

Appendix 1

Per capita energy consumption in England & Wales and central and northern Italy (Gigajoules) 1560-1913

	England & Wales				Italy Centre and North			
	traditional sources	modern sources	Total per capita	% modern	traditional sources	modern sources	Total per capita	% modern
1560	15.2	2.0	17.1	11.5	18.1		18.1	
1561	14.6	2.0	16.6	12.1	18.1		18.1	
1562	15.4	2.0	17.4	11.6	16.9		16.9	
1563	14.0	2.0	16.0	12.7	18.9		18.9	
1564	15.6	2.1	17.7	11.6	17.9		17.9	
1565	16.0	2.1	18.1	11.5	18.1		18.1	
1566	14.8	2.1	16.9	12.4	18.4		18.4	
1567	15.9	2.1	18.0	11.7	19.6		19.6	
1568	15.6	2.1	17.7	11.9	18.6		18.6	
1569	15.8	2.1	18.0	11.9	17.4		17.4	
1570	16.7	2.2	18.8	11.5	18.4		18.4	
1571	16.3	2.2	18.4	11.8	18.1		18.1	
1572	15.7	2.2	17.9	12.3	18.1		18.1	
1573	14.4	2.2	16.7	13.4	18.9		18.9	
1574	15.3	2.3	17.6	12.9	18.9		18.9	
1575	15.4	2.3	17.7	12.8	18.1		18.1	
1576	15.1	2.3	17.4	13.0	18.9		18.9	
1577	14.8	2.3	17.1	13.5	18.6		18.6	
1578	15.0	2.3	17.3	13.3	18.1		18.1	
1579	15.3	2.3	17.6	13.3	17.4		17.4	
1580	15.2	2.4	17.5	13.5	17.6		17.6	
1581	15.3	2.4	17.7	13.4	18.1		18.1	
1582	15.4	2.4	17.8	13.4	18.1		18.1	
1583	15.0	2.4	17.4	13.8	18.4		18.4	
1584	15.2	2.4	17.6	13.7	18.1		18.1	
1585	14.4	2.4	16.8	14.5	17.9		17.9	
1586	13.1	2.5	15.6	15.8	17.9		17.9	
1587	14.8	2.5	17.3	14.4	18.1		18.1	
1588	15.5	2.5	18.1	14.0	18.1		18.1	
1589	14.3	2.6	16.9	15.1	17.9		17.9	
1590	14.3	2.6	16.9	15.2	17.1		17.1	
1591	14.7	2.6	17.3	15.1	16.6		16.6	
1592	14.8	2.7	17.4	15.2	16.9		16.9	
1593	14.6	2.7	17.3	15.6	17.6		17.6	
1594	14.0	2.7	16.7	16.3	17.4		17.4	
1595	13.3	2.7	16.1	17.1	17.1		17.1	
1596	12.9	2.8	15.7	17.7	16.3		16.3	
1597	12.6	2.8	15.4	18.3	16.6		16.6	
1598	13.6	2.9	16.5	17.5	17.1		17.1	
1599	13.8	2.9	16.7	17.5	17.9		17.9	
1600	13.7	2.9	16.6	17.5	17.4		17.4	
1601	14.1	3.0	17.1	17.5	16.6		16.6	
1602	13.9	3.1	17.0	18.0	16.6		16.6	
1603	15.1	3.1	18.2	17.2	17.4		17.4	

1604	14.3	3.2	17.5	18.4	16.9	16.9
1605	14.2	3.3	17.4	18.8	17.1	17.1
1606	13.8	3.3	17.1	19.5	16.3	16.3
1607	13.8	3.4	17.2	19.7	16.6	16.6
1608	12.9	3.5	16.3	21.2	17.1	17.1
1609	13.4	3.5	16.9	20.9	17.9	17.9
1610	13.5	3.6	17.2	21.1	18.4	18.4
1611	13.4	3.7	17.1	21.7	18.1	18.1
1612	13.0	3.8	16.8	22.5	17.9	17.9
1613	13.0	3.9	16.9	23.1	17.9	17.9
1614	13.5	4.0	17.5	23.0	18.1	18.1
1615	13.4	4.1	17.5	23.4	17.6	17.6
1616	12.9	4.2	17.1	24.6	18.4	18.4
1617	12.9	4.3	17.3	25.1	18.1	18.1
1618	13.7	4.4	18.1	24.5	17.4	17.4
1619	14.0	4.5	18.6	24.4	17.6	17.6
1620	14.1	4.6	18.7	24.5	18.1	18.1
1621	13.3	4.7	18.0	26.0	18.9	18.9
1622	13.0	4.8	17.8	26.8	18.6	18.6
1623	13.5	4.9	18.4	26.6	18.6	18.6
1624	13.1	5.1	18.2	27.9	18.6	18.6
1625	13.1	5.2	18.3	28.5	19.4	19.4
1626	13.6	5.3	18.9	28.0	18.9	18.9
1627	14.3	5.3	19.6	27.1	18.4	18.4
1628	13.9	5.3	19.3	27.7	17.6	17.6
1629	13.5	5.3	18.8	28.3	17.4	17.4
1630	12.8	5.3	18.2	29.4	18.4	18.4
1631	13.6	5.4	18.9	28.3	19.4	19.4
1632	13.5	5.4	18.9	28.6	20.4	20.4
1633	13.7	5.5	19.2	28.5	20.4	20.4
1634	13.6	5.5	19.1	28.8	20.9	20.9
1635	13.3	5.5	18.7	29.2	18.6	18.6
1636	13.3	5.5	18.8	29.2	19.1	19.1
1637	13.1	5.5	18.6	29.6	19.9	19.9
1638	13.1	5.6	18.7	29.8	20.6	20.6
1639	13.7	5.6	19.3	29.1	20.6	20.6
1640	13.9	5.7	19.6	29.1	21.1	21.1
1641	13.9	5.8	19.7	29.3	21.6	21.6
1642	14.1	5.8	20.0	29.2	21.1	21.1
1643	14.2	5.9	20.1	29.4	19.9	19.9
1644	14.3	6.0	20.3	29.7	19.9	19.9
1645	14.4	6.1	20.4	29.8	20.6	20.6
1646	13.1	6.1	19.2	32.0	20.9	20.9
1647	12.7	6.2	19.0	32.8	19.9	19.9
1648	12.1	6.3	18.4	34.4	18.9	18.9
1649	12.2	6.4	18.6	34.4	18.6	18.6
1650	12.2	6.5	18.7	34.7	18.4	18.4
1651	13.2	6.6	19.8	33.4	20.4	20.4
1652	14.3	6.7	21.0	32.0	20.4	20.4
1653	14.3	6.8	21.1	32.3	20.1	20.1
1654	15.1	6.9	22.0	31.4	20.4	20.4
1655	14.6	7.0	21.6	32.4	20.6	20.6
1656	14.0	7.1	21.1	33.6	19.9	19.9

1657	13.2	7.2	20.4	35.2	20.1	20.1
1658	12.8	7.4	20.3	36.6	19.9	19.9
1659	12.8	7.6	20.4	37.5	19.9	19.9
1660	13.2	7.8	21.1	37.1	20.1	20.1
1661	12.7	8.0	20.6	38.6	20.6	20.6
1662	13.3	8.2	21.5	37.9	20.9	20.9
1663	13.3	8.3	21.7	38.5	20.9	20.9
1664	13.6	8.5	22.1	38.5	20.6	20.6
1665	14.1	8.7	22.8	38.2	20.9	20.9
1666	14.6	9.0	23.6	38.0	21.6	21.6
1667	14.3	9.2	23.5	39.1	21.6	21.6
1668	13.7	9.4	23.1	40.6	21.4	21.4
1669	14.1	9.6	23.7	40.5	20.6	20.6
1670	13.8	9.8	23.7	41.5	20.4	20.4
1671	14.0	10.1	24.1	41.9	20.6	20.6
1672	14.1	10.4	24.4	42.4	20.9	20.9
1673	13.0	10.5	23.6	44.7	20.9	20.9
1674	12.9	10.7	23.6	45.5	20.9	20.9
1675	13.9	10.9	24.9	43.9	19.6	19.6
1676	14.3	11.2	25.5	44.0	19.9	19.9
1677	13.3	11.4	24.7	46.2	19.1	19.1
1678	13.0	11.5	24.6	47.0	19.1	19.1
1679	13.8	11.9	25.7	46.2	19.6	19.6
1680	13.7	12.2	25.9	47.2	19.6	19.6
1681	13.8	12.5	26.3	47.5	20.1	20.1
1682	13.8	12.7	26.5	47.8	20.4	20.4
1683	13.4	12.9	26.3	49.0	20.6	20.6
1684	13.1	13.0	26.0	49.8	19.9	19.9
1685	14.0	13.2	27.1	48.5	19.1	19.1
1686	14.3	13.3	27.6	48.2	19.6	19.6
1687	14.8	13.4	28.2	47.6	20.6	20.6
1688	14.5	13.5	28.0	48.1	20.4	20.4
1689	14.6	13.6	28.2	48.1	20.4	20.4
1690	14.9	13.7	28.6	48.0	19.1	19.1
1691	14.3	13.8	28.2	49.1	19.1	19.1
1692	13.6	13.9	27.5	50.7	18.9	18.9
1693	12.7	14.1	26.8	52.5	18.9	18.9
1694	14.1	14.2	28.3	50.2	18.1	18.1
1695	13.7	14.3	28.0	51.1	17.9	17.9
1696	13.6	14.4	28.0	51.5	17.9	17.9
1697	13.2	14.5	27.7	52.4	18.1	18.1
1698	13.3	14.5	27.7	52.2	18.6	18.6
1699	13.6	14.6	28.2	51.8	18.9	18.9
1700	14.5	14.8	29.4	50.5	19.4	19.4
1701	15.2	14.9	30.1	49.5	19.1	19.1
1702	15.1	15.0	30.1	50.0	19.1	19.1
1703	14.8	15.1	29.9	50.6	19.4	19.4
1704	15.6	15.2	30.8	49.3	19.4	19.4
1705	15.8	15.5	31.4	49.5	19.6	19.6
1706	15.7	15.4	31.1	49.6	19.4	19.4
1707	15.6	15.5	31.1	49.8	19.1	19.1
1708	14.3	15.6	29.9	52.2	19.1	19.1
1709	13.3	15.6	28.9	54.1	18.1	18.1

1710	13.9	15.8	29.7	53.3	19.1	19.1
1711	14.3	16.0	30.3	52.8	20.1	20.1
1712	14.8	16.5	31.3	52.7	20.4	20.4
1713	14.2	16.2	30.4	53.3	20.4	20.4
1714	15.3	16.2	31.5	51.5	20.6	20.6
1715	14.4	16.4	30.8	53.3	20.1	20.1
1716	14.7	16.5	31.2	52.8	20.1	20.1
1717	15.0	16.6	31.6	52.6	20.4	20.4
1718	15.8	16.6	32.4	51.3	20.1	20.1
1719	15.2	16.6	31.9	52.2	20.6	20.6
1720	15.1	16.9	31.9	52.8	21.9	21.9
1721	15.7	17.1	32.7	52.2	21.4	21.4
1722	15.5	17.3	32.8	52.7	21.4	21.4
1723	15.5	17.4	32.9	52.8	22.1	22.1
1724	14.8	17.2	32.0	53.7	22.6	22.6
1725	14.7	17.6	32.3	54.6	21.6	21.6
1726	15.3	17.6	32.9	53.5	21.1	21.1
1727	14.4	17.6	32.0	55.0	21.6	21.6
1728	14.2	18.1	32.4	56.0	21.6	21.6
1729	15.1	18.5	33.6	55.1	21.9	21.9
1730	15.5	19.1	34.6	55.2	21.4	21.4
1731	16.1	19.2	35.3	54.3	20.6	20.6
1732	16.1	19.2	35.3	54.4	20.9	20.9
1733	16.1	19.3	35.4	54.6	19.6	19.6
1734	15.4	19.3	34.8	55.6	18.9	18.9
1735	15.3	19.3	34.6	55.8	19.1	19.1
1736	15.7	19.3	35.1	55.2	19.6	19.6
1737	15.8	19.5	35.3	55.1	20.1	20.1
1738	15.8	19.6	35.4	55.4	20.4	20.4
1739	15.2	19.6	34.7	56.3	20.4	20.4
1740	14.0	19.6	33.6	58.3	19.9	19.9
1741	15.3	19.9	35.3	56.5	19.6	19.6
1742	16.0	20.4	36.4	56.0	19.9	19.9
1743	16.5	20.5	37.0	55.4	19.9	19.9
1744	16.6	20.7	37.3	55.4	19.9	19.9
1745	15.8	20.7	36.4	56.7	19.6	19.6
1746	15.6	20.7	36.3	57.0	19.1	19.1
1747	15.7	20.9	36.7	57.1	18.6	18.6
1748	15.5	21.0	36.6	57.6	18.9	18.9
1749	15.5	21.0	36.6	57.5	19.4	19.4
1750	15.6	20.8	36.4	57.1	19.1	19.1
1751	15.0	20.8	35.8	58.2	19.1	19.1
1752	14.9	21.3	36.2	58.8	19.6	19.6
1753	14.8	21.5	36.3	59.3	20.6	20.6
1754	15.2	22.4	37.5	59.6	20.6	20.6
1755	14.9	22.4	37.3	60.0	20.1	20.1
1756	13.6	22.7	36.3	62.5	19.9	19.9
1757	13.8	23.2	37.0	62.7	19.6	19.6
1758	14.6	23.7	38.3	61.8	19.9	19.9
1759	15.1	24.1	39.2	61.5	19.6	19.6
1760	15.1	24.5	39.7	61.9	20.1	20.1
1761	15.3	24.7	40.1	61.7	20.4	20.4
1762	15.1	25.2	40.3	62.5	20.4	20.4

1763	14.3	25.7	40.0	64.3	20.1	20.1
1764	14.4	26.1	40.5	64.5	19.6	19.6
1765	14.4	26.1	40.5	64.4	19.4	19.4
1766	13.4	25.8	39.2	65.8	18.6	18.6
1767	13.3	26.5	39.7	66.6	18.9	18.9
1768	13.9	27.4	41.3	66.4	19.1	19.1
1769	14.5	28.0	42.4	65.9	19.4	19.4
1770	13.9	28.6	42.5	67.3	18.6	18.6
1771	13.3	28.7	42.0	68.3	18.4	18.4
1772	12.9	29.1	42.0	69.4	17.9	17.9
1773	13.3	29.7	43.0	69.1	17.9	17.9
1774	13.2	30.0	43.2	69.4	17.6	17.6
1775	14.2	29.5	43.7	67.5	17.4	17.4
1776	14.0	29.7	43.7	68.0	18.1	18.1
1777	13.8	30.1	43.9	68.6	17.6	17.6
1778	14.6	30.6	45.2	67.8	17.4	17.4
1779	14.6	31.1	45.7	68.1	18.1	18.1
1780	13.9	31.6	45.5	69.5	18.6	18.6
1781	13.9	32.3	46.1	70.0	18.1	18.1
1782	13.7	32.9	46.6	70.6	17.9	17.9
1783	13.6	32.8	46.4	70.7	17.9	17.9
1784	14.0	33.5	47.5	70.6	17.6	17.6
1785	14.1	33.5	47.6	70.3	17.9	17.9
1786	14.1	34.0	48.1	70.7	18.1	18.1
1787	13.7	34.6	48.3	71.7	17.6	17.6
1788	13.8	34.5	48.2	71.5	18.1	18.1
1789	13.3	35.0	48.3	72.4	17.9	17.9
1790	13.4	35.2	48.7	72.4	17.1	17.1
1791	13.8	35.5	49.4	71.9	17.4	17.4
1792	13.6	35.7	49.3	72.4	17.1	17.1
1793	13.4	36.0	49.4	72.8	16.6	16.6
1794	13.1	36.7	49.7	73.7	16.9	16.9
1795	11.7	37.4	49.1	76.1	17.4	17.4
1796	13.2	37.6	50.8	74.1	17.4	17.4
1797	12.9	38.2	51.1	74.8	17.6	17.6
1798	13.3	38.6	51.9	74.4	18.1	18.1
1799	11.5	38.9	50.5	77.2	17.4	17.4
1800	10.5	40.2	50.7	79.3	16.6	16.6
1801	11.9	42.0	53.9	78.0	16.4	16.4
1802	13.3	41.5	54.8	75.7	16.9	16.9
1803	13.7	42.2	55.9	75.4	17.4	17.4
1804	12.1	42.8	54.9	77.9	18.2	18.2
1805	12.6	43.3	55.9	77.5	17.7	17.7
1806	12.6	43.8	56.4	77.7	18.2	18.2
1807	12.8	44.7	57.5	77.7	17.7	17.7
1808	11.9	45.2	57.0	79.2	18.7	18.7
1809	11.6	45.9	57.5	79.9	18.9	18.9
1810	11.8	46.5	58.3	79.8	17.4	17.4
1811	11.7	47.2	58.9	80.1	16.9	16.9
1812	11.4	47.8	59.2	80.7	17.1	17.1
1813	11.4	48.3	59.7	80.9	17.7	17.7
1814	11.7	48.6	60.3	80.6	17.9	17.9
1815	12.2	48.5	60.7	79.9	17.1	17.1

1816	12.5	48.8	61.3	79.6	16.9		16.9	
1817	12.7	49.2	61.9	79.5	16.9		16.9	
1818	12.9	49.6	62.4	79.4	18.2		18.2	
1819	13.2	50.1	63.3	79.1	18.2		18.2	
1820	13.6	50.4	64.0	78.7	18.2		18.2	0.0
1821	14.6	50.6	65.3	77.6	17.9		17.9	0.0
1822	15.8	50.8	66.6	76.3	17.9		17.9	0.0
1823	15.1	51.2	66.2	77.3	18.2		18.2	0.0
1824	14.2	51.4	65.6	78.3	18.7		18.7	0.0
1825	13.6	51.6	65.2	79.1	18.4		18.4	0.0
1826	14.0	51.9	65.9	78.7	18.9		18.9	0.0
1827	13.9	52.2	66.1	78.9	18.7		18.7	0.0
1828	14.1	52.5	66.6	78.8	18.4		18.4	0.0
1829	13.9	54.1	68.0	79.6	18.2		18.2	0.0
1830	14.2	54.1	68.4	79.2	18.2		18.2	0.0
1831	14.1	54.3	68.5	79.3	18.7		18.7	0.0
1832	14.1	54.5	68.6	79.5	18.9		18.9	0.0
1833	13.9	54.8	68.7	79.7	18.9		18.9	0.0
1834	13.8	56.1	69.9	80.2	19.2		19.2	0.0
1835	13.7	57.1	70.9	80.6	19.7	0.0	19.7	0.1
1836	13.6	58.0	71.6	81.0	18.2	0.0	18.2	0.1
1837	13.5	59.0	72.4	81.4	17.7	0.0	17.7	0.1
1838	13.4	59.9	73.3	81.7	17.9	0.0	17.9	0.1
1839	13.4	61.1	74.4	82.0	17.9	0.0	17.9	0.1
1840	13.3	62.2	75.5	82.3	18.4	0.0	18.4	0.1
1841	13.5	63.2	76.7	82.4	18.7	0.0	18.7	0.2
1842	13.4	64.4	77.8	82.8	18.9	0.0	18.9	0.2
1843	13.2	66.0	79.2	83.3	17.9	0.0	17.9	0.2
1844	13.1	68.8	81.9	84.0	17.9	0.1	18.0	0.3
1845	13.1	70.2	83.3	84.3	18.1	0.1	18.2	0.3
1846	13.0	72.8	85.8	84.8	17.9	0.1	18.0	0.4
1847	13.0	75.8	88.7	85.4	17.4	0.1	17.5	0.5
1848	12.9	77.1	90.0	85.7	17.9	0.1	18.0	0.5
1849	12.8	79.8	92.6	86.2	17.9	0.1	18.0	0.6
1850	12.8	81.8	94.5	86.5	17.7	0.1	17.8	0.6
1851	10.6	84.2	94.8	88.8	17.7	0.1	17.8	0.8
1852	10.6	86.5	97.1	89.1	17.4	0.2	17.6	1.1
1853	10.6	88.6	99.2	89.4	16.9	0.2	17.1	1.4
1854	10.5	90.3	100.9	89.6	15.9	0.3	16.2	2.0
1855	10.5	91.6	102.1	89.7	16.2	0.4	16.6	2.6
1856	10.4	92.6	103.0	89.9	16.1	0.6	16.7	3.4
1857	10.4	93.6	104.0	90.0	17.4	0.7	18.1	3.9
1858	10.4	95.9	106.3	90.2	17.9	0.9	18.8	4.6
1859	10.3	97.5	107.8	90.4	17.4	1.0	18.4	5.7
1860	10.3	99.4	109.7	90.6	17.1	1.3	18.4	7.0
1861	10.3	100.9	111.2	90.8	16.7	1.4	18.0	7.5
1862	10.2	102.2	112.5	90.9	16.6	1.2	17.8	6.7
1863	10.2	104.1	114.3	91.1	16.6	1.2	17.8	6.8
1864	10.1	102.6	112.7	91.0	16.6	1.2	17.8	6.6
1865	10.1	107.4	117.5	91.4	16.4	1.2	17.6	6.7

1866	10.1	109.3	119.3	91.6	16.1	1.2	17.3	6.7
1867	10.0	110.9	120.9	91.7	15.1	1.2	16.3	7.3
1868	10.0	107.4	117.4	91.5	15.2	1.2	16.4	7.4
1869	9.9	111.4	121.3	91.8	15.4	1.2	16.6	7.2
1870	9.9	112.4	122.3	91.9	15.6	1.2	16.8	7.3
1871	9.9	117.7	127.6	92.2	15.4	1.0	16.4	6.2
1872	9.9	122.3	132.2	92.5	15.2	1.2	16.4	7.4
1873	10.0	127.1	137.1	92.7	15.3	1.1	16.4	7.0
1874	10.0	121.8	131.8	92.4	15.5	1.3	16.8	7.6
1875	10.0	126.7	136.6	92.7	15.8	1.3	17.1	7.5
1876	10.0	124.1	134.1	92.5	15.9	1.7	17.6	9.6
1877	10.1	123.4	133.5	92.5	15.5	1.5	17.0	9.1
1878	10.0	120.1	130.1	92.3	15.3	1.6	16.9	9.3
1879	10.1	118.9	129.0	92.2	15.7	1.8	17.5	10.3
1880	10.0	128.4	138.5	92.7	15.8	2.0	17.8	11.3
1881	9.2	133.0	142.2	93.5	15.6	2.3	17.9	13.0
1882	9.2	132.7	141.9	93.5	15.5	2.5	18.0	13.9
1883	9.3	136.6	145.9	93.6	15.6	2.7	18.3	14.6
1884	9.1	131.7	140.9	93.5	15.7	2.9	18.6	15.8
1885	9.3	128.7	138.0	93.3	15.6	3.3	18.9	17.5
1886	9.3	126.1	135.4	93.2	15.5	3.3	18.8	17.3
1887	9.3	128.0	137.3	93.2	15.6	3.9	19.5	20.1
1888	9.4	131.6	141.0	93.3	15.4	4.2	19.6	21.3
1889	9.5	134.8	144.3	93.4	15.2	4.3	19.5	22.0
1890	9.5	136.5	146.0	93.5	15.0	4.6	19.6	23.7
1891	10.6	137.8	148.5	92.8	14.7	4.1	18.8	22.0
1892	10.6	133.4	144.0	92.6	14.8	4.1	18.9	21.7
1893	10.8	118.0	128.7	91.6	14.6	3.9	18.5	21.3
1894	10.7	133.7	144.4	92.6	14.5	4.9	19.4	25.1
1895	10.8	133.4	144.2	92.5	14.5	4.5	19.0	23.5
1896	10.9	135.6	146.5	92.6	14.4	4.2	18.6	22.5
1897	10.8	137.6	148.4	92.7	14.2	4.4	18.6	23.4
1898	11.0	136.3	147.3	92.5	14.2	4.5	18.7	23.9
1899	10.7	144.3	155.0	93.1	14.1	4.9	19.0	25.7
1900	10.7	144.5	155.1	93.1	13.9	5.0	18.9	26.3
1901	10.8	139.7	150.5	92.9	14.2	4.8	19.0	25.5
1902	10.9	143.7	154.6	92.9	13.9	5.3	19.2	27.8
1903	10.9	143.4	154.3	92.9	13.6	5.4	19.0	28.5
1904	11.0	142.6	153.6	92.8	13.4	5.7	19.1	30.0
1905	11.0	143.1	154.1	92.9	13.2	6.2	19.4	31.9
1906	11.0	146.8	157.8	93.0	13.2	7.4	20.6	35.7
1907	11.1	151.8	162.9	93.2	13.1	8.0	21.1	37.7
1908	11.3	146.5	157.8	92.8	13.2	8.1	21.3	38.1
1909	11.4	146.3	157.7	92.8	13.4	8.9	22.3	39.7
1910	11.3	146.1	157.3	92.8	13.6	8.9	22.5	39.5
1911	11.4	148.4	159.7	92.9	13.5	9.1	22.6	40.4
1912	11.6	139.6	151.2	92.3	13.6	9.5	23.1	41.3
1913	12.0	135.0	146.9	91.9	13.7	10.2	23.9	42.8

Appendix 2

Consumer price indices and wages in England & Wales 1560-1830

	1 CPI	2 CPI	3 CPI	4 Real Wages	5 Real Wages	6 Real Wages
		agricultural	industrial		agriculture	industry
	1700=1	1700=1	1700=1	1700=1	1700=1	1700=1
1560	0.448	0.465	0.557	1.245	1.301	1.201
1561	0.456	0.501	0.560	1.226	1.280	1.182
1562	0.480	0.463	0.526	1.163	1.215	1.121
1563	0.517	0.581	0.601	1.081	1.129	1.042
1564	0.489	0.452	0.596	1.143	1.194	1.102
1565	0.474	0.427	0.647	1.179	1.231	1.137
1566	0.501	0.515	0.624	1.114	1.163	1.074
1567	0.460	0.430	0.654	1.215	1.269	1.172
1568	0.483	0.462	0.709	1.155	1.206	1.114
1569	0.466	0.439	0.663	1.199	1.253	1.156
1570	0.440	0.406	0.668	1.392	1.549	1.225
1571	0.456	0.436	0.691	1.342	1.493	1.181
1572	0.476	0.476	0.670	1.286	1.431	1.132
1573	0.573	0.606	0.692	1.067	1.187	0.939
1574	0.502	0.508	0.641	1.219	1.357	1.073
1575	0.517	0.513	0.780	1.184	1.318	1.042
1576	0.544	0.546	0.782	1.126	1.253	0.991
1577	0.555	0.570	0.682	1.102	1.226	0.970
1578	0.538	0.543	0.682	1.137	1.265	1.001
1579	0.518	0.520	0.683	1.180	1.314	1.039
1580	0.559	0.543	0.741	1.081	1.193	0.964
1581	0.557	0.550	0.778	1.146	1.197	1.105
1582	0.555	0.540	0.778	1.150	1.201	1.109
1583	0.574	0.581	0.804	1.111	1.161	1.071
1584	0.554	0.556	0.733	1.153	1.204	1.111
1585	0.619	0.653	0.779	1.031	1.076	0.993
1586	0.693	0.810	0.737	0.922	0.962	0.888
1587	0.581	0.590	0.714	1.100	1.148	1.060
1588	0.547	0.527	0.739	1.166	1.218	1.124
1589	0.607	0.650	0.758	1.052	1.098	1.013
1590	0.695	0.710	0.766	0.961	1.038	0.885
1591	0.630	0.642	0.767	1.060	1.145	0.976
1592	0.598	0.619	0.764	1.117	1.207	1.029
1593	0.611	0.639	0.790	1.093	1.181	1.007
1594	0.708	0.750	0.797	0.944	1.019	0.869
1595	0.760	0.852	0.807	0.879	0.949	0.809
1596	0.853	0.967	0.794	0.783	0.846	0.721
1597	0.860	1.011	0.836	0.777	0.839	0.715
1598	0.740	0.806	0.789	0.904	0.976	0.832
1599	0.725	0.779	0.791	0.922	0.996	0.849

1600	0.760	0.810	0.795	0.880	0.949	0.810
1601	0.730	0.752	0.775	0.915	0.988	0.843
1602	0.706	0.756	0.815	0.945	1.022	0.871
1603	0.608	0.600	0.802	1.098	1.187	1.012
1604	0.691	0.715	0.836	0.965	1.045	0.891
1605	0.712	0.734	0.796	0.936	1.014	0.865
1606	0.740	0.793	0.843	0.900	0.975	0.832
1607	0.736	0.788	0.833	0.905	0.981	0.837
1608	0.843	0.963	0.823	0.789	0.856	0.730
1609	0.805	0.876	0.836	0.825	0.896	0.764
1610	0.781	0.847	0.807	0.870	0.961	0.788
1611	0.814	0.886	0.820	0.834	0.921	0.756
1612	0.867	0.965	0.837	0.782	0.865	0.710
1613	0.866	0.972	0.833	0.783	0.866	0.711
1614	0.849	0.902	0.868	0.798	0.884	0.725
1615	0.860	0.916	0.846	0.787	0.872	0.716
1616	0.840	0.963	0.819	0.806	0.893	0.733
1617	0.824	0.948	0.822	0.821	0.910	0.747
1618	0.785	0.839	0.868	0.861	0.956	0.784
1619	0.749	0.773	0.821	0.902	1.002	0.822
1620	0.742	0.776	0.818	0.967	1.124	0.830
1621	0.815	0.911	0.804	0.880	1.023	0.755
1622	0.903	1.012	0.853	0.793	0.923	0.682
1623	0.835	0.901	0.790	0.857	0.998	0.737
1624	0.837	0.955	0.849	0.854	0.995	0.735
1625	0.866	0.971	0.843	0.826	0.963	0.711
1626	0.819	0.881	0.816	0.872	1.017	0.751
1627	0.764	0.788	0.860	0.984	1.091	0.907
1628	0.801	0.849	0.867	0.938	1.040	0.864
1629	0.872	0.945	0.891	0.861	0.956	0.794
1630	1.013	1.157	0.877	0.795	0.932	0.684
1631	0.934	1.002	0.894	0.861	1.011	0.741
1632	0.903	0.986	0.883	0.890	1.046	0.767
1633	0.913	0.962	0.866	0.880	1.034	0.759
1634	0.904	0.979	0.870	0.888	1.044	0.766
1635	0.910	1.021	0.841	0.881	1.037	0.761
1636	0.944	1.036	0.849	0.850	1.000	0.734
1637	1.014	1.113	0.867	0.791	0.931	0.683
1638	1.006	1.108	0.884	0.796	0.938	0.688
1639	0.896	0.963	0.892	0.893	1.053	0.772
1640	0.879	0.964	0.881	1.030	1.137	0.962
1641	0.885	0.970	0.883	1.022	1.129	0.956
1642	0.848	0.921	0.872	1.067	1.180	0.998
1643	0.841	0.909	0.882	1.075	1.189	1.006
1644	0.893	0.931	0.876	1.013	1.120	0.948
1645	0.879	0.918	0.978	1.029	1.138	0.963
1646	0.946	1.121	0.973	0.955	1.057	0.894
1647	1.065	1.273	0.930	0.886	0.939	0.867
1648	1.152	1.458	0.960	0.819	0.868	0.801
1649	1.148	1.432	0.969	0.822	0.871	0.804
1650	1.071	1.358	0.939	0.881	0.934	0.862
1651	0.985	1.151	0.968	0.957	1.015	0.937
1652	0.906	0.958	0.939	1.041	1.104	1.019
1653	0.911	0.956	0.965	1.036	1.098	1.014

1654	0.817	0.814	0.925	1.155	1.224	1.130
1655	0.851	0.891	1.021	1.109	1.176	1.085
1656	0.914	0.997	0.926	1.032	1.094	1.010
1657	0.969	1.130	0.938	0.973	1.032	0.952
1658	1.015	1.221	0.932	0.929	0.985	0.909
1659	1.002	1.221	0.911	0.941	0.998	0.921
1660	0.983	1.139	0.909	0.960	1.017	0.939
1661	1.054	1.276	0.910	0.895	0.949	0.876
1662	1.011	1.142	0.899	0.933	0.989	0.913
1663	1.000	1.137	0.889	0.944	1.000	0.923
1664	0.971	1.080	0.926	0.971	1.030	0.950
1665	0.948	1.002	0.926	0.996	1.055	0.974
1666	0.924	0.919	0.934	1.021	1.082	0.999
1667	0.937	0.968	0.934	1.007	1.067	0.985
1668	0.963	1.057	0.901	0.980	1.038	0.958
1669	0.931	0.991	0.874	1.014	1.074	0.991
1670	0.945	1.030	0.861	0.999	1.058	0.977
1671	0.941	1.009	0.862	1.004	1.063	0.981
1672	0.948	0.999	0.862	0.996	1.054	0.973
1673	1.027	1.198	0.872	0.920	0.974	0.899
1674	1.032	1.224	0.848	0.915	0.969	0.894
1675	0.966	1.029	0.867	0.978	1.035	0.956
1676	0.949	0.977	0.886	0.996	1.054	0.973
1677	0.994	1.140	0.855	0.951	1.006	0.929
1678	1.003	1.179	0.861	0.943	0.997	0.920
1679	0.965	1.045	0.881	0.980	1.036	0.956
1680	0.989	1.082	0.890	0.957	1.012	0.934
1681	0.980	1.056	0.860	0.965	1.020	0.942
1682	0.980	1.051	0.850	0.966	1.021	0.942
1683	1.013	1.129	0.840	0.935	0.987	0.911
1684	1.034	1.196	0.851	0.916	0.967	0.893
1685	1.001	1.048	0.867	0.946	0.999	0.922
1686	0.938	0.965	0.845	1.011	1.066	0.984
1687	0.905	0.883	0.801	1.048	1.105	1.020
1688	0.927	0.926	0.807	1.023	1.078	0.996
1689	0.910	0.909	0.833	1.042	1.099	1.015
1690	0.906	0.878	0.867	1.048	1.104	1.019
1691	0.928	0.957	0.884	1.023	1.078	0.995
1692	0.984	1.095	0.891	0.965	1.016	0.938
1693	1.055	1.269	0.907	0.900	0.948	0.875
1694	0.988	1.048	0.920	1.009	1.012	1.012
1695	0.978	1.097	0.891	1.019	1.022	1.022
1696	1.019	1.146	0.986	0.979	0.982	0.982
1697	1.086	1.251	1.094	0.919	0.921	0.921
1698	1.069	1.231	1.078	0.934	0.936	0.936
1699	1.029	1.144	0.991	0.970	0.971	0.971
1700	1.000	1.000	1.000	1.000	1.000	1.000
1701	0.991	0.903	1.030	1.010	1.010	1.010
1702	1.006	0.963	1.016	1.064	0.994	1.108
1703	0.998	1.000	1.009	1.073	1.002	1.118
1704	0.958	0.871	1.030	1.117	1.044	1.164
1705	0.952	0.840	1.019	1.125	1.051	1.172
1706	0.959	0.861	1.015	1.116	1.043	1.163
1707	0.951	0.873	1.024	1.126	1.052	1.173

1708	1.036	1.088	1.029	1.033	0.965	1.076
1709	1.104	1.278	1.023	0.969	0.906	1.010
1710	1.079	1.172	1.014	0.992	0.926	1.033
1711	1.054	1.102	1.036	1.038	0.949	1.095
1712	1.006	1.008	1.032	1.087	0.994	1.147
1713	1.008	1.095	1.033	1.085	0.992	1.145
1714	0.955	0.922	1.009	1.145	1.047	1.208
1715	1.005	1.061	1.005	1.089	0.995	1.149
1716	0.974	1.001	0.964	1.123	1.026	1.184
1717	0.963	0.961	0.977	1.136	1.039	1.198
1718	0.927	0.851	0.977	1.180	1.079	1.245
1719	0.975	0.936	0.999	1.122	1.026	1.184
1720	0.996	0.967	0.980	1.099	1.004	1.159
1721	0.961	0.874	0.987	1.138	1.041	1.201
1722	0.966	0.898	0.996	1.132	1.035	1.194
1723	0.971	0.897	1.013	1.127	1.030	1.189
1724	1.018	1.012	1.023	1.075	0.982	1.134
1725	1.028	1.036	1.025	1.064	0.973	1.123
1726	0.984	0.932	1.007	1.111	1.016	1.172
1727	1.043	1.085	1.031	1.048	0.958	1.106
1728	1.047	1.105	0.982	1.045	0.955	1.102
1729	0.998	0.965	0.968	1.096	1.002	1.156
1730	0.958	0.890	0.965	1.142	1.044	1.205
1731	0.936	0.820	0.982	1.193	1.068	1.273
1732	0.933	0.818	0.983	1.198	1.072	1.278
1733	0.932	0.827	0.992	1.198	1.072	1.279
1734	0.965	0.914	0.971	1.158	1.036	1.236
1735	0.982	0.943	0.999	1.138	1.019	1.214
1736	0.976	0.883	0.994	1.145	1.025	1.222
1737	0.971	0.876	0.978	1.175	1.030	1.267
1738	0.981	0.888	0.998	1.163	1.020	1.255
1739	0.993	0.972	0.987	1.149	1.007	1.240
1740	1.050	1.162	0.995	1.086	0.952	1.172
1741	0.984	0.949	0.996	1.159	1.016	1.251
1742	0.977	0.858	1.059	1.167	1.023	1.259
1743	0.946	0.787	1.058	1.206	1.057	1.301
1744	0.931	0.772	1.049	1.225	1.074	1.322
1745	0.971	0.888	1.036	1.175	1.030	1.268
1746	0.967	0.908	1.017	1.180	1.034	1.273
1747	0.948	0.886	0.976	1.203	1.055	1.298
1748	0.964	0.917	0.972	1.184	1.038	1.277
1749	0.966	0.912	0.977	1.180	1.035	1.274
1750	0.915	0.877	0.887	1.247	1.093	1.345
1751	0.939	0.966	0.885	1.215	1.065	1.310
1752	0.938	0.971	0.871	1.217	1.067	1.313
1753	0.954	0.999	0.868	1.196	1.048	1.290
1754	0.957	0.950	0.880	1.192	1.045	1.286
1755	0.977	0.998	0.901	1.168	1.023	1.260
1756	1.037	1.209	0.888	1.100	0.964	1.187
1757	1.047	1.182	0.900	1.091	0.955	1.176
1758	0.987	1.033	0.874	1.157	1.013	1.247
1759	0.945	0.956	0.855	1.209	1.058	1.303
1760	0.952	0.953	0.849	1.200	1.051	1.293
1761	0.929	0.919	0.855	1.230	1.076	1.325

1762	0.952	0.956	0.862	1.201	1.051	1.293
1763	0.988	1.080	0.797	1.157	1.012	1.245
1764	1.005	1.080	0.860	1.138	0.995	1.225
1765	1.010	1.079	0.888	1.132	0.990	1.218
1766	1.051	1.244	0.861	1.088	0.951	1.171
1767	1.070	1.281	0.863	1.069	0.934	1.150
1768	1.036	1.167	0.877	1.105	0.965	1.188
1769	1.000	1.065	0.865	1.146	1.000	1.231
1770	1.031	1.162	0.847	1.111	0.970	1.193
1771	1.079	1.275	0.843	1.063	0.927	1.141
1772	1.151	1.399	0.852	0.997	0.869	1.070
1773	1.166	1.345	0.888	0.984	0.858	1.055
1774	1.194	1.410	0.919	1.025	0.838	1.128
1775	1.146	1.218	0.932	1.068	0.873	1.175
1776	1.153	1.259	0.874	1.062	0.867	1.167
1777	1.173	1.335	0.898	1.111	0.853	1.246
1778	1.145	1.192	0.906	1.138	0.873	1.276
1779	1.169	1.209	0.953	1.115	0.855	1.250
1780	1.153	1.311	0.919	1.132	0.867	1.268
1781	1.114	1.288	0.904	1.173	0.898	1.312
1782	1.111	1.310	0.872	1.178	0.900	1.316
1783	1.159	1.353	0.894	1.130	0.863	1.261
1784	1.149	1.291	0.922	1.140	0.870	1.272
1785	1.164	1.276	0.931	1.127	0.859	1.255
1786	1.173	1.291	0.919	1.119	0.853	1.246
1787	1.183	1.362	0.895	1.111	0.846	1.236
1788	1.156	1.330	0.897	1.138	0.865	1.265
1789	1.198	1.431	0.913	1.099	0.835	1.220
1790	1.239	1.440	0.918	1.063	0.807	1.179
1791	1.228	1.365	0.934	1.075	0.815	1.191
1792	1.240	1.450	0.918	1.129	0.806	1.271
1793	1.286	1.509	0.897	1.090	0.778	1.226
1794	1.382	1.729	0.923	1.165	1.025	1.225
1795	1.507	2.104	0.939	1.069	0.940	1.123
1796	1.413	1.729	0.911	1.142	1.003	1.198
1797	1.462	1.828	0.944	1.104	0.969	1.158
1798	1.466	1.747	0.987	1.102	0.966	1.154
1799	1.650	2.314	0.963	1.013	0.858	1.072
1800	1.867	2.806	0.917	0.896	0.759	0.947
1801	1.731	2.302	0.946	0.967	0.818	1.022
1802	1.593	1.881	0.986	1.081	0.994	1.111
1803	1.595	1.846	0.919	1.183	0.993	1.254
1804	1.732	2.325	0.893	1.090	0.914	1.155
1805	1.699	2.180	0.821	1.111	0.932	1.177
1806	1.740	2.226	0.890	1.085	0.910	1.149
1807	1.789	2.271	0.905	1.148	0.885	1.247
1808	1.842	2.548	0.819	1.116	0.860	1.211
1809	1.897	2.682	0.897	1.084	0.835	1.176
1810	1.924	2.612	0.893	1.155	0.823	1.280
1811	1.983	2.877	0.930	1.121	0.798	1.241
1812	1.945	2.819	0.831	1.143	0.814	1.265
1813	1.910	2.558	0.806	1.165	0.829	1.288
1814	1.920	2.400	0.922	1.159	0.825	1.282
1815	1.716	2.044	0.886	1.298	0.923	1.435

1816	2.054	2.637	1.087	1.084	0.771	1.198
1817	2.013	2.544	0.994	1.107	0.786	1.223
1818	2.031	2.513	0.967	1.098	0.780	1.212
1819	1.897	2.317	0.898	1.176	0.835	1.298
1820	1.799	2.140	0.929	1.240	0.880	1.369
1821	1.620	1.802	0.897	1.378	0.977	1.519
1822	1.463	1.498	0.833	1.527	1.083	1.683
1823	1.549	1.677	0.837	1.442	1.022	1.589
1824	1.644	1.903	0.824	1.359	0.963	1.497
1825	1.787	2.134	0.820	1.251	0.886	1.378
1826	1.745	2.001	0.783	1.282	0.907	1.410
1827	1.616	1.946	0.791	1.385	0.980	1.523
1828	1.553	1.872	0.758	1.442	1.020	1.585
1829	1.543	1.902	0.732	1.452	1.026	1.596
1830	1.455	1.776	0.719	1.540	1.088	1.692

The basic series

The previous Table includes the basic series for the estimate of energy consumption from traditional sources in England & Wales. Although CPIs for England already exist they do not allow to build separate series of agricultural and non-agricultural prices (essential for the procedure I follow).

A geometric Price index. CPI is computed using a geometric average. A geometric price index is the result of the product of the relative price changes of the indices of each item included in the basket:

$$G_{t,0} = \prod (P_{t,i} / P_{0,i})^{S_{0,i}}$$

where P is the price of a particular item and the subscripts 0 and t refer to the base year and the following years and i to the items composing the basket. The relative shares of the value of any item out of the whole basket, represented by the symbol S , are constant, just as are the quantities of each item in Laspeyres' consumer price index. The relationship between a Laspeyres index and a geometric index can be appreciated by rewriting the Laspeyres formula as an arithmetic mean of price relatives weighted by base-periods expenditure shares:

$$L_{t,0} = \sum S_{0,i} (P_{t,i} / P_{0,i})$$

The advantage of a geometric index is that it takes into account, even though imperfectly, changes in the basket composition when relative prices change. Whenever this happens, for instance in consequence of a bad harvest, the family modifies its basket by increasing the consumption of cheaper goods, although qualitatively less appealing, and diminishing the consumption of more expensive goods (as explained for England by G. Clark ('The price history of English agriculture, 1209–1914', *Research in Economic History*, 22 (2004), pp.41–124; 'The condition of the working class in England, 1209–2004', *Journal of Political Economy*, 113 (2005), pp.1307–40; 'The long march of history: farm wages, population and economic growth, England 1209–1869', *Economic History Review*, 60 (2007), pp.97–136), who elaborated a geometric decadal price index. Then the geometric index increases less when goods rise in price. It is below the Laspeyres index whenever prices increase and is above whenever prices decrease (unless all prices change in the same proportion, in which cases both formulas yield the same answer).

Databases. The basic series of prices are from the following databases:

DB1 Allen:

www.nuff.ox.ac.uk/users/allen/studer/london.xls (prices and wages of London and southern England).

DB2 Clark:

www.iisg.nl/hpw/data.php (series of prices and wages in England).

DB3 Munro:

www.economics.utoronto.ca/munro5/ResearchData.html (the P. Brown and S. Hopkins 'Basket of consumables' commodity prices and craftsmen's wages, in Southern England, 1264 to 1700: revised data).

The series for the rent is that presented in Clark DB2, 35 (housing).

The Basket. The composition of the basket for the price index is the following:

	before 1750	from 1750	0.25	sources
Farinaceous				
Bread	0.700	0.650		DB1
Barley	0.050	0.050		DB2
Oats	0.130	0.130		DB2
Peas	0.120	0.120		DB2
Potatoes	0.000	0.050		DB2
	1.000	1.000		
Meat-Dairy			0.30	
Beef	0.350	0.350		DB1
Milk	0.250	0.250		DB2
Butter	0.250	0.250		DB2; DB1*
Cheese	0.100	0.100		DB2
Eggs	0.050	0.050		DB2
	1.000	1.000		
Drink-Sugar	before 1750	From 1750	0.15	
Beer	1.000	0.900		DB1
Sugar	0.000	0.050		DB2
Tea	0.000	0.050		DB2
	1.000	1.000		
Fuel	always 6,000 kcal		0.05	
Firewood				DB2
Coal				DB2
	1.000			
Industrial	before 1740	from 1740	0.15	
Soap	0.025	0.025		DB1
Linen	0.500	0.400		DB2
Woolcloth	0.400	0.250		DB2
Cotton cloth	0.000	0.250		DB2
Nails	0.025	0.025		DB2
Candles Tallow	0.050	0.050		DB2
	1.000	1.000		
Rent			0.10	DB2

* DB2 until 1700 and DB1 from then on.

If we exclude the rent, the allocation of total expenditure among sectors of consumption is the following:

Farinaceous	0.28
Meat-dairy	0.33
Drink-sugar	0.17
Fuel	0.05
Industrial	0.17
	1.00

As we see, some changes have been introduced in the basket from 1750 on. The relative share of any sector is, however, the same. The changes aim at incorporating actual changes in the basket composition during the 18th century (such as done by Feinstein 1998, p. 635). In particular the changes concern tea and sugar (from 1750), cotton cloths (while woollen cloths and linen diminish from 1740), fuel (the combination of firewood and coal provides always 6,000 kcal per day, while the mix changes according to the series by Warde (Warde, P., *Energy consumption in England and Wales 1560-2000* (Napoli, 2007)). The introduction of new goods has been smoothed on some years before and after 1750 or 1740.

For the CPI in col. 1, the price bread (P_b) is that computed by Allen DB1 for “bread predicted”.

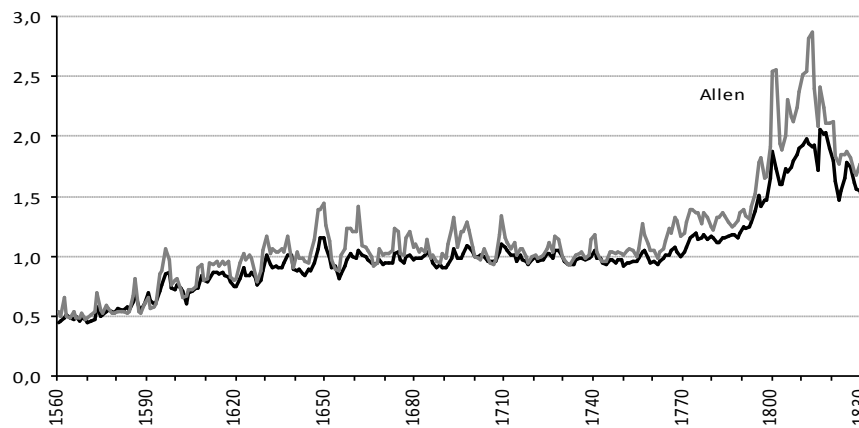


Figure A1. Comparison of two CPIs 1560-1830 (the present index is black; that by Allen grey) (1700=1).

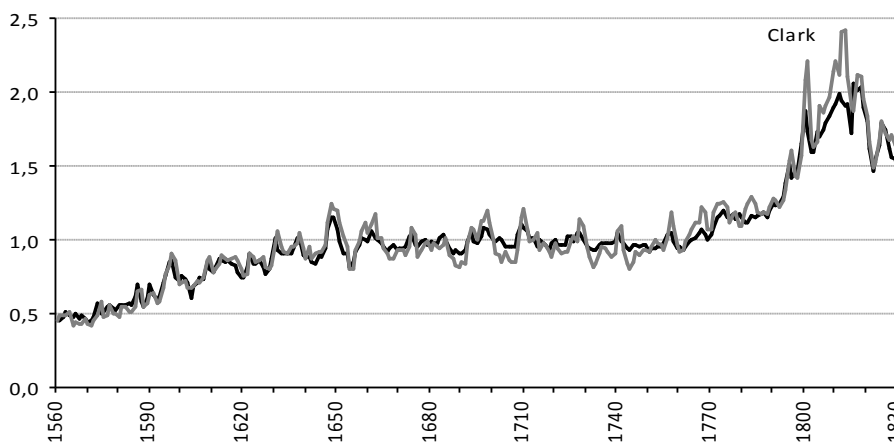


Figure A2. Comparison of two CPIs 1560-1830 (the present index is black; that by Clark grey) (1700=1).

Comparisons. The correlation between the present CPI and that by Allen DB1 is 0.99 (Figure A1). The main difference concerns the years after 1780. In a period of inflation our geometric index rises less than the Laspeyres index by Allen.

Although G. Clark ('The long march of history: farm wages, population and economic growth, England 1209-1869', *Economic History Review* 60 (2007), pp. 97-136) has only published a decadal, geometric CPI, his annual CPI is easily obtained dividing his yearly series of nominal wages by the series of real wages. The correlation between our index and that by Clark is 0.99 (Figure A2).

For the comparison with the Phelps Brown-Hopkins, we used the revised series by Munro DB3, until 1700 and then the original Phelps Brown-Hopkins index (Phelps Brown, E.H., Hopkins, S.V. 'Seven centuries of the prices of consumables compared with builder's wages', *Economica*, 23 (1956), pp, 296-314). The correlation is 0.98 (Figure A3).

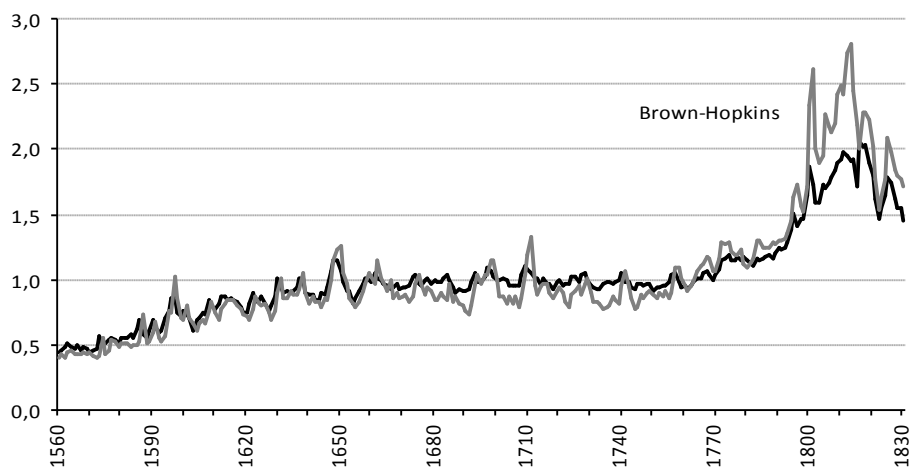


Figure A3. Comparison of two CPIs 1560-1830 (the present index is black; that by Brown-Hopkins grey) (1700=1).

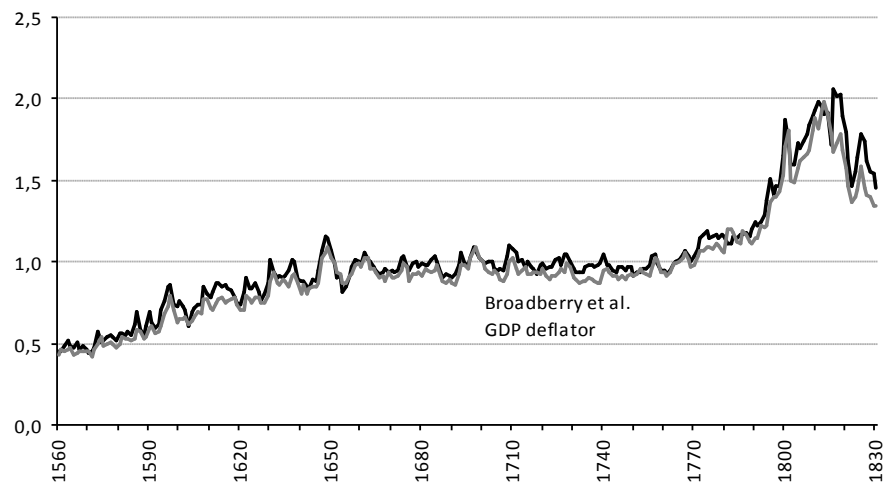


Figure A4. Comparison of the present CPI and the deflator by 1260-1830 (the present index is black; that by Broadberry et al. grey)(1700=1).

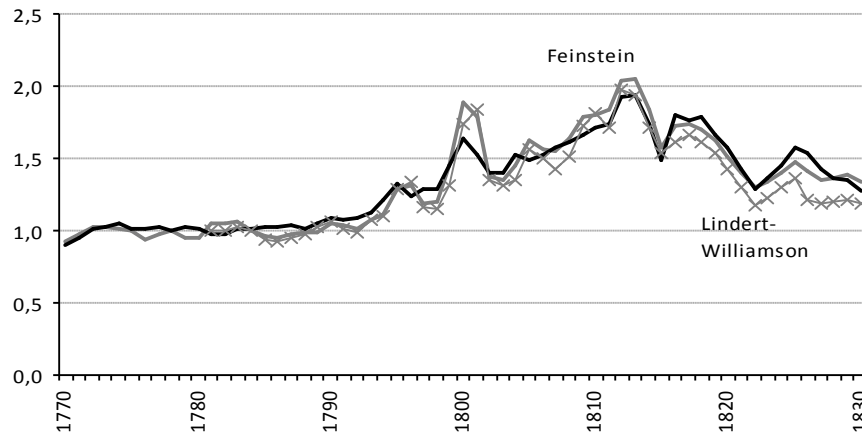


Figure A5. Comparison of three CPI 1770-1830 (the present index is black; that by Feinstein grey and that by Lindert-Williamson grey with indicators)(1778-82=1; this is the basis in Feinstein (1998), and in our CPI in the graph; since the Lindert-Williamson (1983) index starts in 1781, its basis is 1781-82=1).

While some difference exists in the years 1800-20 between our CPI and those used for comparison, our CPI is almost equal to the deflator elaborated by Broadberry et al. (Broadberry, S., Campbell, B., Klein, A., Overton, M., Leeuwen, B. (2011). *British economic growth, 1270-1870: an output-based approach* (December 18th 2011). The correlation is 0.996. Actually the graphs are almost indistinguishable (Figure A4).

For the important period 1770-1830 two more comparisons are presented in Figure A5. In the Figure, our CPI has been compared to those by Lindert-Williamson (Lindert, P.H., Williamson, J.G. ,*English workers' living standard during the Industrial Revolution: a new look*, *Economic History Review* 36 (1983), pp. 1-25) and Feinstein (Feinstein, C.H. 'Pessimism perpetuated: real wages and the standard of living in Britain during and after the Industrial Revolution', *Journal of Economic History* 58 (1998), pp. 625-58). The correlation of our CPI with that by Lindert-Williamson is 0.92, with that by Feinstein 0.95, while the correlation between the indices by Feinstein and Lindert-Williamson is 0.91.

The agricultural price index (column 2). The agricultural price index as well is geometric. The allocation of total expenditure among different products is the following:

Wheat	0.350
Barley	0.015
Oats	0.050
Peas	0.060
Potatoes	0.025
Beef	0.175
Milk	0.125
Butter	0.125
Cheese	0.050
Eggs	0.025
Firewood	0.025
	1.000

The potatoes are introduced from 1750 on, while the firewood disappears from 1750. In this basket bread (included in the previous one) is replaced by wheat (always from DB1 by

Allen). Agricultural products such as sugar and tea are not comprised in the basket of the agricultural price index (while are included in the basket for the CPI).

The industrial price index (column 3). The allocation of expenditure per industrial item is the following (with changes after 1750):

	before 1750	after 1750
Soap	0.025	0.025
Linen	0.500	0.400
Woolcloth	0.400	0.250
Cotton cloth	0.000	0.250
Nails	0.025	0.025
Candles Tallow	0.050	0.050
	1.000	1.000

Agricultural, industrial and total CPI. Figure A6 shows the three CPI used in our elaboration Here these series are presented with a basis in 1420-40=1.

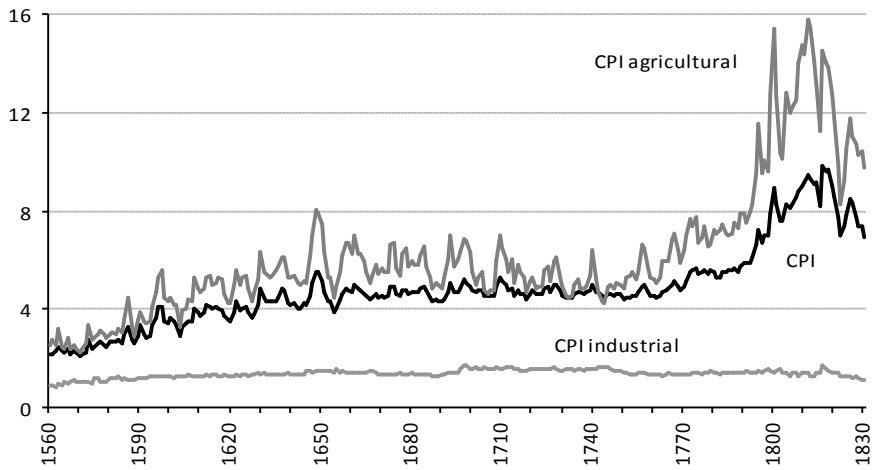


Figure A6. CPI and CPI agricultural and industrial 1420-40=1.

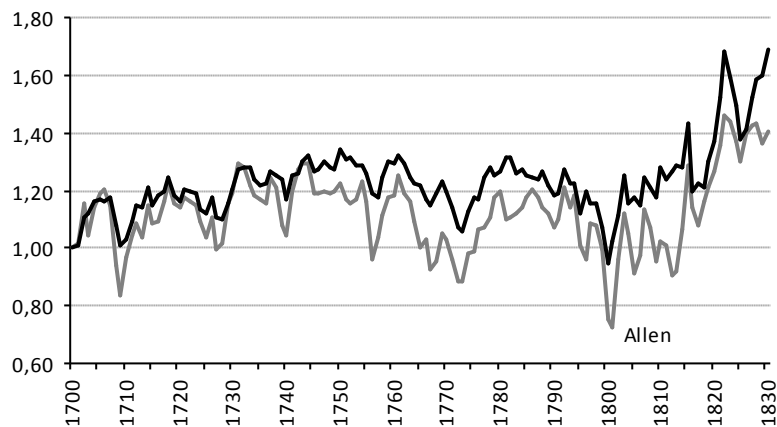


Figure A7. Two series of real wages in agriculture 1700-1830 (1700=1)(in grey the series by Allen and black our series).

Wages. Together with prices, wages are important for our reconstruction. Actually the series of real wages used in our calculations is a unique series which combines two series relative to South England and representative of wages in agriculture and industry. The series are both taken from DB1 by Allen and refer to the nominal wage of an agricultural labourer and a labourer in building industry. Both nominal wages are deflated by means of the previous CPI. The difference between our series and those by Allen depends on the diverse basket and the diverse method of CPI calculation (Laspeyres by Allen and geometric by us). In Figure A7 and Figure A8, we report only the sections of our series and those by Allen for the last part of our analysis (1700-1830); where the difference is higher.

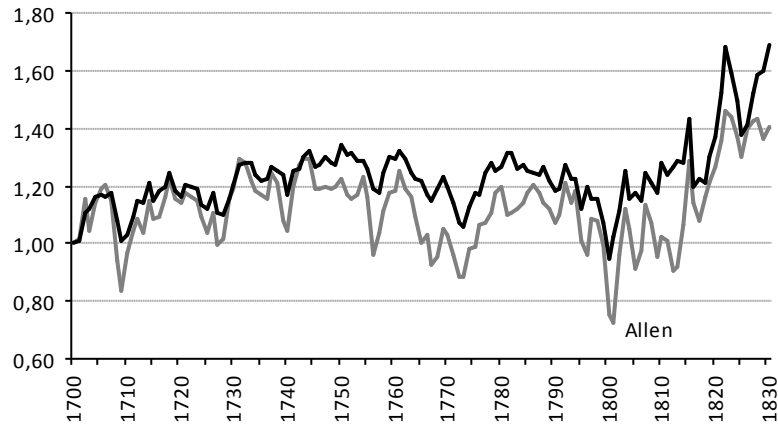


Figure A8. Two series of real wages in industry 1700-1830 (1700=1)(in grey the series by Allen and black our series).

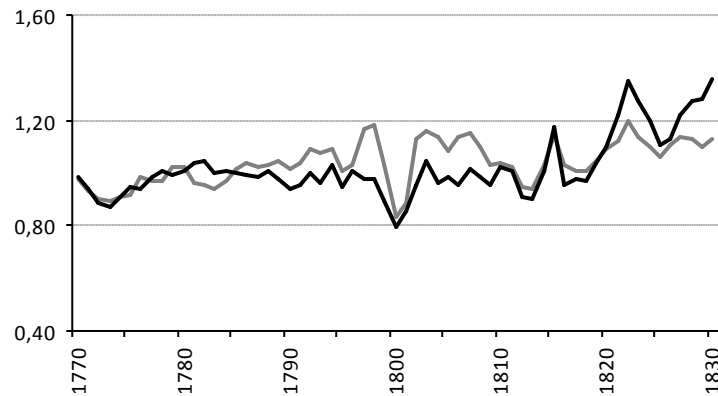


Figure A9. Two series of real wages 1700-1830 (1700=1)(in grey the series by Feinstein and black our series).

The series of real wages used to compute our index of agricultural per capita GDP is a combination of the previous two series weighted on the basis of the following data on employment in agriculture and non-agricultural jobs:

	agriculture	industry	services
1260	0.60	0.20	0.20
1300	0.60	0.20	0.20
1400	0.65	0.18	0.18
1500	0.60	0.20	0.20
1600	0.55	0.26	0.19
1700	0.40	0.38	0.22
1750	0.40	0.38	0.22
1800	0.30	0.43	0.27
1830	0.27	0.44	0.29

We could wonder if a series based on real wages in two kinds of occupation might be seen as representative of the trend of wages on the whole. A comparison with the series of real wages elaborated by Feinstein (1998) shows a high correlation. From 1820 our series rises more than that by Feinstein (and is more similar to the decadal series elaborated by Lindert-Williamson (1983).

I tried, in my calculations of agricultural consumption, two alternatives: the replacement of my series with that by Feinstein from 1770 on and the introduction, from 1755 on, of a wage in services, together with those in agriculture and industry. This second alternative is possible thanks to the series in Lindert-Williamson (1983). In both cases the results are barely different from those presented in my index of wages in column 4. I decided, finally, to use the simple weighted average of two wages.