

---

## **DATA APPENDIXES**

---

---

## APPENDIX A

---

### Data Sources

---

This appendix describes briefly the source of each economic time series,<sup>1</sup> and any particular considerations relevant to the interpretation of results for that time series. These often include my own subjective judgments as to the accuracy and consistency of the data, based on the notes and explanations of the original authors.

It must be recognized at the outset that the reliability of all such historical economic time series as these (particularly for the earlier centuries) is much lower than for recent decades. Much credence should not be placed in any particular data point in any particular source. I have drawn data from twenty-seven sources in hopes of ensuring at least some high-quality series, balancing the drawbacks of one series against the strengths of others and arriving at an appropriate sample of historical data within the confines of presently available sources.

Given the arbitrary nature of the scaling of variables for purposes of this study, I have rescaled forty-six of the fifty-five series to make them easier to work with computationally. The forty-six series are rescaled (by multiplying through by a constant) so that each series begins at an arbitrary index number of one hundred.<sup>2</sup> The rescaling is merely a practical step and does not affect the substance of the statistical analysis.<sup>3</sup> The nine innovation and invention series are not rescaled because they are actual annual counts of events (innovations or patents), which are meaningful in their original unit scales.

In a few series (mostly individual commodity prices), data for scattered years are missing in the original. In such cases I have made a linear interpolation to estimate those years, reasoning that such an interpolation would only trivially affect the trend of the series based on the existing data points. Such interpolations are noted below in the descriptions of each series.

In several series the original is broken into several time segments that are not entirely compatible—for instance, the scale, the measurement method, or the dimensions of the political unit under study change. In such cases I have “spliced” two or more such subsamples together in order to arrive at a single time series. In most such splices, for a certain year the source gives two data points—one ending the first segment in one scale and the other beginning the next segment in another scale. I use the ratio between these as a constant

1. War data transformations have been discussed in the text (chap. 8); the war data all come from Levy (1983a).

2. Note that this does not make them comparable as though on the same scale, since each series begins at a different point in time (by which time an earlier series is no longer at 100).

3. In the actual analysis presented in chaps. 9–10, the data were carried to three decimal points. In Appendix B, however, the data are rounded to one decimal point to save space and to better reflect their level of precision.

multiplier, which I apply to the whole first segment in order to join it to the next segment. This type of splice I call a "continuous" splice.

In just a few cases, the splice is more difficult, since the first segment ends in one year and the next segment begins, in a different scale, in the *next* year—a "discontinuous" splice. It is impossible to say what the change between these two years is, and I can only set them equal and then make the splice as above. All splices in the time series are noted in the paragraphs below and are "continuous" unless otherwise noted.

The following paragraphs discuss each series. Fuller information on a series may be found in the original source cited. For each series, a code name of up to eight letters is given.

### Price Indexes

**BRCNPRI:** South English consumer price index, 1495–1954 (Phelps-Brown and Hopkins 1956:193, col. 1). This series, along with BR2WAG, are taken from two 700-year series(!) put together by Phelps-Brown and Hopkins (the years before 1495 were not used). The following years in the 460-year series were interpolated by me: 1563, 1564, and 1575.

**BRINPRI:** South English industrial price index, 1495–1640 (Doughty 1975:188). Doughty specifically puts forward this series and BRAGPRI as superior alternatives to Phelps-Brown and Hopkins' series (BRCNPRI).

**BRAGPRI:** South English agricultural price index, 1495–1640 (Doughty 1975:188). See BRINPRI.

**SPTEPRI:** Spanish (New Castile) textile price index, 1651–1800 (Hamilton 1947:264). Hamilton presents annual price indexes for seven groups of commodities: fruits and nuts, poultry, textiles, animal products, fish, spices, and forest products. I used only the textile and animal product series. No years are missing, but most data points are annotated with superscripts ranging from 1 to 14, for which I found no explanation in the original.

**SPANPRI:** Spanish (New Castile) animal product prices, 1651–1800 (Hamilton 1947). See SPTEPRI.

**BRPRPRI:** English producers' goods price index, 1661–1801 (E. Schumpeter 1938:34). Schumpeter's years are given in harvest years, e.g., "1660/61," of which I used the second of the two years. There was a break in the original series at 1696, which I spliced by multiplying the data before that by a constant (1.109). The source also gives a consumer price index, which I did not use.

**BRKOPRI:** British commodity prices, 1780–1922 (Kondratieff [1928] 1984). Data were taken from the listing given by Van Duijn (1983:75), since the 1984 translation was not yet available.

**USKOPRI:** U.S. commodity prices, 1791–1922 (Kondratieff [1928] 1984). See BRKOPRI.

**BRWPI:** British wholesale price index, 1750–1975 (Mitchell 1980:772). Splices in the data set were made at 1790, 1850–51, 1871, 1914, and 1948. A discontinuous splice was made in 1850–51.

**FRWPI:** French wholesale price index, 1798–1975 (Mitchell 1980:772). Splices were made at 1819–20 (discontinuous), 1913, and 1948.

**GEWPI:** German wholesale price index, 1792–1918 (Mitchell 1980:772). A splice was made in 1913. I terminated the series after 1918 because of the extreme inflation in Germany after World War I (from 1922 to 1923 alone, prices rose 500-fold, or 50,000 percent), which

could not be handled by the methodology of this analysis (and because of the subsequent breakup of Germany).

USWPI: U.S. wholesale price index, 1801–1975 (Fellner 1956:394, for 1801–89; then U.S. Census 1975:199, col. 23, for 1890–1970; then U.S. Census 1983:486, for 1971–75). Fellner cites U.S. government sources.

BEINPRI: Belgian industrial price index, 1822–1913 (Loots 1936:34). Loots gives eleven price indexes in all. I used the “global” index for industrial prices (BEINPRI) and the “total” index for agricultural products (BEAGPRI). Loots also provides detailed price data by commodity, which I did not use.

BEAGPRI: Belgian agricultural price index, 1835–1913 (Loots 1936). See BEINPRI.

### Commodity Prices

FRWHPRI: French wheat prices (Paris), 1495–1788 (Baulant 1968:537). 1556, 1557, and 1590 are noted as incomplete years. The series is for top-quality wheat and is the average of four seasonal price levels from 1520 on.

GEWHPRI: German wheat prices (Cologne), 1531–1786 (Ebeling and Irsigler 1976 1: 666). Data were given by harvest year, not calendar year, and I used the first of the two years given. Data are from the *Mittel* (average) column under prices. They also provide annual data on prices of rye, barley, and oats, which I did not use. Elsewhere the source gives very detailed monthly price data (also not used).

GEBDPRI: German bread prices (Cologne), 1658–1772 (Ebeling and Irsigler 1976 2:266). Data are taken from the “*Rechn.*” column under “*malterbrot*” (bread). Prices are given in the currency of the Albus, the metal content of which varied over time, as discussed in the source.

NERYPRI: Netherlands prices for Prussian rye sold at the Amsterdam Produce Exchange, 1597–1783 (Posthumus 1964:573). Posthumus compiles overall price indexes for the Netherlands, but only by five-year periods, not annually. He also provides a mass of individual commodity data for the Netherlands but not on a regular enough annual basis to be useful, except in the case of this series, which he compiles separately. Prices are provided monthly, with an annual average for each year; the latter is the source for my series. The designation of the type of rye being recorded varies several times in the period, but with no apparent major effect.

BRMAPRI: English malt prices (Eton College), 1595–1831 (Beveridge 1939:144). Beveridge compiles a large collection of price series from various British sources. I used five. The data are somewhat spotty in places, and these series represent prices for one commodity in one location as kept in one set of records, so these series should be taken less seriously than most of the other price series.

BRHOPRI2: English hops prices (Eton College), 1622–1829 (Beveridge 1939:144, col. “*Hops B*”). The series was interpolated at 1642–43, 1691, 1693, 1701, 1717, 1753, 1761, 1763, 1765, 1779, 1784, 1802, 1805, 1808, and 1821.

BRWHPRI: English wheat prices (Winchester College), 1630–1817 (Beveridge 1939:81). Data are given for four quarters each year and in an annual figure, which I used.

BRCOPRI2: English coal prices (Eton College), 1653–1830 (Beveridge 1939:145). I interpolated data for the missing years of 1658 and 1664.

RBBDPRI2: English bread prices (Charterhouse), 1694–1800 (Beveridge 1939:208). Quarterly data are also given in the source (not used). I interpolated data for 1709–13.

ITWHPRI: Italian wheat prices (Milan), 1701–1860 (Maddalena 1974:379). Maddalena

gives prices for a large variety of commodities, mostly food, of which I have looked at only two.

ITCOPRI: Italian hard coal prices (Milan), 1701–1860 (Maddalena 1974:395). See IT-WHPRI.

SWWHPRI: Swedish wheat prices, 1732–1914 (Jorberg 1972:632). This is an average price across 11–24 regions in a given year. Jorberg, like Maddalena, gives a large number of price series for various commodities, of which I looked at three. Jorberg also lists wage rates in current prices, which I did not use.

SWWDPRI2: Swedish pine wood prices, 1735–1914 (Jorberg 1972:690). This is an average across 1–6 regions from 1732 to 1802, then 24–29 regions through 1875, and 4–5 regions through 1914.

SWIRPRI: Swedish iron ore prices, 1732–1914 (Jorberg 1972:700). The price is an average across 4–5 regions.

## Production Indexes

WOIN2PRO: World industrial production, 1740–1850 (Haustein and Neuwirth 1982:76). The authors cite Hoffman as the source. I am skeptical about the quality of Haustein and Neuwirth's data, but nonetheless use several series relating to innovation (see below), and include this world production series as an extension to the time frame covered by Kuczynski (WOINPRO). Haustein and Neuwirth also make indexes for innovation and invention, but it is not clear what they represent, and I did not use them.

WOINPRO: World industrial production, 1850–1975 (Kuczynski 1980:309). Kuczynski provides data on the “world” level. His series are complete, although I am not sure how he arrived at his data for the world as a whole.

WOAGPRO: World agricultural production, 1850–1975 (Kuczynski 1980:309). See WOINPRO.

WOTOPRO: World total production (including mining), 1850–1975 (Kuczynski 1980:310). See WOINPRO.

FRGNP: French real gross national product, 1820–1975 (Maddison 1982). Maddison has spent some years compiling GNP data for a number of countries, and they appear to be among the best estimates currently available.

BRGNP: British real gross national product, 1830–1975 (Mitchell 1980:818). This series comes from Mitchell's compendium of European historical statistics and is of fairly high quality. German GNP data are available but for only 63 years with high enough consistency, so German GNP data were not used. Splices for the British series were made at 1855, 1870, 1913, 1920, 1948, and 1965.

USGNP: U.S. real gross national product, 1889–1970 (U.S. Census 1975:224). The original is expressed in billions of dollars at 1958 prices. Data from 1960 forward include Alaska and Hawaii.

BRINPRO: British industrial production, 1801–1938 (Mitchell 1980:375). The series was spliced at 1855, 1914, and 1920. After 1920 the series covers Great Britain and Northern Ireland. Quality seems to be relatively high. The years 1939–45 were missing in the original, and since these could not reasonably be interpolated I terminated the series in 1938.

FRINPRO: French industrial production, 1815–1913 (Crouzet 1970:96, annexe 8a). The index covers industrial production in seven groups of industries. This series is chosen by Mitchell (1980:375) and appears to be of relatively high quality.

BEINPRO: Belgian industrial production, 1840–1975 (Vandermotten 1980:266). No transformations were needed.

### Trade Indicators

SPTRA: Volume of Seville-Atlantic shipping, 1506–1650 (Chaunu 1956 6:334). This series on total tonnage of departing and returning ships in the Seville-Atlantic trade is included in Chaunu's eight-volume study of Seville-Atlantic shipping. Spanish trade with the New World could be particularly important (more so than more general trade indicators), in view of theories that precious metal influx caused long wave price upswings in this period.

BRWHEXP: British net volume of wheat exports, 1700–1775 (Minchinton 1969:63). Minchinton cites a J. Marshall from 1833 as the source. Negative numbers indicate net imports. Flour is included with wheat.

BREXP: English exports in current prices, 1700–1775 (Minchinton 1969). I interpolated data for 1705 and 1712. The series covers exports of produce and manufactures and is the only non-price series I have used that is expressed in current prices (not adjusted for inflation).

WOEXP: Total world exports, 1850–1975 (Kuczynski 1980:310). See WOINPRO. Data are expressed in constant prices.

### Innovation Indicators

WOINN5: List of innovations, 1764–1975 (Haustein and Neuwirth 1982:76). See note on data quality under WOIN2PRO. These data are given as a time series listing the number of innovations each year.

WOINN2: List of innovations, 1856–1971 (Van Duijn [1981] 1983:26). These data and the next three innovation indicators are given in the sources as lists of innovations with their respective dates (the dating of each innovation is controversial and varies considerably by source). I converted these lists to time series representing the number of innovations each year. Van Duijn's list covers 13 industrial sectors, for the world as a whole.

WOINN1: List of innovations, 1904–1968 (Clark, Freeman, and Soete 1981:313). The list derives from Jewkes, Sawers, and Stillerman, as dated by Clark, Freeman, and Soete. I created a time series as with WOINN2. Mensch uses the same source but a more restrictive list and dates the innovations differently.

WOINN3: List of product innovations, 1879–1965 (Kleinknecht 1981b:297). Again I created a time series from a list of dates. Kleinknecht distinguishes "product innovations" from "improvement and process innovations," which are less basic. This list includes only the former. The latter comprise WOINN4.

WOINN4: List of improvement innovations, 1859–1969 (Kleinknecht 1981b:297). See WOINN3.

### Invention Indicators

BRPAT: Number of British patents, 1738–1935 (Haustein and Neuwirth 1982:76). See note under WOIN2PRO, above.

USPAT: Number of U.S. patents, 1790–1975 (Haustein and Neuwirth, 1982:76). See note under WOIN2PRO, above.

US2PAT: Number of U.S. patents, 1837–1950 (Schmookler 1966:228). This time series, along with USRRPAT, gives the total number of successful patent applications filed each year.

USRRPAT: U.S. patents in building and railroads, 1837–1950 (Schmookler 1966:228). See US2PAT.

**Capital Investment**

USBLD: U.S. private building volume, 1830–1957 (Schmookler 1966:244, col. 2). Schmookler's data appear to be of relatively good quality throughout. Data are in constant prices.

USRRCAP: U.S. railroad gross capital expenditures, 1870–1950 (Schmookler 1966:233). Data are in constant prices.

**Real Wages**

BRWAG: Real wages for London, 1700–1787 (Gilboy 1936:140). Gilboy gives data for money wages and for real wages; the latter were used. A parallel series for Lancashire was not used.

BR2WAG: South English real wages, 1736–1954 (Phelps-Brown and Hopkins 1956:193, col. 2). This series is the second of Phelps-Brown and Hopkins's seven-century time series (the first was BRCNPRI). In this series, however, the data from 1495 up until 1736 are missing long stretches of years and were not used. From 1736 on, interpolations were made for missing data in 1774, 1775, 1792–95, 1803–5, 1865, and 1872. Phelps-Brown and Hopkins use their consumer price index (BRCNPRI) to deflate wages in calculating this series.

---

## **APPENDIX B**

---

### **Data Listing for Fifty-five Economic Time Series and Seven War Series**

---

### S. English Industrial Price Index 1495-1640

### S. English Consumer Price Index 1495-1954

	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	
	105.6	294.4	515.7	942.7	753.9	662.9	1760.7	1088.8	1116.9	3544.9		
	120.2	320.2	602.2	791.0	658.4	644.9	1967.4	1079.8	1107.9	4107.9		
	137.1	310.1	529.2	728.1	653.9	675.3	1514.6	1098.9	1082.0	4479.8		
	128.1	291.0	503.4	650.6	619.1	657.3	1424.7	1275.3	1128.1	4196.6		
	120.2	310.1	453.9	610.1	659.6	691.0	1470.8	1421.3	1106.7	4297.8		
	115.7	303.4	503.4	596.6	615.7	649.4	1709.0	1431.5	1111.2			
	119.1	415.7	525.8	628.1	655.1	676.4	1633.7	1420.2	1141.6			
	110.1	459.6	504.5	687.6	596.6	823.6	1603.4	1446.1	1158.4			
	112.4	258.4	569.7	725.8	641.6	821.3	1658.4	1337.1	1171.9			
	103.4	286.5	628.1	786.5	783.1	756.2	1819.1	1364.0	1188.8			
	115.7	297.8	565.2	768.5	896.6	722.5	1876.4	1476.4	1116.9			
	109.0	318.0	520.2	728.1	998.9	689.9	1822.5	1462.9	1105.6			
	113.5	298.9	588.8	864.0	716.9	716.9	2062.9	1449.4	1122.5			
	134.8	307.9	616.9	758.4	667.4	736.0	2113.5	1285.4	1147.2			
	132.6	316.9	637.1	738.2	713.5	801.1	1844.9	1348.3	1288.8			
	120.2	325.8	630.3	692.1	725.8	829.2	1648.3	1391.0	1479.8			
	123.6	322.5	631.5	746.1	724.7	789.3	1510.1	1456.2	1856.2			
	124.7	316.9	603.4	648.3	676.4	887.6	1714.6	1512.4	2207.9			
	130.3	315.7	588.8	676.4	646.1	877.5	1719.1	1450.6	2805.6			
	144.9	310.1	555.1	642.7	684.3	805.6	1676.4	1397.8	2532.6			
	153.9	337.1	544.9	648.3	713.5	802.2	1520.2	1394.4	2911.2			
	187.6	297.8	518.0	668.5	678.7	870.8	1337.1	1483.1	2301.1			
	179.8	303.4	587.6	625.8	622.5	964.0	1156.2	1548.3	1878.7			
	152.8	307.9	660.7	657.3	589.9	960.7	1234.8	1614.6	1939.3			
	149.4	420.2	610.1	730.3	661.8	969.7	1340.4	1598.9	1955.1			
	144.9	384.3	600.0	776.4	685.4	915.7	1573.0	1471.9	1919.1			
	149.4	347.2	620.2	732.6	715.7	895.5	1486.5	1539.3	1771.9			
	165.2	407.9	557.3	665.2	669.7	892.1	1389.9	1494.4	1680.9			
	201.1	394.4	523.6	711.2	729.2	928.1	1349.4	1439.3	1668.5			
	178.7	366.3	573.0	689.9	765.2	849.4	1336.0	1359.6	1697.8			
	189.9	384.3	668.5	638.2	673.0	820.2	1287.6	1319.1	1432.6			
	173.0	389.9	766.3	627.1	621.3	853.9	1415.7	1362.9	1287.6			
	201.1	385.4	651.7	674.2	625.8	871.9	1311.2	1280.9	1196.6			
	189.9	364.0	634.8	659.6	611.2	976.4	1231.5	1328.1	1243.8			
	162.9	374.2	686.5	640.4	582.0	982.0	1136.0	1203.4	1232.6			
	147.2	379.8	670.8	731.5	594.4	942.7	1155.1	1152.8	1291.0			
	184.3	395.5	666.3	628.1	605.6	942.7	1282.0	1046.1	1360.7			
	174.2	551.7	697.8	651.7	652.8	937.1	1313.5	1373.0	1432.6			
	155.1	388.8	794.4	619.1	632.6	974.2	1322.5	1067.4	1431.5			
	165.2	397.8	682.0	601.1	614.6	961.8	1419.1	1065.2	1339.4			
	177.5	444.9	613.5	576.4	723.6	978.7	1444.9	1064.0	1768.5			
	185.4	515.7	658.4	553.9	800.0	977.5	1411.2	1121.3	2004.5			
	193.3	415.7	625.8	609.0	709.0	992.1	1304.5	1119.1	2393.3			
	192.1	400.0	621.3	732.6	650.6	1020.2	1157.3	1027.0	2410.1			
	200.0	428.1	596.6	778.7	582.0	1098.9	1156.2	1103.4	2489.9			
	100.0	214.6	578.7	644.9	724.7	593.3	1225.8	1212.4	1087.6	2564.0		
	105.6	278.7	567.4	639.3	783.1	667.4	1304.5	1260.7	1064.0	2656.2		
	113.5	259.6	769.7	749.4	778.7	644.9	1174.2	1412.4	1082.0	2898.9		
	107.9	216.9	650.6	865.2	861.8	673.0	1148.3	1241.6	1103.4	3124.7		
	111.2	240.4	532.6	922.5	868.5	684.3	1289.9	1162.9	1067.4	3533.7		

	1450	1500	1550	1600	1450	1500	1550	1600	1650	1700	1750	1800
	99.1	172.6	276.4	105.0	313.0	597.0	116.7	98.4	189.2			
	100.0	177.4	265.1	109.0	284.0	486.0	100.0	111.3	98.6			
	95.3	183.0	272.6	109.0	279.0	432.0	112.2	111.1	116.8			
	96.2	179.2	270.8	113.0	232.0	423.0	117.7	117.0	114.5			
	95.3	180.2	271.7	121.0	290.0	454.0	118.2	103.2	123.9			
	92.5	185.8	269.8	110.0	373.0	481.0	112.0	105.5	115.0			
	92.5	184.9	280.2	107.0	397.0	462.0	106.9	105.0	105.3			
	91.5	188.7	281.1	109.0	243.0	511.0	111.7	106.4	111.2			
	94.3	196.2	291.5	106.0	249.0	560.0	105.0	103.5	115.9			
	100.0	208.5	291.5	98.0	278.0	555.0	103.6	99.9	109.9			
	97.2	219.8	296.2	90.0	296.0	502.0	101.6	96.0	111.2			
	95.3	217.0	300.0	101.0	295.0	612.0	104.8	93.8	112.6			
	99.1	218.9	296.2	111.0	341.0	640.0	101.6	105.1	103.4			
	95.3	224.5	302.8	111.0	338.0	585.0	114.9	100.1	108.9			
	99.1	220.8	304.7	115.0	257.0	570.0	121.6	105.7	108.7			
	96.2	217.9	298.1	114.0	289.0	685.0	130.9	109.9	110.0			
	96.2	216.0	291.5	125.0	280.0	579.0	127.4	107.9	108.1			
	99.1	211.3	289.6	136.0	315.0	560.0	138.4	97.5	113.9			
	101.9	209.4	284.0	126.0	328.0	535.0	146.8	99.4	113.0			
	97.2	217.9	289.6	158.0	279.0	528.0	140.1	103.2	120.8			
	105.7	215.1	290.6	169.0	289.0	486.0	156.5	99.6	108.6			
	109.4	220.8	290.6	152.0	284.0	566.0	162.7	94.2	115.5			
	106.6	226.4	301.9	130.0	332.0	615.0	165.5	96.4	107.8			
	107.5	225.5	299.1	117.0	398.0	569.0	164.8	91.0	116.4			
	111.3	225.5	286.8	119.0	349.0	580.0	161.4	99.3	112.0			
	109.4	222.6	283.0	124.0	333.0	630.0	158.5	92.5	114.7			
	110.4	233.0	294.4	147.0	338.0	560.0	159.4	96.4	117.2			
	115.1	229.2	304.7	176.0	340.0	513.0	155.8	99.3	125.0			
	118.9	225.5	312.3	150.0	346.0	614.0	148.7	94.5	120.4			
	117.0	232.1	333.0	150.0	354.0	661.0	160.4	98.5	125.4			
	109.4	230.2	326.4	132.0	373.0	783.0	125.3	93.4	115.9			
	106.6	231.1	323.6	156.0	378.0	619.0	104.0	92.9	130.6			
	107.5	225.5	323.6	162.0	369.0	685.0	96.2	92.9	122.3			
	102.8	227.4	321.7	143.0	346.0	682.0	96.8	92.9	141.6			
	110.4	235.8	335.8	146.0	326.0	780.0	96.2	91.7	142.4			
	104.7	243.4	320.8	168.0	427.0	662.0	91.8	95.5	148.7			
	112.3	251.9	331.1	149.0	491.0	714.0	87.8	92.3	147.7			
	109.4	250.9	334.0	131.0	353.0	869.0	96.2	96.6	130.6			
	113.2	251.9	335.8	131.0	362.0	663.0	96.1	98.2	135.7			
	110.4	250.9	332.1	140.0	413.0	587.0	107.9	97.3	143.3			
	107.5	251.9	336.8	145.0	507.0	630.0	107.4	104.8	123.9			
	111.3	249.1		159.0	396.0		97.7	108.7	138.6			
	118.9	249.1		157.0	348.0		99.6	110.8	139.2			
	119.8	251.9		154.0	379.0		100.6	108.8	164.5			
	125.5	261.3		182.0	507.0		104.2	97.1	183.0			
	100.0	128.3	280.2	100.0	205.0	528.0	102.7	95.8	169.3			
	100.9	132.1	288.7	94.0	160.0	691.0	119.1	92.8	184.9			
	89.6	139.6	279.2	99.0	162.0	578.0	117.8	94.4	191.9			
	90.6	144.3	288.7	110.0	189.0	444.0	115.6	94.6	172.1			
	92.5	164.2	273.6	97.0	239.0	467.0	117.8	90.9	192.1			

### S. English Agricultural Price Index 1495-1640

	1450	1500	1550	1600	1450	1500	1550	1600	1650	1700	1750	1800

<tbl\_r cells="13" ix="1" maxcspan="1" maxrspan="1"

New Castile Animal Product Prices 1651-1800

	1650	1700	1750	1800		1650	1700	1750	1800		1750	1800	1850	1900
	79.0	91.5	173.6			93.0	82.7	135.3			134.5	73.9	71.8	
100.0	86.6	97.7				93.9	79.8	152.2			142.3	71.8	67.6	
115.2	81.9	97.1				97.7	76.1				123.9	75.4	66.2	
110.7	83.0	111.7				97.7	76.1				140.1	91.5	66.2	
103.6	72.5	117.2				95.8	83.6				137.3	97.9	67.6	
103.1	76.0	125.0				95.8	85.5				143.7	97.2	69.0	
99.5	79.8	102.3				92.1	87.4				142.8	97.2	73.9	
90.0	77.2	92.3				89.2	88.3				141.9	100.7	76.8	
97.6	88.7	94.9				91.1	94.9				141.0	87.3	70.4	
100.7	94.7	89.0				93.9	94.9				140.1	90.1	71.1	
94.9	90.4	92.6				99.6	95.8				140.1	95.1	75.4	
94.9	94.7	91.4				102.4	94.9				119.0	93.0	76.8	
93.8	92.0	96.7				109.4	92.1	95.8			123.2	97.2	81.7	
109.4	87.6	100.0				101.0	90.2	95.8			131.7	99.3	81.7	
116.8	85.0	105.1				99.0	85.5	94.9			143.0	100.7	81.7	
116.6	100.9	109.2				105.2	80.8	93.0			133.8	97.2	101.4	
116.3	94.7	115.6				112.5	83.6	93.0			119.7	97.9	128.2	
136.4	87.3	111.0				116.7	84.5	93.0			129.6	96.5	164.8	
140.1	86.6	118.9				106.3	85.5	92.1			134.5	95.1	180.3	
147.4	85.4	111.8				95.8	86.4	86.4			123.2	94.4	182.4	
137.6	77.4	112.9				95.8	85.5	88.3			114.8	92.3	181.7	
130.2	79.0	113.1				101.0	83.6	88.3			108.5	96.5	117.6	
132.0	79.9	113.9				94.8	85.5	92.1			105.6	104.9	114.8	
125.8	75.2	106.2				100.0	80.8	93.0			104.2	107.0		
132.1	85.0	117.4				95.8	81.7	92.1			97.9	97.9		
130.5	84.3	110.3				92.7	81.7	92.1			109.2	92.3		
152.4	82.5	113.7				94.8	86.4	94.9			95.1	91.5		
145.2	84.9	111.2				90.6	91.1	95.8			93.7	90.1		
148.9	78.1	114.4				88.5	89.2	97.7			89.4	83.8		
161.6	83.1	116.5				89.6	89.2	103.3			87.3	79.6		
129.3	77.3	122.9				85.4	92.1	106.1			100.0	85.9	84.5	
94.9	81.1	121.0				82.3	89.2	103.3			108.5	88.0	81.7	
82.8	79.5	123.5				83.3	84.5	112.7			109.2	87.3	81.0	
91.2	82.9	125.2				87.5	80.8	109.9			95.1	89.4	78.9	
87.2	86.3	120.1				86.5	80.8	101.5			91.5	89.4	73.2	
85.0	91.8	128.5				78.1	78.0	100.5			88.7	92.3	69.0	
77.5	93.9	133.1				71.9	77.0	106.1			90.8	103.5	66.2	
73.1	84.9	135.6				74.0	76.1	104.3			94.4	94.4	65.5	
85.4	92.0	137.7				72.9	76.1	106.1			90.8	96.5	67.6	
77.3	96.7	148.0				80.2	81.7	100.5			88.0	102.8	69.0	
76.3	91.4	160.6				92.7	83.6	100.5			92.3	100.0	69.0	
76.4	91.4	146.9				101.0	91.1	100.5			91.5	95.1	69.0	
70.1	96.6	153.6				90.6	91.1	104.3			94.4	87.3	65.5	
71.4	88.5	146.2				92.7	85.5	116.5			100.7	79.6	65.5	
78.2	83.8	148.8				91.7	92.1	111.8			99.3	80.3	60.6	
88.4	78.4	149.0				95.8	76.1	114.6			116.9	81.7	59.9	
89.1	74.0	157.6				105.2	85.5	129.6			126.1	85.9	58.5	
82.3	84.5	172.5				102.4	80.8	132.4			130.3	91.5	59.9	
84.3	85.1	204.1				94.9	83.6	121.2			138.0	75.4	61.3	
80.3	79.0	207.5				95.8	85.5	120.2			144.4	71.1	65.5	

U.S. Commodity Prices 1791-1922

	1750	1800	1850	1900		1750	1800	1850	1900		1950
	154.1	83.5	75.2	100.0		221.5	107.8	99.2	373.0		
158.7	86.8	73.6	94.7	228.8		107.8	95.8	95.8	452.3		
130.6	83.5	77.7	97.9	178.9		109.0	95.8	466.3			
133.9	88.4	79.3	94.7	181.9		132.7	95.8	466.3			
143.8	91.7	79.3	94.7	181.9		142.1	96.9	471.0			
147.9	91.7	79.3	96.8	199.5		141.0	96.9	484.9			
144.6	91.7	82.6	96.8	197.3		141.0	100.4	503.6			
136.4	90.9	86.8	114.7	192.1		146.9	105.0	512.9			
133.9	82.6	83.5	111.6	211.9		126.8	101.5	498.9			
143.8	81.8	90.1	105.3	227.3		131.5	102.7	498.9			
153.7	81.8	93.4	103.2	224.4		137.4	107.3	503.6			
148.8	81.8	85.9	99.0	212.7		136.2	108.5	512.9			
151.2	118.7	91.7	99.0	240.5		141.0	114.2	517.6			
176.9	103.3	92.6	105.3	247.9		143.3	115.4	522.2			
129.0	123.1	90.9	107.4	225.9		146.9	116.5	540.9			
171.9	100.8	93.4	111.6	190.7		141.0	142.4	554.9			
147.1	137.2	117.4	112.6	174.5		142.1	184.5	573.5			
148.8	128.9	163.6	114.7	193.6		139.8	239.6	573.5			
142.1	116.5	179.3	113.7	203.9		137.4	265.5	606.2			
135.5	114.1	190.9	104.2	187.7		136.2	293.0	634.2			
109.1	118.2	209.1	105.3	168.7		133.9	364.2	666.8			
105.0	103.3	136.4	112.6	146.7		133.9	233.1	713.4			
107.4	106.6	138.0	123.2	129.1		144.2	187.8	746.1			
102.5	102.5	125.3	113.7	143.7		150.0	187.8	890.6			
100.8	100.8	122.1	149.6	145.4		145.4	197.5	1221.7			
102.5	95.0	118.9	165.7	139.6		189.4	1412.9				
98.3	88.4	120.0	146.7	136.2		174.8					
98.3	87.6	113.7	145.2	139.6		168.3					
95.9	84.3	123.2	140.8	130.4		166.7					
95.9	78.5	116.8	140.8	123.5		161.9					
88.4	87.6	115.8	138.6	128.1		142.4					
96.7	85.9	121.1	139.3	125.8		124.6					
96.7	87.6	122.1	134.2	126.9		121.4					
94.2	86.8	135.8	130.5	124.6		121.4					
85.1	81.0	132.6	126.9	113.1		126.3					
95.9	76.0	126.3	123.9	106.2		126.3					
87.6	74.4	125.3	139.3	100.4		134.4					
102.5	75.2	123.2	137.9	98.1		155.4					
99.2	76.9	127.4	143.7	100.4		144.1					
101.7	76.9	123.2	152.5	102.7		145.7					
95.0	75.2	130.5	150.3	102.7		194.2					
100.0	102.5	74.4	132.0	143.7		106.2	216.9				
105.8	87.6	69.4	129.1	130.5		100.4	226.6				
112.4	82.6	71.1	142.3	117.3		98.1	231.5				
130.2	83.5	63.6	144.5	118.8		92.3	236.3				
147.9	84.3	64.5	168.7	121.7		90.0	241.2				
153.7	86.8	62.0	170.1	126.1		87.7	249.3				
159.5	86.8	62.0	155.5	142.3		88.9	273.6				
157.0	82.6	64.5	158.4	120.3		92.3	312.4				
149.6	80.2	69.4	183.3	108.5		91.2	326.4				

**1798-1975**

**French Wholesale Price Index**

	1750	1800	1850	1900	1950		1750	1800	1850	1900	
	100.0	64.6	57.5	8227.8			137.8	72.4	91.8		
	88.9	63.9	55.3	10548.5			136.7	76.5	84.7		
	88.1	69.2	54.6	11075.9			133.7	83.7	82.7		
	94.0	80.8	55.8	10548.5			141.8	93.9	83.7		
	88.1	86.1	54.6	10337.6			138.8	102.0	83.7		
	96.6	89.6	57.0	10337.6			159.2	107.1	87.8		
	105.9	90.7	60.4	10759.5			160.2	107.1	93.9		
	103.4	87.8	63.4	11392.4			151.0	103.1	99.0		
	136.4	79.6	58.8	12763.7			179.6	92.9	91.8		
	136.4	79.6	58.8	13291.1			159.2	90.8	92.9		
	140.6	83.8	62.8	13713.1			134.7	95.9	94.9		
	138.9	82.6	65.7	13924.1			125.5	95.9	95.9		
	144.8	82.6	68.6	14346.0			139.8	95.9	104.1		
	135.5	83.1	67.4	14873.4			122.4	93.9	102.0		
	103.4	82.0	68.6	15084.4			112.2	92.9	107.1		
	98.3	76.8	92.8	15295.4			114.3	90.8	143.3		
	101.7	78.0	125.1	15611.8			126.5	91.8	153.5		
	109.3	76.2	173.5	15611.8			151.0	99.0	181.0		
	104.2	76.8	225.9	16139.2			132.7	99.0	220.1		
	88.9	75.6	234.1	17510.5			105.1	93.9			
	88.9	77.3	334.9	18670.9			91.8	93.9			
	83.1	80.3	230.1	19831.2			86.7	102.0			
	80.3	83.8	217.9	20991.6			85.7	116.3			
	83.1	83.8	278.5	23734.2			83.7	122.4			
	77.3	76.8	322.9	28481.0			73.5	114.3			
	84.9	75.0	363.2	29324.9			77.6	102.0			
	79.1	75.6	464.1				73.5	96.9			
	78.0	76.2	407.6				78.6	92.9			
	75.0	69.7	411.6				79.6	84.7			
	75.6	68.0	403.6				78.6	82.7			
	75.6	69.7	351.1				79.6	88.8			
	72.0	68.0	298.6				83.7	86.7			
	72.7	66.2	262.3				81.6	82.7			
	73.2	63.9	250.2				77.6	81.6			
	74.5	58.8	238.1				77.6	79.6			
	76.8	57.6	225.9				78.6	76.5			
	78.5	55.3	262.3				79.6	73.5			
	73.2	53.5	363.2				75.5	74.5			
	76.2	55.8	415.7				79.6	76.5			
	75.6	58.1	435.9				82.7	83.7			
	78.5	58.1	573.1				81.6	88.3			
	78.0	57.0	702.2				79.6	87.8			
	76.2	55.3	819.2			100.0	79.6	81.6			
	70.4	54.6	952.4			100.0	79.1	78.6			
	68.6	50.6	1073.5			103.1	77.6	74.5			
	70.4	49.4	1517.4			124.5	83.7	73.5			
	75.0	47.7	2615.1			116.3	89.8	73.5			
	79.1	48.2	3979.1			110.2	99.0	77.6			
100.0	65.1	50.0	6856.5			118.4	77.6	80.6			
	99.2	64.6	54.1	7594.9			134.7	71.4	84.7		

	1800	1850	1900	1950		1800	1850	1900	1800	1850	1900	
	55.7	50.3	142.3			88.4	100.7		104.3	101.6		
	100.0	57.7	49.6	158.5			84.4	97.8		100.9	100.9	
	82.1	55.9	52.9	154.1			80.9	95.9		93.7	99.5	
	84.0	59.4	53.4	152.0			92.5	97.3		114.8	95.5	
	90.8	61.5	53.6	152.4			98.5	98.3		129.0	101.9	
	93.2	61.6	53.9	152.7			99.5	100.6		134.6	103.1	
	91.4	61.6	55.7	157.8			99.5	109.6		137.5	109.7	
	85.9	61.1	58.4	162.3			99.0	108.6		134.0	114.6	
	84.0	55.5	56.4	164.5			98.5	105.8		128.5	116.6	
	88.3	54.6	60.7	164.9			92.0	105.5		120.6	103.5	
	96.3	54.5	63.3	165.1			93.0	110.4		126.4	108.5	
	93.8	54.8	58.3	164.4			94.5	106.2		132.9	117.4	
	95.1	64.1	61.9	164.9			96.5	110.1		128.7	122.1	
	110.6	80.9	62.6	164.4			99.5	112.9		117.3	119.2	
	138.3	103.8	61.2	164.7			100.6			124.1		
	108.7	118.1	62.3	168.0			98.5			121.1		
	92.6	104.0	76.7	173.6			100.3			122.5		
	93.2	93.8	105.4	173.9			97.5			125.4		
	91.4	87.4	117.6	178.3			96.9			121.4		
	80.2	83.6	124.2	185.2			95.2			121.8		
	68.5	77.6	138.5	192.0			99.1			121.3		
	65.5	74.1	87.5	198.3			99.5			130.8		
	67.3	75.6	86.8	207.2		100.0	110.7			126.4		
	64.2	74.9	90.3	234.3		107.5	112.1			128.3		
	63.6	72.5	87.8	278.5		98.0	103.5			135.5		
	64.2	69.5	92.7	304.2		98.5	102.9			131.5		
	63.6	64.4	89.8			94.5	101.2			128.3		
	64.2	60.4	85.8			91.0	99.0			130.4		
	61.1	55.2	87.0			87.4	93.8			120.3		
	60.5	52.6	85.4			89.4	92.5			119.6		
	58.7	58.2	77.6			80.9	101.7			127.9		
	63.0	57.6	65.4			85.9	106.8			123.3		
	63.6	59.1	58.4			85.4	106.2			120.7		
	63.0	57.8	59.1			86.4	104.3			118.4		
	58.7	54.1	67.1			86.4	100.5			115.9		
	66.7	50.6	71.8			91.5	93.4			100.0	106.3	
	74.7	50.1	72.5			97.5	88.6			107.0	100.5	
	74.1	50.4	77.4			94.5	89.1			105.9	98.0	
	71.0	51.3	70.4			93.5	92.4			108.1	100.7	
	74.7	51.3	69.2			94.5	93.4			111.8	102.4	
	63.6	50.3	70.4			94.0	95.5			114.1	103.2	
	63.1	50.1	78.4			95.0	92.2			121.3	108.9	
	58.8	46.8	88.5			90.5	87.3			109.4	103.6	
	55.3	47.8	92.7			83.4	86.4			108.2	100.0	
	55.5	43.0	93.2			80.9	88.7			98.0	91.5	
	56.0	43.8	95.0			81.4	82.8			104.3	89.2	
	58.0	41.6	108.4			86.9	87.2			117.6	86.1	
	58.1	41.7	133.1			98.5	85.8			125.0	87.5	
	55.3	43.5	144.0			84.9	82.1			102.3	93.9	
	53.8	46.8	136.9			81.9	94.6			97.1	94.6	

	1450	1500	1550	1600	1650	1700	1750		1500	1550	1600	1650	1700	1750
French Wheat Prices (Paris)	1495-1788													
German Wheat Prices (Cologne)	1531-1786													
100.0	187.9	715.5	1491.4	5043.1	3793.1	3103.4	110.5	391.3	512.4	464.7	515.4			
129.3	350.7	693.1	1401.7	4353.4	2736.2	3394.8	154.9	357.6	623.5	525.7	477.6			
129.3	363.8	850.0	1358.5	5410.3	2072.4	4267.2	166.1	320.9	472.4	497.8	429.5			
129.3	208.6	665.5	1750.0	3255.2	2165.5	3481.0	146.9	360.5	352.0	442.8	462.9			
129.3	281.0	572.4	1627.6	2575.8	2084.5	3319.0	126.9	349.5	311.0	448.4	490.2			
129.3	282.8	520.7	1455.2	2263.8	2015.5	2553.4	166.9	318.4	312.9	425.5	363.8			
129.3	310.3	755.2	1493.1	2274.1	1663.8	2791.4	214.1	321.9	316.4	383.0	506.3			
129.3	317.2	934.5	1589.7	2187.9	1434.5	2793.1	138.6	330.0	297.1	480.2	592.1			
129.3	269.0	544.8	2101.7	2586.2	2050.0	3255.2	136.6	337.7	380.1	590.3	648.1			
129.3	143.1	646.6	2036.2	2867.2	7075.9	3448.3	140.4	337.9	364.0	793.5	719.0			
129.3	148.3	675.9	1627.6	3103.4	4931.0	3415.5	143.2	332.0	437.7	543.8	636.5			
129.3	162.1	777.6	1746.6	4622.4	3125.9	2741.4	149.1	414.8	617.5	467.8	700.1			
129.3	175.9	1043.1	1715.5	5819.0	3515.5	2769.0	204.5	365.1	569.3	448.0	647.9			
129.3	215.5	1272.4	1589.7	3803.4	4762.1	2737.9	157.1	288.4	434.9	616.7	498.2			
129.3	215.5	681.0	1648.3	3481.0	4925.9	2681.0	143.7	281.1	377.1	561.2	611.1			
129.3	324.1	1120.7	1650.0	2715.5	2769.0	3155.2	245.4	323.8	349.5	436.3	514.6			
129.3	387.9	2005.2	1536.2	2510.3	2289.7	3517.2	177.9	415.8	308.0	387.1	508.3			
129.3	337.9	1222.4	1848.3	2025.9	1837.9	3801.7	185.1	398.2	305.8	374.8	649.6			
129.3	269.0	1381.0	2496.6	1734.5	2129.3	5655.2	169.6	316.7	306.5	356.1	650.8			
129.3	286.2	950.0	1853.4	1691.4	2622.4	5586.2	171.1	262.6	323.5	410.7	508.6			
129.3	291.4	925.9	1643.1	1810.3	4125.9	5006.9	207.5	260.9	348.7	417.8	832.8			
129.3	579.3	1208.6	1815.5	1886.2	2558.6	5767.2	272.8	332.0	359.5	378.5	718.9			
129.3	736.2	1482.8	2251.7	1906.9	2924.1	4862.1	286.9	418.5	442.2	370.4	757.0			
129.3	250.0	2553.4	2446.6	1703.0	4484.5	5086.2	312.2	452.7	423.0	409.0	687.9			
129.3	572.4	2543.1	2069.0	1896.6	4510.3	4579.3	285.4	478.8	494.3	500.2	729.6			
129.3	610.3	1336.2	2020.7	2694.8	4913.8	5086.2	241.8	602.1	627.8	494.8	620.1			
129.3	253.4	1462.1	3146.6	1956.9	4591.4	4300.0	264.4	544.5	456.5	449.9	518.2			
129.3	315.5	1475.9	2839.7	2456.9	3286.2	3998.3	243.8	409.4	384.9	389.4	559.2			
129.3	434.5	1186.2	2112.1	2748.3	2306.9	3869.0	209.6	489.4	395.0	405.4	525.8			
129.3	660.3	1050.0	1929.3	3060.3	2862.1	3513.8	251.0	523.4	439.9	393.6	439.0			
129.3	593.1	1136.2	2258.6	2446.6	2758.6	3308.6	260.4	510.0	390.4	448.2	571.5			
129.3	813.8	1082.8	3610.3	2586.2	3362.1	3577.6	100.0	268.3	451.6	377.7	401.1	561.0		
129.3	712.1	1246.6	3270.7	2360.3	2467.2	3437.9	68.0	266.2	467.0	343.1	348.6	569.2		
129.3	419.0	1810.3	2370.7	2251.7	2048.3	3470.7	76.4	284.5	492.6	361.0	396.7	623.7		
129.3	355.2	1617.2	1934.5	2705.0	2953.4	4569.0	64.2	259.5	550.1	467.9	392.1	676.9		
129.3	362.1	1444.8	2015.5	3060.3	2208.6	4289.7	65.9	317.7	609.0	410.2	374.9	609.1		
129.3	517.2	2467.2	2274.1	1991.3	2439.7	3556.9	76.1	494.4	624.2	369.8	339.7			
129.3	403.4	3600.0	2246.6	1962.1	2560.3	3815.5	77.3	510.8	647.0	329.5	346.2			
129.3	387.9	1508.6	2108.6	1432.8	3070.7	4137.9	89.0	349.7	541.3	283.1	423.4			
129.3	556.9	1762.1	2031.0	1617.2	3513.8	4151.3	91.8	414.1	448.8	314.6	574.2			
129.3	425.9	3750.0	2058.6	1853.4	4419.0	4300.0	79.5	353.6	410.7	331.4	644.8			
129.3	432.8	5755.2	2510.3	1858.6	6379.3	3998.3	88.2	273.7	482.0	421.6	571.4			
129.3	503.4	3362.1	2456.9	2398.3	3686.2	3998.3	97.9	368.0	617.5	603.3	483.1			
129.3	455.2	3212.1	3415.5	4536.5	2208.6	4289.7	105.7	355.1	529.9	737.6	400.0			
129.3	648.3	2510.3	3250.0	6013.8	2025.9	463.0	122.5	394.3	508.8	591.2	369.5			
129.3	100.0	746.6	2910.3	2193.1	2619.0	2079.3	69.9	88.7	68.4	95.1				
129.3	129.3	1156.9	3017.2	1939.7	2694.8	2565.5	71.9	96.1	160.0	70.9				
129.3	129.3	451.7	3156.9	2393.1	2931.0	2677.6	63.2	104.3	63.2	59.7				
129.3	129.3	467.2	2634.5	2931.0	3663.8	3405.2	73.3	76.8	70.4	75.6				
129.3	115.5	525.9	1746.6	3384.5	4443.1	3212.1	63.7	59.0	75.2	78.1				
129.3	100.0	192.8	172.0				50.9	47.2	70.5	83.4				
129.3	111.1	258.6	194.9				48.4	48.4	71.9	84.9				
129.3	145.8	168.8	195.4				49.6	54.8	56.5	129.5				
129.3	204.2	167.4	256.5				72.5	74.8	52.5	146.1				
129.3	208.5	148.8	224.8				97.3	76.7	56.2	101.9				
129.3	130.5	200.2	159.2				109.1	90.5	67.1	84.6				
129.3	112.5	185.0	202.1				96.8	124.2	77.7	98.1				
129.3	118.8	131.9	196.8				87.5	107.6	76.6	90.1				
129.3	97.4	127.3	142.6				87.5	107.6	76.6	90.1				
129.3	92.4	135.9	162.0				87.5	107.6	76.6	90.1				
129.3	88.9	131.5	177.1				87.5	107.6	76.6	90.1				
129.3	104.4	167.1					87.5	107.6	76.6	90.1				
129.3	104.4	153.7					87.5	107.6	76.6	90.1				
129.3	114.8	135.6					87.5	107.6	76.6	90.1				
129.3	140.3	139.3					87.5	107.6	76.6	90.1				
129.3	135.9	139.8					87.5	107.6	76.6	90.1				
129.3	177.3	191.7					87.5	107.6	76.6	90.1				
129.3	241.2	168.3					87.5	107.6	76.6	90.1				
129.3	185.7	155.1					87.5	107.6	76.6	90.1				
129.3	177.3	144.4					87.5	107.6	76.6	90.1				
129.3	117.8	144.4					87.5	107.6	76.6	90.1				
129.3	116.9	158.1					87.5	107.6	76.6	90.1				
129.3	121.7	163.4					87.5	107.6	76.6	90.1				
129.3	121.7	128.9					87.5	107.6	76.6	90.1				
129.3	137.0	165.3					87.5	107.6	76.6	90.1				
129.3	180.5	123.6					87.5	107.6	76.6	90.1				
129.3	123.2	117.6					87.5	107.6	76.6	90.1				
129.3	119.4	112.1					87.5	107.6	76.6	90.1				
129.3	109.2	123.8					87.5	107.6	76.6	90.1				
129.3	112.5	169.2					87.5	107.6	76.6	90.1				
129.														

### English Wheat Prices (Winchester) 1630-1817

### English Malt Prices (Eton College) 1595-1831

1550	1600	1650	1700	1750	1800	1600	1650	1700	1750	1800
110.7	155.4	120.0	135.4	479.4		39.0	36.0	94.9	244.1	
101.6	126.2	120.0	144.6	385.9		97.4	46.6	81.4	95.6	
72.3	135.4	116.9	141.5	325.4		61.5	57.2	67.6	104.2	
67.7	110.8	120.0	147.7	377.3		99.4	54.2	59.2	112.9	
84.6	92.3	123.1	141.5	460.4		115.5	150.4	50.8	99.5	
100.1	92.3	123.1	135.4	460.4		113.6	72.0	67.4	114.5	
84.6	129.2	120.0	163.1	450.0		150.8	90.7	72.7	129.5	
89.2	123.1	141.5	184.6	460.4		89.1	89.0	76.3	81.4	
130.7	147.7	150.7	166.1	491.5		88.5	77.3	92.0	111.9	
113.9	166.2	178.5	145.0	501.9		60.8	150.2	87.5	142.4	
83.1	138.5	181.6	148.5	470.8		65.4	76.2	76.0	178.7	
110.7	187.7	175.4	142.3	481.2		53.0	72.9	66.5	156.2	
120.0	172.3	146.1	176.2	574.6		54.7	114.4	57.1	260.1	
120.0	144.6	150.7	194.7	522.7		88.2	182.1	97.3	194.3	
120.0	126.2	156.9	179.2	450.0		64.0	110.2	137.6	204.4	
126.2	129.2	153.8	185.4	408.5		136.4	177.6	116.5	261.9	
96.9	104.6	141.5	185.4	429.2		67.8	76.2	95.5	302.4	
92.3	110.7	132.3	185.4	498.4		67.8	79.7	85.4	259.8	
90.8	116.9	135.4	176.2	515.7		57.8	83.1	127.1	78.4	
89.2	126.2	156.9	154.6	482.9		64.2	77.1	107.3	76.8	
80.0	123.1	156.9	166.9	410.2		57.9	76.9	136.8	59.3	
92.3	101.6	138.5	185.4	378.1		60.9	59.3	123.9	126.6	
137.6	110.7	118.5	205.4	335.8		132.6	110.0	172.5	193.8	
126.1	129.2	147.7	213.1	346.2		36.4	94.9	70.0	100.1	119.6
101.6	166.1	150.7	213.1	429.2		28.5	107.0	203.2	93.2	394.1
116.9	135.4	147.7	210.0	429.2		32.1	101.5	80.4	92.4	96.0
109.2	20.0	147.7	185.4	408.5		37.8	70.0	71.8	101.6	102.8
87.7	135.4	156.9	179.5	387.7		105.3	63.3	71.9	71.5	97.3
87.7	126.2	175.4	173.1	387.7		135.8	50.4	77.8	57.6	178.7
132.3	113.9	163.1	170.8	408.5		44.1	32.8	74.2	58.4	216.0
186.1	101.6	133.9	189.3	387.7		51.7	84.2	169.3	59.1	
135.4	129.2	138.5	189.3	398.1		58.4	94.9	169.4	63.1	
118.5	132.3	129.2	224.6			80.9	68.5	169.5	133.7	
147.7	120.0	123.1	250.8			82.3	92.0	173.3	104.0	
136.9	126.2	123.1	244.7			79.2	125.9	176.9	105.4	
129.2	123.1	126.2	244.6			82.3	93.2	164.6	106.8	
138.5	113.9	132.3	232.3			82.9	169.5	115.9	96.2	
226.2	107.7	147.7	226.2			68.2	67.5	71.8	199.4	
158.5	95.4	141.5	221.5			51.3	36.4	56.5	142.4	
127.7	92.3	153.8	216.9			36.3	44.5	99.4	109.4	
136.9	83.1	169.2	221.5			62.1	27.1	52.2	105.0	
124.6	89.2	163.1	247.7			84.8	34.7	77.8	117.1	
120.0	113.9	160.0	236.2			71.1	42.4	77.8	101.7	
132.6	147.7	135.4	275.2			57.5	72.2	120.7	195.8	
145.2	123.1	132.3	278.7			43.8	102.1	155.2	94.9	
100.0	132.3	129.2	123.1	292.5		42.6	159.3	82.7	111.9	
209.2	143.1	123.1	121.5	264.8		34.4	162.8	109.9	125.0	
153.8	189.2	138.5	123.1	257.9		89.7	178.0	81.9	105.1	
106.1	184.6	169.3	132.3	271.7		63.4	139.7	86.2	253.2	
76.9	200.0	169.3	135.4	351.4		166.9	80.5	90.5	379.7	

### English Hops Prices (Eton College) 1622-1829

1600	1650	1700	1750	1800	1600	1650	1700	1750	1800	
100.2	67.7	57.3	308.4		99.3	121.6	180.8	82.7	84.0	278.7
74.5	51.7	72.5	173.9		119.5	120.0	186.0	71.3	92.0	
60.2	55.1	71.8	128.2		148.2	120.0	217.9	76.0	97.3	
46.1	79.9	68.9	118.5		100.0	133.4	120.0	217.9	100.7	85.3
32.8	55.1	53.9	208.7		100.5	114.6	128.7	217.9	80.7	77.3
59.3	46.3	63.1	171.3		96.6	110.6	147.0	217.9	70.0	86.0
60.2	47.8	103.7	179.0		91.5	112.8	147.0	217.9	71.3	125.3
86.9	55.9	87.5	158.9		92.0	133.7	147.0	217.9	80.7	105.3
97.2	100.4	64.9	199.4		87.6	121.6	150.4	264.3	123.3	86.0
96.0	144.4	60.2	247.1		83.2	119.5	138.5	257.6	116.7	82.0
89.8	93.4	59.4	217.0		80.9	112.8	147.0	246.6	110.0	75.3
110.8	84.8	59.4	279.3		78.1	102.7	149.3	239.9	103.3	83.3
69.6	73.2	63.4	266.4		72.0	108.1	143.6	246.6	96.7	87.3
71.7	101.5	78.8	174.6		80.8	103.6	140.2	261.1	90.0	97.3
66.0	64.6	81.2	155.8		107.9	101.4	144.7	267.6	83.3	114.0
63.8	90.5	79.6	143.3		134.9	101.9	133.4	236.5	94.0	104.0
46.4	79.1	107.2	253.4		105.8	112.1	136.8	220.2	92.0	123.3
49.8	72.6	106.9	199.4		121.1	115.5	135.7	223.1	78.7	126.0
70.6	52.0	84.6			88.7	113.8	133.4	212.9	68.7	99.3
56.6	65.5	72.7			89.3	112.1	140.2	205.2	76.0	96.0
66.5	65.5	90.1			86.6	105.3	151.0	202.7	82.7	111.3
57.0	53.6	103.4			146.8	103.7	151.4	206.8	75.3	122.7
57.4	59.8	114.1			151.2	101.9	140.2	206.8	77.3	126.7
102.8	58.1	102.5			110.3	103.1	140.2	205.1	82.0	121.3
96.3	75.1	94.2			108.4	101.9	147.0	199.3	94.7	123.3
60.0	79.1	77.6			102.5	108.7	156.8	197.6	104.0	99.3
58.8	61.4	84.7			99.7	105.3	162.1	194.2	87.3	108.7
96.3	92.2	96.7			100.7	105.0	160.5	197.6	110.7	119.3
94.1	91.8	71.9			92.2	112.4	160.5	190.8	104.0	112.7
72.3	62.8	71.3			86.9	107.6	161.8	190.8	81.3	105.3
73.6	68.6	47.2	99.8		86.6	118.9	167.2	177.4	76.0	133.3
72.5	71.0	47.6	107.4		85.5	108.6	167.2		68.0	130.0
82.6	67.2	51.3	100.9		83.3	107.9	156.4		69.3	135.3
80.2	89.7	64.6	92.3		95.8	106.4	141.9		80.7	131.3
77.9	54.4	68.9	82.2		96.6	109.8	150.4		88.7	123.3
64.3	64.4	55.9	81.9		84.6	111.8	151.1		90.7	110.0
91.4	47.2	53.9	97.1		86.2	111.4	145.3		82.0	124.7
63.3	39.4	55.0	100.0		87.3	113.2	145.3		82.0	124.7
56.8	60.9	75.6	117.3		114.3	118.9	145.3		86.0	132.0
66.5	48.6	104.3	108.7		128.6	131.2	158.8		108.7	135.3
61.0	77.2	55.3	87.7		118.5	128.4	156.2		109.3	127.3
71.0	95.4	43.4	107.7		116.7	124.4	157.1		79.3	116.0
61.0	119.8	37.7	106.3		116.6	116.6	173.7		70.7	130.7
52.0	71.8	38.5	131.0		109.8	133.4	177.7		66.0	131.3
61.5	112.1	54.5	207.3		122.9	128.9	195.9		68.0	164.7
101.5	102.3	58.2	118.0		107.8	128.0	171.0		124.0	186.7
113.9	117.8	56.0	134.5		105.9	120.6	179.1		85.3	139.3
107.9	115.4	59.4	118.0		95.9	120.0	180.2		136.7	82.0
108.7	77.9	55.6	232.6		94.3	120.0	216.2		86.0	150.7

### English Bread Prices (Charterhouse) 1694-1800

	1700	1750	1800	1850		1700	1750	1800	1850		1700	1750	1800	1850	1900
100.0	116.0	311.5	153.4			113.6	139.0	233.9			135.3	998.5	1544.1	1585.3	
100.0	124.9	357.6	155.3	100.0		108.5	135.6	227.1			150.0	908.8	1644.1	1570.6	
113.6	132.2	271.5	173.6	98.3		106.8	135.6	228.8			151.5	811.8	1551.5	1494.1	
100.0	111.1	235.1	213.4	105.1	111.9	178.0	232.2			133.8	788.2	2214.7	1527.9		
94.4	99.1	224.2	265.9	98.3	113.6	166.1	232.2			161.8	869.1	1817.6	1582.4		
100.0	104.0	233.4	230.8	103.4	127.1	155.9	232.2			166.2	850.0	2760.3	1605.9		
117.9	116.5	215.5	245.2	111.9	110.2	161.0	232.2			216.2	1061.8	2773.5	1604.4		
131.8	115.5	160.9	219.8	105.1	111.9	161.0	232.2			235.3	1045.6	2251.5	1758.8		
134.8	103.3	133.6	157.9	105.1	108.5	166.1	227.1			223.5	1242.6	1691.2	1747.1		
158.8	104.9	130.8	179.3	105.1	110.2	194.9	223.7			173.5	1127.9	1632.4	1788.2		
137.9	103.5	188.9	181.9	103.4	111.9	203.4	220.3			183.8	1229.4	1935.3	1707.4		
103.8	94.4	266.6		101.7	111.9	203.4				250.0	1539.7	2151.5	1783.8		
96.0	81.2	239.3		94.9	110.2	203.4				377.9	1886.8	1998.5	1751.5		
104.2	82.6	182.4		100.0	110.2	203.4				394.1	1798.5	1654.4	1648.5		
110.1	104.7	190.6		101.7	108.5	203.4				388.2	1613.2	1460.3	2098.5		
100.2	116.5	278.1		100.0	111.9	186.4				377.9	1447.1	1733.8			
99.3	128.9	336.5		103.4	110.2	178.0				301.5	1648.5	1861.8			
98.6	140.7	299.5		101.7	110.2	178.0				275.0	1797.1	2705.9			
98.6	128.7	171.1		101.7	108.5	178.0				261.8	1969.1	2305.9			
88.9	114.1	142.6		100.0	111.9	189.8				236.8	1713.2	1698.5			
77.6	117.2	147.5		100.0	110.2	235.6				254.4	1391.2	1773.5			
77.9	134.4	156.2		98.3	110.2	228.8				377.9	1236.8	2036.8			
68.9	145.9	140.7		98.3	110.2	210.2				388.2	1226.5	2232.4			
62.1	174.6	131.3		98.3	111.9	205.1				333.8	1152.9	2410.3			
53.6	174.1	111.5		98.3	110.2	228.8				297.1	1077.9	1988.2			
65.2	168.2	121.4		103.4	111.9	223.7				345.6	1058.8	1883.3			
81.9	116.5	125.2		105.1	113.6	186.4				307.4	1560.3	1985.3			
82.1	137.2	175.3		101.7	115.3	189.8				298.5	1254.4	2127.9			
84.9	171.3	178.6		96.6	113.6	186.4				313.2	1083.8	1763.2			
89.9	151.1	184.9		98.3	113.6	186.4				291.2	1438.2	1866.2			
84.2	121.2	199.8		101.7	110.2	193.2				294.1	1661.8	1948.5			
76.0	123.3	186.6		101.7	106.8	188.1				339.7	1760.3	2070.6			
74.6	156.2	180.7		100.0	105.1	186.4				100.0	300.0	1405.9	1850.0		
104.0	167.3	177.6		101.7	111.9	186.4				116.2	383.8	1236.8	1804.4		
160.5	160.2	156.5		98.3	113.6	198.3				110.3	345.6	1395.6	1530.9		
150.6	145.6	133.9		101.7	116.9	205.1				127.9	419.1	1267.6	1385.3		
117.6	138.8	170.1		101.7	118.6	235.6				145.6	433.8	1264.7	1342.6		
86.4	163.8	232.7		103.4	120.3	245.8				107.4	357.4	1383.8	1235.3		
78.1	148.7	178.4		101.7	120.3	249.2				92.6	376.5	1883.8	1558.8		
86.8	138.1	188.2		98.3	118.6	249.2				119.1	458.8	1595.6	1561.8		
103.3	144.7	189.4		106.8	108.5	249.2				148.5	417.6	1648.5	1582.4		
104.0	116.5	180.2		98.3	111.9	249.2				192.6	376.5	1954.4	1783.8		
107.8	134.8	173.9		100.0	115.3	252.5				152.9	436.8	1700.0	1498.5		
108.5	179.5	179.3		96.6	120.3	266.1				154.4	442.6	1364.7	1373.5		
104.0	182.8	175.8		100.0	108.5	257.6				145.6	488.2	1363.2	1148.5		
101.2	191.3	160.9		103.4	105.1	240.7				177.9	486.8	1679.4	1242.6		
125.6	180.5	186.6		106.8	122.0	247.5				186.8	463.2	1733.8	1429.4		
134.1	177.2	240.5		110.2	120.3	249.2				180.9	489.7	1675.0	1680.9		
147.1	177.4	212.5		116.9	125.4	249.2				183.8	552.9	1426.5	1664.7		
117.2	204.5	195.5		120.3	128.8	247.5				186.8	707.4	1498.5	1614.7		

### 1735-1914 Swedish Pine Wood Prices

### 1701-1860 Italian Wheat Prices (Milan)

### Italian Hard Coal Prices (Milan)

### 1701-1860

### Swedish Wheat Prices

### 1732-1914

### 1735-1914 Swedish Pine Wood Prices

### 1735-1914 Swedish Iron Ore Prices

### Swedish Iron Ore Prices

### 1732-1914

	1700	1750	1800	1850	1900		1700	1750	1800	1850	1900		1700	1750	1800	1850	1900
162.5	512.5	2162.5	3775.0			119.0	371.4	938.1	1804.8				162.5	512.5	2162.5	3775.0	1804.8
187.5	512.5	2162.5	3325.0			138.1	338.1	938.1	1466.7				187.5	512.5	2162.5	3325.0	1466.7
200.0	587.5	2021.5	3000.0			138.1	309.5	938.1	1433.3				200.0	587.5	2021.5	3000.0	1433.3
187.5	525.0	2087.5	3350.0			138.1	376.2	876.2	1409.5				187.5	525.0	2087.5	3350.0	1409.5
187.5	550.0	2212.5	3400.0			138.1	381.0	890.5	1471.4				187.5	550.0	2212.5	3400.0	1471.4
187.5	575.0	2437.5	3600.0			138.1	428.6	909.5	1523.8				187.5	575.0	2437.5	3600.0	1523.8
187.5	587.5	2912.5	3750.0			138.1	428.6	1109.5	1504.8				187.5	587.5	2912.5	3750.0	1504.8
162.5	612.5	3050.0	4037.5			166.7	414.3	1142.9	1471.4				162.5	612.5	3050.0	4037.5	1471.4
200.0	725.0	2475.0	4475.0			166.7	433.3	1014.3	1452.4				200.0	725.0	2475.0	4475.0	1452.4
137.5	987.5	2412.5	4125.0			166.7	523.8	1000.0	1447.6				137.5	987.5	2412.5	4125.0	1447.6
200.0	1075.0	2575.0	3862.5			185.7	423.8	1009.5	1490.5				200.0	1075.0	2575.0	3862.5	1490.5
187.5	1175.0	2687.5	3837.5			204.8	500.0	1014.3	1485.7				187.5	1175.0	2687.5	3837.5	1485.7
187.5	1250.0	2537.5	4262.5			204.8	628.6	1014.3	1890.5				187.5	1250.0	2537.5	4262.5	1890.5
212.5	1250.0	2537.5	4750.0			223.8	509.5	1042.9	2119.0				212.5	1250.0	2537.5	4750.0	2119.0
287.5	1312.5	2500.0	5275.0			261.9	552.4	723.8	2152.4				287.5	1312.5	2500.0	5275.0	2152.4
237.5	1212.5	2525.0		2475.0		238.1	576.2	1024.9					237.5	1212.5	2525.0		
200.0	1175.0	2500.0				166.7	671.4	1052.4					200.0	1175.0	2500.0		
150.0	1137.5	2375.0				147.6	676.2	1019.0					150.0	1137.5	2375.0		
162.5	1187.5	2237.5				157.1	690.5	990.5					162.5	1187.5	2237.5		
175.0	1237.5	2400.0				181.0	700.0	1004.8					175.0	1237.5	2400.0		
262.5	1287.5	2937.5				195.2	633.3	1114.3					262.5	1287.5	2937.5		
175.0	1275.0	3312.5				204.8	647.6	1766.7					175.0	1275.0	3312.5		
225.0	1287.5	4025.0				223.8	671.4	2338.1					225.0	1287.5	4025.0		
162.5	1325.0	3987.5				214.3	671.4	1557.1					162.5	1325.0	3987.5		
225.0	1350.0	3887.5				228.6	776.2	1361.9					225.0	1350.0	3887.5		
337.5	1350.0	3750.0				223.8	790.5	1209.5					337.5	1350.0	3750.0		
362.5	1412.5	3837.5				238.1	723.8	1114.3					362.5	1412.5	3837.5		
537.5	1450.0	3400.0				261.9	738.1	1028.6					537.5	1450.0	3400.0		
437.5	1575.0	3125.0				261.9	771.4	985.7					437.5	1575.0	3125.0		
437.5	1575.0	3225.0				252.4	771.4	1200.0					437.5	1575.0	3225.0		
412.5	1525.0	3587.5				247.6	823.8	1190.5					412.5	1525.0	3587.5		
387.5	1625.0	3375.0				104.8	247.6	838.1	1171.4				387.5	1625.0	3375.0		
362.5	1700.0	3300.0															

**World Industrial Production (1) 1740-1850**

1700	1750	1800	1850	1850	1900	1950	1850	1900	1950	1850	1900	1950
128.6	357.1	1476.2	100.0	661.3	2619.4	100.0	272.4	513.8	100.0	367.1	1011.4	
128.6	338.1		109.7	687.1	2845.2	100.0	269.0	527.6	102.7	370.5	1075.2	
128.6	357.1		119.4	741.9	2912.9	103.4	286.2	551.7	107.4	396.0	1110.1	
133.3	361.9		129.0	758.1	3129.0	103.4	282.8	572.4	109.4	398.0	1173.2	
128.6	371.4		135.5	761.3	3129.0	103.4	282.8	575.9	110.7	398.7	1175.2	
133.3	381.0		141.9	838.7	3500.0	106.9	300.0	593.1	114.8	430.9	1272.3	
119.0	385.7		154.8	877.4	3671.0	110.3	317.2	610.3	120.8	454.4	1327.5	
123.8	400.0		151.6	903.2	3793.5	110.3	300.0	610.3	120.1	447.7	1356.4	
123.8	381.0		151.6	829.0	3693.5	113.8	306.9	637.9	122.8	435.6	1352.3	
119.0	390.5		161.3	909.7	4109.7	117.2	320.7	658.6	127.5	465.8	1459.7	
119.0	423.8		171.0	974.2	4380.6	117.2	320.7	672.4	129.5	481.2	1532.9	
123.8	447.6		171.0	990.3	4538.7	117.2	324.1	679.3	129.5	487.9	1575.8	
123.8	419.0		151.6	1077.4	4883.7	110.3	351.7	696.6	120.1	529.5	1657.0	
119.0	423.8		164.5	1129.0	5083.9	106.9	344.8	706.9	120.8	536.9	1719.5	
128.6	428.6		174.2	1029.0	5500.0	113.8	334.5	727.6	128.2	503.4	1828.9	
128.6	476.2		177.4	1061.3	5906.5	124.1	337.9	731.0	136.9	513.4	1920.1	
147.6	476.2		203.2	1141.9	6371.0	127.6	303.4	758.6	145.0	508.1	2032.2	
147.6	476.2		200.0	1151.6	6464.5	127.6	303.4	786.2	145.0	511.4	2089.9	
142.9	571.4		216.1	1083.9	6871.0	131.0	303.4	806.9	151.0	496.6	2198.0	
152.4	523.8		225.8	993.5	7380.6	131.0	310.3	813.8	153.0	477.9	2321.5	
147.6	523.8		219.4	1051.6	7532.3	144.8	341.4	831.0	162.4	518.8	2373.2	
147.6	523.8		238.7	903.2	7683.9	141.4	341.4	858.6	164.4	480.5	2428.2	
161.9	571.4		264.5	1106.5	8283.9	148.3	379.3	858.6	175.8	558.4	2543.6	
152.4	619.0		261.3	1164.5	9038.7	148.3	393.1	900.0	175.2	586.6	2759.7	
142.9	619.0		261.3	1232.3	9112.9	144.8	406.9	913.8	172.5	611.4	2806.0	
147.6	666.7		254.8	1323.2	8509.7	158.6	441.4	931.0	181.9	661.7	2681.9	
152.4	619.0		264.5	1377.4		158.6	441.4		183.9	671.1		
157.1	714.3		267.7	1467.7		165.5	455.2		189.9	704.7		
161.9	761.9		274.2	1535.5		169.0	469.0		194.6	730.9		
152.4	714.3		280.6	1648.4		172.4	469.0		198.7	758.4		
152.4	809.5		303.2	1445.2		182.8	472.4		212.1	714.8		
147.6	809.5		319.4	1254.8		169.0	469.0		205.4	664.4		
176.2	761.9		341.9	1074.2		193.1	465.5		229.5	618.1		
171.4	857.1		354.8	1209.7		186.2	472.4		227.5	653.0		
176.2	904.8		345.2	1345.2		200.0	472.4		235.6	685.2		
209.5	952.4		341.9	1503.2		203.4	472.4		237.6	722.1		
219.0	1047.6		361.3	1693.5		200.0	486.2		239.6	778.5		
223.8	952.4		390.3	1864.5		196.6	510.3		243.6	838.9		
219.0	1047.6		406.5	1671.0		210.3	506.9		258.4	791.9		
100.0	257.1	1142.9	441.9	1954.8		220.7	496.6		273.8	845.0		
95.2	261.9	1142.9	464.5	2100.0		203.4	496.6		265.8	879.2		
104.8	281.0	1095.2	471.0	2506.5		227.6	496.6		286.6	965.1		
100.0	242.9	1142.9	477.4	2925.8		217.2	493.1		279.9	1051.0		
114.3	252.4	1285.7	477.4	3161.3		224.1	475.9		281.9	1124.2		
109.5	266.7	1381.0	522.6	2190.3		248.3	396.6		314.8	813.4		
114.3	285.7	1381.0	535.5	1864.5		251.7	451.7		320.8	793.3		
119.0	261.9	1333.3	561.3	2100.0		241.4	482.8		318.8	871.8		
128.6	285.7	1476.2	612.9	2258.1		269.0	537.9		352.3	952.3		
114.3	338.1	1476.2	658.1	2303.2		258.6	544.8		354.4	965.8		

**World Industrial Production (2) 1850-1975**

1800	1850	1900	1950	1800	1850	1900	1950	1800	1850	1900	1950	
165.3	331.8	597.5	150.1	452.4	850.9	156.6	723.6	150.1	452.4	850.9	156.6	
162.8	320.7	632.2	156.2	470.4	874.0	174.5	780.9	156.2	470.4	874.0	174.5	
171.5	320.7	653.7	158.9	473.3	869.6	176.2	804.7	158.9	473.3	869.6	176.2	
161.6	331.8	669.8	165.0	473.5	909.4	184.9	840.7	165.0	473.5	909.4	184.9	
170.2	347.9	697.9	169.5	476.4	944.3	182.7	828.9	169.5	476.4	944.3	182.7	
168.2	342.6	730.6	174.1	486.2	973.6	196.1	892.1	174.1	486.2	973.6	196.1	
176.0	347.9	774.0	180.9	497.8	992.7	218.9	908.6	180.9	497.8	992.7	218.9	
190.5	353.3	820.2	184.8	499.3	1012.6	222.4	921.6	184.8	499.3	1012.6	222.4	
206.4	358.7	844.2	186.0	485.5	1017.3	204.1	911.0	186.0	485.5	1017.3	204.1	
185.1	364.5	871.1	189.9	501.4	1055.7	237.9	969.2	189.9	501.4	1055.7	237.9	
194.6	364.5	933.5	192.8	518.3	1103.1	244.6	993.3	192.8	518.3	1103.1	244.6	
187.6	380.6	984.7	202.6	531.8	1141.2	250.9	1012.6	202.6	531.8	1141.2	250.9	
199.6	413.2	1050.9	204.5	559.7	1204.6	265.2	1079.0	204.5	559.7	1204.6	265.2	
209.5	413.2	1106.6	207.7	562.9	1274.1	267.6	1122.2	207.7	562.9	1274.1	267.6	
207.9	390.1	1178.9	213.8	611.3	1305.2	255.8	1183.5	213.8	611.3	1305.2	255.8	
214.1	359.1	1235.1	215.5	609.2	1330.6	253.6	1258.2	215.5	609.2	1330.6	253.6	
214.5	343.8	1299.6	216.5	608.7	1364.7	273.5	1340.3	216.5	608.7	1364.7	273.5	
200.0	333.5	1360.7	224.0	597.4	1418.3	275.4	1375.2	224.0	597.4	1418.3	275.4	
224.8	315.7	1418.6	230.9	543.0	1443.4	309.2	1439.1	230.9	543.0	1443.4	309.2	
234.3	310.7	1517.8	248.9	507.3	1477.6	298.2	1477.8	248.9	507.3	1477.6	298.2	
204.1	338.0	1604.5	264.9	482.0	1516.5	285.1	1471.5	264.9	482.0	1516.5	285.1	
107.9	332.6	1691.3	263.1	499.2	1553.5	301.4		107.9	332.6	1691.3	301.4	
103.7	227.7	1791.3	263.1	516.5	1688.8	337.9		103.7	227.7	1791.3	337.9	
109.5	213.6	1805.4	1887.6	278.9	532.5	1657.1	337.1		109.5	213.6	1805.4	337.1
114.1	241.7	1947.1	1948.8	283.0	561.2	1628.1	365.4		114.1	241.7	1948.8	365.4
109.9	252.1	1952.1	104.0	311.7	565.7	286.2		109.9	252.1	1952.1	286.2	
112.4	242.1	1957.4	108.8	323.3	614.9	314.3		112.4	242.1	1957.4	314.3	
114.9	247.5	152.1	119.4	322.6	638.8	345.2		114.9	247.5	152.1	345.2	
115.7	242.6	478.1	119.1	326.1	658.5	393.1		115.7	242.6	478.1	393.1	
118.6	235.1	519.8	127.7	342.0	683.2	414.7		118.6	235.1	519.8	414.7	
112.4	249.2	504.1	127.7	347.5	702.9	373.7		112.4	249.2	504.1	373.7	
113.6	256.6	483.5	127.7	345.4	725.3	344.8		113.6	256.6	483.5	344.8	
124.4	266.1	462.8	127.7	354.4	725.3	293.7		124.4	266.1	462.8	293.7	
125.6	252.5	483.5	127.7	359.5	821.8	288.2		125.6	252.5	483.5	288.2	
124.0	254.5	483.5	127.7	371.8	867.2	314.3		124.0	254.5	483.5	314.3	
131.4	256.6	467.8	127.7	378.1	870.7	345.2		131.4	256.6	467.8	345.2	
128.9	259.9	473.1	127.7	384.4	887.0	392.9		128.9	259.9	473.1	392.9	
134.7	260.7	499.2	127.7	383.8	846.3	413.8		134.7	260.7	499.2	413.8	
136.4	259.1	499.2	127.7	380.6	817.5	413.8		136.4	259.1	499.2	413.8	
125.6	263.2	519.8	127.7	397.3	854.5	413.8		125.6	263.2	519.8	413.8	
143.4	270.7	428.9	127.7	395.4	794.0	413.8		143.4	270.7	428.9	413.8	
145.0	275.6	340.1	127.7	371.8	867.2	413.8		145.0	275.6	340.1	413.8	
144.2	283.5	304.1	127.7	378.1	872.5	102.0		144.2	283.5	304.1	102.0	
146.3	276.4	288.4	127.7	364.4	887.0	117.1		146.3	276.4	288.4	117.1	
155.0	296.3	252.1	130.2	383.8	846.3	113.8		155.0	296.3	252.1	113.8	
148.8	290.1	273.6	130.2	395.4	794.0	127.5		148.8	290.1	273.6	127.5	
145.5	299.2	415.7	146.3	413.4	789.3	127.5		145.5	299.2	415.7	127.5	
167.4	293.8	452.5	147.4	414								

	1500	1550	1600	1650	1700	1750	1700	1750	1850	1900	1950
Volume of Seville-Atlantic shipping	954.4	1498.1	376.0	100.0	1934.7	100.0	218.4	100.0	694.1	1605.9	
	905.9	1229.3		200.0	1349.0	107.0	202.3	111.8	705.9	1811.8	
	779.6	1397.3		183.7	875.5	83.5	189.7	111.8	705.9	1788.2	
	506.3	997.6		218.4	612.2	104.2	201.3	123.5	747.1	1900.0	
	219.5	736.2		183.7	726.5	98.3	191.8	123.5	770.6	1988.2	
	754.3	1450.9		195.9	483.7	104.1	182.5	123.5	829.4	2158.8	
	468.1	1222.4		383.7	210.2	109.9	199.0	147.1	894.1	2347.1	
	680.2	645.3		151.0	-265.3	110.6	197.7	158.8	905.9	2482.4	
1506-1650	194.1	507.7	1789.6	169.4	-22.4	116.9	202.1	158.8	858.8	2411.8	
	135.7	362.2	1452.0	346.9	463.3	101.6	232.4	170.6	894.1	2594.1	
	79.6	645.7	1615.4	28.6	804.1	109.0	253.2	176.5	941.2	2852.9	
	99.7	702.4	1024.7	157.1	902.0	94.3	249.1	176.5	1041.2	2994.1	
	158.7	647.8	1372.5	295.9	604.1	98.9	216.7	176.5	1082.4	3164.7	
	152.2	605.9	935.7	359.2	816.3	103.5	219.6	188.2	1117.6	3400.0	
	225.4	621.1	1099.1	357.1	810.2	128.3	266.0	200.0	929.4	3741.2	
	181.1	846.6	1190.1	338.8	126.5	115.6	233.4	211.8	805.9	4029.4	
	149.6	833.9	1191.1	153.1	314.3	110.8	228.3	247.1	847.1	4329.4	
	267.8	837.6	1283.0	46.9	-1006.1	124.1	218.9	247.1	735.3	4523.5	
	286.1	751.8	1194.6	146.9	-698.0	101.0	223.5	258.8	670.6	5174.1	
	277.6	860.4	1246.8	261.2	93.9	104.1	207.1	270.6	770.6	5705.9	
	317.1	843.7	1186.1	169.4	153.1	106.3	219.1	258.8	894.1	6200.0	
	208.3	694.9	1185.0	167.3	14.3	104.0	258.7	288.2	894.1	6635.3	
	147.8	1178.7	845.9	365.3	-36.7	122.0	242.2	300.0	970.6	7252.9	
	170.2	842.3	1075.2	322.4	-100.0	108.9	204.7	311.8	1017.6	8123.5	
	222.4	1003.7	1492.9	502.0	-557.1	117.8	231.7	323.5	1141.2	8617.6	
	351.0	773.9	1050.6	416.3	-959.2	130.7	224.3	335.3	1217.6	8058.8	
	302.7	1065.5	1284.0	289.8		115.3		347.1	1229.4		
	353.1	938.9	1031.9	61.2				347.1	1364.7		
	216.2	719.0	758.8	-144.9		113.2			382.4	1400.0	
	331.0	845.0	919.9	-42.9		113.9			400.0	1452.9	
	359.6	886.8	1451.0	191.8		122.8			411.8	1329.4	
	290.9	907.9	573.7	265.3		117.2			423.5	1241.2	
	269.3	903.2	787.3	412.2		130.9			447.1	1082.4	
	305.3	916.5	956.2	871.4		134.3			458.8	1094.1	
	418.0	1285.0	761.7	1016.3		124.6			482.4	1141.2	
	465.5	1143.6	984.5	312.2		136.7			482.4	1182.4	
	579.4	1423.3	1115.3	240.8		141.1			494.1	1217.6	
	330.1	958.8	857.3	942.9		153.7			519.1	1364.7	
	392.3	1221.2	529.9	1185.7		161.0			523.5	1252.9	
	441.6	1257.0	857.8	571.4		128.5			535.3	1252.9	
	487.3	782.3	675.1	110.2		117.8			547.1	1023.5	
	532.2	862.9	423.0	91.8		138.2			547.1	1076.5	
	574.3	472.6	501.2	598.0		140.5			558.8	1188.2	
	537.3	1328.7	945.4	757.1		158.4			558.8	1541.2	
	347.3	930.8	594.5	473.5		124.8			594.1	1364.7	
	592.3	1193.4	928.2	663.3		132.3			623.5	929.4	
	572.3	1344.0	882.2	267.3		166.0			682.4	1105.9	
	645.9	899.6	870.6	544.9		155.5			682.4	1294.1	
	724.2	1185.2	534.6	1108.2		168.7			694.1	1317.6	
	657.8	945.6	588.3	1283.7		209.4			705.9	1388.2	

**List of "Improvement" Innovations [Kleincknecht] 1859-1969**

1850	1900	1950	1700	1750	1800	1850	1900	1750	1800	1850	1900	1950
1.	0	7.	96.	513.	1204.	41.	884.	24656.	43039.			
0	0	8.	104.	455.	1194.	44.	757.	25554.	44326.			
1	1	7.	107.	469.	1258.	65.	890.	27121.	43616.			
0	1	13.	73.	499.	1380.	97.	846.	31032.	40467.			
0	5.	9.	60.	430.	1352.	84.	1759.	30259.	33809.			
0	12.	95.	467.	1345.	1345.	57.	1892.	29777.	30432.			
0	3.	99.	478.	1378.	1378.	63.	2315.	31169.	46816.			
0	9.	94.	463.	1487.	1487.	99.	2686.	35860.	42745.			
0	14.	95.	446.	1489.	1489.	158.	3467.	32736.	48330.			
0	10.	101.	452.	1378.	1378.	203.	4165.	36562.	52408.			
0	14.	108.	472.	1487.	1487.	223.	4363.	35130.	47169.			
0	9.	115.	467.	1569.	1569.	215.	3040.	32856.	48368.			
0	17.	118.	501.	1446.	1446.	238.	3221.	36196.	55691.			
0	20.	131.	478.	1518.	1518.	181.	3781.	33915.	45679.			
0	18.	96.	463.	1375.	1375.	210.	4638.	38989.	47371.			
0	14.	102.	499.	1047.	1047.	173.	6099.	43117.	62854.			
0	31.	118.	486.	771.	771.	206.	8874.	48892.	68397.			
0	23.	103.	522.	854.	854.	174.	12301.	40927.	65647.			
0	23.	132.	569.	988.	988.	222.	12544.	38450.	59101.			
0	36.	101.	458.	1125.	1125.	156.	12957.	36795.	67556.			
0	30.	97.	549.	1298.	1298.	155.	12157.	37057.	64427.			
0	22.	109.	498.	1618.	1618.	168.	11687.	37792.	78314.			
0	29.	113.	543.	1588.	1588.	200.	12200.	38361.	74808.			
0	29.	138.	633.	1562.	1562.	173.	11616.	38614.	74139.			
0	35.	180.	680.	1541.	1541.	228.	12230.	42572.	76274.			
0	20.	250.	722.	1572.	1572.	304.	13291.	46432.	71994.			
0	29.	141.	710.	1585.	1585.	323.	14172.	44733.				
0	33.	150.	785.	1612.	1612.	331.	12920.	41718.				
0	30.	154.	757.	1618.	1618.	368.	12345.	42326.				
0	37.	130.	757.	1732.	1732.	447.	12133.	45267.				
0	33.	180.	801.	1899.	1899.	544.	12926.	45226.				
0	34.	151.	818.	2006.	2006.	573.	15548.	51756.				
0	39.	147.	854.	1934.	1934.	474.	18135.	53458.				
0	64.	180.	902.	1515.	1515.	586.	21160.	48774.				
0	46.	207.	991.	1545.	1545.	630.	19122.	44419.				
0	61.	231.	895.	1616.	1616.	752.	23282.	40612.				
0	60.	296.	914.			702.	21768.	39783.				
0	55.	256.	864.			436.	20399.	37683.				
0	6.	42.	394.	900.		515.	19552.	38062.				
0	3.	43.	411.	974.		404.	23322.	43073.				
0	4.	68.	440.	973.		3.	458.	25308.	42237.			
0	8.	57.	440.	973.		33.	490.	22310.	41108.			
0	6.	85.	371.	1021.		11.	488.	22645.	38449.			
0	7.	43.	420.	1055.		20.	494.	22747.	31054.			
0	1.	55.	450.	1070.		22.	478.	19833.	28053.			
0	2.	4.	51.	572.	1114.	12.	475.	20855.	25694.			
0	0.	4.	75.	493.	1140.	44.	566.	21825.	21805.			
0	0.	8.	54.	493.	1299.	51.	495.	22065.	20139.			
0	1.	11.	77.	388.	1286.	28.	584.	20375.	23961.			
0	1.	13.	82.	514.	1295.	44.	988.	23288.	35131.			

**List of Innovations [Haustein] 1764-1975**

1750	1800	1850	1900	1950	1850	1900	1950	1900	1950	1850	1900	1950
0	0	2	3		0	3		2		0	0	
0	0	1	1		1	4		1		0	1	
0	2	2	0		0	1		0		0	0	
0	0	0	2		0	2		1		0	0	
0	1	0	1		0	0		0		0	0	
0	4	1	1		1	4		0		0	0	
0	0	0	2		0	2		1		0	0	
0	0	0	4		1	1		0		0	0	
0	1	1	1		1	1		0		0	0	
0	1	0	2		0	2		1		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1		1	1		0		0	0	
0	1	1	2		2	2		1		0	0	
0	1	1	1		1	1		0		0	0	
0	0	0	1	</								

**Number of U.S. Patents (2)**

**1837-1950**

**U.S. Railroad Gross Capital Expend.**

**1870-1950**

	1800	1850	1900	1950		1800	1850	1900	1950		1800	1850	1900	1950
883.	24062.	40976.				33.	1313.		804.		518.1	878.7	2114.5	
752.	26670.					39.	1718.				565.6	1262.2	1962.8	
885.	29306.					45.	2146.				649.2	1262.6	1932.3	
844.	29894.					29.	2373.				697.9	1268.7	2036.6	
1755.	31033.					75.	2310.				676.0	1451.5	2240.7	
1881.	32772.					61.	2574.				640.7	1858.9	2610.3	
2302.	33643.					61.	2535.				675.7	1892.2	2493.9	
2674.	34982.					70.	2824.				639.1	1639.6	2367.7	
3455.	36476.					167.	2838.				419.9	1493.6		
4160.	39063.					182.	2632.				463.2	2138.5		
4357.	38387.					141.	2240.				508.0	1905.9		
3020.	40860.					95.	2552.				344.7	1878.9		
3214.	41829.					98.	2440.				308.4	2072.5		
3773.	41313.					110.	2620.				426.6	1704.5		
4630.	41105.					140.	2461.				231.7	1553.0		
6088.	40719.					195.	2252.				341.6	874.8		
8863.	41287.					278.	2104.				476.2	992.7		
12277.	40993.					470.	1763.				563.2	831.7		
12526.	34781.					453.	1372.				668.9	606.9		
12931.	46525.					505.	1826.				737.5	871.2		
12137.	49681.					454.	1830.				753.5	887.4		
11659.	53049.					424.	2061.				823.0	942.1		
12180.	50923.					517.	2037.				659.1	1363.3		
11616.	46569.					620.	1942.				655.9	1539.8		
13102.	46693.					666.	1916.				572.3	1706.8		
13123.	48646.					595.	2059.				590.7	1930.4		
12994.	49348.					625.	2119.				502.3	2040.2		
12317.	52898.					491.	2148.				475.3	1981.0		
12288.	53131.					468.	2062.				424.8	1882.2		
12166.	54435.					523.	2117.				504.9	1588.7		
13198.	54315.					669.	1853.				100.0	571.2	1077.0	
15089.	48362.					813.	1789.				136.1	682.3	766.4	
18359.	40639.					1244.	1229.				210.3	786.8	381.1	
20059.	34302.					1217.	976.				260.0	872.5	309.8	
20737.	34354.					1178.	1050.				294.0	941.8	342.5	
21044.	35248.					1266.	1147.				317.6	1086.0	478.2	
21325.	37966.					1468.	1194.				428.8	1145.1	695.1	
426.	20786.	39619.				15.	1372.	1215.			213.8	1203.1	804.7	
514.	21053.	40559.				18.	1435.	1283.			184.7	1177.5	731.9	
404.	24022.	38872.				14.	1735.	1106.			169.9	1435.8	905.9	
458.	24190.	36913.				28.	2016.	1095.			151.5	1612.5	1015.2	
490.	23907.	31744.				20.	1868.	910.			161.5	1434.6	1167.5	
488.	17900.	27625.				11.	1720.	624.			140.0	1506.9	538.4	
493.	22618.	27592.				13.	1604.	570.			127.7	1129.2	271.5	
478.	22433.	32866.				10.	1530.	738.			149.4	1031.0	265.4	
473.	23741.	41149.				15.	1398.	787.			187.0	1336.2	446.4	
566.	25520.	49160.				19.	1459.	903.			266.9	1121.2	1362.2	
495.	27693.	45756.				22.	1394.	791.			343.4	1230.8	1495.3	
588.	20569.	41691.				16.	1052.	771.			353.1	1047.9	1696.5	
984.	23615.	40959.				54.	1304.	722.			411.1	1247.3	1638.3	

	1850	1900	1950		1700	1750		1700	1750		1800	1850	1900	1950
60.5	87.1				100.0	129.0		91.9	51.4		113.5	181.1	243.2	
55.4		99.0			120.0			94.6	45.9		114.9	182.4	229.7	
57.6		109.0			126.0			90.5	60.8		113.5	186.5	225.7	
60.5		110.0			124.0			91.9	62.2		106.8	179.7	252.7	
70.1		130.0			128.0			87.8	63.5		95.9	182.4	262.2	
88.6		115.0			120.0			93.2	64.9		95.9	182.4		
118.2		127.0			94.0			89.2	66.2		95.9	177.0		
136.9		116.0			100.0			74.3	67.6		94.6	174.3		
139.5		94.0			109.0			74.3	66.2		102.7	173.0		
147.5		82.0			119.0			79.7	59.5		100.0	170.3		
162.8		74.0			122.0			83.8	64.9		91.9	181.1		
149.1		106.0			119.0			87.8	66.2		97.3	182.4		
142.8		112.0			108.0			85.1	59.5		97.3	179.7		
149.4		102.0			110.0			82.4	58.1		110.8	177.0		
104.8		104.0			105.0			75.7	66.2		105.4	167.6		
62.5		109.0			103.0			73.0	74.3		108.1	154.1		
70.1		118.0			98.0			73.0	81.1		110.8	127.0		
88.0		118.0			98.0			68.9	70.3		106.8	117.6		
64.7		118.0			111.0			68.9	70.3		110.8	108.1		
46.2		103.0			112.0			75.7	73.0		116.2	170.3		
66.7		108.0			103.0			75.7	79.7		116.2	208.1		
100.0		121.0			93.0			70.3	90.5		109.5	225.7		
110.8		74.2			128.0			63.5	105.4		110.8	221.6		
92.9		72.4			89.0			63.5	98.6		113.5	214.9		
62.9		138.6			113.0			63.5	85.1		113.5	232.4		
37.8		124.1			111.0			70.3	90.5		124.3	237.8		
28.2		104.7			105.0			75.7	77.0		82.4	81.1	256.8	
29.7		117.3			110.0			75.7	98.6		118.9	256.8		
36.5		105.8			104.0			78.4	87.8		121.6	271.6		
38.0		98.5			94.0			78.4	90.5		127.0	273.0		
42.3		115.1			108.0			86.5	90.5		133.8	268.9		
85.5		115.8			122.0			89.2	94.6		137.8	309.5		
131.5		52.1			130.0			86.5	85.1		133.8	333.8		
114.9		27.2			141.0			83.8	93.2		141.9	359.5		
83.3		18.7			128.0			75.7	98.6		137.8	335.1		
60.6		28.6			125.0			74.3	106.8		151.4	339.2		
64.6		26.8			134.0			78.4	105.4		158.1	343.2		
63.5		51.0			125.0			93.2	78.4		174.3	335.1		
85.3		82.1			126.0			93.2	78.4		170.3	327.0		
77.8		40.7			127.0			95.9	75.7		170.3	336.5		
70.9		39.8			108.0			98.6	75.7		171.6	363.5		
72.0		67.1			97.0			83.8	74.3		171.6	300.0		
75.8		76.2			113.0			75.7	74.3		86.5	162.2	278.4	
124.9		80.9			120.0			85.1	73.0		93.2	162.2	237.8	
142.4		53.7			140.0			93.2	73.0		105.4	185.1	247.3	
64.9		64.3			142.0			104.1	71.6		105.4	171.6	248.6	
23.7		60.5			126.0			102.7	71.6		100.0	174.3	251.4	
16.3		55.7			128.0			90.5	70.3		95.9	178.4	281.1	
16.7		75.5			124.0			94.6	77.0		87.8	175.7	283.8	
27.7		104.6			118.0			90.5	79.7		100.0	171.6	267.6	
54.2		107.0			120.0			89.2	70.3		106.8	189.2	240.5	

## War Indicators

**ALWAR** Great power battle fatalities from all wars, in 1000s.  
**GPWAR** Battle fatalities from "great power" wars, in 1000s.  
**LGWR** Logged GPWAR, +.5 (zeroes remain zero)  
**GPINT** Intensity (fatal./mill.Eur.pop.) of great power wars.  
**I1** Incidence of any war involving a great power.  
**I2** Incidence of war of annual intensity above 100.  
**I3** Incidence of war of annual intensity above 500.

YEAR	ALWAR	GPWAR	LGWR	GPINT	I1	I2	I3	YEAR	ALWAR	GPWAR	LGWR	GPINT	I1	I2	I3	YEAR	ALWAR	GPWAR	LGWR	GPINT	I1	I2	I3
1495	2.0	2.0	.8	25.7	1	0	0	1560	16.5	16.5	1.7	213.7	1	1	0	1625	51.9	51.9	2.2	595.7	1	1	1
1496	4.0	4.0	1.1	59.5	1	0	0	1561	13.5	13.5	1.6	174.7	1	1	0	1626	60.4	60.4	2.3	686.4	1	1	1
1497	3.5	2.0	.8	29.7	1	0	0	1562	10.6	10.6	1.5	137.6	1	1	0	1627	60.4	60.4	2.3	686.4	1	1	1
1498	1.5	0.0	0.0	0.0	0	0	0	1563	7.8	7.8	1.4	100.5	1	1	0	1628	60.4	60.4	2.3	686.4	1	1	1
1499	1.5	0.0	0.0	0.0	0	0	0	1564	3.9	3.9	1.1	50.2	1	0	0	1629	60.4	60.4	2.3	686.4	1	1	1
1500	2.0	0.0	0.0	0.0	0	0	0	1565	4.0	4.0	1.1	51.0	1	0	0	1630	61.6	61.6	2.3	700.0	1	1	1
1501	4.0	3.0	1.0	44.8	1	0	0	1566	8.0	8.0	1.4	102.0	1	1	0	1631	62.8	62.8	2.3	713.6	1	1	1
1502	7.0	6.0	1.3	89.7	1	0	0	1567	8.0	8.0	1.4	102.0	1	1	0	1632	62.8	62.8	2.3	713.6	1	1	1
1503	6.5	6.0	1.3	89.7	1	0	0	1568	4.0	4.0	1.1	51.0	1	0	0	1633	62.8	62.8	2.3	713.6	1	1	1
1504	3.0	3.0	1.0	44.8	1	0	0	1569	2.2	2.2	.8	27.6	1	0	0	1634	62.8	62.8	2.3	713.6	1	1	1
1505	0.0	0.0	0.0	0.0	0	0	0	1570	4.4	4.4	1.1	55.3	1	0	0	1635	75.7	75.7	2.4	854.2	1	1	1
1506	0.0	0.0	0.0	0.0	0	0	0	1571	4.4	4.4	1.1	55.3	1	0	0	1636	88.5	88.5	2.4	994.8	1	1	1
1507	0.0	0.0	0.0	0.0	0	0	0	1572	4.4	4.4	1.1	55.3	1	0	0	1637	88.5	88.5	2.4	994.8	1	1	1
1508	5.0	0.0	0.0	0.0	0	0	0	1573	4.4	4.4	1.1	55.3	1	0	0	1638	88.5	88.5	2.4	994.8	1	1	1
1509	5.0	0.0	0.0	0.0	0	0	0	1574	4.4	4.4	1.1	55.3	1	0	0	1639	88.5	88.5	2.4	994.8	1	1	1
1510	0.0	0.0	0.0	0.0	0	0	0	1575	4.4	4.4	1.1	55.3	1	0	0	1640	88.5	88.5	2.4	994.8	1	1	1
1511	3.0	3.0	1.0	43.5	1	0	0	1576	7.8	7.8	1.4	98.1	1	0	0	1641	88.5	88.5	2.4	994.8	1	1	1
1512	7.7	7.7	1.4	111.5	1	1	0	1577	11.2	11.2	1.5	141.0	1	1	0	1642	90.1	88.5	2.4	994.8	1	1	1
1513	10.4	9.4	1.5	136.0	1	1	0	1578	11.2	11.2	1.5	141.0	1	1	0	1643	91.6	88.5	2.4	994.8	1	1	1
1514	8.4	6.4	1.3	92.5	1	0	0	1579	12.2	11.2	1.5	141.0	1	1	0	1644	91.6	88.5	2.4	994.8	1	1	1
1515	7.4	6.4	1.3	92.0	1	0	0	1580	11.0	9.0	1.5	113.4	1	1	0	1645	93.5	88.5	2.4	994.8	1	1	1
1516	3.4	3.4	1.0	49.0	1	0	0	1581	7.9	6.9	1.3	85.7	1	0	0	1646	95.4	88.5	2.4	994.8	1	1	1
1517	3.4	3.4	1.0	49.0	1	0	0	1582	6.9	6.9	1.3	85.7	1	0	0	1647	95.4	88.5	2.4	994.8	1	1	1
1518	3.4	3.4	1.0	49.0	1	0	0	1583	4.6	3.4	1.0	42.9	1	0	0	1648	56.0	49.2	2.2	551.4	1	1	1
1519	1.7	1.7	.7	24.5	1	0	0	1584	2.4	0.0	0.0	0.0	0	0	0	1649	16.7	9.8	1.5	107.9	1	1	0
1520	0.0	0.0	0.0	0.0	0	0	0	1585	3.7	1.3	.6	15.5	1	0	0	1650	17.7	9.8	1.5	107.9	1	1	0
1521	6.4	6.4	1.3	89.9	1	0	0	1586	5.0	2.5	.9	30.9	1	0	0	1651	17.7	9.8	1.5	107.9	1	1	0
1522	14.3	12.8	1.6	179.8	1	1	0	1587	7.0	2.5	.9	30.9	1	0	0	1652	21.0	14.2	1.7	154.9	1	1	0
1523	14.3	12.8	1.6	179.8	1	1	0	1588	7.0	2.5	.9	30.9	1	0	0	1653	25.4	18.5	1.8	201.9	1	1	0
1524	12.8	12.8	1.6	179.8	1	1	0	1589	5.8	3.4	1.0	41.8	1	0	0	1654	27.2	20.3	1.8	221.7	1	1	0
1525	12.8	12.8	1.6	179.8	1	1	0	1590	5.5	4.3	1.1	52.6	1	0	0	1655	24.7	17.8	1.8	194.6	1	1	0
1526	12.8	12.8	1.6	179.3	1	1	0	1591	4.3	4.3	1.1	52.6	1	0	0	1656	22.9	16.0	1.7	174.4	1	1	0
1527	12.8	12.8	1.6	178.8	1	1	0	1592	4.3	4.3	1.1	52.6	1	0	0	1657	33.6	26.3	1.9	284.8	1	1	0
1528	12.8	12.8	1.6	178.8	1	1	0	1593	7.8	7.8	1.4	94.4	1	0	0	1658	41.9	34.1	2.0	368.4	1	1	0
1529	9.8	9.8	1.5	137.3	1	1	0	1594	11.2	11.2	1.5	136.2	1	1	0	1659	34.5	26.6	1.9	287.6	1	1	0
1530	6.8	6.8	1.3	95.8	1	0	0	1595	11.2	11.2	1.5	136.2	1	1	0	1660	25.3	17.4	1.7	187.0	1	1	0
1531	3.4	3.4	1.0	47.9	1	0	0	1596	11.2	11.2	1.5	136.2	1	1	0	1661	22.9	15.6	1.7	167.1	1	1	0
1532	5.7	4.7	1.2	64.0	1	0	0	1597	11.2	11.2	1.5	136.2	1	1	0	1662	22.4	15.6	1.7	167.1	1	1	0
1533	11.3	9.3	1.5	128.0	1	1	0	1598	10.3	10.3	1.5	125.3	1	1	0	1663	22.4	15.6	1.7	167.1	1	1	0
1534	10.3	9.3	1.5	128.0	1	1	0	1599	9.4	9.4	1.5	114.5	1	1	0	1664	12.8	7.8	1.4	83.6	1	1	0
1535	4.7	4.7	1.2	64.0	1	0	0	1600	10.4	9.4	1.5	114.5	1	1	0	1665	13.3	9.2	1.5	98.0	1	1	0
1536	8.0	8.0	1.4	109.5	1	1	0	1601	10.4	9.4	1.5	114.5	1	1	0	1666	22.6	18.5	1.8	196.0	1	1	0
1537	20.9	20.9	1.8	285.5	1	1	0	1602	9.4	9.4	1.5	114.5	1	1	0	1667	14.3	11.2	1.6	119.0	1	1	0
1538	17.7	17.7	1.7	242.4	1	1	0	1603	9.4	9.4	1.5	114.5	1	1	0	1668	3.5	2.0	0.8	21.0	1	0	0
1539	9.7	9.7	1.5	132.9	1	1	0	1604	8.2	8.2	1.4	99.0	1	0	0	1669	0.0	0.0	0.0	0.0	0	0	0
1540	9.7	9.7	1.5	132.9	1	1	0	1605	6.9	6.9	1.3	83.5	1	0	0	1670	0.0	0.0	0.0	0.0	0	0	0
1541	9.7	9.7	1.5	132.9	1	1	0	1606	3.5	3.5	1.0	41.8	1	0	0	1671	0.0	0.0	0.0	0.0	0	0	0
1542	22.3	21.5	1.8	290.1	1	1	0	1607	0.0	0.0	0.0	0.0	0	0	0	1672	29.1	28.5	2.0	298.3	1	1	0
1543	34.8	33.2	2.0	447.4	1	1	0	1608	0.0	0.0	0.0	0.0	0	0	0	1673	58.2	57.0	2.3	596.7	1	1	1
1544	25.1	23.5	1.9	316.9	1	1	0	1609	0.0	0.0	0.0	0.0	0	0	0	1674	58.2	57.0	2.3	596.7	1	1	1
1545	15.3	13.7	1.6	186.4	1	1	0	1610	1.9	1.9	.8	21.9	1	0	0	1675	58.2	57.0	2.3	596.7	1	1	1
1546	13.3	11.7	1.6	159.6	1	1	0	1611	3.7	3.7	1.1	43.7	1	0	0	1676	57.6	57.0	2.3	596.7	1	1	1
1547	6.5	4.8	1.2	66.4	1	0	0	1612	3.7	3.7	1.1	43.7	1	0	0	1677	58.5	57.0	2.3	596.7	1	1	1
1548	1.6	0.0	0.0	0.0	0	0	0	1613	3.7	3.7	1.1	43.7	1	0	0	1678	31.5	28.5	2.0	298.3	1	1	0
1549	4.6	3.0	1.0	39.5	1	0	0	1614	1.9	1.9	.8	21.9	1	0	0	1679	3.0	0.0	0.0	0.0	0	0	0
1550	3.8	3.0	1.0	39.5	1	0	0	1615	1.5	0.0	0.0	0.0	0	0	0	1680	3.0	0.0	0.0	0.0	0	0	0
1551	4.4	4.4	1.1	57.8	1	0	0	1616	3.1	0.0	0.0	0.0	0	0	0	1681	1.5	0.0	0.0	0.0	0	0	0
1552	15.2	15.2	1.7	199.1	1	1	0	1617	3.1	0.0	0.0	0.0	0	0	0	1682	11.3	11.3	1.6	116.3	1	1	0
1553	21.5	21.5	1.8	282.6	1	1	0	1618	29.5	24.7	1.9	287.0	1	1	0	1683	25.1	25.1	1.9	258.1	1	1	0
1554	21.5	21.5	1.8	282.6	1	1	0	1619	52.7	46.4	2.2	539.5	1	1	1	1684	25.1	25.1	1.9	258.1	1	1	0
1555	21.5	21.5	1.8	282.6	1	1	0	1620	49.7	43.4	2.1	505.0	1	1	1	1685	22.6	22.6	1.6	232.6	1	1	0
1556	19.1	19.1	1.8	250.3	1	1	0	1621	46.6	43.4	2.1	505.0	1	1	1	1686	22.6						

YEAR	ALWAR	GPWAR	LGWR	GPIINT	I1	I2	I3	YEAR	ALWAR	GPWAR	LGWR	GPIINT	I1	I2	I3	YEAR	ALWAR	GPWAR	LGWR	GPIINT	I1	I2	I3
1700	1.5	1.5	.7	15.2	1	0	0	1800	66.3	66.3	2.3	581.6	1	1	1	1900	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1701	55.2	55.2	2.2	550.9	1	1	1	1801	66.3	66.3	2.3	581.6	1	1	1	1901	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1702	107.3	107.3	2.5	1071.3	1	1	1	1802	33.2	33.2	2.0	290.8	1	1	0	1902	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1703	107.3	107.3	2.5	1071.3	1	1	1	1803	77.9	77.9	2.4	671.3	1	1	1	1903	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1704	107.3	107.3	2.5	1071.3	1	1	1	1804	155.7	155.7	2.7	1342.7	1	1	1	1904	22.5	0.0	0.0	0.0	0.0	0.0	0.0
1705	107.3	107.3	2.5	1071.3	1	1	1	1805	155.7	155.7	2.7	1342.7	1	1	1	1905	22.5	0.0	0.0	0.0	0.0	0.0	0.0
1706	107.3	107.3	2.5	1071.3	1	1	1	1806	159.5	155.7	2.7	1342.7	1	1	1	1906	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1707	107.3	107.3	2.5	1071.3	1	1	1	1807	163.2	155.7	2.7	1342.7	1	1	1	1907	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1708	107.3	107.3	2.5	1071.3	1	1	1	1808	166.2	155.7	2.7	1342.7	1	1	1	1908	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1709	107.3	107.3	2.5	1071.3	1	1	1	1809	166.2	155.7	2.7	1342.7	1	1	1	1909	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1710	107.3	107.3	2.5	1071.3	1	1	1	1810	163.2	155.7	2.7	1342.7	1	1	1	1910	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1711	107.3	107.3	2.5	1071.3	1	1	1	1811	163.2	155.7	2.7	1342.7	1	1	1	1911	3.0	0.0	0.0	0.0	0.0	0.0	0.0
1712	107.3	107.3	2.5	1071.3	1	1	1	1812	160.5	155.7	2.7	1342.7	1	1	1	1912	3.0	0.0	0.0	0.0	0.0	0.0	0.0
1713	55.2	55.2	2.2	550.9	1	1	1	1813	157.7	155.7	2.7	1342.7	1	1	1	1913	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1714	3.0	3.0	1.0	30.5	1	0	0	1814	156.7	155.7	2.7	1342.7	1	1	1	1914	966.7	966.7	3.5	7202.0	1	1	1
1715	3.0	3.0	1.0	30.5	1	0	0	1815	79.9	77.9	2.4	671.3	1	1	1	1915	1933.5	1933.5	3.5	3.814404.0	1	1	1
1716	5.5	3.0	1.0	30.5	1	0	0	1816	0.0	0.0	0.0	0.0	0	0	0	1916	1933.5	1933.5	3.5	3.814404.0	1	1	1
1717	8.0	3.0	1.0	30.5	1	0	0	1817	0.0	0.0	0.0	0.0	0	0	0	1917	1933.5	1933.5	3.5	3.814404.0	1	1	1
1718	11.8	9.3	1.5	91.7	1	0	0	1818	0.0	0.0	0.0	0.0	0	0	0	1918	967.6	967.6	3.5	7208.2	1	1	1
1719	15.5	15.5	1.7	153.0	1	1	0	1819	0.0	0.0	0.0	0.0	0	0	0	1919	1.7	1.7	.7	12.3	1	0	0
1720	9.3	9.3	1.5	91.7	1	0	0	1820	0.0	0.0	0.0	0.0	0	0	0	1920	1.7	1.7	.7	12.3	1	0	0
1721	1.5	1.5	.7	15.2	1	0	0	1821	0.0	0.0	0.0	0.0	0	0	0	1921	.8	.8	.4	6.2	1	0	0
1722	0.0	0.0	0.0	0.0	0	0	0	1822	0.0	0.0	0.0	0.0	0	0	0	1922	0.0	0.0	0.0	0.0	0	0	0
1723	0.0	0.0	0.0	0.0	0	0	0	1823	.4	0.0	0.0	0.0	0	0	0	1923	0.0	0.0	0.0	0.0	0	0	0
1724	0.0	0.0	0.0	0.0	0	0	0	1824	0.0	0.0	0.0	0.0	0	0	0	1924	0.0	0.0	0.0	0.0	0	0	0
1725	0.0	0.0	0.0	0.0	0	0	0	1825	0.0	0.0	0.0	0.0	0	0	0	1925	0.0	0.0	0.0	0.0	0	0	0
1726	2.5	2.5	.9	24.0	1	0	0	1826	0.0	0.0	0.0	0.0	0	0	0	1926	0.0	0.0	0.0	0.0	0	0	0
1727	5.0	5.0	1.2	48.0	1	0	0	1827	.2	0.0	0.0	0.0	0	0	0	1927	0.0	0.0	0.0	0.0	0	0	0
1728	5.0	5.0	1.2	48.0	1	0	0	1828	25.0	0.0	0.0	0.0	0	0	0	1928	0.0	0.0	0.0	0.0	0	0	0
1729	2.5	2.5	.9	24.0	1	0	0	1829	25.0	0.0	0.0	0.0	0	0	0	1929	0.0	0.0	0.0	0.0	0	0	0
1730	0.0	0.0	0.0	0.0	0	0	0	1830	0.0	0.0	0.0	0.0	0	0	0	1930	0.0	0.0	0.0	0.0	0	0	0
1731	0.0	0.0	0.0	0.0	0	0	0	1831	0.0	0.0	0.0	0.0	0	0	0	1931	2.5	0.0	0.0	0.0	0	0	0
1732	0.0	0.0	0.0	0.0	0	0	0	1832	0.0	0.0	0.0	0.0	0	0	0	1932	5.0	0.0	0.0	0.0	0	0	0
1733	8.8	8.8	1.4	83.6	1	0	0	1833	0.0	0.0	0.0	0.0	0	0	0	1933	2.5	0.0	0.0	0.0	0	0	0
1734	17.6	17.6	1.7	167.2	1	1	0	1834	0.0	0.0	0.0	0.0	0	0	0	1934	0.0	0.0	0.0	0.0	0	0	0
1735	17.6	17.6	1.7	167.2	1	1	0	1835	0.0	0.0	0.0	0.0	0	0	0	1935	2.0	0.0	0.0	0.0	0	0	0
1736	23.9	17.6	1.7	167.2	1	1	0	1836	0.0	0.0	0.0	0.0	0	0	0	1936	2.0	0.0	0.0	0.0	0	0	0
1737	30.3	17.6	1.7	167.2	1	1	0	1837	0.0	0.0	0.0	0.0	0	0	0	1937	31.2	0.0	0.0	0.0	0	0	0
1738	21.5	8.8	1.4	83.6	1	0	0	1838	0.0	0.0	0.0	0.0	0	0	0	1938	62.5	0.0	0.0	0.0	0	0	0
1739	26.3	19.9	1.8	187.7	1	1	0	1839	0.0	0.0	0.0	0.0	0	0	0	1939	1182.5	1095.0	3.5	7921.4	1	1	1
1740	39.9	39.9	2.1	375.4	1	1	0	1840	0.0	0.0	0.0	0.0	0	0	0	1940	2245.5	2158.0	3.5	3.815610.8	1	1	1
1741	42.4	39.9	2.1	375.4	1	1	0	1841	0.0	0.0	0.0	0.0	0	0	0	1941	2189.2	2158.0	3.5	3.815610.8	1	1	1
1742	44.9	39.9	2.1	375.4	1	1	0	1842	0.0	0.0	0.0	0.0	0	0	0	1942	2158.0	2158.0	3.5	3.815610.8	1	1	1
1743	42.4	39.9	2.1	375.4	1	1	0	1843	0.0	0.0	0.0	0.0	0	0	0	1943	2158.0	2158.0	3.5	3.815610.8	1	1	1
1744	39.9	39.9	2.1	375.4	1	1	0	1844	0.0	0.0	0.0	0.0	0	0	0	1944	2158.0	2158.0	3.5	3.815610.8	1	1	1
1745	39.9	39.9	2.1	375.4	1	1	0	1845	0.0	0.0	0.0	0.0	0	0	0	1945	1079.0	1079.0	3.5	7805.4	1	1	1
1746	39.9	39.9	2.1	375.4	1	1	0	1846	0.0	0.0	0.0	0.0	0	0	0	1946	0.0	0.0	0.0	0.0	0	0	0
1747	39.9	39.9	2.1	375.4	1	1	0	1847	0.0	0.0	0.0	0.0	0	0	0	1947	0.0	0.0	0.0	0.0	0	0	0
1748	19.9	19.9	1.8	187.7	1	1	0	1848	2.8	0.0	0.0	0.0	0	0	0	1948	0.0	0.0	0.0	0.0	0	0	0
1749	0.0	0.0	0.0	0.0	0	0	0	1849	5.9	0.0	0.0	0.0	0	0	0	1949	0.0	0.0	0.0	0.0	0	0	0
1750	0.0	0.0	0.0	0.0	0	0	0	1850	0.0	0.0	0.0	0.0	0	0	0	1950	159.2	159.2	2.7	1136.8	1	1	1
1751	0.0	0.0	0.0	0.0	0	0	0	1851	0.0	0.0	0.0	0.0	0	0	0	1951	318.3	318.3	3.0	2273.7	1	1	1
1752	0.0	0.0	0.0	0.0	0	0	0	1852	0.0	0.0	0.0	0.0	0	0	0	1952	318.3	318.3	3.0	2273.7	1	1	1
1753	0.0	0.0	0.0	0.0	0	0	0	1853	36.2	36.2	2.1	290.5	1	1	1	1954	0.0	0.0	0.0	0.0	0	0	0
1755	62.0	62.0	2.3	569.9	1	1	1	1855	72.3	72.3	2.4	581.0	1	1	1	1955	0.0	0.0	0.0	0.0	0	0	0
1756	124.0	124.0	2.6	1139.7	1	1	1	1856	36.4	36.2	2.1	290.5	1	1	0	1956	7.0	0.0	0.0	0.0	0	0	0
1757	124.0	124.0	2.6	1139.7	1	1	1	1857	0.0	0.0	0.0	0.0	0	0	0	1957	0.0	0.0	0.0	0.0	0	0	0
1758	124.0	124.0	2.6	1139.7	1	1	1	1858	0.0	0.0	0.0	0.0	0	0	0	1958	0.0	0.0	0.0	0.0	0	0	0
1759	124.0	124.0	2.6	1139.7	1	1	1	1859	20.0	20.0	1.8	159.0	1	1	0	1959	0.0	0.0	0.0	0.0	0	0	0
1760	124.0	124.0	2.6	1139.7	1	1	1	1860	0.0	0.0	0.0	0.0	0	0	0	1960	0.0	0.0	0.0	0.0	0	0	0
1761	124.0	124.0	2.6	1139.7	1	1	1	1861	0.0	0.0	0.0	0.0	0	0	0	1961	0.0	0.0	0.0	0.0	0	0	0
1762	124.0	124.0	2.6	1139.7	1	1	1	1862	.8	0.0	0.0	0.0	0	0	0	1962	.5	0.0	0.0	0.0	0	0	0
1763	62.0	62.0	2.3	569.9	1	1	1</td																