Consumed in one year (210 days)
	Arithmetic	Arithmetic	Arithmetic	Harmonic	Harmonic	Harmonic
1396-1400	3.000	0.600	75.000	67.782	8.413	5.048
1401-05	3.200	0.627	80.000	70.065	8.395	5.218
1406-10	3.800	0.655	95.000	86.562	9.843	6.446
1411-15	4.000	0.667	100.000	92.369	10.318	6.879
1416-20	4.000	0.667	100.000	88.030	9.833	6.555
1421-25	4.000	0.667	100.000	96.395	10.767	7.178
1426-30	4.000	0.667	100.000	88.802	9.919	6.613
1431-35	4.000	0.667	100.000	91.801	10.236	6.824
1436-40	4.000	0.667	100.000	80.504	8.992	5.995
1441-45	4.000	0.667	100.000	108.022	12.066	8.044
1446-50	4.000	0.667	100.000	98.774	11.033	7.356
1451-55	4.000	0.667	100.000	98.280	10.978	7.319
1456-60	4.000	0.667	100.000	102.082	11.403	7.602
1461-65	4.000	0.667	100.000	98.525	11.005	7.337
1466-70	4.000	0.667	100.000	97.352	10.874	7.250
1471-75	4.000	0.667	100.000	104.088	11.627	7.751
1476-80	4.000	0.667	100.000	107.913	12.054	8.036
1481-85	4.000	0.667	100.000	82.384	9.202	6.135
1486-90	4.000	0.667	100.000	98.747	11.030	7.353
1491-95	4.000	0.667	100.000	97.518	10.893	7.262
1496-1500	4.000	0.667	100.000	101.483	11.336	7.557
1501-05	4.000	0.667	100.000	93.997	10.500	7.000
1506-10	4.000	0.667	100.000	95.191	10.633	7.089
1511-15	4.000	0.667	100.000	94.327	10.537	7.024
1516-20	4.000	0.667	100.000	80.758	9.021	6.014

Sources:

(1) Prices: Archives of the British Library of Economic and Political Science (LSE), The Phelps Brown Papers, BOX Ia: 324

(2) Wages: Phelps Brown, E. Henry; and Sheila V. Hopkins, 'Seven Centuries of Building Wages', *Economica*, 22:87 (August 1955), 195-206, reprinted in Henry Phelps Brown and Sheila Hopkins, *A Perspective of Wages and Prices* (London: Methuen, 1981), pp. 1- 12.

Table 10

Basket of Consumables Price Index for Flanders (Bruges and Ghent)
Mean of 1451-75 = 100

values in d. groot Flemish

Year	Basket Consumables Total Value in d groot Flemish	Grains Group Index 1451-75= 100 56.354d groot Flemish	Dairy Group Index 1451-75= 100 44.665d groot Flemish	Textiles Group Index 1451-75= 100 25.276d groot Flemish	Commodity Basket Index 1451-75= 100 126.295d groot Flemish
1349-50	63.868	62.076	46.777	31.624	50.571
1351-55	76.593	68.466	63.048	38.968	60.646
1356-60	110.558	102.100	93.151	45.160	87.540
1361-65	119.255	108.636	98.228	56.023	94.425
1366-70	135.641	126.994	101.825	73.568	107.401
1371-75	145.519	121.901	112.359	105.388	115.222
1376-80	141.024	105.597	121.366	108.038	111.662
1381-85	150.534	110.799	135.714	108.711	119.193
1386-90	157.514	132.745	122.655	110.470	124.719
1391-95	111.784	82.803	99.235	82.282	88.510
1396-00	113.407	92.733	92.132	79.118	89.796
1401-05	111.810	95.190	80.675	87.565	88.531
1406-10	132.939	115.682	91.056	107.127	105.261
1411-15	120.370	93.652	92.417	104.114	95.309
1416-20	135.616	110.755	104.677	104.636	107.381
1421-25	141.680	112.756	114.392	106.998	112.182
1426-30	148.741	122.830	114.511	112.262	117.773
1431-35	155.989	132.917	115.130	117.353	123.512
1436-40	177.022	172.289	109.153	123.350	140.166
1441-45	143.350	111.205	113.067	119.403	113.504
1446-50	138.904	107.703	110.051	114.952	109.984
1451-55	127.434	95.302	102.660	110.282	100.902
1456-60	148.845	131.873	107.281	105.288	117.855
1461-65	112.030	83.052	90.737	97.721	88.705
1466-70	121.900	93.351	101.206	95.304	96.520
1471-75	121.264	96.422	98.116	91.406	96.017
1476-80	148.034	125.644	118.347	96.410	117.213
1481-85	198.097	198.728	131.927	107.537	156.853

Year	Basket Consumables Total Value in d groot Flemish	Grains Group Index 1451-75= 100 56.354d groot Flemish	Dairy Group Index 1451-75= 100 44.665d groot Flemish	Textiles Group Index 1451-75= 100 25.276d groot Flemish	Commodity Basket Index 1451-75= 100 126.295d groot Flemish
1486-90	233.028	190.773	187.098	165.979	184.511
1491-95	183.104	156.841	122.174	158.841	144.981
1496-00	126.617	82.119	93.309	152.966	100.255

Table 10, continued

Basket of Consumables Price Index for Flanders (Bruges and Ghent)
Mean of 1451-75 = 100
values in d. groot Flemish

Years (5 yr)	Commodity Basket Index 1451-75= 100 126.295d groot Flemish	Grains as per cent of total basket by value	Dairy as per cent of total basket by value	Textiles as per cent of total basket by value	Ratio of Dairy to Grain Price Indices 1451-75=100 means	Ratio of Textile to Grain Price Indices 1451-75=100 means
1349-50	50.571	54.77%	32.71%	12.52%	75.37	50.93
1351-55	60.646	50.37%	36.77%	12.86%	95.55	58.99
1356-60	87.540	52.04%	37.63%	10.32%	91.13	44.72
1361-65	94.425	51.34%	36.79%	11.87%	93.72	55.54
1366-70	107.401	52.76%	33.53%	13.71%	81.49	59.15
1371-75	115.222	47.21%	34.49%	18.31%	93.76	88.96
1376-80	111.662	42.20%	38.44%	19.36%	115.57	102.99
1381-85	119.193	41.48%	40.27%	18.25%	122.81	98.43
1386-90	124.719	47.49%	34.78%	17.73%	92.89	84.45
1391-95	88.510	41.74%	39.65%	18.60%	123.49	101.82
1396-00	89.796	46.08%	36.29%	17.63%	99.96	85.95
1401-05	88.531	47.98%	32.23%	19.79%	87.55	94.68
1406-10	105.261	49.04%	30.59%	20.37%	82.70	97.45
1411-15	95.309	43.84%	34.29%	21.86%	98.30	112.14
1416-20	107.381	46.02%	34.48%	19.50%	106.56	104.71
1421-25	112.182	44.85%	36.06%	19.09%	102.14	96.03
1426-30	117.773	46.54%	34.39%	19.08%	93.53	91.72
1431-35	123.512	48.02%	32.97%	19.02%	90.37	91.42
1436-40	140.166	54.85%	27.54%	17.61%	71.80	84.36
1441-45	113.504	43.72%	35.23%	21.05%	104.14	111.45
1446-50	109.984	43.70%	35.39%	20.92%	104.57	110.16
1451-55	100.902	42.14%	35.98%	21.87%	107.58	115.77
1456-60	117.855	49.93%	32.19%	17.88%	84.70	82.21
1461-65	88.705	41.78%	36.18%	22.05%	112.77	122.47
1466-70	96.520	43.16%	37.08%	19.76%	108.80	102.27
1471-75	96.017	44.81%	36.14%	19.05%	103.03	96.20
1476-80	117.213	47.83%	35.71%	16.46%	94.50	79.81
1481-85	156.853	56.53%	29.75%	13.72%	76.10	69.62

Years (5 yr)	Commodity Basket Index 1451-75= 100 126.295d groot Flemish	Grains as per cent of total basket by value	Dairy as per cent of total basket by value	Textiles as per cent of total basket by value	Ratio of Dairy to Grain Price Indices 1451-75=100 means	Ratio of Textile to Grain Price Indices 1451-75=100 means
1486-90	184.511	46.14%	35.86%	18.00%	97.71	85.49
1491-95	144.981	48.27%	29.80%	21.93%	84.17	122.55
1496-00	100.255	36.55%	32.92%	30.54%	116.82	191.97

Sources: Verlinden, Scholliers, and Craeybeckx (1959-65); Stadsarchief Gent, Stadsrekeningen, Reeks 400; Munro (2002a).

Table 11

**Wages of Master Building Craftsmen and their Journeymen in Bruges
in pence (d) groot Flemish and in Flemish commodity baskets
with Consumer Price, Nominal Wage, and Real Wage Indexes (1451-75=100)**

Year	Basket Consumables Total Value in d groot	Commodity Basket Price Index 1451-75=100 126.295d groot Flemish	Wages of Master Building Craftsmen in Bruges in d gr. Best estimate of median wage	Bruges Nominal Wage Index Mean Mode 1451-75=100 [11d groot Flem]	Bruges Real Wage Index 1451-75=100 harmonic mean	Real Wage in Commodity Baskets Annual: 210 days harmonic mean
1349-50	63.868	50.571	5.000	45.455	89.884	16.440
1351-55	76.593	60.646	5.200	47.273	77.572	14.188
1356-60	110.558	87.540	6.000	54.545	62.309	11.397
1361-65	119.255	94.425	6.850	62.273	65.366	11.956
1366-70	135.641	107.401	8.000	72.727	67.716	12.386
1371-75	145.519	115.222	8.000	72.727	63.120	11.545
1376-80	141.024	111.662	8.800	80.000	70.520	12.898
1381-85	150.534	119.193	8.800	80.000	65.898	12.053
1386-90	157.514	124.719	10.867	98.788	77.375	14.152
1391-95	111.784	88.510	9.000	81.818	92.439	16.908
1396-00	113.407	89.796	9.850	89.545	99.731	18.241
1401-05	111.810	88.531	10.000	90.909	102.687	18.782
1406-10	132.939	105.261	10.000	90.909	86.366	15.797
1496-00	120.370	95.309	10.000	90.909	95.384	17.446
1416-20	135.616	107.381	10.000	90.909	84.660	15.485
1421-25	141.680	112.182	10.000	90.909	81.037	14.822
1426-30	148.741	117.773	10.000	90.909	77.190	14.118
1431-35	155.989	123.512	10.800	98.182	79.378	14.519
1436-40	177.022	140.166	11.000	100.000	71.344	13.049
1441-45	143.350	113.504	11.000	100.000	88.102	16.114
1446-50	138.904	109.984	11.000	100.000	90.922	16.630
1451-55	127.434	100.902	11.000	100.000	99.106	18.127
1456-60	148.845	117.855	11.000	100.000	84.850	15.519
1461-65	112.030	88.705	11.000	100.000	112.733	20.619
1466-70	121.900	96.520	11.000	100.000	103.605	18.950
1471-75	121.264	96.017	11.000	100.000	104.148	19.049
1476-80	148.034	117.213	11.000	100.000	85.315	15.605

Year	Basket Consumables	Commodity Basket	Wages of Master Building Craftsmen in Bruges in d gr.	Bruges Nominal Wage Index	Bruges Real Wage Index	Real Wage in Commodity Baskets
	Total Value in d groot	Price Index 1451-75=100 126.295d groot Flemish	Best estimate of median wage	Mean Mode 1451-75=100 [11d groot Flem]	1451-75=100 harmonic mean	Annual: 210 days harmonic mean
1481-85	198.097	156.853	11.000	100.000	63.754	11.661
1486-90	233.028	184.511				
1491-95	183.104	144.981				
1496-00	126.617	100.255				

sources: See sources for Table 5; and also Stadsarchief Brugge, Stadsrekeningen, 1350/51 to 1475/76; and Sosson (1977, pp. 225-32; Tables 13-15, pp. 301-03).

Table 12

Comparison of Real Wages for Building Workers in England and the Low Countries,

in terms of 'baskets of consumables' purchased with annual money-wage incomes
in quinquennial means, with harmonic means, 1311-15 to 1496-1500:
with index numbers (RWI = NWI/CPI) based on the mean of: 1451-75 = 100

Years	ENGLAND Oxford-Cambridge Master Masons Real Wage in commodity baskets per year (210 days employment)	ENGLAND Oxford-Cambridge Masons' Labourers Real Wage in commodity baskets per year (210 days employment)	FLANDERS Bruges-Ghent Master Masons Real Wage in commodity baskets per year (210 days employment)	FLANDERS Bruges-Ghent Journeymen Masons Real Wage in commodity baskets per year (210 days employment)	FLANDERS Bruges Policemen Real Wage in commodity baskets per year (365 days employment)
1311-15	6.743	3.371			
1316-20	4.818	2.409			
1321-25	5.697	2.849			
1326-30	7.112	3.556			
1331-35	6.825	3.413			
1336-40	7.482	3.741			
1341-45	6.530	3.265			
1346-50	5.582	2.791	16.440	8.220	13.723
1351-55	5.200	2.600	14.188	7.094	14.296
1356-60	7.217	4.024	11.397	5.698	12.525
1361-65	6.746	4.048	11.956	5.978	14.434
1366-70	6.821	4.093	12.386	6.193	13.455
1371-75	7.310	4.386	11.545	5.772	12.541
1376-80	8.471	5.082	12.898	6.449	13.366
1381-85	8.224	4.934	12.053	6.027	14.548
1386-90	9.195	5.517	14.152	7.076	13.904
1391-95	8.955	5.373	16.908	8.454	19.591
1396-1400	8.413	5.048	18.241	9.121	17.283
1401-05	8.395	5.218	18.782	9.391	16.322
1406-10	9.843	6.446	15.797	7.898	13.728
1411-15	10.318	6.879	17.446	8.723	15.162
1416-20	9.833	6.555	15.485	7.742	13.457
1421-25	10.767	7.178	14.822	7.411	12.881
1426-30	9.919	6.613	14.118	7.059	12.270
1431-35	10.236	6.824	14.519	7.259	11.700

Table 12

Comparison of Real Wages for Building Workers in England and the Low Countries,

in terms of 'baskets of consumables' purchased with annual money-wage incomes
in quinquennial means, with harmonic means, 1311-15 to 1496-1500:
with index numbers (RWI = NWI/CPI) based on the mean of: 1451-75 = 100

Years	ENGLAND Oxford-Cambridge Master Masons Real Wage in commodity baskets per year (210 days employment)	ENGLAND Oxford-Cambridge Masons' Labourers Real Wage in commodity baskets per year (210 days employment)	FLANDERS Bruges-Ghent Master Masons Real Wage in commodity baskets per year (210 days employment)	FLANDERS Bruges-Ghent Journeymen Masons Real Wage in commodity baskets per year (210 days employment)	FLANDERS Bruges Policemen Real Wage in commodity baskets per year (365 days employment)
1436-40	8.992	5.995	13.049	6.525	10.309
1441-45	12.066	8.044	16.114	8.057	12.731
1446-50	11.033	7.356	16.630	8.315	13.139
1451-55	10.978	7.319	18.127	9.063	14.321
1456-60	11.403	7.602	15.519	7.760	12.261
1461-65	11.005	7.337	20.619	10.310	16.290
1466-70	10.874	7.250	18.950	9.475	14.971
1471-75	11.627	7.751	19.049	9.525	15.050
1476-80	12.054	8.036	15.605	7.802	12.328
1481-85	9.202	6.135	11.661	5.830	9.213
1486-90	11.030	7.353			
1491-95	10.893	7.262			
1496-1500	11.336	7.557			

Table 12b

Comparison of Real Wages for Building Workers in England and the Low Countries,
in terms of 'baskets of consumables' purchased with annual money-wage incomes
in quinquennial means, with harmonic means, 1311-15 to 1496-1500:
with index numbers (RWI = NWI/CPI) based on the mean of: 1451-75 = 100

FLANDERS	FLANDERS	FLANDERS	BRABANT	BRABANT

Years	Ghent Journeymen Fullers Real Wage in commodity baskets per year (210 days employment)	Kortrijk Journeymen Fullers Real Wage in commodity baskets per year (210 days employment)	Small Towns Master Craftsmen Real Wage in commodity baskets per year (210 days employment) (summer wage)	Antwerp Master Masons Real Wage in commodity baskets per year (210 days employment) (summer-winter wage)	Antwerp Masons Labourers Real Wage in commodity baskets per year (210 days employment) (summer-winter wage)
1351-55		4.851			
1356-60		3.361			
1361-65		3.116			
1366-70		2.739			
1371-75	7.620	3.442			
1376-80	7.818	7.123			
1381-85	7.324	6.673			
1386-90	6.451	6.197			
1391-95	7.014	7.890			
1396-1400	6.913	7.777		9.741	4.546
1401-05	7.012	7.888		10.262	5.306
1406-10	5.897	6.635	11.163	9.881	4.940
1411-15	6.513	7.327	14.784	9.157	4.578
1416-20	5.781	6.854	12.863	8.410	4.205
1421-25	6.299	6.595	12.094	7.510	3.755
1426-30	6.589	6.432	12.373	6.763	3.382
1431-35		6.616	12.492	7.858	4.952
1436-40		5.536	10.857	6.840	4.385
1441-45		6.836	13.185	9.192	5.508
1446-50		7.055	13.506	10.203	5.952
1451-55			13.893	10.310	6.014
1456-60			10.025	8.868	5.173
1461-65			12.944	11.156	6.528
1466-70			12.222	10.480	6.113
1471-75				10.278	5.995
1476-80				8.418	4.911
1481-85				6.523	3.805
1486-90				6.316	3.736
1491-95				7.627	4.683
1496-1500				9.039	5.720

Table 13

**Comparison of Real Wages for Building Workers in England and the Low Countries,
in terms of 'baskets of consumables' purchased with annual money-wage incomes
in quinquennial means, with harmonic means, 1311-15 to 1496-1500:
with index numbers (RWI = NWI/CPI) based on the mean of: 1451-75 = 100**

Years	BRABANT Mechelen Master Masons Real Wage in commodity baskets per year (210 days employment) (summer-winter wage)	BRABANT Mechelen Master Carpenters Real Wage in commodity baskets per year (210 days employment) (summer-winter wage)	BRABANT Mechelen Master Masons OLV Real Wage in commodity baskets per year (210 days employment) (summer-winter wage)	BRABANT Mechelen OLV Masons Labourers Real Wage in commodity baskets per year (210 days employment) (summer-winter wage)	BRABANT Mechelen Common Labourers OLV Real Wage in commodity baskets per year (210 days employment) (summer-winter wage)
1351-55					
1356-60					
1361-65					
1366-70					
1371-75					
1376-80					
1381-85					
1386-90					
1391-95					
1396-1400					
1401-05					
1406-10					
1411-15					
1416-20					
1421-25	9.513	9.262	7.510	4.694	2.816
1426-30	8.567	8.476	6.763	4.375	3.092
1431-35	8.947	8.572	7.435	5.296	3.754
1436-40	8.280	7.920	7.150	4.521	3.578
1441-45	9.847	9.847	9.409	6.100	5.326
1446-50	10.430	10.301	9.538	6.218	6.131
1451-55	10.539	10.310	9.213	5.238	5.456
1456-60	9.065	8.868	8.328	5.615	3.973
1461-65	11.404	11.156	11.404	7.603	5.133
1466-70	10.712	10.480	10.712	7.142	4.621

Table 13

**Comparison of Real Wages for Building Workers in England and the Low Countries,
in terms of 'baskets of consumables' purchased with annual money-wage incomes
in quinquennial means, with harmonic means, 1311-15 to 1496-1500:
with index numbers (RWI = NWI/CPI) based on the mean of: 1451-75 = 100**

Years	BRABANT Mechelen Master Masons Real Wage in commodity baskets per year (210 days employment) (summer-winter wage)	BRABANT Mechelen Master Carpenters Real Wage in commodity baskets per year (210 days employment) (summer-winter wage)	BRABANT Mechelen Master Masons OLV Real Wage in commodity baskets per year (210 days employment) (summer-winter wage)	BRABANT Mechelen OLV Masons Labourers Real Wage in commodity baskets per year (210 days employment) (summer-winter wage)	BRABANT Mechelen Common Labourers OLV Real Wage in commodity baskets per year (210 days employment) (summer-winter wage)
1471-75	10.506	10.278	10.506	7.004	5.139
1476-80	8.605	8.605	8.605	5.737	4.209
1481-85	6.668	6.668	6.668	4.446	3.262
1486-90	6.099	5.966	5.966	3.977	2.918
1491-95	8.898	8.898	7.796	5.291	3.813
1496-1500	10.276	10.276	8.656	5.866	4.404

Sources: see sources for Table 1 - 5, and also Algemeen Rijksarchief België, Rekenkamer, 33,147 - 33,238 (Kortrijk, 1393-1493), 38,635 - 38,722 ; and John Munro, 'Gold, Guilds, and Government: The Impact of Monetary and Labour Policies on the Flemish Cloth Industry, 1390-1435', *Jaarboek voor middeleeuwsche geschiedenis*, 5 (2002), 153 - 205.

Table 14. **Silver and Gold Coinage Outputs of the Mints of France, Flanders/Burgundian Low Countries, and England in Kilograms of Pure Metal and in Constant Pounds Sterling Values in 25-Year Totals, 1346-70 to 1471-95**

Years	FRANCE		FLANDERS-BURGUNDIAN LOW COUNTRIES		ENGLAND with Calais		TOTAL
25 Year Totals	Silver (pure) in kilograms	Gold (pure) in kilograms	Silver (pure) in kilograms	Gold (pure) in kilograms	Silver (pure) in kilograms	Gold (pure) in kilograms	in Constant Pounds Sterling*
1346-1370	136,648	24,969	167,878	44,104	128,908	42,433	6,478,936
1371-1395	21,133	12,242	64,574	12,565	7,162	11,656	1,929,922
1396-1420	84,490	7,743	75,064	2,225	10,289	17,673	1,847,002
1421-1445	106,506	13,155	158,125	17,724	96,059	18,003	3,499,399
1446-1470	6,536	961	24,318	6,716	59,209	9,654	1,094,649
1471-1495	16,880	1,695	163,868	4,324	31,639	7,682	1,410,638
Mean	**62,032**	**10,128**	**108,971**	**14,610**	**55,544**	**17,850**	**2,710,091**

* Combined values of a kilogram of pure gold and a kilogram of pure silver, based upon their corresponding values in English pounds sterling between 1351 and 1411, when the English coinage and mint prices remained unaltered.

a. Value of 1 kilogram of pure gold = £43.092 sterling.   b. Value of 1 kilogram of pure silver = £3.862 sterling

Sources: Harry A. Miskimin, *Money, Prices, and Foreign Exchange in Fourteenth-Century France* (New Haven, 1963); Harry A. Miskimin, *Money and Power in Fifteenth-Century France* (New Haven and London, 1984); John Munro, 'Bullion Flows and Monetary Contraction in Late-Medieval England and the Low Countries', in John Richards, ed., *Precious Metals in the Later Medieval and Early Modern Worlds* (Durham, North Carolina, 1983), pp. 97-158.

Table 15   **Silver Outputs from the Major South German-Central European Mines**
in kilograms of fine metal, in quinquennial means: 1471-75 to 1546-50

Years	SAXONY Est. Total in kg.	THURINGIA Est. Total in kg.	BOHEMIA Joachimsthal in kg.	BOHEMIA Kutna Hora Kasperska Hora in kg.	SLOVAKIA Fugger- Thurzo kg in kg.	HUNGARY Nagybanya Körmocbanya in kg.	TYROL: Schwaz in kg.	TOTAL Estimated in kg.
1471-75	4,360.94			4,500.00			4,112.50	12,973.44
1476-80	10,317.46			4,250.00			7,354.00	21,921.46
1481-85	3,743.30			4,000.00		1,800.00	9,745.80	19,289.10
1486-90	2,770.04			3,750.00		3,523.00	12,751.00	22,794.04
1491-95	3,757.33			3,500.00	1,957.12	3,523.00	12,422.75	25,160.21
1496-00	4,641.69			3,250.00	1,957.12	3,795.86	12,094.50	25,739.17
1501-05	8,979.23			3,000.00	2,870.47	4,068.70	11,766.25	30,684.65
1506-10	7,416.41	4,626.19		2,750.00	3,990.76	4,341.57	11,438.00	34,562.92
1511-15	6,925.10	5,713.42		2,500.00	3,632.11	4,614.43	11,109.75	34,494.81
1516-20	5,189.14	6,079.43	3,970.00	2,250.00	1,983.07	4,887.29	10,781.50	35,140.43
1521-25	3,701.18	6,301.73	9,703.24	2,000.00	2,486.46	5,160.14	10,453.25	39,806.00
1526-30	3,425.12	7,889.16	13,795.32	2,000.00	2,269.15	5,433.00	10,125.00	44,936.74
1531-35	6,663.07	6,300.90	16,554.81	2,000.00	2,269.15	5,433.00	10,125.00	49,345.92
1536-40	14,973.18	5,734.07	13,248.01	3,947.00	2,243.58	5,433.00	10,125.00	55,703.84
1541-45	7,739.26	6,144.00	10,936.85	3,997.00	2,141.55	5,433.00	9,963.49	46,355.16
1546-50	4,131.66	6,576.20	10,936.85	700.00	2,141.55	5,433.00	9,963.49	39,882.76

Table 16: **Central European Copper Production and Exports: in Kilograms of Fine Copper**

with exports to Venice and Antwerp, in quinquennial means: 1491-95 to 1536-40

	Total Outputs Estimated in kg	Exports: Total kg	To Venice kg	To Venice Percent	To Antwerp kg	To Antwerp Percent
1491-95	1,980,746					
1496-00	2,704,948	1,390,392.34	446,742.23	32.13%	72,545.07	5.22%
1501-05	3,041,820	1,403,347.49	409,357.78	29.17%	453,686.44	32.33%
1506-10	4,770,333	1,627,846.98	184,642.02	11.34%	819,753.42	50.36%
1511-15	5,654,047	1,659,584.86	60,358.63	3.64%	968,521.36	58.36%
1516-20	5,203,097	1,388,953.66	29,544.60	2.13%	606,520.05	43.67%
1521-25	5,341,702	1,434,963.13	66,809.17	4.66%	488,633.13	34.05%
1526-30	5,275,248	1,062,740.62	54,876.61	5.16%	625,457.93	58.85%
1531-35	4,628,886	1,008,644.47	111,652.65	11.07%	543,443.92	53.88%
1536-40	4,336,708	1,207,783.75	150,543.95	12.46%	593,242.84	49.12%