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Contributions to a history of prices in Norway: Monthly price indices, 1777-1920

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Abstract

This study reports the outcome of an effort to collect market price data for Norway with a view to constructing monthly price indices from the year 1777 to 1920. The material covers data on commodity prices from agriculture, fishery, dairying, manufacturing and mining. Indices of the wholesale and producer price index families are constructed, using the repeat sales method for constructing the underlying price series. Separate indices for commodity exports and imports are also presented. The new wholesale price index, as well as the export and import price indices, are linked to existing price indices after 1920 and brought forward to the end of 1940. The price indices shed new light on two great wartime inflationary episodes in Norway: 1807-1817 and 1913-1920. In spite of a 61-fold increase in the price level in the first period and a 4-fold increase in the second, it is found that, after inflation had been brought under control, prices reverted to a level consistent with the purchasing power parity principle.

Keywords: Price index, price history, purchasing power parity

JEL Classification: E31, N13, N14

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1 Introduction

The first historical price indices created were often motivated by the task of measuring business cycles.[1] This implied that the sample was restricted to a limited number of price series that were sensitive to demand disturbances, thus being suitable to form a barometer of business fluctuations. Later the focus was diverted to measuring the general price level on a broader basis. According to Gayer et al. (1953, p. 465) '[t]he primary characteristic of a general commodity price index should be its inclusiveness.'

This approach, which is followed here, is far more demanding with respect to sources. Although much price information is available, many compromises must be made as to validity, reliability and frequency of price observations in order to construct a price index with a reasonably comprehensive coverage of goods. Much space is therefore devoted to a discussion of the sources and characteristics of individual price series, which will highlight the strengths and weaknesses of the data material underlying the price indices.

An overview of data sources is presented in section 2, with a detailed list of commodity descriptions to be found in the appendix. Section 3 reviews issues related to data measurement and statistical methods. Sections 4 to 6 present the price material for some of the most important commodities, divided into three subperiods: 1777-1830, 1830-1913 and 1913-1920. The first and the last subperiods are treated separately, partly for reasons of data availability, but also because these were periods of extremely high rates of inflation, which require separate graphs in order to illustrate the course of prices in a meaningful way. Aggregate price indices are presented in section 7, import and export price indices in section 8. A comparison with existing consumer price indices is found in section 9, while in section 10 the new Norwegian indices are compared with German and British price indices. This section also contains some graphic analysis of price movements from the perspective of the purchasing power parity principle. Finally, section 11 explains how the new indices are linked to the existing wholesale price indices for the interwar period. Monthly and annual index values are tabulated in the appendix.

2 Data sources

The price observations that would be most ideal for the construction of the families of price indices considered here are those determined on commodity exchanges. Market prices originating from actual transactions undertaken by commodity brokers are also highly useful. Price currents of wholesale prices, giving a fair and well informed statement as to the actual level of commodity prices, are also within the desired range of sources.

A well known example of the latter source is the *Economist's* weekly price current, which stated that '[t]he prices in the following list are revised on Friday with the assistance of an eminent firm in each department.' Examples of such sources may be found for Norway in the period covered here, 1777 - 1920, but they only exist for part of the period and mostly for a limited range of commodities. The weekly price current published in the Norwegian weekly *Farmand*, beginning in February 1891, is the closest we get to the *Economist's* price current. In the early part of the sample the semi-official *Bergen Price Current* is of great importance. There is also very useful price information from commodity brokers or grocers that was published in Christiania from 1825 and in Bergen from 1861. The publication of the Christiania source petered out towards the end of the 1840s but the Bergen price currents continued to be published until 1916.

Price data from many of the sources listed below were transcribed and stored in the Weder-

[1] Persons and Coyle (1921); Silberling (1923).

vang Archive, which is now located at the Norwegian School of Economics.[2] This is an extremely useful collection of data for this purpose, which has been extensively drawn upon. Most of the material from the archive utilized here originates from newspaper sources. Whenever it was feasible to go to the original sources this was done, because extracts made from the sources were often less than complete as to price series included. The accuracy of the transcribed material is admirable, but ambiguities sometimes occur, which makes it desirable to go to the original sources.

2.1 Bergen Price Current and market reports from Bergen commodity brokers

The monthly *Bergen Price Current*, known as *'meglerpriskuranten',* was published by Bergen commodity brokers.[3] It originally appeared in German language as '*Preis-Courant vor Bergen in Norwegen*', from 1829 it was published as '*Bergen Priis-Courant*', now in domestic language. It contained monthly price quotations for export and import goods traded by merchants in Bergen. The city brokers (*stadsmeglerne*) obtained certain privileges from the king in 1759, but by then they were well established. Coldevin (1938, p. 146) maintained that the Bergen Price Current dated at least back to the 1740s.[4]

A page of the Bergen Price Current from June 1777 is shown in Figure 1.[5] When our sample starts in May 1777 it was a rich source of price information on 'incoming' (import) goods such as wheat, rye, barley, oats, malt, salt, spirits, tobacco, iron, hemp, flax, linen cloth and canvas; there was also an extremely well specified price list of 'outgoing' (export) goods such as herring, stockfish, clipfish, fish oil, roe, tar, hides and skins. The price current gradually deteriorated as to coverage of actively quoted goods in the ensuing years, however, so that by 1812 it was basically only grain and salt left of the import goods and fish from the export price list. It is likely that the diminution of the range of goods actively quoted is in large measure attributable to the effects of the Napoleonic Wars and the British blockade of Norwegian waters starting in 1807, which severely interrupted the free flow of goods across the borders of Europe.

It has not been feasible to locate the original issues of this price current after 1812. However, there exists a complete run of records containing weekly reports which were sent from the city brokers to the magistrate in Bergen giving information on the prices of selected commodities.[6] These always included precise information on the stipulated market prices of rye, barley, wheat and malt, sometimes also prices of salt, fish and a few other commodities. In addition, part of the material from the Bergen Price Current for selected years, in particular with respect to fish prices, was recovered from the Wallem and Grip papers stored at the University of Bergen.[7]

Beginning January 1830 extracts from the Bergen Price Current and the underlying brokers' minute books are preserved in the Wedervang Archive, which represents a considerable extension of the material. From November 1825 prices quotations of selected goods from the monthly Bergen Price Current can also be found, although not on a regular basis in the early years, in *Norsk Handels Tidende*. This was a national newspaper established in 1825, which

[2] See Grytten (2007) for a description of the Wedervang Archive.

[3] Information on the Bergen Price Current can be found in Coldevin (1938) and Solhaug (1983).

[4] There are in fact traces of the Bergen Price Current as early as 1739, see Brautaset (2002, p. 51). Original issues of this source covering the period from May 1777 to December 1812 are at present located at the Regional State Archives in Bergen.

[5] The left hand side showing export goods refers to the previous month.

[6] The minute books of the city brokers are available from 1774 at the Regional State Archives in Bergen (*Stadens Previlegerede Mæglernes Protocoll Anlagd i Bergen Anno 1774*). From 1793 these books contain some weekly price quotations which are basically the same as those published in the Bergen Price Current.

[7] Fredrik Meltzer Wallem's papers (Ms 1589) and Jørgen Grip's business archive (Ms 1294) Univerity of Bergen Library.

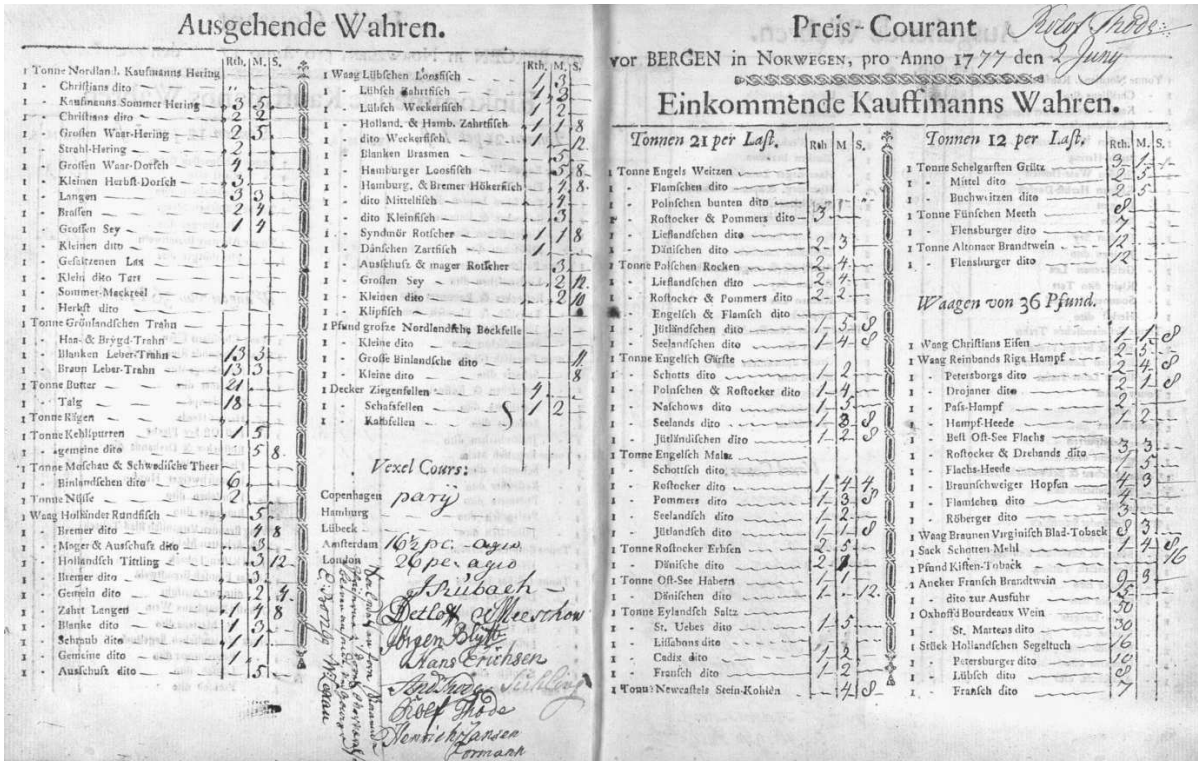

Figure 1: *The Bergen Price Current May-June 1777.*

contained economic news and market reports from several towns, in particular Christiania and Bergen. From the 1840s the Bergen Price Current appeared with greater regularity in Bergen newspapers.[8] The published lists then regularly comprised the basic import goods (rye, barley, wheat, malt, peas and salt) but also, occasionally, such goods as iron, hemp and barrel staves. Among export goods a fully specified list of fish, roe and fish oil prices reflecting actual market transactions were always included, with less frequency also skins and tar.[9]

From the late 1840s contemporary Bergen newspapers began to report weekly on the trade in grain, salt and the various fish products, including estimates of the going market price or actual prices at which transactions had taken place. This is a useful supplement to the Bergen Price Current and the minute books of the brokers. In his monumental study of Norwegian fisheries and fishing trade 1815-1880 Solhaug (1983) relied mostly on price information from the Bergen Price Current, claiming that detailed information on price movements in the years 1848-1860 was missing because the city brokers' original minute books and price currents apparently had been lost.[10] It appears that Solhaug overlooked the fact that the Price Current was regularly published in the local newspapers in this period. In addition, the market reports in newspapers provide a rich material for the study of the fish trade in this period.

[8]The Bergen Price Current can be found in *Bergens Stiftstidende* from 1840, in *Bergenske Blade* 1848-1854 and thereafter in *Bergensposten.*

[9]The fish trade was highly seasonal, which is why there inevitably are gaps in the monthly fish prices series. June to October/November was the main season for stockfish and clipfish, which in many cases leaves no price data for the remaining part of the year.

[10]Solhaug (1983, p. 582 and pp. 716-722). See also Brautaset (2002, p. 65).

2.2 The Nordland Price Current

In the summer months fishermen from the north of Norway came to Bergen to sell their stocks of dried and salted fish, fish oil, roe and, on a smaller scale, skins. In exchange the Nordland fishermen bought grain, salt and textiles. This activity peaked in May and August, when the Nordland fairs (*Nordlandsstevne*) were taking place. The merchants of Bergen prepared in advance a comprehensive price list of goods sold to the Nordland fishermen and of fish products bought from them. Prices were stipulated with a view to give maximum prices for goods sold and minimum prices for goods bought from the fishermen, which is a quite remarkable principle. Coldevin (1938) made a thorough study of the relationships between prices from the Nordland Price Current, the actual prices paid according to archived invoices and the quoted market prices in Bergen. His main conclusions were that the first two set of prices were in general highly correlated, but that the prices actually obtained by the fishermen were somewhat more favourable than stipulated in the Nordland Price Current. There is also some evidence that the prices stipulated in the Nordland Price Current basically reflected going market prices, with a reasonable markup. Some further evidence on this issue will be explored below.

We have access to the original printed sheets of the Nordland Price Current from 1815-1865, with some lacunae before 1824.[11] Before 1815 the original material is no longer available, but the main fish price series can be found in the Wallem Papers referred to above. After the 1860s fish products were increasingly sent to Bergen by steam ships and the importance of the Nordland Fairs was greatly diminished. We make use of this data source from 1800 to 1865.

2.3 Early wholesale prices in Christiania and other towns

As in Bergen a royal assent was required in order to work as a broker in Christiania. In 1827 there were two authorized commodity brokers in Christiania and two ship brokers, but all four might also serve as bill brokers.[12] Beginning with the first issue of the twice-weekly newspaper *Norsk Handels Tidende* in October 1825, price quotations of the most frequently traded goods in Christiania were published in this newspaper, from about 1834 also in *Morgenbladet.* The price information appeared somewhat irregularly, but usually at least once a month. The range of commodities covered varied quite much, but prices of grain were always included. In addition there were fairly regular price quotations on spirits and colonial goods, in particular coffee and sugar, sometimes also tea, spices, raisins, tobacco, iron, flax and cotton. Prices of bacon, salted beef and butter did also figure occasionally; these were nearly all ex ship prices from Danish vessels which regularly were lying at berth in Christiania in order to sell their goods. The bulk of the grain supply to Christiania also seemed to come from Denmark and were sold either on an ex ship or ex warehouse basis.

Grain was always sold by the barrel (about 139 litres), which was a universal unit until well into the 1870s both in Bergen and Christiania. Provisions in Christiania were sold by the *skippund* (159.277 kilos), *bismerpund* (5.977 kilos) or by the *qvarter* in the case of butter (one quarter of a barrel, about 34.7 litres). The fairly large units of measurement indicate clearly that these Christiania prices applied to wholesale transactions, which was often explicitly stated as well. Colonial goods were luxuries and prices applied to a *pund* (0.5 kilo). Heavy goods, such as iron and flax, were mostly quoted by the *skippund.*

From 1825 to about 1848 this is a highly valuable source, which covers a wide range of commodities. After this year, however, the information from this source peters out. With the exception of grain prices, which still can be found, although not on a regular basis, there is

[11] The available copies can be found in the Grip papers at the University of Bergen referred to above and at Bergen City Archives, which has a complete run from 1842.

[12] *Norsk Handels Tidende*, 13 January 1827.

virtually no sources at all for Christiania commodity prices from 1850 until the 1880s except for those traded in smaller quantities on the regular city markets.

Less comprehensive reports on market prices from some other towns also found their way to the contemporary newspapers referred to above, but mostly at long and varying intervals. Here we have only used some of the prices reported from Stavanger beginning 1825; for Fredrikshald and Arendal for the period 1825-1830 only. These sources are of particular interest with respect to their information on prices of such goods as iron, tar, hemp, wool, tallow and provisions, for which the coverage in Bergen and Christiania is rather patchy at times. The units quoted seem to imply that these prices in principle applied to fairly large transaction volumes. It is not stated who compiled these market reports, but the setup and range of commodities were somewhat similar to the quarterly prices supplied by the magistrates beginning 1832, which are discussed in section 2.6 below.

2.4 The Bergen Wholesale Price Current

In October 1861 the Bergen newspaper *Bergensposten* launched a new wholesale price current, supplementing the official Bergen Price Current. It was referred to as current prices of *mellombudsvarer*, which was the label used for goods ordinarily not dealt with by the official city brokers (*stadsmeglere*), such as colonial goods, flour, hemp and wooden barrels. Early in the century prices of some of these commodities could occasionally be found in the Bergen Price Current, but by the 1850s this practice had largely been abandoned.

As noted by *Bergensposten* (1 October 1861) it was a curious fact that the activity of those wholesale merchants who traded in these goods (*mellombud*) actually was illegal according to the Broker Law, which gave the authorized brokers all privileges regarding the trade in commodities. But the newspaper also noted that it had long been tolerated by the Bergen Bourse Committee, the magistrate as well as the city council.

The new price current comprised about 30 commodity descriptions, providing an extremely useful source of prices of such goods as coffee, sugar, flour, tobacco, spirits, hemp, wooden barrels and petroleum. After the Christiania brokers' quotations for groceries faded away in the late 1840s we have no regular source of price information on most of these goods until the Bergen Wholesale Price Current appeared in October 1861. It was typically published twice a month until 1875, when weekly quotations began. The regularity was maintained through 1912; it then started to appear more irregularly and was discontinued in January 1916.[13]

2.5 Town markets in Christiania, Bergen, Trondhjem and Stavanger

Domestically produced agricultural products that were not consumed by the farmers themselves were chiefly brought to local town markets and sold there. The distribution of such goods via grocers and village shopkeepers only acquired some importance after the turn of the century.[14] We are therefore obliged to use town market prices to obtain information on the prices of domestic meat, grain, potatoes, butter, eggs, game and poultry, tallow, hay, hides and firewood.

The first systematic recording of town market prices is from Christiania in January 1830. After being temporarily discontinued after December 1830, we find such price information fairly often quoted in the newspapers from January 1834.[15] In the second half of the nineteenth century the main series of market prices from Christiania were collected by the city

[13]This information is from the Wedervang archive, file W(264).

[14]Hodne (1989).

[15]There are data for the first three months of 1833. Until February 1853 there are quite often gaps in our monthly series, most visible in 1852, when only January and April are available.

registrar *(stadsveieren).* This series is supplemented by prices quoted at the various market places *(Youngstorvet, Ankertorvet),* as well as those recorded by the city meat inspection *(kjøttkontrollen)*, and published in *Farmand* and other contemporary newspapers.

We have town market prices from Bergen from January 1840, but with gaps in 1847 and 1849 - 1860 (with the exception of 1855). As from the autumn of 1860 the regularity of this series is quite good. Town market prices from Trondhjem and Stavanger have been used to supplement the prices from Christiania and Bergen when required, notably for such goods as meat, potatoes, tallow, coal, wool, hides and skins.

2.6 Quarterly prices collected by town magistrates

This data base covers the period 1832 - 1871, giving quarterly market prices of 15 commodities from 40 towns as collected by the town magistrates.[16] There are many gaps in these time series, but in general it is possible to compute useful aggregates for most goods over this period. However, the reliability of individual series is highly variable, in some cases prices are reported as unchanged for many successive years, and there are sometimes unreasonably large price changes that must be due to changes in product quality or units of measurement. Using this data source consequently requires a careful inspection of each series, which implies that the nationwide averages should be computed only from a subset of the towns, also excluding periods when the reported prices from a particular town were judged to be less reliable. The data are only used for commodities for which other market price data are somewhat defective. This applies to hemp, flax, wool, iron, tar and spirits. The market price data for various grain and fish products taken directly from brokers' and market reports are considered to be more accurate and consistent over time, hence the information on these goods from the magistrates' reports was neglected here.

2.7 Agricultural prices collected by Christiania Landmandskontor

The prices of agricultural produce recorded in the city markets primarily applied to transactions involving small quantities. In 1877 Christiania Landmandskontor started to publish market prices of such goods at the wholesale level. It was explicitly stated that the price current applied to prices 'in wholesale transactions or for whole lots.'[17] From 1877 onwards these price currents were published in Christiania newspapers, to begin with quite irregularly, and only a few lists have been located for the years 1879-1881, but beginning 1882 we have a complete run of these price currents from the weekly *Norsk Landmandsblad,* supplemented by newspapers.

The price current published by Christiania Landmandskontor covered much the same products as the town market reports. A comparison of prices from the two sources may therefore shed some light on the behaviour of our town market prices, which is the only source available for domestically produced agricultural products prior to 1877. The results discussed below (see Figure 5.3 of section 5.2 below) basically present a picture of very close correlation between prices from the two sources; hence, it may be warranted to assume that the town market prices to a large extent reflect the fluctuations in bulk transactions as well.

2.8 Price data from the financial weekly newspaper *Farmand*

The first issue of *Farmand* appeared on 14 February 1891. The editor, Einar Sundt, explicitly announced in the first issue that he viewed as his model the English weekly trade journals,

[16] This source was extensively used in the construction of the consumer price index reported in Grytten (2004b), where a more detailed overview of this source can be found.

[17] The headline of the price current (in Norwegian) was 'Christiania Markedspriser - i Partier eller hele Kolli meddelt af Christiania Landmandskontor.'

in practice this meant in particular adopting the format of *The Economist*, although on a smaller scale. A weekly wholesale price current was therefore a prominent regular feature of *Farmand*. This represents an important addition to our data sources, in particular giving detailed information on flour, coffee, sugar, provisions, metals, oils, spirits and leather. In addition, there were market reports from Bergen and Trondhjem containing current export prices of fish and a few other products.

2.9 Price information from foreign trade statistics

For the period 1895 - 1912 Statistics Norway published *monthly* data on the volume and value of selected export and import items, from which prices can be derived. These prices were stipulated by Statistics Norway on the basis of current market prices each month. Some of this information may have been obtained directly from merchants involved in foreign trade. In this regard these data may contain price information that no longer can be retrieved from published sources. The price series derived from this source is therefore a useful supplement to our data set in cases where directly observed market prices are missing or incomplete.

The main argument against using implicit prices from trade statistics is that the commodity item may in some cases be too broadly defined to give an accurate estimate of price movements. If the composition or product qualities are changing over time the computed prices may be rather misleading. The use of these data should therefore be confined to homogenous commodities where quality differences and relative price changes are not contaminating the data.

Monthly trade prices series were computed for three main commodity groups: (1) manufactures of wood (deals and boards, mechanical pulp, chemical pulp, wrapping paper, printing paper, matches), (2) textiles (cotton, hemp and woollen plain goods), (3) minerals (coal, pyrites and natural ice). In these cases it was found that the commodity specification was sufficiently well defined to warrant their inclusion; moreover, directly observed market prices were hard to find.[18]

After having scrutinized all conceivable data sources there were some important commodities for which price data were missing for some periods. As a last resort prices from the *annual* trade statistics were used, subject to the same criteria as outlined above. This applied in particular to several textile goods, metals and minerals. In these cases, which are described in detail in the appendix, the tradeoff between data quality and importance spoke in favour of using trade return data. Although this procedure is not ideal, these commodities were too important to exclude from the price index.

Annual volume *and* value estimates of exports and imports begin in 1866. For some goods the commodity classifications changed over time, particularly in the early years, which implied that the computed price series were not useful and had to be excluded. In general, however, we believe that the annual trade return prices give a reasonably representative view of the price movements.

The fact that these price data are annual averages and that our price index is constructed with a view to show monthly price fluctuations presents a genuine problem. Simply inserting the annual averages for each month is not an acceptable solution because it would create discontinuities in the computed monthly price series at year-ends. To overcome this problem a smoothing algorithm that produces monthly data but preserves the annual averages is applied to the annual prices. This method is explained in section 3.3.

[18] Even in the cases of these seemingly homogenous commodities there are some inherent problems. One example is the case of hemp, in which case a comparison of the monthly and the more detailed annual trade statistics revealed that the monthly hemp series was increasingly influenced by lower priced jute qualities over time. Consequently, we only use this series until 1907.

2.10 Miscellaneous other sources

In addition to the twice-yearly Nordland fairs in Bergen we have information from two other trade fair categories. One source is represented by the annual or semi-annual trade fairs associated with timber floating in the water systems surrounding Christiania, Drammen and Kongsberg. These data cover a long time span, 1819 - 1908, but there are large gaps in the early decades. This source is particularly useful because it contains the only directly observed domestic prices of timber or wood apart from firewood in this period.

Another source of information is the Stavanger trade fairs, which yielded information on some domestically produced agricultural goods, including wool, from the late 1840s until the 1880s, covering a period in which time series from other sources became rather fragmentary.

There are two time periods which present particular problems as to data sources. The first one is some of the years of the Napoleonic Wars, in particular during the later part of the period 1806 -1814 when the Continental System (Blockade) was in effect. For this period there are inevitably some large gaps in our price series. A second problematic period occurred a century later, in the second half of World War I and its aftermath, 1916-1919. Export bans on fish products, extensive price controls and the general disruption of trade flows led to the breakdown of regular transactions on most commodity markets. Consequently, market reports and price currents disappeared from contemporary newspapers to a large extent. For this reason we have had recourse to retail prices in this period in a few cases, including coal, firewood, coffee, fresh and salted fish, rye flour, barley flour as well as rolled oats. We have also incorporated information from some price index series (petroleum, pulpwood, paper and textiles) for the period 1914-1920 published by the weekly trade journal *Økonomisk Revue*. These price relatives partly reflect price information which was obtained directly from merchants at the time and which no longer can be retrieved.

3 Data measurement and statistical methods

3.1 Price quotations

This index reflects monthly price fluctuations. This implies that in principle we are only collecting price information that can be pinned down to a specific month within the year. The main exception is the annual trade return data, for which a special procedure is adopted, as described below. In general, prices observed at any date within the month is accepted, but if there are two or more observations the one closest to the middle of the month is being used.

In price currents prices are typically given as a range of high and low, reflecting different quality descriptions. If the quality range is reasonably invariant over time it is sufficient to use the average of the quoted range; in a few cases either the lowest or highest price is assumed to best reflect an unchanged quality.

3.2 Seasonal adjustment

Some of the price series exhibit distinct seasonal patterns. This is most typical for certain agricultural goods, in particular butter, eggs, cheese and potatoes. For the majority of commodities, however, regular seasonal fluctuations are weak or non-existent. We apply a Bureau of Census X11 filter to all time series to produce seasonally adjusted time series.[19]

3.3 Conversion of annual averages to monthly figures

As noted above the problem of estimating the unobserved monthly movements in data series for which only annual averages are available arises in cases where annual price data from the foreign trade returns are being used. The method applied here employs a procedure suggested by Litterman (1983), which uses a related series (in this case only a time trend) and certain statistical assumptions about the error term to distribute the annual values over the twelve months of the year. In addition to smoothing the intrayear movements this method ensures that the annual average of the estimated monthly data equals the true annual average.[20]

In order to get an idea of how this method works in practice an illustration using an actual monthly time series is shown in Figure 3.1. The data series chosen is the monthly price of brown fish (cod liver) oil as quoted in Bergen from 1830 to 1913. This is a commodity with fairly wide cyclical fluctuations, occasionally subject to speculative behaviour with the inevitable subsequent collapse.

First, annual average values of the monthly data series, which only have minor gaps in some years, were computed. Then the Litterman procedure was applied to the annual time series, distributing its values over the months according to our assumptions about the related series (time trend) and the error term. The original monthly data in Figure 3.1 may then be compared to the estimated values using this procedure. It will be seen that the two time series track each other quite well. The inherent assumption that annual averages of the monthly series shall be equal to the annual figures ensures that large and persistent discrepancies never occur.

The general features of the *intrayear* movements of the estimated series are relatively encouraging; the direction of change within the year is in most cases correctly reproduced and the timing of the peaks and troughs are not bad. What the smoothed series cannot pick up is of

[19] The modified X11 seasonal adjustment procedure as implemented in RATS version 8.0 is being used. In some cases it was necessary to fill gaps in the data series before applying the seasonal adjustment filter, which was done by log-linear interpolation.

[20] This procedure is implemented in slightly modified form in RATS version 8.0, with a different handling of the initial periods. An ARIMA(1,0,0) specification for the error term is generally assumed, but in some cases more reasonable results were obtained with a first-order serial correlation assumption only.

course the minor and irregular movements of the true series, also missing the extreme values of the more pronounced cycles by a wide margin. For example, it may be noted that the all-time high extreme value of the 1857 commercial boom, which occurred in June 1857, is grossly underestimated, but the dating of the peak is correct. The following steep decline of fish oil prices and the subsequent recovery is quite well picked up by the distribution procedure, however.

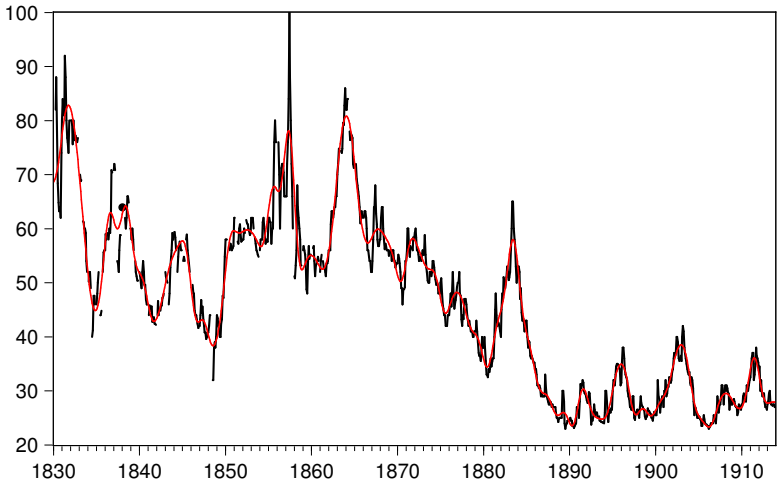

Figure 3.1: Actual and estimated time series of brown cod liver oil 1830-1913

This illustration may be typical of the correlation between the true data and the estimates, but in practice we will of course never know exactly how close the distribution procedure can mimic the true price series. However, the method seems to work sufficiently well to warrant its use here. Please note again that this procedure is only applied to data series for which little or no other intrayear information is available.

3.4 The method of price index construction

The review of data sources for this study highlights the fact that most of the price series must be extracted from publications which are discontinued, incomplete and, in some cases, no longer accessible. This may be typical of many studies in price history. But even if sources are available on a continual basis there will inevitably be numerous cases when a particular data series is discontinued or contains substantial gaps. For many agricultural goods supply conditions may vary according to seasons and crop failures; in general, quality descriptions may be altered and publication practices may change. The problems facing the researchers then is how to put together the bits and pieces of price material at hand to form continuous time series of the commodity prices.

The traditional way of dealing with this problem is to splice the time series at a point in time when there is overlapping information.[21] Applying this method necessitates great care and involves substantial work. If there are many time series and gaps to fill, as is the case with monthly data, this procedure may become virtually impossible to implement.

[21]See for example Kennedy and Solar (2007) and Solar and Klovland (2011) for some recent studies in which this principle is systematically applied.

Given these problems we suggest using a type of index extensively employed in the construction of house price indices, where it is referred to as a *repeat sales* index.[22] When there are no gaps in the data this index is an ordinary chain index. The repeat sales index has been developed for a market where the price of each object is quoted infrequently and at irregular intervals, which typically characterizes the house market. A somewhat similar, but far less extreme situation is typical of our sample. Here, the gaps between the observed price quotations are in many cases much shorter, often of a seasonal nature. However, the problems encountered in splicing and aggregating the individual time series to an overall index are in principle the same, and the repeat sales method can easily take care of this.

Formally, the index is derived from estimating the model

$$\ln(p_{it}) - \ln(p_{i,t-j}) = \gamma_1 D_{i1} + \gamma_2 D_{i2} + \gamma_3 D_{i3} + \ldots + \gamma_t D_{it} + \ldots + \gamma_T D_{iT} + \varepsilon_{it}$$

where p_{it} is the price of a particular commodity i (for example Black Sea wheat) at time t; similarly, $p_{i,t-j}$ is the price pertaining to exactly the same commodity j months earlier; D represents a set of dummy variables that take on a value of 1 at time t, a value of -1 in month $t-j$ when the last price observation of this particular description occurred, and zero elsewhere (so that $D_{it} = 1, D_{i,t-j} = -1, D_{i,t-s} = 0$ for $s \neq 0$ or $s \neq j$); ε_{it} is an error term. The estimates of the vector of γ-parameters can be obtained by standard regression methods. The final stage is then to compute the values X_t of the *repeat sales index* at time t as

$$X_t = 100 \cdot \exp(\gamma_t)$$

and then rebasing all index values in order to establish a base period value of 100.

In order to get an idea of how this method works in practice we may consider a stylized example shown below. Assume that we have collected price observations on three qualities X1, X2, X3 of a certain commodity, say salt, with the purpose of computing a price index (equal to 100 in period 2) for the seven periods shown here.

Period	X1	X2	X3	Index
1	NA	90	NA	100.0
2	100	90	110	100.0
3	NA	92	116	103.8
4	NA	93	NA	104.1
5	NA	NA	117	105.5
6	110	99	121	110.0
7	110	NA	NA	110.0

Because all data series contain gaps (NA observations) the main problem here would be to put together the information from all price series in a consistent way. For period 3 it would be natural to combine information from X2 and X3 which increases by 2.2 and 5.3 per cent, respectively, from period 2.[23] The average increase is 3.8 per cent, which is also what the index formula gives. But for the ensuing periods there is no unique way of splicing these time series, and in practice, with many time series such procedures would not be feasible to handle in a consistent manner.

[22] The method was first launched by Bailey et al. (1963). One of the key house price indices in the United States, the Case-Shiller home price index, is based on this principle. The principles of this index are more fully discussed in Shiller (1993).

[23] These rates of change are computed as continuously compounded rates in order to be consistent with the chain index principle and log specification of the index formula.

The repeat sales method uses a simple least squares regression on time dummies to produce the estimated index values. In line with the chain principle it utilizes information on the rate of change from one period to the next (for example in the case of X2 and X3 from period 2 to period 3). In addition a procedure for searching backward in the sample if the observation is missing in the previous period is applied, using the rate change from any previous period (for example X3 between period 3 and 5 or X1 between period 2 and 6). These rates of change over one or more periods are referred to as transaction pairs.

In this example the actual data that are fed into the regression set looks like this:

Obs. no.	ΔP_k	D_{k1}	D_{k2}	D_{k3}	D_{k4}	D_{k5}	D_{k6}	D_{k7}
1	.095	0	-1	0	0	0	1	0
2	.000	0	0	0	0	0	-1	1
3	.000	-1	1	0	0	0	0	0
4	.022	0	-1	1	0	0	0	0
5	.011	0	0	-1	1	0	0	0
6	.063	0	0	0	-1	0	1	0
7	.053	0	-1	1	0	0	0	0
8	.009	0	0	-1	0	1	0	0
9	.034	0	0	0	0	-1	1	0

The data set consists of the nine transaction pairs that can be formed from the rates of change in the price series. There are seven dummy variables corresponding to the seven time periods.[24]

The first two transaction pairs of price change in the ΔP_k column, which correspond to observations 1 and 2, are extracted from X1. X1 increases by 9.5 per cent between periods 2 and 6 and is unchanged from period 6 to 7. In observation 1 the dummy variable D_2 obtains a value of -1, D_6 a value of 1 and the other dummies a value of zero. Observations 3 through 6 are derived from X2 and the remaining from X3 in the same manner. Running a least squares regression on this data set produces a set of coefficient estimates on the seven dummy variables. Taking the antilog to these estimates, and (arbitrarily) assigning an index value to 100 in the second period gives the index values in the table above.

The repeat sales method can handle gaps in the data series of any length, thus utilizing all information in the data set. Variables observed frequently will exert a stronger influence on the index, simply because there will be more observations in the data set originating from this variable. This is consistent with the view that more weight should be attached to commodity specifications regularly quoted in the market because these are very often the ones most frequently traded. Instead of relying on the price of one single 'representative' commodity, this method makes it feasible to use all available price information, including prices on various commodity descriptions traded in the market to establish the 'representative' price. However, it should be underlined that this procedure lends itself mostly to the lowest level of aggregation, that of a particular commodity, say rye or pig iron, for which explicit weighting of different price observations is less urgent. The relative weights of the various grains and metals should of course still be based on actual production or consumption figures. [25]

Ideally we would like to observe an exact price for an invariant specific commodity description, but this requirement is seldom encountered in practice. Our index methodology makes it

[24] If a constant is included in the regression one of the seven dummy variables must be excluded.

[25] This principle is in line with the view advocated by Flux (1921, p. 178) in his perceptive discussion of price index construction. He drew an analogy between using individual price observations to measure the price level and shots from a rifle against a target: 'When a commodity is of great importance in our economic life, its price-position should have an influence on the index-number such as many shots from the same rifle might have in the case of the target.'

feasible to work with a very detailed commodity classification, and when the underlying price sources permit, we fully exploit all price information there is. In some cases, such as herring, for which we have more than 50 price series (many of which contain data for subperiods only), or for stockfish with 80 series, this procedure ensures that relative price changes from season to season of the various fish qualities are taken into account as far as possible. In some instances we also include price quotations from more than one market place, supplementing the Bergen and Christiania data with information from other towns, in particular as Stavanger and Trondhjem.

In general, the main reason for including a large number of individual price series for a particular commodity is that it produces a price index with fewer gaps. For example, in the case of rye there are 40 market price series, but none of them covers the whole period without gaps. The final price index for rye is nearly complete on a monthly basis for the whole span of 144 years, only during the period 1800-1814 are there a few missing observations in some years.

Finally, it may also be argued that less weight should be attached to observations calculated from rates of change over long periods of time than on changes from adjacent periods, partly because changes in product specifications or other characteristics are more likely to have changed if there are large time intervals between the observations. Following the suggestion of Case and Shiller (1989) a weighted three-step least square procedure which corrects for this is adopted.

3.5 Producer price indices versus wholesale price indices

A price index can be defined as a weighted average of the price change in a group of products between one time period and another.[26] In practice there are several issues that have to be clarified before the construction of the index can begin. These issues comprise among others: which products, which prices and which weights.

The indices constructed here utilize commodity prices only, thus neglecting services. The products may originate from agriculture, fishery, dairying, manufacturing or mining. In principle we want to observe prices at one stage prior to final demand, which traditionally has been referred to as wholesale prices. The material does not lend itself particularly well to measuring consumer or cost-of-living price indices.

In deriving weights for the construction of the indices we distinguish between domestically produced goods sold in the home market, exported goods and imported goods. This distinction concerns the weighting of the indices – it might have been desirable to single out prices of the three types of goods in separate groups, but the underlying price material does in general not allow for this.

By combining these product categories and price level definitions a whole family of indices can be derived.[27] Traditionally *wholesale price indices (WPI)* included both domestic goods (sold at home) and imported goods, while sometimes ignoring exported goods. The first (non CPI) price index launched by Statistics Norway in 1924 was explicitly constructed in this way.[28]

Producer price indices (PPI), on the other hand, focus on prices obtained by domestic producers, thus including domestic, and, as an option, also exported goods, excluding imported goods altogether. It is also feasible to construct an index for the total supply of goods (*TPI*): domestic, exported and imported goods.[29]

The following types of indices will be considered here, using the abbreviations *DOM* for domestic goods (sold in the home market), *EXP* for exported goods and *IMP* for imported

[26] IMF (2004, p. 66).

[27] See IMF (2004, pp. 61 - 72) for a useful discussion of these issues.

[28] Wedervang (1924).

[29] This was actually the principle underlying the weights used for the British price index constructed by Flux (1921). Earlier price index studies were typically computed as unweighted averages, only implicitly reflecting the 'importance' of each good.

goods :

- **PPI:** producer price index (*DOM, EXP*)
- **WPI:** wholesale price index (*DOM, IMP*)
- **TPI:** total supply price index (*DOM, EXP, IMP*)

We use these labels extensively for reference here, acknowledging that they may differ somewhat from the present use of these terms. The concept of wholesale price (*WPI*) indices, which has a long tradition in the literature on historical price indices, has a modern counterpart in price indices of first-hand sales. The present producer price (*PPI*) indices usually measure prices net of sales taxes. In our case the information required to distinguish between output prices net of taxes and final market prices may be difficult to obtain; hence, market prices are used throughout. However, it only concerns a few goods subject to excise taxes, notably alcohol. There was no uniform sales tax in this period. In the nineteenth century there was a small tax on the export of wood, which has been deducted.

Tables A2 and A3 of the appendix report time series of all these indices.

3.6 Aggregation and commodity weights

There are three levels of aggregation involved in constructing the indices. The first level involves aggregating all price information to indices for 110 commodities. For many commodities there are prices of several product qualities as well as quotations from different market places. This is done by using the repeat sales method described above. For example, in the case of rye, a time series regression was run over the whole sample period 1777-1920, using information on all transaction pairs that can be computed for the 45 rye descriptions in the sample. There is only an implicit weighting involved here, following from the fact that the descriptions with the greatest number of observations are the most influential ones in determining the coefficient estimates.

The next step involves aggregating the 110 individual commodities into 16 commodity groups. At this stage weights reflecting each commodity group's market shares are being used, implying different weights for the three main indices TPI, WPI and PPI defined above.

Considering the fundamental changes in industrial structure and consumption patterns over the 144 years covered by this index commodity weights ought to be changed over time. The sample has been divided into four subperiods, with benchmark years for the index weights in 1835, 1870, 1890 and 1910. The choice of 1835 as the first year is dictated by the availability of reasonably complete foreign trade statistics. Separate indices are computed for the four overlapping subperiods 1777-1839, 1830-1879, 1870-1899 and 1890-1920. The subperiod indices are then spliced together in the years 1839, 1879, 1899 and 1913.

The estimates of import and export values are straightforward for the last three subperiods. For the year 1835, however, the foreign trade returns only give figures for quantities exported and imported. The price data collected here were then used to backcast the export and import prices from the 1870 trade return to 1835.

Estimating the market value of domestic output of the various goods is much harder, though. In a few cases, mostly for the more recent benchmark years, reasonably exact figures could be taken from output estimates published by Statistics Norway.[30] In many cases output estimates

[30]The most useful publications are (NOS numbers in parentheses): Industrial production statistics of 1909 (V 50) and 1916 (VII 49); Agricultural statistics 1886-1890 (III 217) and 1906-1910 (V 196); Mining statistics 1866-1870 (1C no. 12), 1889-1890 (III 165) and 1910 (V 159). The summary estimates in *Statistiske oversiketer 1948* (X 178) are also quite helpful.

for 1910 or later years had to be extrapolated backwards, sometimes by using related information, such as acreage sown or the number of livestock combined with slaughter weight. In other cases little relevant information was available and figures had to be stipulated on the basis of export shares, reasonable growth rates between benchmark years as well as pure guesswork. Output values of domestic goods are not supposed to be estimated with much precision, the intention is merely to obtain a reasonable set of weights for the construction of the indices.

A further problem concerns the proportion of domestic agricultural output which was brought to the market, for example in the case of hay and butter. It was assumed that in the early years a larger share of the output was consumed at the farms. Some corrections for this was attempted, but these calculations are also subject to great uncertainty.

Relative weights for each commodity within the group is computed as follows: The commodity with the greatest market value is given a load of 10 and the other commodities are scaled proportionately according to this, using rounded integer load values, subject to the constraint that all time series for which there are data get a load factor of at least one. For example, in the case of the WPI index for grain (group A) the load factors for the second subperiod 1830-1879 using 1870 weights are (percentage shares in parentheses): barley 10 (34), rye 9 (31), wheat 1 (3), wheat flour 1 (3), rye flour 5 (17), barley flour 3 (10), rolled oats 0 (because data for the latter commodity are missing in this subperiod). The weights are tabulated in the appendix.

Finally, in stage three it is feasible to apply the aggregated commodity weights for each of the 16 groups directly to the group indices to obtain the aggregate indices for each of the four subperiods, then splicing these as explained above to render continuous indices for the whole sample period.[31]

In summary, the weighting procedure runs as follows: At stage one indices for each of the 110 commodities (say, rye, barley, wheat etc.) are formed by the repeat sales method. This method involves piecing together the individual data series on each commodity in an efficient way to form an index series by using all available price information. In this way a consistently measured index for individual prices with a minimum of gaps is produced, but there will still be gaps in the index if there are no observations for a particular month.

These time series are then aggregated to 16 commodity groups (say, grain, meat etc.) by applying weights based on the market shares of each good in domestic production (for home use), exports and imports. These weights will differ according to the particular price index version chosen, being either the total supply price index (TPI), wholesale price index (WPI) or producer price index (PPI). The technical aspects of the aggregation procedure involves seasonally adjusting each commodity price index, interpolating along a log-linear trend to fill any gaps within the range of the series, then accumulating weighted continuously compounded one-period growth rates (differences of logarithmic values) and, finally, applying the exponential operator and rebasing the series to take on the value of 100 in a chosen base year and month.[32]

Also note that only missing values *within the range* of the commodity group series in each subperiod, for example 1777 - 1839, were interpolated. Using coffee as an example, we note that the data series begin in October 1825; data were missing for 11 out of the 171 observations 1825 - 1839 and these were consequently interpolated in the aggregation procedure. The price indices for individual commodities and commodity groups, such as coffee and colonial goods (series E4 and E of Table A2-3 in the appendix), are presented in original form, before filling the gaps in

[31] A minor adjustment in the form of rebasing the weights must be made in the case of the chemicals (group O) index, which only exists in the final subperiod.

[32] For the seasonal adjustment method (X11) to work there can be no gap in the time series. The interpolation procedure thus had to be applied before seasonally adjusting the time series. It can be argued that this way of handling the problem may slightly distort the seasonal adjustment procedure, but it does not seem feasible to do this otherwise. After having derived the seasonally adjusted time series the log-linearly interpolated values, corresponding to the missing values, were substituted for the seasonally adjusted observations.

the data series.

The problems caused by missing observations are not considered to be grave when these are few and far between. In periods when data are missing for several years within the defined range of the commodity groups the distortions to the aggregate indices may be more serious. The colonial goods group (E) in the period 1849 - 1860 is an example of this. The effect is likely to make the aggregate indices somewhat smoother than the actual course of prices.[33] Such cases are chiefly a problem of the pre 1861-period only, in particular before 1830 and in the 1850s; after 1860 there are few instances where this plays any major role.

[33]Also note that this example affects the TPI and WPI indices only, where the weights of the colonial goods group E are 3.9 and 5.3 per cent, respectively in this subperiod. It does not affect the PPI index since there was no home production of these goods.

4 A review of prices 1777-1830

After the relative tranquil exchange rate environment of the last quarter of the eighteenth century, the first three decades after 1800 present a marked contrast. These years were a period of extreme instability in currency values in Norway. Excessive inflation and a strongly depreciating currency necessitated two major currency reforms, one in 1813 and one 1817. The value of the new *speciedaler* currency introduced in 1817 was not undermined by a reckless monetary policy, as had been the case in the previous currency regimes, but still the exchange rate against silver fluctuated wildly until the late 1820s.[34]

The currency reforms and the inflationary periods present some problems for drawing a consistent picture of the true price movements in these years. A bird's eye view of the exchange rate development is presented in Figure 4.1, which shows monthly values of the exchange rate against the fixed silver valued currency Hamburg banco for the period 1777 - 1830. Annual averages of the exchange rates against Hamburg and London are shown in Table 4.1. The Hamburg exchange rate is to be read as the number of domestic currency units needed to buy 100 Hamburg banco, thus increasing values imply a depreciating Norwegian currency. The exchange rate series has been spliced according to the principles laid out below in order to obtain a consistent picture of the silver value of the currency. The primary market quotations are in *rigsdaler (Danish) courant* through January 1813; thereafter in *rigsbankdaler*. As from February 1817 the curve shows actual market values of the speciedaler; prior to this date it shows exchange rate values equal to a backcasted hypothetical speciedaler. The par value is equal to 100, which the speciedaler obtained in 1842.

Between 1777 and 1813 the Danish-Norwegian currency, *rigsdaler (Danish) courant*, was the legal tender in Denmark-Norway. The par value against Hamburg banco was 125, before 3 December 1794 122.5.[35] In January 1800 it was quoted at 138, or about 10 per cent below par.[36] The rigsdaler depreciated slightly over the ensuing years, but not by more than a few per cent; it was quoted at 144.5 in January 1808. From then on the rate of depreciation increased considerably, approximately halving the currency value in terms of silver in each of the years 1811 and 1812. In January 1813, when the new currency, the *rigsbankdaler* was introduced, the old rigsdaler courant was quoted at 1750 in Bergen, posessing less than 10 per cent of its original value. The data in Table 4.1 show that a domestic merchant would have to give up about 94 times as much in nominal domestic currency in 1817 compared to 1800 in order to buy one hundred Hamburg banco. As will emerge from the presentation of the price series below, fluctuations of the same order of magnitude are reflected in the commodity price series as well.

What matters for the splicing of prices quoted in the new and the old currency is not the silver value of the currencies, however, but information on the currency in which prices were quoted and the conversion ratio between the two currencies.[37] In 1813 the conversion ratio between the old and the new currency was set at six rigsdaler courant per rigsbankdaler. Thus prices quoted in the old currency have to be multiplied by 1/6 (0.1667) to be consistent with those quoted in the new rigsbankdaler. If prices had continued to be quoted in both old and

[34] In fairness to the bank directors it should be borne in mind that the Rigsbank operated under extremely difficult conditions. Severe harvest failures, an endemic credit crunch and forceful political pressure to contribute to state finances were almost inevitably bound to result in a huge monetary expansion. See e.g. Rygg (1918, pp. 38-62). For a review of the main events of the currency history see Rygg (1918), Kristiansen (1925) and Keilhau (1952).

[35] Rygg (1918, p. 21).

[36] Another source of actual currency movements in this period are the Bergen quotations in Coldevin (1938, pp. 106-113).

[37] There was for a time a tradition in Norwegian economic history of converting all nominal prices to silver values in this period. This blurs the price history and significantly mars the otherwise useful price material in Solhaug (1983).

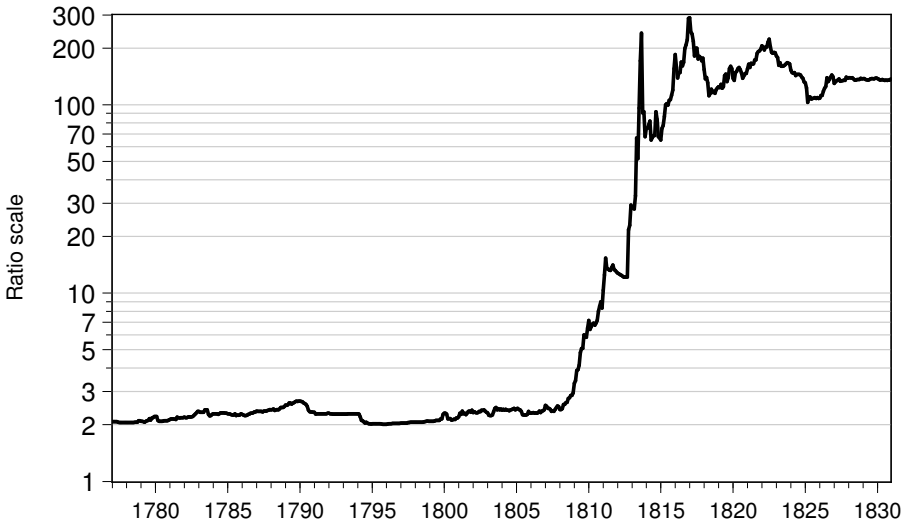

Figure 4.1: Nominal exchange rate against Hamburg banco, 1777-1830.

new currency units some ambiguities might have arisen in the price index calculations,[38] but in our Bergen sources the transition from the old currency to the new one is clear-cut once it was introduced.[39]

[38]In Sweden there are examples of competing currencies being used simultaneously, which may require separate indices for different currencies, see Edvinsson and Söderberg (2010) for an example of this approach.

[39]There is in fact one exception here taking place in August 1815, when prices were given in the old rigsdaler courant. For example, the price of Nakskov (Zealand) barley was 20 rigsbankdaler (new currency) in July and September, but 120 rigsdaler courant (old currency) in August. This reflects exactly the conversion ratio of 6 to 1 between the old and the new currency.

Table 4.1. Exchange rates against Hamburg and London. Annual averages 1777 - 1819.

	Reichstaler Hamburg banco			Pound sterling		
Year	Rigsdaler DC	Rigsbankdaler	Speciedaler	Rigsdaler DC	Rigsbankdaler	Speciedaler
1777	123.7	20.62	2.062	4.95	0.82	0.082
1778	123.7	20.62	2.062	5.15	0.86	0.086
1779	127.2	21.20	2.120	5.49	0.91	0.091
1780	127.0	21.16	2.116	5.38	0.90	0.090
1781	129.7	21.61	2.161	5.17	0.86	0.086
1782	133.6	22.26	2.226	5.27	0.88	0.088
1783	139.3	23.22	2.322	5.48	0.91	0.091
1784	137.6	22.94	2.294	5.76	0.96	0.096
1785	135.8	22.64	2.264	5.88	0.98	0.098
1786	136.9	22.81	2.281	5.82	0.97	0.097
1787	141.9	23.64	2.364	6.04	1.01	0.101
1788	145.8	24.30	2.430	6.28	1.05	0.105
1789	156.5	26.08	2.608	6.76	1.13	0.113
1790	149.9	24.98	2.498	6.51	1.08	0.108
1791	137.4	22.89	2.289	6.03	1.00	0.100
1792	136.9	22.82	2.282	5.76	0.96	0.096
1793	137.2	22.86	2.286	6.09	1.01	0.101
1794	126.2	21.03	2.103	5.50	0.92	0.092
1795	121.1	20.19	2.019	4.88	0.81	0.081
1796	121.7	20.28	2.028	4.96	0.83	0.083
1797	122.9	20.49	2.049	5.43	0.91	0.091
1798	124.2	20.70	2.070	5.68	0.95	0.095
1799	127.1	21.19	2.119	5.45	0.91	0.091
1800	130.9	21.82	2.182	5.05	0.84	0.084
1801	138.6	23.09	2.309	5.30	0.88	0.088
1802	140.8	23.47	2.347	5.66	0.94	0.094
1803	140.9	23.49	2.349	5.81	0.97	0.097
1804	144.2	24.03	2.403	6.21	1.04	0.104
1805	139.8	23.30	2.330	5.91	0.98	0.098
1806	139.9	23.31	2.331	5.78	0.96	0.096
1807	146.5	24.41	2.441	6.17	1.03	0.103
1808	159.2	26.53	2.653	6.80	1.13	0.113
1809	289.3	48.22	4.822	10.73	1.79	0.179
1810	443.2	73.88	7.387	16.67	2.78	0.278
1811	793.8	132.31	13.231	24.72	4.12	0.412
1812	926.3	154.38	15.438	32.03	5.34	0.534
1813	4964.8	827.47	82.747	167.47	27.91	2.791
1814	4444.8	740.79	74.079	168.05	28.01	2.801
1815	6022.3	1003.72	100.372	233.45	38.91	3.891
1816	10955.7	1825.95	182.595	478.75	79.79	7.979

Table 4.1. Exchange rates against Hamburg and London. Annual averages 1777 - 1819.

	Reichstaler Hamburg banco			Pound sterling		
Year	Rigsdaler DC	Rigsbankdaler	Speciedaler	Rigsdaler DC	Rigsbankdaler	Speciedaler
1817	12250.1	2041.69	204.169	517.57	86.26	8.626
1818	7506.5	1251.09	125.109	305.18	50.86	5.086
1819	8273.1	1378.85	137.885	351.95	58.66	5.866

NOTE: The primary exchange rate quotations were in *rigsdaler Danish courant (DC)* before March 1813; thereafter in Norwegian *rigsbankdaler* until February 1817, when the *speciedaler* was introduced. The rates shown here have been calculated on the basis of these primary quotations according to the official conversion rates of six rigsdaler DC to one rigsbankdaler, and ten rigsbankdaler to one speciedaler. *Sources. Hamburg banco: January 1777 - January 1813.* Copenhagen on Hamburg, primarily short sight, from Denzel (1999), supplemented by data from Denzel et al. (2006) on the inverse rate Hamburg on Copenhagen April 1809 - April 1811. *February 1813 - April 1815.* Norwegian rigsbankdaler as quoted in Bergen from Coldevin (1938, pp. 112-113) supplemented by data in Rygg (1918, pp. 376-377), which are taken from various domestic sources. *May 1815 - March 1819.* Computed indirectly from Norwegian rigsbankdaler quoted in Copenhagen and the short exchange rate on Hamburg in Copenhagen, averages of one to eight observations per month. These quotations are from market reports published in *Den Norske Rigstidende. April 1819 - December 1819.* Direct quotations on Hamburg (short) on Christiania Bourse, from Klovland (2004). *Pound sterling: January 1777 - August 1808.* Copenhagen on London, 2 months' sight, from Denzel (1999). *September 1809 - January 1813.* Copenhagen on London indirectly via Hamburg. The underlying data are from Denzel et al. (2006). *February 1813 - April 1815.* Norwegian rigsbankdaler indirectly on London via Hamburg. The rate on Hamburg as calculated above, London on Hamburg from Denzel et al. (2006). *May 1815 - March 1819.* Computed indirectly from Norwegian rigsbankdaler quoted in Copenhagen and the exchange rate (2 months' sight) on London in Copenhagen, averages of one to eight observations per month. The underlying data are from market repports published in *Den Norske Rigstidende. April 1819 - December 1819.* Direct quotations on London (short) on Christiania Bourse, from Klovland (2004).

The city brokers in Bergen began quoting prices in rigsbankdaler in March 1813.[40] The figures below show the prices of various grains quoted in the old currency on 27 February, the implied price in the new currency using the conversion ratio of six to one, and, finally, the prices quoted in riksbankdaler on 6 March.

	27 February rigsdaler courant	27 February converted price	6 March rigsbankdaler
Rye	130	21.7	25.0
Barley Zealand	100	16.7	15.0
Barley Jutland	90	15.0	14.2
Oats	80	13.3	13.3
Peas	120	20.0	20.0

The price quotations for 6 March show that one of the prices (rye) is higher than the conversion ratio implies, two are lower (both barley prices) and two match exactly. Allowing for the fact that prices may have changed during the week, this comparison presents fairly strongly evidence that there will be no discontinuity in price quotations using the six to one conversion ratio.

The riksbankdaler depreciated even faster than the currency it replaced. By the winter of 1817 it had been reduced to about ten per cent of the silver value it contained in January 1813. The Norwegian Parliament had taken a decision in June 1816 to establish a new currency, the speciedaler, which was to be introduced in conjunction with the new central bank, Norges Bank, beginning its operations. The official conversion ratio was fixed at ten to one.

We find the first price quotations in speciedaler in the minutes of the Bergen brokers on 7 February 1817. It is quite evident that prices in the new currency were roughly fixed at the official conversion ratio. Prussian wheat was quoted at 200 rigsbankdaler on 24 January and 21 speciedaler on 7 February. The corresponding quotations for rye were 145 and 15, respectively.

The bulk of the price material available for the period from May 1777 to 1830 originates from the Bergen brokers' quotations and the Nordland Price Current. Prices of grain (including peas, oats and malt), fish, fish oil and salt are well represented here, and there are useful data on spirits, skins, tar, iron and flax and hemp. The price material from the Bergen Price Current is very complete until the year 1800, but in the following years many goods were no longer quoted, particularly after about 1803. Finally, it should be noted that market prices of meat, butter, and colonial goods (except tobacco) barely exist prior to 1825. We start by reviewing some of the main price index series for the period 1777-1830, leaving a more detailed discussion of some commodity groups to the next period.

4.1 Grain

Danish barley as well as rye and wheat from the Baltic and Denmark were actively traded on the grain market in Bergen throughout most of the period. The exception is the period from May 1813 to April 1814 when the political turmoil impeded trade flows. The price indices of these grains are shown in Figure 4.2. Because of the enormous rise in prices over this period we use the same ratio scale in the graphs as in the case of the currency. Index values in January 1800 have been set equal to 100.

[40] The following data are taken from the minutes of the city brokers (*stadsmeglerne*) in Bergen covering the years 1812-1828. The February price of peas is as of 13 February, which was the last quotation of the month; the March price of Jutland barley is dated 13 March.

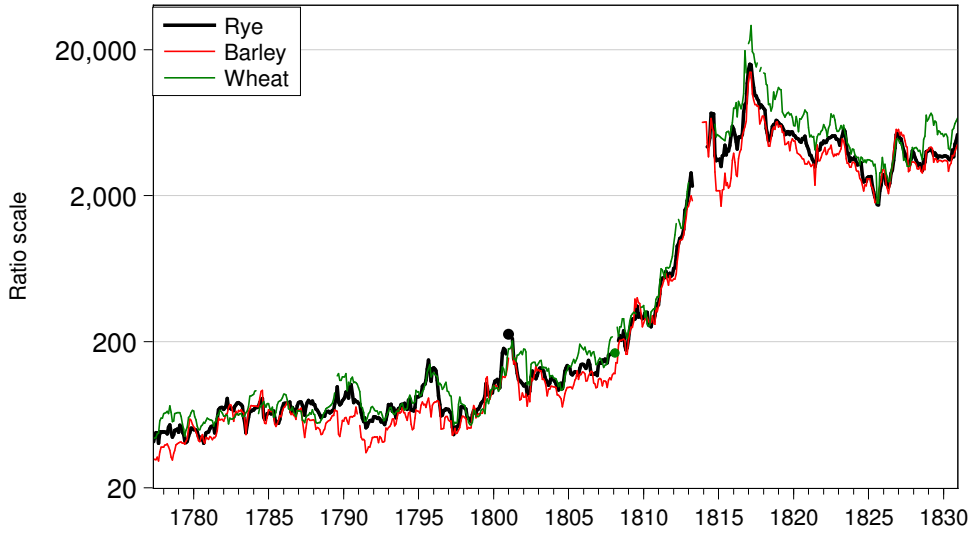

Figure 4.2: Grain price indices 1777-1830. January 1800 = 100.

It is evident that the behaviour of grain prices followed much the same general pattern as the currency value. There were several marked grain price cycles prior to Napoleonic wars, with notable peaks in prices in 1782, 1790, 1795 and 1801. The trend of the grain price level drifted upwards over time, but the rate of increase was rather modest. The great surge in prices started about 1808, culminating in the winter of 1817, as did the exchange rate. When barley and rye prices peaked in February 1817 they had recorded a 159- and a 140-fold increase over the January 1800 level, respectively; wheat prices were 293 times higher than the 1800 level when they peaked a month later. The exchange rate recorded a 95-fold increase over the same period.[41]

In line with the currency appreciation prices then fell considerably over the ensuing years, probably reflecting both international grain price cycles and trend changes in the international value of the speciedaler. In 1818, the year in which the speciedaler appreciated from 204 to 125 against Hamburg banco grain prices fell exactly in the same proportion.[42] Such a close link between currency values and grain prices is not recorded every year, but there is little doubt that for example the marked decrease in grain prices in 1825 is much influenced by the strongly appreciating exchange rate. Towards the end of the 1820s grain prices settled at a fairly stable long-term level, which represented a 55-fold increase on the 1790 level, which is also the approximate order of magnitude of the currency depreciation.

4.2 Fish

The export of fish was one the three pillars of the foreign trade of Norway in the nineteenth century, the other ones being timber and shipping. Estimates made by Brautaset (2002) show that gross export revenues from these three trades were equally large in 1830, each accounting for about 30 per cent of total exports.

We have exceptionally good fish price quotations from Bergen from the beginning of our

[41] Changes in foreign grain prices may of course contribute to a discrepancy between these two ratios.
[42] See Table 4.1 above and Table A2-1 of the appendix.

sample period in 1777, but the sources become somewhat more patchy after the turn of the century, and in particular for some years after 1812. Some of the main fish price indices are shown in Figure 4.3. They show the same general pattern of a marked level shift in prices, so that by 1830 fish prices were 48 times higher than in 1800. But unlike most other price series there is a fairly sharp decline from about 1805 to 1808 in the fish price index. In 1807 Norway found itself seriously entangled in the grand European conflict, being at war with both Sweden and Britain.[43] The foreign trade suffered badly from the naval blockade imposed by Britain, which must have played a substantial role in depressing prices on export goods.

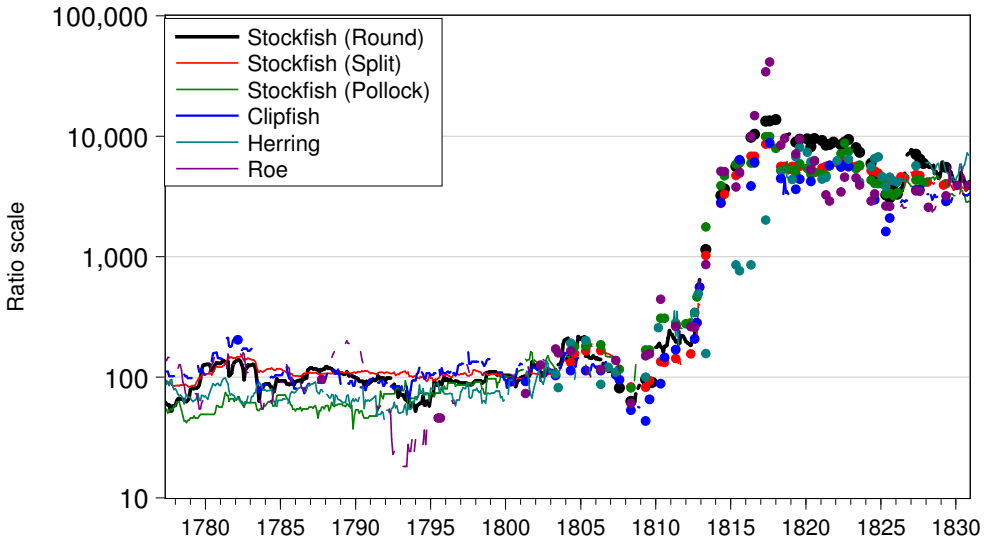

Figure 4.3: Fish price indices 1777-1830. July 1800 = 100.

Stockfish was the most important fish product exported in this period. Very detailed data exist for a number of stockfish qualities. Separate indices have been computed for the three main types of stockfish: round fish (*rundfisk*), split (*rotskjær*) and pollock (*sei*). Relative prices of these types of stockfish tended to show large swings, as did their quantitative importance, which makes it useful to consider them separately. Another main fish product, which later was to become more important than stockfish, is clipfish (salted and dried cod). We note that prices of stockfish and clipfish broadly followed the same pattern over this period.

Herring prices are well represented in the sources before 1800, but then their appearance becomes rather patchy and uncertain in the early years of the nineteenth century, perhaps reflecting the fact that the herring export trade was not particularly important prior to about 1818. Thereafter it expanded rapidly, increasing from about 100 000 barrels in 1815 to about 400 000 barrels in 1828.[44] Herring prices seem to have fallen much below other fish prices in the years 1815-1817, but in the 1820s the relative prices of herring are once again back at the level of the early 1800s.

Roe was a minor item in the fish export trade. The sale of roe was entirely dependent on the demand for bait in the French sardine fisheries, and it was often subject to large price swings. During the revolutionary period in France the price of roe fell dramatically; in 1793 the price was

[43]For a brief overview of the economic consequences of the war for Norway see Hodne and Grytten (2000). For an international survey of the economic impact of the Napoleonic Wars, see O'Rourke (2006).

[44]Solhaug (1983, pp. 358-359).

only about 12 percent of the 1789 price. In 1817, as can be seen form the outliers in Figure 4.3, the price fluctuations were more violent than ever. It reflects a well known episode of speculative behaviour in the roe trade, referred to as the 'Thrane peak'.[45] David Thrane was a director of the *Rigsbank*, the predecessor of Norges Bank, which was created by the Danish-Norwegian government in 1813 in a vain attempt to restore currency stability. Like the bank's actions in the currency market, the bank director's dispositions in the roe market proved to be an utter failure; furthermore, the roe speculations did not only ruin the bank director, but it was also costly for the nation, because the funds used in the speculative activities had been embezzled from the Rigsbank's coffers.

4.3 The major export goods

Whereas export prices of fish are relatively easily accessible in the early decades the reverse is true for wood prices. In the latter case the fact is that virtually no useful and systematic information on domestic prices of deals and boards is forthcoming. In order to get some notion of the development of wood prices, which was one of two major pillars of the Norwegian export economy, we have to take an indirect approach. Market prices of Norwegian deals in London form the basis for this procedure, which also takes into account the timber duty paid in the UK, commission, handling costs and charges in London as well as the rate of freight between Christiania and London.

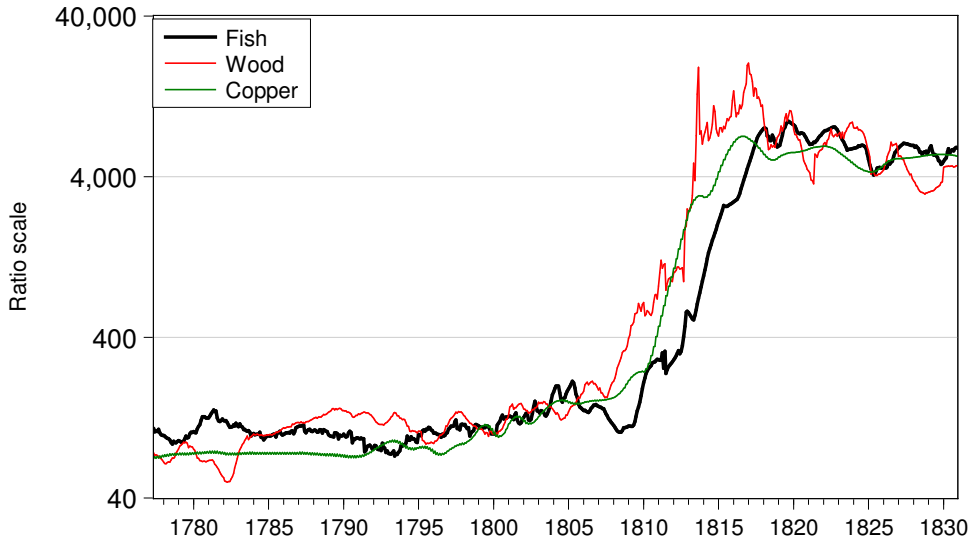

Figure 4.4: Price indices of export goods 1777-1830. January 1800 = 100.

This information produces an estimated pound price of the cost of deals at Christiania. This price can then be converted to domestic currency at the going exchange rate against pound sterling. Finally, the export duty on timber, port and lighthouse charges in Christiania have to be deducted in order to arrive at a net export price. Except for duty rates each of these components do carry some elements of uncertainty, which makes it imperative to stress that the wood price series must be considered as indicative only. The details of the construction can be found in section 5.10 below.

[45] Solhaug (1983, pp. 632-634).

Figure 4.4 brings together price indices of the two major export goods, fish and wood. Also shown is the price of copper, a well established Norwegian export product, but of considerable less importance than fish and wood. In the early years the price cycles differ quite much. Fish enjoyed a period of high prices around 1781, and some weakness during the first part of the 1790s, but were in general quite stable before the turn of the century. Wood prices were weak in the early 1780s, but recovered markedly thereafter. Copper prices were virtually constant until the final years of the century.

The graph shows that there is a striking contrast between fish and wood prices from about 1807 to 1818, the most troubled period with respect to foreign trade. Although wood prices were far more buoyant than fish prices the fact that the shipment of wood cargoes to the British market almost came to a standstill for long periods of time should be duly taken into account. Price quotations on at least one type of Christiania deals can be found for every year in this period, even in 1813 and 1814, although they may have been largely nominal as few timber cargoes arrived. [46]

The price of copper shows a time profile over the 1807 - 1818 period which in most years was placed between prices of fish and wood. About 1818 the prices of all three export items converged to very much the same relative level as in the early 1800s. We note a rather distinct dip in wood prices in 1821. In 1825 both fish and wood prices fell markedly. Fish prices recovered in the following years, but wood prices showed considerable weakness from 1827 and throughout the 1820s.

[46] See Warburton (1835, p. 384) for import figures of timber, deals and battens from various countries into Britain.

4.4 Other domestic goods: oats, fish oil, iron and goat skins

In Figure 4.5 we find price indices of oats, fish oil, iron and goat skins. All these goods were produced at home, although there were substantial imports of oats and iron as well. In the early years prices of oats were drifting upwards, as was the case with the other grains shown above. The price indices of fish oil, iron and goat skins were quite stationary before the war period. All these prices show the typical pattern involving a great increase between 1807 and 1817 and a slight decline during the 1820s. The behaviour of fish oil prices is somewhat similar to fish prices, however, exhibiting marked weakness in the years 1805-1809, which is attributable to the same export market impediments. Fish oil prices also show great fluctuations in the 1820s, being particularly low in the middle of the decade.

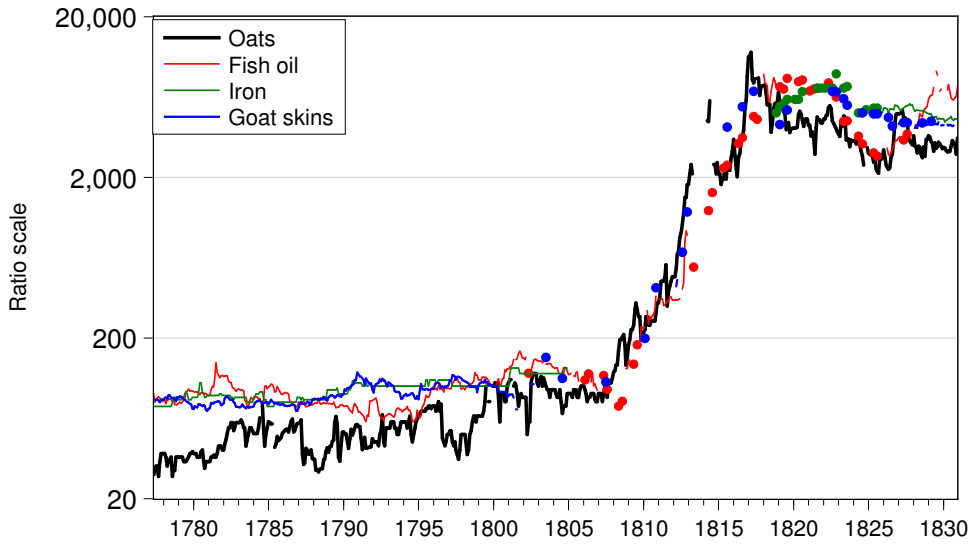

Figure 4.5: Price indices of various domestic goods 1777-1830. January 1800 = 100.

Both domestic and Swedish bar iron were traded on the market, obtaining very much the same prices in this period. In the 1820s, when more regular price quotations become available again, the price fluctuations are fairly mild.

4.5 Various imported goods: salt, peas, hemp and flax

These goods, shown in Figure 4.6, were typical examples of imported goods. The prices of peas moved much in line with grain, whereas textile prices were quite stable before 1800. Salt was a main input for the fish export trade. A noteworthy feature of the salt price index is the marked rise from about 1807, just as the prices of the main export product plummeted.

The price of peas behaves very much like grains, including oats, in general. Flax, from which linen goods were made, and hemp were important textile raw materials in this period. As for most other goods the underlying price material is quite thin between the early 1800s and the 1820s, but the information here points to a similar and fairly typical course of textile prices.

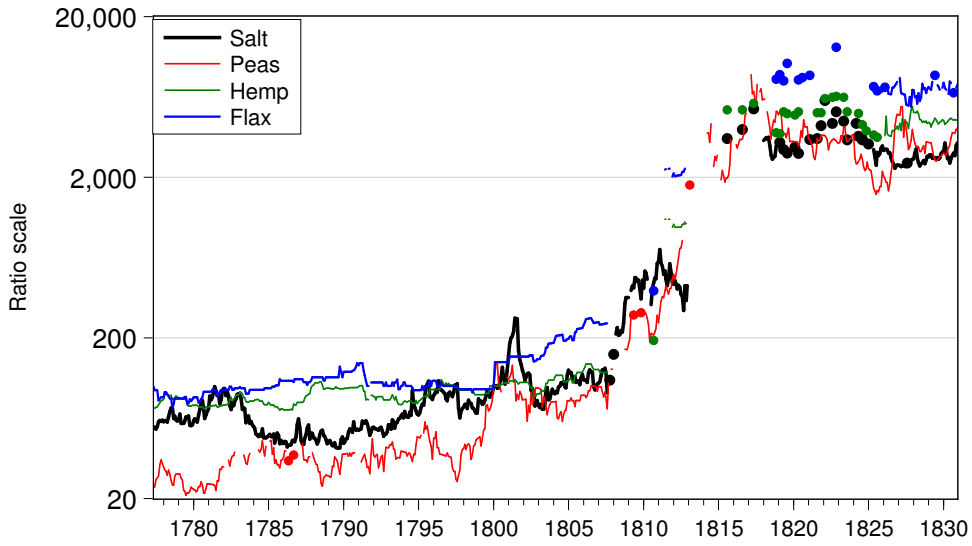

Figure 4.6: Price indices of various imported goods 1777-1830. January 1800 = 100.

4.6 Alcohol and tobacco

We have no data for the major colonial goods, such as coffee and sugar, until 1825, but there is information on the prices of alcohol and tobacco and excellent data for malt. Grain spirits for nationwide market sale was produced in some major towns, primarily Christiania, Trondhjem and Moss. In addition, spirits from Altona and more expensive French grape spirits (Bordeaux in particular) were imported. A price index of spirits is shown in Figure 4.7 together with an index of prices of Virginia leaf tobacco. The tobacco price was high in the late 1770s and the first part of the 1780s, but thereafter there was no discernible trend in either malt, spirits or tobacco prices until well into the nineteenth century.

Although very patchy after about 1806, it seems that prices of spirits and tobacco behaved in much the same way, as did malt, for which we have good data for most of the period. The group price index for alcohol and tobacco may therefore seem to be a valid representation of the price behaviour of these goods, even though the underlying price material is weak.

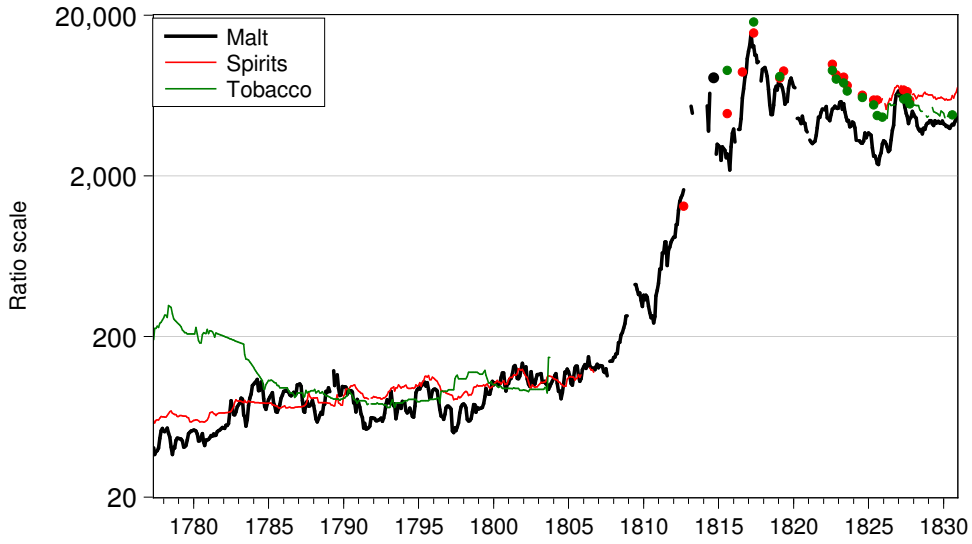

Figure 4.7: Price indices of beverages and tobacco 1777-1830. January 1800 = 100.

5 A review of prices 1830-1913

5.1 (A) Grain and flour

The nineteenth century grain trade in Norway was dominated by barley and rye. In contrast to many other European countries wheat played a fairly insignificant role. There was a relatively large domestic production of oats, and occasionally some exports, but it appears that it played a somewhat lesser role in the national grain trade compared with barley and rye, presumably being to a greater extent sold in local markets and used for direct farm consumption.[47]

Table 5.1 gives some information on domestic production and imports of grain that may shed some light on the grain trade. Barley was the most important type of grain in most of the nineteenth century (disregarding oats in these comparisons), but towards the final decades of the century rye clearly evolved as the leading bread grain in Norway. We note the low share of wheat throughout the pre-WWI period. It was only during the war years and thereafter that wheat came to play a more prominent role in the grain trade proper, i.e. excluding flour. Considerable quantities of rye flour and wheat flour were imported, the latter mainly from the 1870s only.

Table 5.1. Domestic production and imports of grain. 1000 tons

	Rye	Barley	Wheat	Oats
1835				
Domestic production	7.6	44.2	1.1	85.6
Imports	28.1	39.2	4.4	0.4
Total supply	35.7	83.5	5.5	86.0
Percentage share	17.0	39.6	2.6	40.8
1865				
Domestic production	17.1	80.8	7.6	137.7
Imports	79.3	51.5	3.9	0.0
Total supply	96.4	132.3	11.5	137.7
Percentage share	25.5	35.0	3.0	36.4
1890				
Domestic production	24.0	107.7	7.2	182.3
Imports	212.2	63.1	44.5	3.1
Total supply	236.2	170.8	51.7	185.4
Percentage share	36.7	26.5	8.0	28.8
1910				
Domestic production	22.8	70.5	8.1	186.6
Imports	214.9	120.4	22.4	14.1
Total supply	237.6	190.9	30.4	200.6
Percentage share	36.0	28.9	4.6	30.4

NOTE: The data are taken from *Statistiske oversikter 1948*, pp. 72 and 190, Statistics Norway (NOS X 178)

[47] Oats is included here for comparative purposes, but as it was mainly used as fodder it belongs to commodity group H, to be discussed below. Rolled oats, which is basically intended for human consumption, is included here in group A.

Bergen was the leading port of grain imports in the nineteenth century. In 1835 more than twice as much rye and barley was unloaded in Bergen than in Christiania. For barley the relative positions was very much the same throughout the century, but with respect to rye Christiania temporarily rose to the level of Bergen towards the end of the century. By 1913 Bergen was again importing twice as much grain as Christiania.[48]

These facts indicate that we should look to Bergen as the main market for foreign grain. This is also where we find the richest source material for our grain price quotations. For rye and barley there are excellent data from the Bergen grain market throughout the period. The data series from Christiania are less complete, particularly in the 1850s and 1860s. Market price quotations of wheat are much harder to come by, and from the early 1870s practically none exists at all. The only source of information in this case is the annual import statistics.

Figure 5.1 graphs four key rye price series in Bergen and Christiania. For the period up to the early 1880s Baltic rye was most important; thereafter the bulk of the supply came from the Black Sea.[49] As is evident from the graph, rye prices in Bergen and Christiania moved closely together, indicating a well integrated market for grain in Norway during this period. This feature is particularly striking from the 1880s onwards, when prices of Black Sea rye are virtually identical in the two cities.

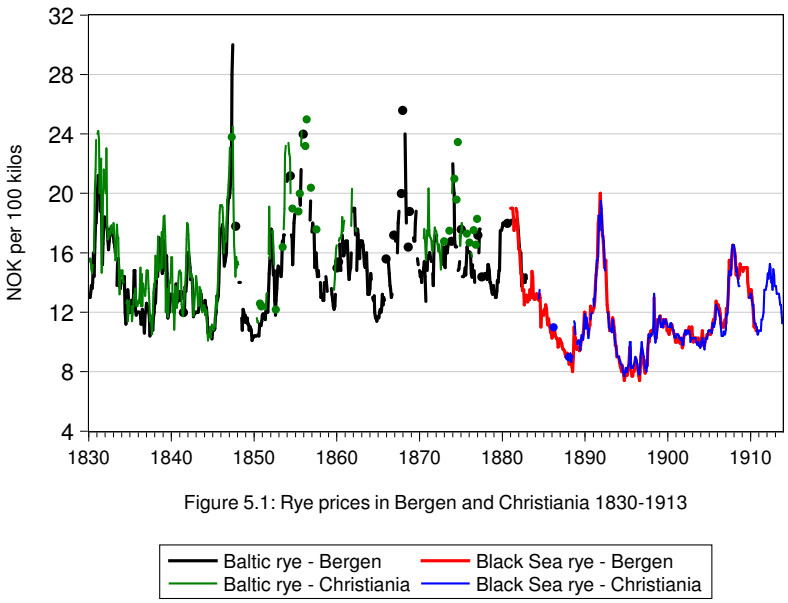

Figure 5.1: Rye prices in Bergen and Christiania 1830-1913

[48]These figures are taken from various issues of the foreign trade statistics, *NOS Norges Handel*.

[49]For Bergen the prices of Danzig and Königsberg rye are shown, for Christiania the specification is only Baltic. But these price series are quite comparable, because the price fluctuations of the other main source of Baltic rye, Mecklenburg and Pomerania, were very close to those of Danzig and Königsberg.

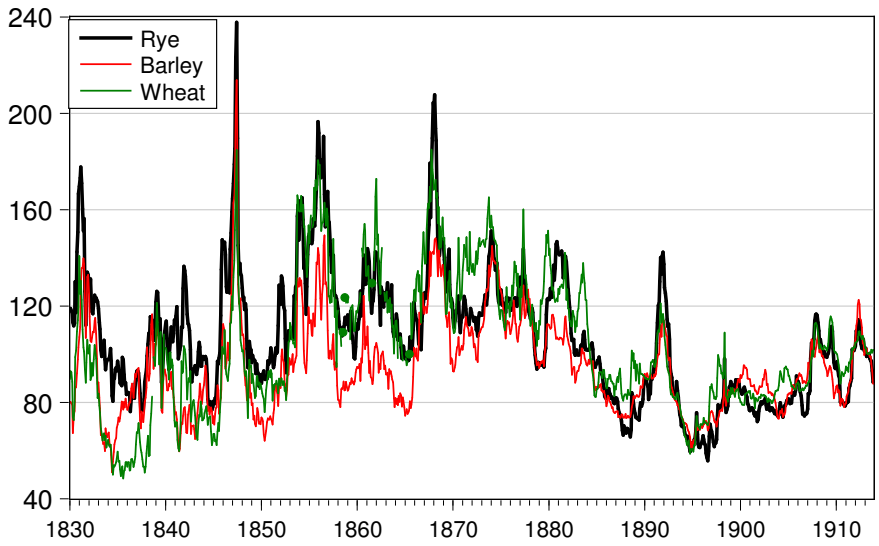

Figure 5.2: Grain price indices 1830-1913. June 1913 = 100.

Price indices of rye, barley and wheat are shown in Figure 5.2, with June 1913 set equal to 100. To a large extent the graph reflects some well known features of international grain price cycles of the nineteenth century created by harvest failures and wars. Grain prices reached marked peaks in 1831, 1847, 1854-1856 (Crimean War), 1867-1868 and 1891-1892.[50] Relative prices of the three grains varied somewhat over time, but in general both the cyclical pattern and long-run trends were common to all.

5.2 (B) Meat

In the nineteenth century meat was primarily sold on town markets. We have a fairly extensive price material from Christiania, for the year 1830 and regularly from 1834 onwards.[51] In Christiania these were retail prices collected by the city registrar (*stadsveieren*). From Trondhjem there are data beginning 1834, and from Bergen there are some observations from the 1840s and 1850s; more regular quotations begin with the 1860s. The meat products sold included beef, mutton, veal, bacon as well as game and poultry.

Beginning 1877 *Christiania Landmandskontor* began publishing agricultural price currents, which were intended to show prices in 'bulk or whole lots (*'partier og hele kolli'*). Although most of the price quotations pertain to dead meat there was also some information on sales of live meat, primarily cattle in the early decades, later also live sheep, pigs and horses.

Figure 5.3 compares seasonally adjusted prices of beef derived from the Christiania town market with the wholesale prices published by *Christiania Landmandskontor* for the years 1877 - 1913. As can be seen from the graph the two price series exhibit a very similar pattern over time. This observation is important because we have only town market prices prior to 1877; hence, we expect no significant break at this point due to the data limitations in the early years.

[50] Grain prices were high in Britain and on the Continent in 1867-1868, in addition we know from Sweden that the grain harvest was extremely poor in these years (Hedlund-Nyström (1970, p. 56)), which one might assume was the case for Norway as well.

[51] No Christiania town price quotations exist for the years 1831 and 1832, for 1833 only for the first three months of the year.

A price series of live middling oxen in Christiania is also included in Figure 5.3. Live meat prices typically fluctuated much more than the corresponding dead meat prices, but periods of relative weakness in live oxen prices can be spotted in similar, but subdued, movements in beef prices about the same time.

Figure 5.4 shows seasonally adjusted monthly indices for the main meat products – beef, mutton and pork – for the years 1830 to 1913. These reflect chiefly the meat prices from locally slaughtered animals. The quantity of imported meat was not of much importance for most of the nineteenth century, except for the imports of some live cattle and horses, but towards the turn of the century it increased markedly. We have price quotations for American pork and beef from 1891, which are also shown in Figure 5.4. A notable feature of this graph is that there are large relative price changes over time, in particular we see rise of mutton relative to beef and pork prices from the 1870s to the early 1890s. Towards the turn of the century the previous relative price pattern seems to be partly reestablished, but with a narrower gap between beef and mutton prices than was the case in most of the nineteenth century. The prices of imported meat, mostly American bacon, fluctuated with domestic pork prices, but rose somewhat relative to these in the early 1900s.

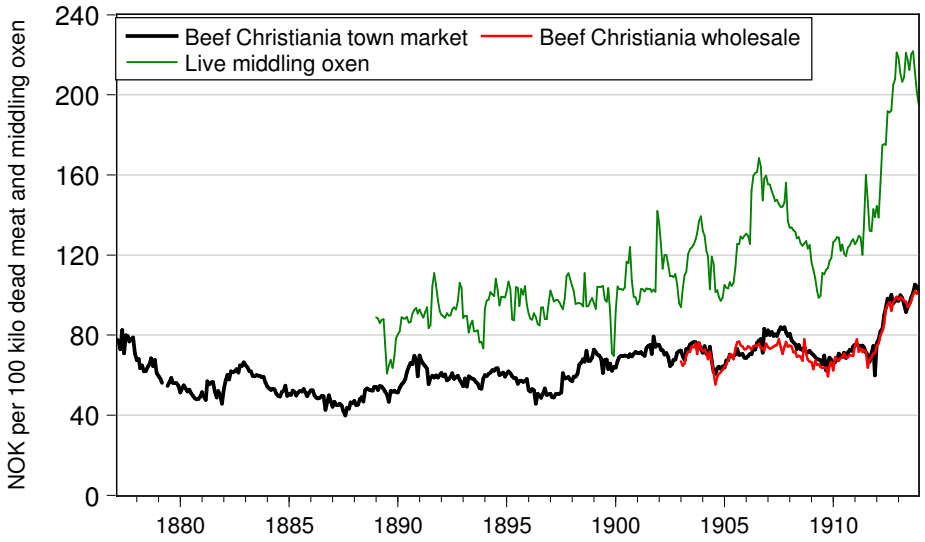

Figure 5.3: Meat prices in Christiania 1877-1913. Seasonally adjusted.

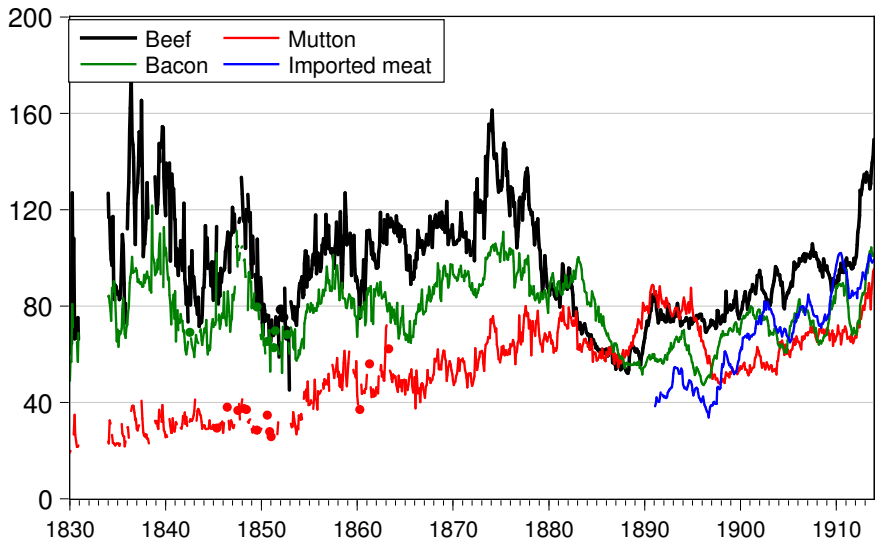

Figure 5.4: Meat price indices 1830-1913. Seasonally adjusted. June 1913 = 100.

5.3 (C) Dairy produce

We have a good coverage of prices of butter in this period. The town market prices in Christiania and Bergen are shown in Figure 5.5. Butter may be a slightly less homogenous commodity than grain with respect to quality, and it was largely produced in surrounding regions. Nevertheless, price movements in Christiania and Bergen appear to be quite well synchronized for most of the period, but less so for the years around the turn of the century. There are large and very distinct cycles in butter prices; the most spectacular movements include a steep rise in the early 1850s which seems to signal a permanent upward shift in the price level, and a period of very high prices starting in the middle of the 1870s, which collapsed in 1879, but recovered again in the early 1880s.[52] These cycles are common to both Christiania and Bergen.

For cheese there are few data from the 1830s, the late 1840s and 1850s; for eggs the 1840s represent a difficult period, but otherwise the time series are fairly complete for these commodities as well. Price indices of butter, cheese and eggs are shown in Figure 5.6. These indices are based on town market prices from Christiania, Bergen and Trondhjem as well as wholesale prices beginning in 1877. Butter and cheese prices follow each other to some extent, but cheese does not show such high prices in the 1870s as does butter. The relative price of eggs rises somewhat from the late 1890s, but otherwise the price movements are fairly homogenous.

[52]The unprecedented fall in butter prices in 1879 is an international phenomenon. In the UK 1879 was '[a]n outstandingly wet year' (Jones (1964, p. 174)), which stimulated grass, and hence, milk, production, and butter prices plummeted. There was also a forceful downward pressure on the prices of dairy products from the rapidly advancing American competition. According to Lord Ernle (1973, p. 4) in 1879 'American cheese so glutted the market as to create a record of cheapness.'

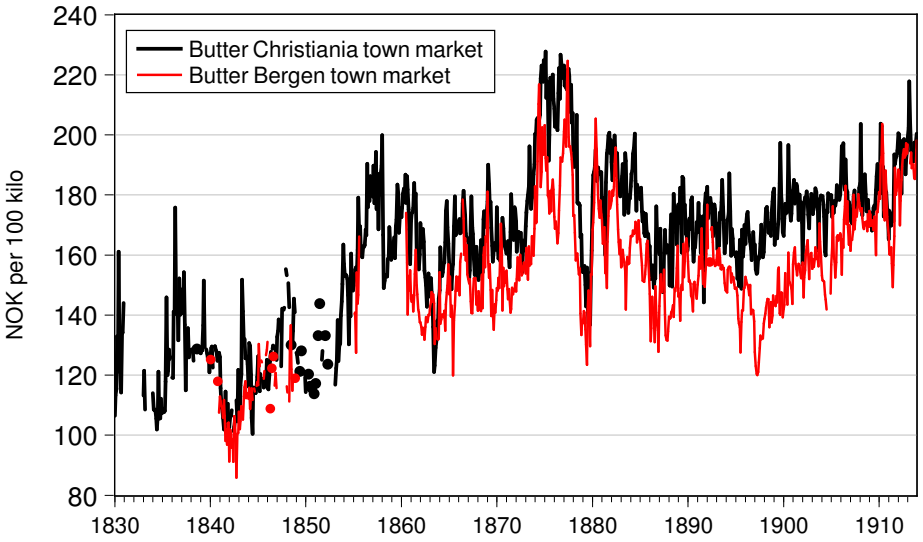

Figure 5.5: Butter prices in Christiania and Bergen 1830-1913

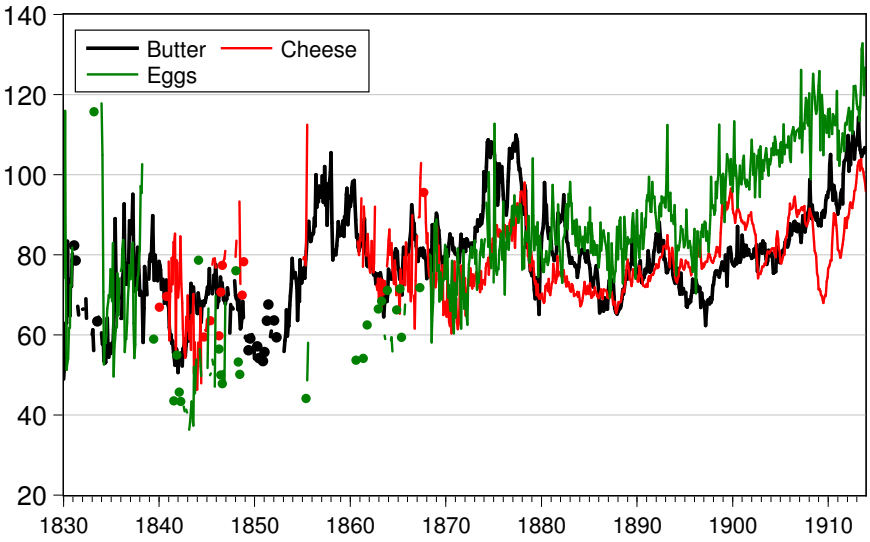

Figure 5.6: Price indices of dairy produce 1830-1913. Seasonally adjusted. June 1913 = 100.

5.4 (D) Fish

Bergen was a leading center for the fish trade in Northern Europe in the nineteenth century and the preserved price material is extremely rich. The main fish products exported from Norway comprised stockfish, clipfish (salted and dried cod) and herring. Bergen was by far the most important export location for stockfish and herring, while the trade in clipfish was more

extensive from other towns, in particular Kristiansund, from which we have no price data.[53] We also include the by-product roe here, which has a long history as an export product to French fisheries; also other fresh or salted fish (mainly halibut, plaice, cod and redfish), for which data begin around 1890.

The stockfish material comprises 16 500 price observations for the whole 144 year sample, and is quite comprehensive for this subperiod as well, albeit somewhat less complete around 1890. Figure 5.7 shows data pertaining to three main types of stockfish (referred to in Norwegian because there is no commonly accepted translations for many of these items.)[54] There was an elaborate marking system which ensured that the fish was sorted according to well established quality categories.[55] The most important group was the kind of fish that was not split before being dried, *rundfisk,* where the various descriptions were often labeled according to the markets in which they were sold such as *Hollender, Bremer* and *Italiener.* The *rotskjær* (split) category comprised numerous varieties, such as *Zartlenger, Skrulenger, Zartfisk, Høkkerfisk, Vækkerfisk* and several types of *Brosme.* Dried pollock was a third and more homogenous category (*Norlandsk storsei*), often sold to Sweden. As can be seen from Figure 5.7 there were quite large and varying differences between the prices of these three stockfish kinds, although they shared a common rising trend from the 1830s to the 1880s. This indicates that no single category will be wholly representative of the price movements of all stockfish, so that an index of stockfish prices should be broadly based.

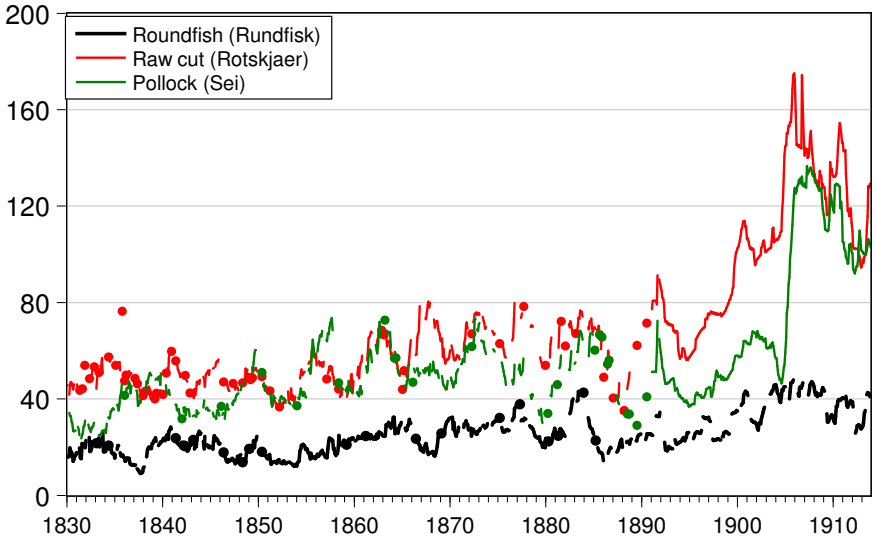

Figure 5.7 : Stockfish price indices 1830-1910. Not seasonally adjusted. June 1913 = 100.

Figure 5.8 exhibits the indices of the main fish products: stockfish, clipfish, salted herring and roe. Clipfish was less frequently traded in Bergen than stockfish, most price quotations refer to summer and early autumn trading. Herring was a also major export article, which is reflected in the extensive data base for this product. In the early decades spring herring was the dominant variety, with the addition of some summer herring, which in fact was a collective

[53] See Brautaset (2002) for an introduction to sources and commercial practices regarding the Bergen fish trade.

[54] Stockfish and clipfish were traditionally quoted by the *vog*, which equalled 17.93 kilos, but from the early 1880s this was changed to 20 kilos, which is taken into account here.

[55] Coldevin (1938) gives an excellent account of this.

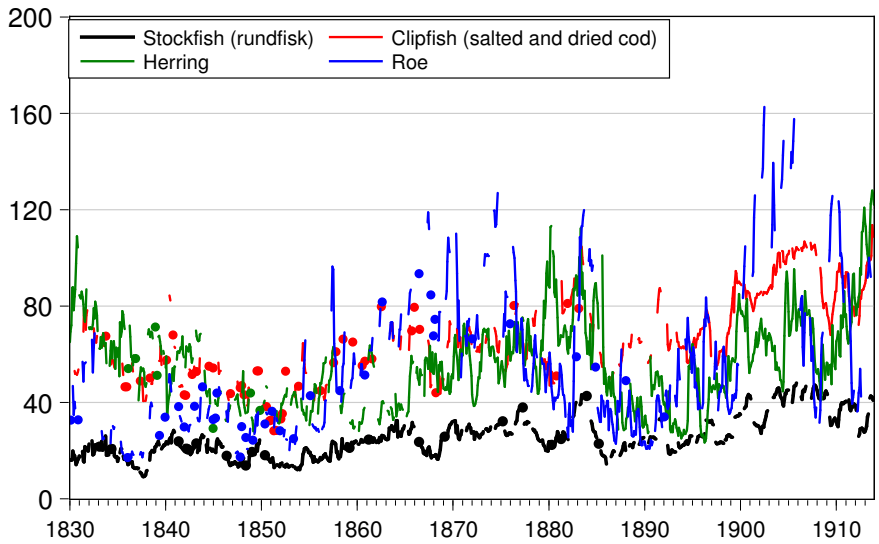

Figure 5.8: Fish price indices 1830-1913. Not seasonally adjusted. June 1913 = 100.

for other herring than spring herring. From the 1850s the relative importance of herring stocks changed, and fat herring became the leading article.[56] There were wide price gaps between herring of the various quality assortments. The best qualities were originally referred to as *kjøpmannssild (K)*, then followed *middelsild (M)* and *Christianiasild (C)*, the latter also with some additional *X*'s to mark fish size. This system was partly modified around the turn of the century. It is obvious that it is important that price quotations of a single series refer to the same quality mark over time, but it is inevitable that there will be some inconsistencies from year to year and also within a year, as the quality of herring catches varied from season to season as well as within the season.

We note a falling trend of fish prices from 1830 until the early 1850s, notably for herring and clipfish. Fluctuations in the prices of stockfish, clipfish and herring were sometimes, but not always, similar. This becomes in particular evident after the turn of the century, when first clipfish and later stockfish enjoyed a period of high prices while herring prices were much more subdued. It is also interesting to note that fish prices were relatively buoyant in the first half of the 1880s compared to the 1870s, which is the opposite of the trend applying to timber and wood, the other main Norwegian export good.

5.5 (E) Colonial goods

Coffee and sugar were the most important colonial goods imported to Norway, for which we have very good market price data except from about 1848 to 1860. There is a gap between the late 1840s when the Christiania commodity brokers' quotations petered out until the regular monthly price current issued by the Bergen brokers begin in 1861.[57] We also have some quotations for rice, tea, raisins and spices, but only for the early years.

[56] See Solhaug (1983) for an overview of the herring fisheries.

[57] In the case of granulated sugar non-overlapping data in this period cause some problems with linking the level of the post-1860 data with the previous series ending in 1856. It has been assumed that the relative prices of the two sugar series was unchanged at this time.

Price indices of coffee, granulated and crystallized sugar and syrup are graphed in Figure 5.9. The underlying prices are all inclusive of duty. The diverse trend movements of coffee and sugar prices are very evident in this graph. Sugar prices fell from an index value of about 250 in 1830 to 100 in 1913. The long-run level of coffee prices, on the other hand, was considerably more stationary, although there were important long swings for this commodity as well.

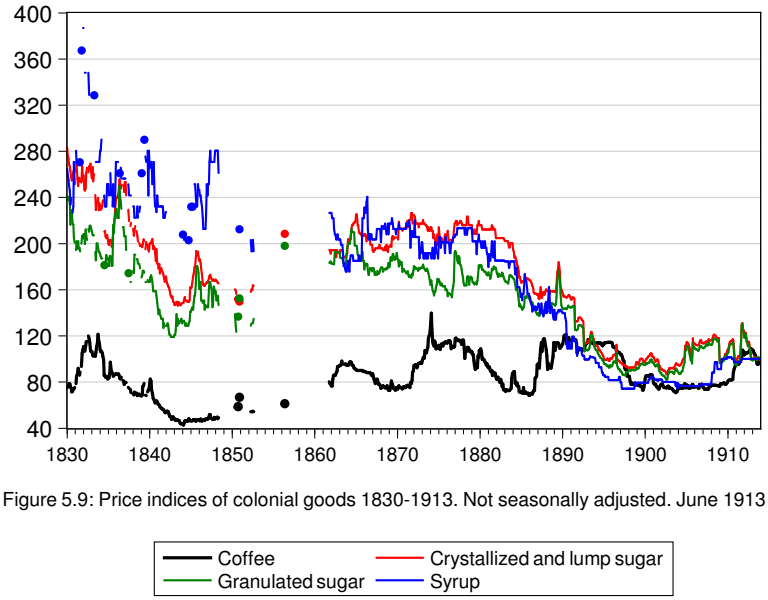

Figure 5.9: Price indices of colonial goods 1830-1913. Not seasonally adjusted. June 1913 = 100.

5.6 (F) Vegetables

This commodity group comprises all non-grain vegetable produce, referred to as 'vegetables' for short. Potatoes, almost all home-grown, and peas, mostly imported from Denmark and the Baltic, are the main commodities. These are shown in Figure 5.10, along with a caraway, a minor root vegetable, but one that was cultivated in Norway and quoted sporadically by Christiania brokers and even occasionally sold on the town market until the 1870s.

There might be quite violent short-term price fluctuations of potatoes, and a very marked seasonality, but long-run averages were fairly stationary until late in the 1890s, when there appeared to be an upward shift in the level of prices.[58] Peas fluctuated more in line with general grain prices, with pronounced cycles around 1847 and the Crimean War (cf. Figure 5.2), also rising somewhat around the middle of the century to a new and higher level.

5.7 (G) Alcohol and tobacco

Figure 5.11 shows some of the main price series of grain spirits. Market prices in Bergen and Christiania are in øre per Norwegian pott (0.9651 litres). The green line represents index values of prices of spirits reported by magistrates of nine towns, scaled to July 1850 = 50 to facilitate comparison with the other series. The group index for alcohol and tobacco is shown with June 1913 equal to 100. Malt also enters this index with a small weight.

[58]Note that the potato price index has not been seasonally adjusted, which highlights the marked intrayear fluctuations.

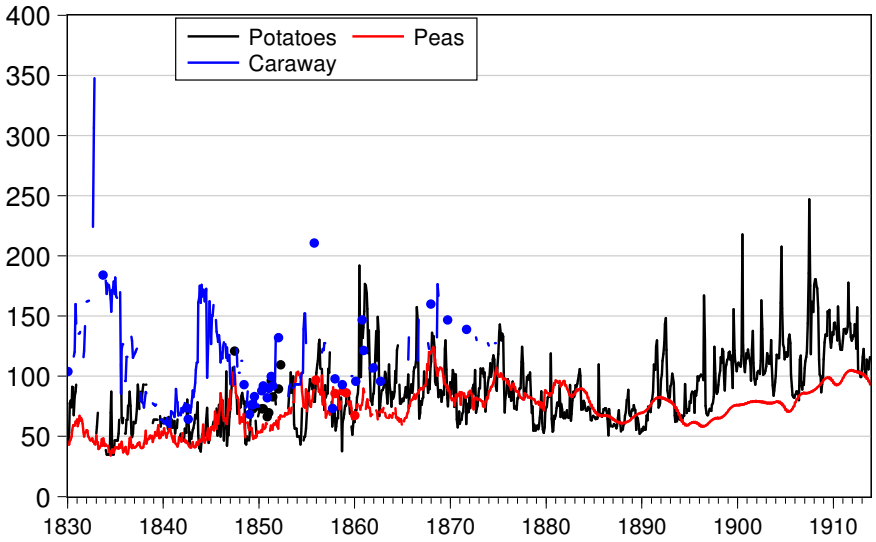

Figure 5.10: Price indices of vegetables 1830-1913. Not seasonally adjusted. June 1913 = 100.

Bergen and Christiania market prices provide a good basis for a reliable index until the latter half of the 1840s. These prices also seem to correlate well with the quarterly magistrates' prices, which are instrumental in bridging the gap between the late 1840s and the new Bergen brokers' price list beginning in 1861. The magistrates' prices are reported for 40 towns, covering at most the years 1832 to 1871, but many series appear to be unreliable, some showing violent price changes, possibly due to inconsistencies in qualities reported or changes in volume measures. An index computed from nine series, which appear to be fairly frequently and consistently measured, have been constructed here and shown in Figure 5.11. Beginning with the *Farmand* price lists in 1891 the index reflects a wider range of alcohol prices in Christiania. The prices include duties and taxes, which strongly influence the upward movements of the index from the 1890s.

5.8 (H) Fodder

There are excellent data for oats, hay and straw from the early 1830s from town markets, chiefly Christiania, and, for the years 1877 - 1913, wholesale prices published by *Christiania Landmandskontor*. The time series are shown in Figure 5.12. In addition we have data for oat meal, bran and maize, but these products were of less importance.

With the exception of maize the fodder was to a large extent produced at home (for oats see Table 5.1 above). For oats, bran and hay there was even some net exports, but upon a relatively small scale. Prices of hay and, in particular, straw, could rise significantly during some periods, presumably mainly due to adverse climatic conditions. This is particularly evident from the early 1860s to the middle of the 1880s in the case of hay, which saw a surge in prices in 1876-1877 and again in 1881-1882. Oats prices were more stable, although the 1880s saw a significant price increase.

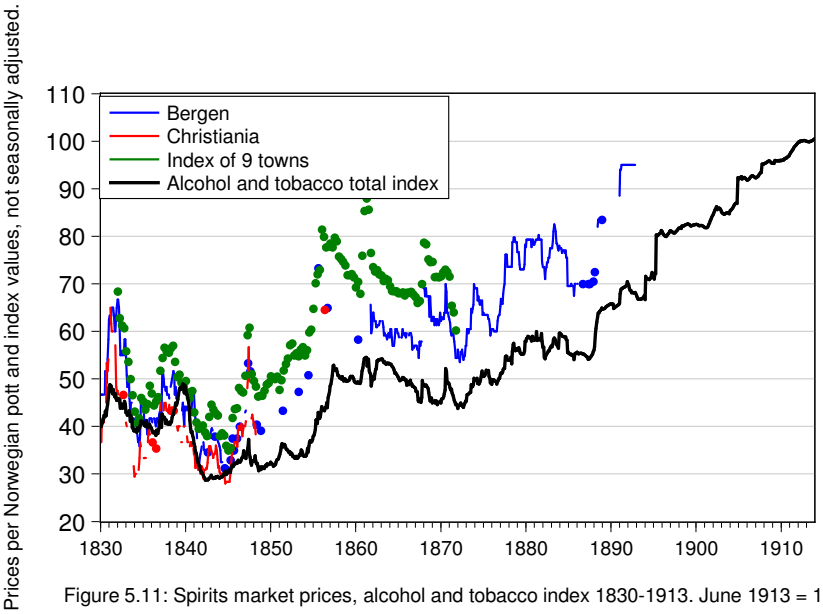

Figure 5.11: Spirits market prices, alcohol and tobacco index 1830-1913. June 1913 = 100.

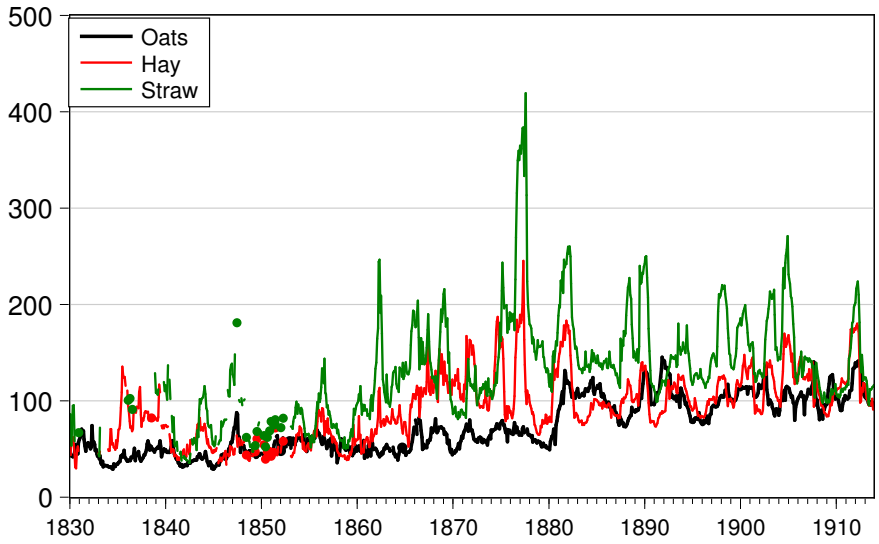

Figure 5.12: Price indices of fodder 1830-1913. Seasonally adjusted. June 1913 = 100.

5.9 (I) Hides and leather

Figure 5.13 shows four price indices: calfskin, sheepskin, goatskin and hides. The trade in buckskins from Nordland had a long tradition in Bergen. Together with calfskin, which was also traded by the Bergen brokers, these are the commodities for which we have data in the early decades. Sheepskin prices are available from the 1870s but cow and ox hides do not appear regularly until about 1880. Not shown in Figure 5.13 are the prices of wild animal skins and of leather, the latter only available from the price currents of *Farmand* beginning in 1891.

From Figure 5.13 it will be seen that the prices of calfskin, goatskin and hides move fairly closely together for most of the period, while prices of sheepskin behave rather differently. In general, the long-run price movements of these commodities appear to be relatively stable but with a slight rising trend from the 1890s.

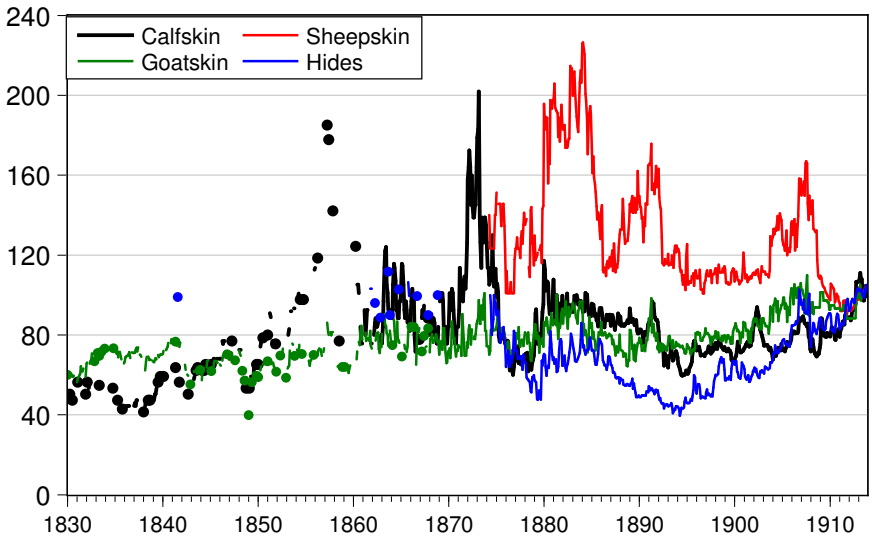

Figure 5.13: Price indices of skins and hides 1830-1913. Not seasonally adjusted. June 1913 = 100.

5.10 (J) Timber and wood

The white deals, like the yellow, shipped at Christiania, are the very best in the world. Warburton (1835, p. 367)

The timber and wood trade was one of the three main pillars of Norwegian exports in the nineteenth century – the others being fish and shipping. Fish and wood together accounted for 77 per cent of the value of commodity exports in 1870, wood alone for 37.5 per cent. There is a plethora of market prices of fish for the whole period up to WWI, but, in contrast, there are virtually no good domestic price series on a fob basis for hewn and sawn timber for this period. This lack of information may be due to the fact that wood was often exported as consignment goods, leaving it to the agents abroad to obtain the highest obtainable price.[59] There was no domestic market quotations as was the case in the fish export trade. There is even very little information on the prices actually obtained by Norwegian exporters of wood in archival studies of nineteenth century timber firms. In his study of the leading Norwegian timber exporters Sejersted (2002) is not able to report much direct information on *domestic* wood prices in his sources; most of the discussion takes as the point of departure the prices on deals obtained in London. The same picture emerges from contemporaneous market reports in trade journals, for example in *Farmand* (beginning 1891), which invariably referred to cif prices on the British market in their reports.

In this connection it is of some interest to note that Statistics Norway, in the foreword to the Annual Trade Statistics of 1870 contained a discussion of the prices of wood, maintaining that their estimates of fob export prices in the 1869 volume were probably too high and the prices in

[59] Worm-Müller (1922, p. 133).

1870 too low, in light of new information from British trade returns, which had come to their knowledge after the calculations had been made.[60] Statistics Norway thus regarded the British prices as the most reliable benchmark from which to estimate fob prices.

This is also the approach taken in the important contribution by Brautaset (2002), who made an effort to estimate annual wood export prices for the period 1830-1865. The market prices of Norway deals in London is the basis of the calculations, from which must be subtracted import duty, insurance and other charges as well as commission in Britain, freight costs and export duty, port duties and lighthouse charges in Norway, to arrive at an estimate of net export prices in Norwegian currency. The same procedure was replicated here on a revised data base, also extending the estimates to cover the additional periods 1777-1829 and 1866-1876.

The estimates are presented in Table 5.2[61] For the years between 1830 and 1865 these calculations yield much the same time pattern of timber prices as in Brautaset (2002), but there are some deviations due to the fact that revised data on freight costs, timber duties and other charges as well as exchange rates are being used here. The various items can mostly be estimated fairly accurately, even on a monthly basis.[62] This applies of course in particular to duty rates. We also have quite exact knowledge of London wood prices of Norwegian wood on a monthly basis beginning in 1830, [63] before this year annual data on Norwegian wood can be found in Warburton (1835) back to 1777 and beyond. The prices of best Christiania deals, which form the basis for the calculations, were quite highly correlated with the prices of deals from Drammen and Fredrikstad in this early period, although there is some slightly ambiguous evidence for a few years.[64] The new timber freight rate data in Klovland (2011) provide a good basis for estimating the timber freight component fairly accurately, although the information is more patchy before 1835.[65] By far the most uncertain item in these calculations are the shipping costs other than freight, i.e. insurance costs, other charges and commissions paid to handling agents in London. Here we have only included a rather uncertain estimate of insurance costs and other charges and commission in London.[66] As a cross-check the calculated Christiania price can be compared with the actual cost at Christiania of Norway 12 feet deals reported by Warburton (1835, p. 350) for the years 1800-1804. These figures are approximately equal for these years, and comparable to those in Sejersted (2002, p. 541-544) for the 1820s and 1830s,

[60] NOS *Norges Handel og Skibsfart* 1870, p. V.

[61] There is a great variety of volume measures to which prices, freight rates and duty rates applied, which must be duly considered. As noted in the table the wood price in London originally applied to a great hundred (270 cubic feet for the dimension considered here) or Petersburg standard (165 cubic feet). Duty rates in the UK were first stipulated per great hundred (120) deals, but from 1842 the duty was instead levied per load of 50 cubic feet. Freight rates were mostly quoted according to the Christiania standard (112.5 cubic feet), from the early 1870s also per Petersburg Standard (165 cubic feet). The export duty was fixed in terms of *trelastlest* (timber last) of 4.54 cubic metres, while port and lighthouse duties were given by the *kommerslest* (commerce last) of 5.9 cubic meters. All UK figures have been converted to the great hundred standard; Norwegian data are per cubic meter.

[62] We do not have *monthly* London prices of wood prior to 1830 and freight rates prior to 1835, which have to be estimated from the annual figures.

[63] *The London Mercantile Price Current.*

[64] Here, the mean of prices of yellow and white deals has been used for the years 1777-1829. In the period between 1808 and 1817, when there are few quotations and a larger than usual price gap between Christiania yellow and white deals, these estimates are more uncertain than in other periods. In general, however, the prices of yellow and white Christiania deals show much the same fluctuations. In 1830 the prices of yellow and white deals are, according to Warburton (1835), £31.75 and £30.25, respectively. The mean of these two prices exactly matches the average price of yellow deals in *The London Mercantile Price Current* for 1830. White deals originate from the common spruce (*Picea excelsa*) and yellow (or red) deals from the Scots fir (*Pinus sylvestris*), see Kent (1955).

[65] Additional data on freight rates on deals from Christiania to London have been obtained from *Norsk Handels Tidende* October 1825 - December 1830.

[66] The net price obtained by the exporter was of course lower, as the cost of storage, handling and local transport from the mills to the quayside in Christiania had to be paid, see e.g. Sejersted (2002, p. 182).

but must still be regarded as very crude.

Finally, it should be noted that the net prices in domestic currency given in Table 5.2 applies to the best qualities of deals exported to the British market. These are certainly higher than the average price obtained on Norwegian wood exports in this period. We know that the French market, which grew to become of equal quantitative importance to the UK market around the middle of the century, were provided with wood of much lower dimensions and qualities, so that prices obtained here were decidedly lower than in Britain. An estimate from 1821 reckons that the value of a load of deals shipped to France would obtain two thirds of the price of a similar shipment to Britain. [67] What matters for the price index is not absolute prices, but the movements over time, however. In this respect these data may be sufficiently informative.

[67] Kristiansen (1925, p. 148). See also Sejersted (2002, pp. 176-181 and 541-548) and Brautaset (2002, pp. 185-186).

Table 5.2. The price of Christiania deals in London and the estimated price in Christiania.

	London prices in pound sterling per 120 boards (12ft X 9in X 3in)					Christiania prices in kroner per cubic metre		
Year	(1) London price	(2) Import duty	(3) Insurance & commission	(4) Freight cost	(5) Cost at Christiania	(6) Price gross	(7) Duty & charges	(8) Price net
1777	16.87	2.65	1.54	5.33	7.36	0.35	0.02	0.32
1778	15.25	2.65	1.38	4.50	6.72	0.33	0.02	0.31
1779	16.00	2.65	1.45	4.25	7.65	0.40	0.02	0.38
1780	16.00	2.65	1.45	5.35	6.55	0.34	0.02	0.31
1781	16.87	2.65	1.54	6.53	6.16	0.30	0.02	0.28
1782	18.00	2.65	1.64	8.34	5.37	0.27	0.02	0.25
1783	16.00	2.65	1.45	3.80	8.10	0.42	0.02	0.40
1784	15.75	2.65	1.43	3.27	8.40	0.46	0.02	0.44
1785	16.00	2.65	1.45	3.41	8.48	0.47	0.02	0.45
1786	17.25	2.65	1.57	3.60	9.43	0.52	0.02	0.50
1787	17.25	2.65	1.57	3.41	9.61	0.55	0.03	0.53
1788	17.75	2.65	1.62	3.50	9.98	0.60	0.03	0.57
1789	17.63	2.65	1.61	3.20	10.17	0.65	0.03	0.63
1790	18.25	2.65	1.67	3.95	9.98	0.62	0.03	0.59
1791	18.50	2.65	1.69	3.41	10.75	0.62	0.02	0.59
1792	18.50	2.65	1.69	4.26	9.90	0.54	0.02	0.52
1793	19.50	2.65	1.79	4.85	10.22	0.59	0.02	0.57
1794	19.50	2.65	1.79	5.39	9.68	0.51	0.02	0.48
1795	20.50	3.66	1.86	5.74	9.24	0.43	0.02	0.41
1796	21.63	4.01	1.95	5.92	9.73	0.46	0.02	0.44
1797	21.63	4.26	1.95	3.69	11.73	0.61	0.03	0.58
1798	21.00	4.37	1.89	4.57	10.17	0.55	0.03	0.52
1799	22.00	4.37	1.98	6.28	9.37	0.49	0.03	0.46
1800	26.37	4.37	2.40	8.99	10.61	0.51	0.03	0.48
1801	33.37	5.35	3.04	11.39	13.60	0.69	0.03	0.65
1802	26.13	6.21	2.33	5.38	12.20	0.66	0.03	0.63
1803	30.00	6.80	2.68	7.64	12.88	0.71	0.04	0.68
1804	30.13	7.67	2.67	9.38	10.40	0.61	0.04	0.58
1805	33.00	8.12	2.93	8.79	13.16	0.74	0.04	0.70
1806	36.00	8.52	3.21	7.19	17.09	0.94	0.04	0.90
1807	35.50	8.69	3.16	9.13	14.52	0.85	0.04	0.81
1808	55.00	8.69	5.01	21.06	20.24	1.32	0.04	1.27
1809	64.00	8.72	5.86	25.26	24.16	2.45	0.08	2.37
1810	50.25	8.75	4.56	18.91	18.04	2.86	0.12	2.74
1811	50.50	13.13	4.47	13.71	19.19	4.50	0.19	4.31
1812	56.50	17.50	4.93	14.43	19.64	6.01	0.19	5.82
1813	60.00	19.69	5.21	15.88	19.23	30.25	0.76	29.49

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Year	(1) London price	(2) Import duty	(3) Insurance & commission	(4) Freight cost	(5) Cost at Christiania	(6) Price gross	(7) Duty & charges	(8) Price net
1814	59.00	20.78	5.09	10.10	23.03	36.86	0.81	36.05
1815	51.75	20.78	4.40	7.94	18.63	40.21	1.66	38.55
1816	43.25	20.78	3.59	6.19	12.69	57.60	2.50	55.10
1817	42.00	20.78	3.47	4.47	13.27	65.40	2.53	62.87
1818	40.00	20.78	3.28	4.69	11.25	32.75	2.53	30.22
1819	41.50	20.78	3.42	4.91	12.39	41.33	2.17	39.16
1820	36.25	20.78	2.92	4.84	7.70	29.12	1.86	27.26
1821	32.25	19.74	2.57	4.76	5.17	23.71	1.86	21.85
1822	32.50	19.00	2.61	4.47	6.42	32.89	1.86	31.02
1823	33.63	19.00	2.72	3.54	8.37	36.39	1.86	34.53
1824	35.12	19.00	2.86	3.75	9.51	35.18	1.86	33.32
1825	34.88	19.00	2.84	5.50	7.54	21.34	1.86	19.48
1826	33.50	19.00	2.71	3.71	8.08	26.99	1.60	25.40
1827	31.50	19.00	2.52	3.57	6.41	22.34	1.49	20.85
1828	29.00	19.00	2.28	3.12	4.60	16.22	1.47	14.75
1829	29.50	19.00	2.33	3.52	4.66	16.50	1.47	15.03
1830	31.00	19.00	2.47	3.30	6.23	21.93	1.44	20.49
1831	31.25	19.00	2.49	3.13	6.63	23.06	1.41	21.66
1832	30.42	19.00	2.41	2.83	6.17	22.31	1.41	20.90
1833	30.42	19.00	2.41	2.65	6.35	21.88	1.32	20.56
1834	31.17	19.00	2.49	2.65	7.03	21.83	1.23	20.60
1835	30.92	19.00	2.46	3.09	6.37	18.70	1.23	17.47
1836	33.00	19.00	2.66	3.59	7.75	22.34	1.23	21.11
1837	33.63	19.00	2.72	3.80	8.11	23.46	0.95	22.50
1838	33.50	19.00	2.71	3.70	8.09	23.82	0.95	22.86
1839	33.50	19.00	2.71	3.88	7.91	22.50	0.95	21.54
1840	33.50	19.26	2.70	3.38	8.16	22.04	0.95	21.09
1841	32.83	19.53	2.63	3.27	7.41	18.82	0.81	18.01
1842	32.25	17.34	2.63	3.06	9.22	23.59	0.82	22.77
1843	31.00	10.35	2.69	3.04	14.93	39.72	0.82	38.90
1844	29.50	9.07	2.58	2.72	15.14	39.80	0.82	38.99
1845	29.50	9.07	2.58	3.20	14.65	38.10	0.76	37.35
1846	29.50	9.07	2.58	3.40	14.46	37.65	0.69	36.95
1847	29.50	7.53	2.61	3.36	15.99	41.38	0.69	40.69
1848	27.17	5.80	2.44	3.11	15.81	41.58	0.69	40.89
1849	25.54	5.40	2.29	2.69	15.16	40.15	0.69	39.45
1850	24.08	5.40	2.15	2.65	13.88	36.35	0.69	35.66

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Year	(1) London price	(2) Import duty	(3) Insurance & commission	(4) Freight cost	(5) Cost at Christiania	(6) Price gross	(7) Duty & charges	(8) Price net
1851	22.27	3.38	2.03	2.72	14.15	36.56	0.67	35.89
1852	20.50	2.70	1.88	2.66	13.26	34.54	0.63	33.92
1853	22.88	2.70	2.11	4.55	13.52	33.87	0.63	33.24
1854	30.08	2.70	2.79	4.15	20.44	51.32	0.63	50.69
1855	27.50	2.70	2.55	3.29	18.96	48.44	0.63	47.82
1856	27.71	2.70	2.56	3.46	18.99	48.65	0.63	48.02
1857	26.17	2.70	2.42	3.11	17.94	45.74	0.63	45.12
1858	24.50	2.70	2.26	2.61	16.93	43.14	0.63	42.51
1859	23.29	2.70	2.15	3.32	15.13	38.31	0.63	37.68
1860	23.67	1.08	2.22	2.91	17.46	44.22	0.63	43.59
1861	22.13	0.54	2.09	2.89	16.61	42.54	0.63	41.92
1862	22.88	0.54	2.16	2.89	17.29	44.19	0.63	43.57
1863	22.00	0.54	2.08	2.97	16.41	41.85	0.63	41.23
1864	21.25	0.54	2.01	3.20	15.51	39.54	0.63	38.92
1865	20.50	0.54	1.93	2.95	15.07	38.52	0.63	37.89
1866	20.29	0.00	1.93	2.72	15.64	40.01	0.56	39.46
1867	19.33	0.00	1.84	2.56	14.93	38.33	0.53	37.80
1868	19.67	0.00	1.87	2.45	15.35	39.77	0.53	39.24
1869	18.65	0.00	1.77	2.34	14.53	37.67	0.53	37.14
1870	18.61	0.00	1.77	2.60	14.25	36.64	0.53	36.11
1871	18.41	0.00	1.75	2.48	14.18	36.36	0.53	35.83
1872	18.41	0.00	1.75	2.54	14.12	36.29	0.53	35.75
1873	20.05	0.00	1.90	2.83	15.31	39.49	0.53	38.96
1874	22.26	0.00	2.11	2.64	17.51	45.32	0.54	44.78
1875	22.30	0.00	2.12	2.37	17.81	46.23	0.54	45.69
1876	22.23	0.00	2.11	2.38	17.74	45.96	0.54	45.42

NOTE: (1) *London price* This is the market price of best Christiania deals in London. The wood price in London applied to a great hundred (120) of deals measuring 12 feet of length, 9 inches of width and 3 inches of thickness, equalling 270 cubic feet, which is used here throughout. From the middle of the century it became more common to quote by the Petersburg standard (165 cubic feet). Before 1830 the prices refer to the average of best yellow and white Christiania deals tabulated in Warburton (1835); monthly prices of best yellow Christiania deals 1830-1861 are taken from *The London Mercantile Price Current* and thereafter from *The Public Ledger*. (2) *Import duty* Duty rates in the UK were initially stated per great hundred of deals between 8 and 20 feet long (amended in 1821 to between 6 and 16 feet); from 1842 the duty was charged per load of 50 cubic feet. These rates have been converted to a common basis (270 cubic feet). The main sources of timber duty rates and the dates from which new duty rates became effective are Warburton (1835); *Newcastle Journal* 11 July 1840, *Morgenbladet* 28 March 1842, 11 May 1843 and 25 June 1843; various issues of *The Economist* 1845-1865, in particular 11 April 1863; more general background is provided by Worm-Müller (1922), Kristiansen (1925, pp. 141-147), Potter (1955), Mardal (1957) and Sejersted (2002). (3) *Insurance and commission* This item includes in principle all other expenses than import duty accruing in London, including shipping charges in London. The basis for quantifying this item is very weak. Insurance cost is assumed to be 2.5 per cent of the market price net of duty, partly based on figures on insurance on Norway deals for an earlier period in Warburton (1835, pp. 348-350). All other charges and commissions are calculated as 7 per cent of the market price. In general the level of this item and its fluctuations over time must be considered as very crude and uncertain estimates. (4) *Freight cost* Information on annual freight rates on deals from Christiania to London are available in Klovland (2011), in the years 1832-1834 and after 1862 this series was chained to the Baltic and Scandinavian timber freight indices, respectively. The monthly freight rate index of Scandinavian timber trade underlying Klovland (2006) and later extensions was used to estimate this component on a monthly basis as from January 1835. (5) *Cost at Christiania* Column (1) minus columns (2), (3) and (4). (6) *Price gross* Column (5) converted to NOK per cubic metre. The exchange rate on London as quoted in Christiania beginning April 1819 was taken from Klovland (2004); see text for the period prior to April 1819. The great hundred deals standard is assumed to equal 7.6464 cubic metres. (7) *Duty and charges* This item includes Norwegian export duty on timber, port charges *(lastepenger)* and lighthouse charges in Norwegian waters. These duties were to be paid in silver before July 1816, which has been taken into account using the official 'duty' exchange rate *(tollkurs)* from July 1811 (equal to 600), being changed to 375 in January 1813; before July 1811 the market exchange rate (relative to par, 125) was used. This information has been pieced together from a number of sources, primarily *Den Norske Rigstidende* 17 August 1819, Rygg (1918, pp. 373-392), Kristiansen (1925, pp. 153-157 and 315-317), Tvethe (1848, pp. 164-166) and *Morgenbladet* 11 April 1841, supplemented by Norwegian Parliamentary Papers (4D no. 68 (1848), 7D no. 37 (1851), Indst. S no. 95 (1874), St. prp. no 5 (1876)). To pin down the specific dates from which the duty changes became effective various issues of *Morgenbladet* and *Den Norske Rigstidende* were consulted. (8) *Price net* Column (6) minus column (7).

From the early 1870s the foreign trade statistics becomes sufficiently detailed to warrant the use of the average export price of planed deals as the best available annual estimate of wood prices on a fob basis. Planed deals constituted a fairly homogenous group of commodities and was the single most important of the wood export items tabulated in the trade returns, accounting for about one half of the value of timber exports by 1910. The *within-year* fluctuations were estimated from the market price of Norway deals in London 1871-1914 from *The Economist;* after 1914 the within-year movements were estimated by the standard method described in section 3.3.

By combining these time series we are able to present a first estimate of a price index of one of the most important Norwegian export goods over more than a century on a monthly basis. Such a time series may represent a key piece of information regarding the performance of the Norwegian timber trade, but its obvious shortcomings discussed above should be duly taken into account. In the early years errors in estimating freight and, in particular, sales costs will

necessarily entail some imprecision. Using information on the within-year movement of British prices (but keeping the average annual price equal to the calculated fob price) to represent the short-run movements is of course also somewhat questionable, but the fact referred to earlier, that wood was often sent in consignment to export markets, may give some rationale to this procedure.

In Figure 5.14 the new series discussed above, labeled '1 Deals export price London' and '2 Deals export price average', are graphed together with three other time series of wood prices which have been constructed for the period 1870-1913. From the British trade returns we have extracted the monthly time series containing UK average import prices of 'wood and timber, sawn or split, planed or dressed', from Norway and Sweden combined, 1870-1900. The same data series applying to Norway only becomes available for the years 1900-1913. These series, denoted '3 UK imports Norway & Sweden deals' and its extension beginning 1900 '4 UK imports Norway deals' have the virtue of being monthly, thus giving valuable information on the short-run movements of wood prices, but it does not take into account fluctuations in freight costs.[68] In addition, we have for the period 1895-1912 the average export price of timber and wood exports from the Norwegian monthly trade statistics, labeled '5 timber & wood exports'.

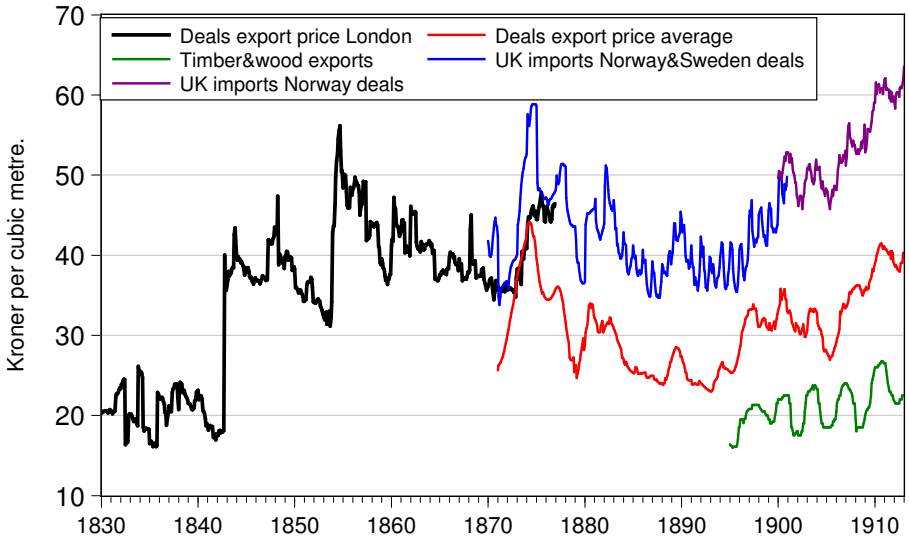


Figure 5.14: Wood prices 1830-1913. Not seasonally adjusted.

The most striking feature of the London based export price for the years before the 1870s is the the very steep rise in wood prices around 1842. The net price increase to Norwegian exporters is clearly related to the significant decline in the UK duty on Norwegian deals, which was more than halved from 1842 to 1844. After a prolonged period of lobbying from Norwegian authorities the duty was from then on stipulated in terms of cubic content rather than length, which ended the discrimination against the small dimensions of wood that Norway was able to export.[69] Reductions in UK import duties greatly affected the estimates of fob prices of Norwegian deals in the United Kingdom throughout the 1840s; in 1830 the duty amounted to 61.3 per cent of the market price in London, after a number of large reductions it only represented 13.2 per cent

[68] These data have not been converted to kroner because the exchange rate against the pound was virtually constant in this period. There were no export duties on timber or port charges in Norway after 1877.

[69] See Mardal (1957).

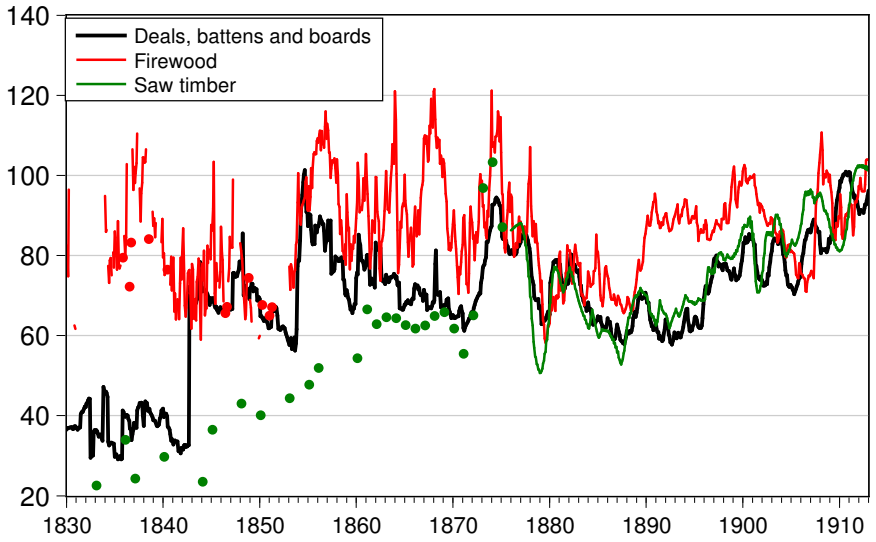


Figure 5.15: Timber and wood price indices 1830-1913. Not seasonally adjusted. June 1913 = 100.

in 1852. In 1866 the whole duty was abolished.

As noted above, there is some evidence that qualities and prices of wood exports to the Continent were significantly lower than to the UK in this period. However, what matters for our purposes is whether price fluctuations on these markets were significantly affected by what happened in Britain. There is indeed some evidence that the effects on net export prices of the large duty changes in Britain influenced prices obtained on continental markets. In 1843 it was observed that the large reduction in timber duties in 1842 had led to 'a significant volume of deals and boards being shipped to France at higher prices than in the preceding years.'[70]. On the other hand, it should be noted that the price series on deals reported here was not fully representative of all timber and wood sent to the British market. The great duty reductions on deals, battens and boards in 1842 and 1843 were accompanied by a sharp increase in the duty on Norwegian mining timber, mainly exported to the mines of Cornwall from Drammen and Skiensfjord, which previously had enjoyed special privileges. This may have had an adverse effect on the prices of mining timber as well as other round timber such as firewood. Furthermore, it is not obvious that all the benefit of the reduction on the duty on deals would accrue to Norwegian exporters. The market price in London did fall in 1842-1843, most likely as an effect of the duty reductions, which is duly taken into account in our calculations, but there might be some effects on commission rates as well, on which we have no specific information. All these factors point to some caution regarding our price index of wood exports in the period before about 1870.

Another marked rise in the wood price occurred in 1854. This time there were no further duty changes, but the Crimean War, cutting off the supply of Baltic and Russian timber, which brought about greatly inflated market prices in London. Wood prices fell somewhat thereafter but remained at a fairly high level well beyond the great commercial crisis of late 1857. The peak price of the 1860s came in 1862, thereafter wood prices were fairly stable throughout the 1860s.

Although the various price series differ with respect to product definition, comprising planed,

[70] *Morgenbladet*, 1 June 1843, translated from Norwegian. See also same source, 19 June 1843. It seems to be a common view that prices on the French market followed those on the British market, see Mardal (1957, p. 136).

sawn and hewn timber, as well as to being either on a fob or a cif basis, they nevertheless paint much the same broad picture of trends and cycles in wood prices for the period after 1870. The great international boom of the early 1870s, which peaked around 1872 in Britain,[71] were not much reflected in wood prices until 1873, and it was only in 1874 that we see a marked rise. The late response of wood prices to cyclical impulses seems to be typical; we saw much the same pattern in the late 1850s. Following the marked peak of the early 1870s, there was a steep decline towards the sharp trough in 1879 and a rebound in 1881-1882, then wood prices were falling slightly towards their lowest level in 1893-1894. From the mid 1890s and towards WWI the trend was rising again. The shorter cycles basically follow the general pattern of business cycles in these decades, with peaks occurring around 1889, 1897, 1900-1901, 1903-1904, 1907 and 1911.

The five time series of deals prices shown in Figure 5.14 were combined to form an index of 'deals, battens and boards' from 1830 to 1913, which is shown in Figure 5.15 together with price indices of firewood and saw timber. The firewood index is quite accurately measured, with a large number of observations, except in the early 1830s. The data are taken from city markets in Christiania and Bergen. Although some firewood was exported, it only represented 2.2 per cent of total wood and timber exports in 1870 and 1890, falling to 1.1 per cent in 1910. It is not surprising, therefore, that the behaviour of the firewood price index differs somewhat from the wood export price index, showing relatively higher prices in the second half of the 1860s and the whole period from 1890 to about 1905, and, in particular, before the early 1840s.

The saw timber index is based on observations of timber prices of various dimensions from the main water systems in Norway and the annual timber fairs in Drammen, Kongsberg and Christiania. Before the early 1870s there are a few observations from selected years; beginning with the 1870s, however, there is a continuous run of annual observations from various timber districts. Although the data are very patchy in the early years, the timber price series is important because it basically confirms the significant upward shift in the level of wood prices starting in the 1840s. The rise seems to be more gradual in the domestic timber market than in the export market for wood, but by the 1860s timber prices had caught up with the wood prices. Prices in peak years, particularly in the early 1870s, are higher in the timber price index, but in general they follow the cycles of the prices of planed wood.

5.11 (K) Manufactures of wood

The data on the market prices of manufactures of wood are scanty throughout the period. Domestically produced wooden goods used for packaging in the fish industry such as staves, hoops and wooden barrels of oak and fir were regularly traded in Bergen. From 1861 there are also data on cork prices from Bergen.

Paper made from wood fibres, pulp and matches were virtually non-existent as domestic producer goods until around 1870, but during the ensuing decades these became of prominent importance as export goods. There are no good sources giving market prices of these goods for the period before WWI, so in this case we have to rely primarily on data from the trade statistics. This applies without exception to paper and matches, but for wood pulp there are some market price quotations at irregular intervals to be found in financial newspapers.[72] Regular quotations on the Christiania Commodity Exchange were initiated in November 1919, but were discontinued

[71] See Moore and Zarnowitz (1986); Klovland (1998b).

[72] The market reports on wood and pulp markets published in the weekly newspaper *Farmand* contain some prices of pulp from 1890 onwards. Additional data were found in the daily newspaper *Norges Handels- og Sjøfartstidende* beginning 1915. The price ranges were sometimes stated in somewhat vague terms, differing with respect to the time of delivery as well as product qualities, which render them indicative rather than accurate as to the true market price level.

in 1920. There are also some market price data for various qualities of dry chemical pulp, but at quite irregular frequency.

The general lack of market prices of this important group of goods is regrettable, but it is believed that the export price data convey the most salient features of price fluctuations. In order to assess the usefulness of the monthly figures emanating from the trade statistics Figure 5.16 compares the market price quotations of mechanical wet pulp with the monthly export series from the trade statistics available for the period 1895-1912. The latter series is extended by including computed monthly estimates from the annual trade returns prior to 1895 and after 1912. To a fairly large extent the market price observations are well reflected in the prices extracted from the trade returns, but there are a few episodes where the discrepancies are substantial. This concerns in particular the boom years 1900 and 1915-1916. In these years trade statistics prices seem to have underestimated the market price level. The market price series extracted here mostly applies to pulp for prompt shipment. The mechanical pulp market was characterized by a varying degree of forward sales, and it may be surmised that the lower trade return prices may reflect prior sales at a lower price. However, the two curves are very close in other boom periods, such as 1904-1905 and 1907, so the evidence on this is mixed. On the balance, however, it seems that the use of prices extracted from the trade returns represent a fair, although imperfect, substitute for market price data in the case of wood pulp.

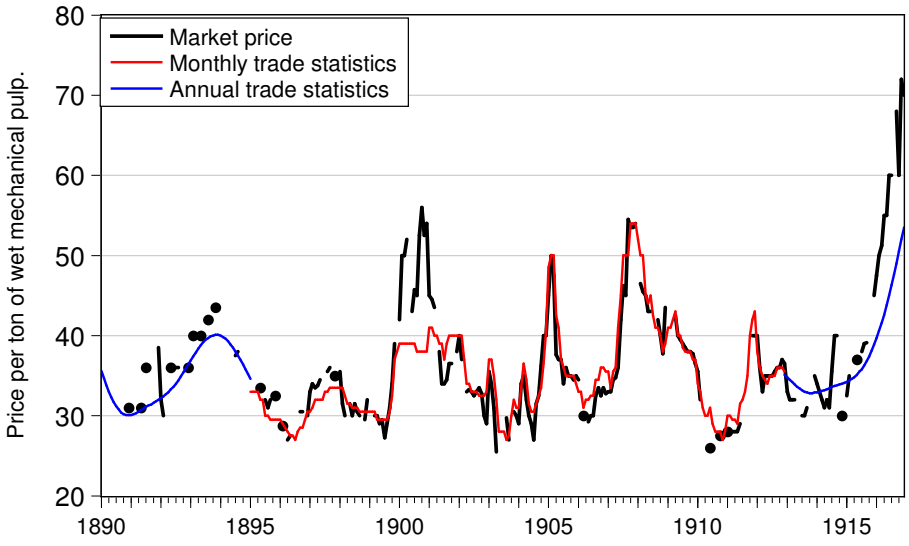


Figure 5.16: Prices of wet mechanical wood pulp 1890-1916. Not seasonally adjusted.

Figure 5.17 shows price indices of four wooden goods traded in Bergen: staves, wooden barrels, hoops and cork; in addition the price index of paper, derived from the trade statistics, starting in 1867 is also shown. The tremendous fall of paper prices from the early years of paper production in Norway is spectacular. By the 1890s prices had come down to a fairly stable level around which they hovered until WWI. Prices of wooden barrels and hoops showed a slowly falling tendency towards the end of the century, but recovered thereafter.

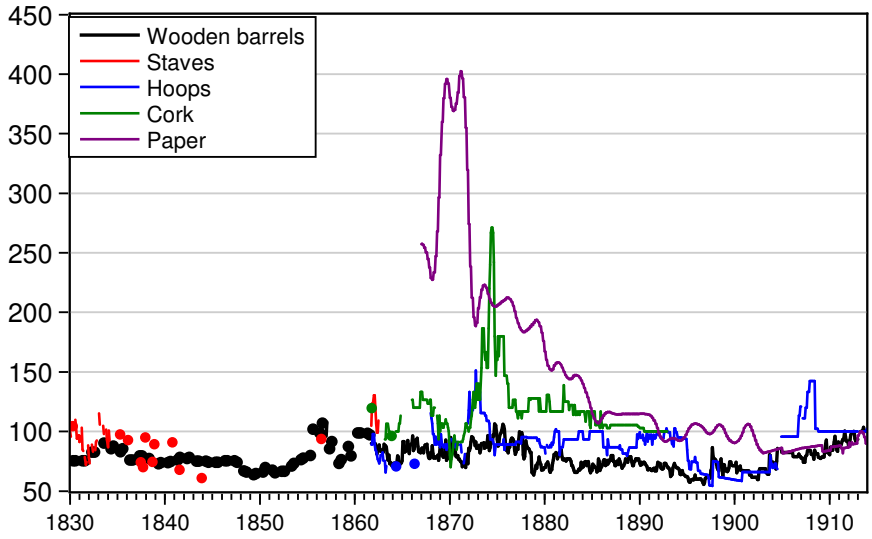


Figure 5.17: Price indices of manufacturs of wood 1830-1913. Not seasonally adjusted.Indices with various base years.

5.12 (L) Textiles

There are very few useful market price series available for textiles in Norway. This applies in particular to the last three decades of our sample period. With the exception of wool most of the raw materials for textile production were imported. Import prices from the trade statistics represent the only available alternative for cotton, wool and flax for the bulk of the period, both with respect to raw materials prices and manufactures. One exception to the non-existence of textile prices is represented by hemp, for which we have very good market price data from Bergen throughout the nineteenth century, except for the 1850s. The hemp series are shown in Figure 5.18. In addition to the price series of Riga hemp as quoted by commodity brokers in Bergen we have twice-yearly information on hemp sold to the Nordland fishermen (*Nordlandspriskuranten*) as well as from the magistrates' quarterly reports. The latter two series are mainly useful for filling the gaps in the 1840s and 1850s. For cotton, flax and linen goods (sailcloth, canvas and linen cloth) there are some market price data provided by commodity brokers in Christiania and Bergen. Prices of wool and woollen goods (frieze) as well as a mixed cotton and wool cloth have been collected from the June and October fairs in Stavanger. Together with the *Nordlandspriskurant* and magistrates' data for wool and flax they constitute a valuable source, mainly for the period from 1830 to the 1880s.

It has thus been possible to piece together price indices for the main textiles for the whole period, splicing these data with the import price series available from the late 1860s. Figure 5.19 shows price indices of wool, woollen goods and linen goods. These indices clearly reflect the major episodes of turbulence on international textile markets, as for example the surge of hemp prices during the Crimean War 1854-1856 and the general stiffening of most textile prices during the American Civil War in the 1860s. Although the textile price series are in general believed to give a fair picture of the general cyclical movements, the quality of the underlying price data is decidedly poorer for this industry than for most other sectors.

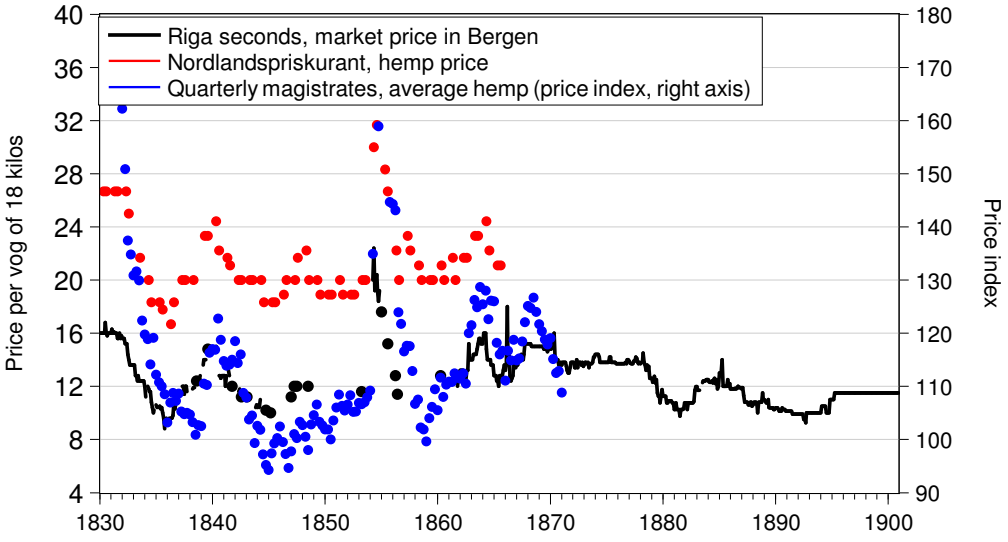


Figure 5.18: Prices of hemp 1830-1900. Not seasonally adjusted.

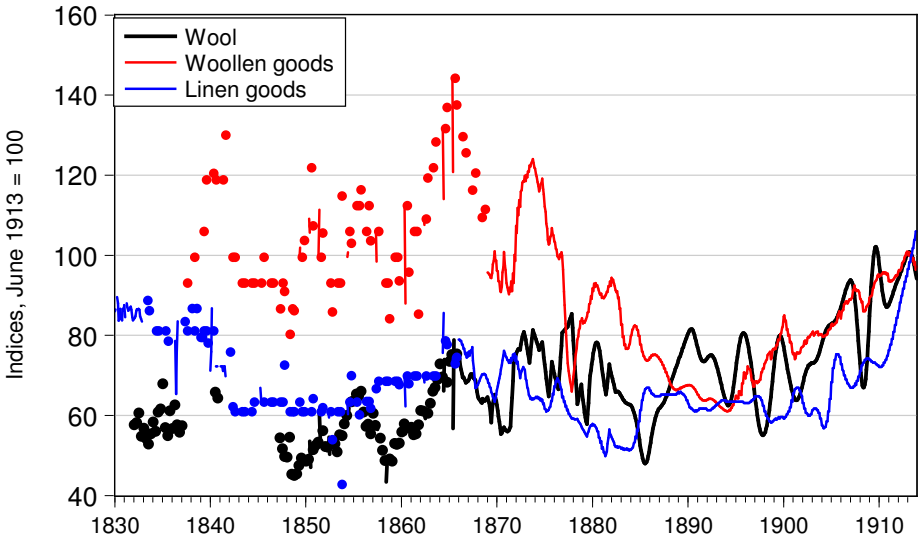


Figure 5.19: Price indices of textiles 1830-1913. Not seasonally adjusted.

5.13 (M) Oils and fats

Fish oil made from cod liver was an important export article which appeared in several qualities: the lower priced dark qualities used for lightening and industrial purposes and the brighter qualities for medical use. Excellent market price quotations from Bergen exist for nearly the whole period, but towards the end of World War I prices were no longer quoted due to export regulations, which is why our price series end in 1917. Figure 5.20 graphs prices of three qualities of cod liver oil, brown (two series), bright and crude medical. We note that the *Nordlandspriskurant* prices closely follow the cyclical movements of the market price series of brown oil, at a slightly lower level, which is another piece of evidence giving credence to the *Nordlandspriskurant* data as a reliable indicator of market price movements. It is also evident from Figure 5.20 that all qualities move together, but the finer qualities, bright and raw medical oil, exhibit larger cyclical swings. This feature becomes more pronounced as from the 1880s.

Figure 5.21 brings together price indices of four commodities made from rather different sources, for which we have long and reliable price data: cod liver oil (fish), tar (wood), tallow (animals) and petroleum (rocks). Since these goods all have different origins and uses it is little surprise that we observe quite different long-run trends in their prices. Tar was imported from Sweden, but there was also some domestic production. The price of tar exhibits some long-run swings but reverts to a fairly stationary level. Tallow was mainly produced locally and sold on city markets. The price of tallow behaves much like the price of fish oil, but without the violent cyclical peaks of the latter. Petroleum was first quoted in 1869. Its price fell roughly in line with that of fish oil, for which it was a superior substitute for illumination purposes, until the middle of the 1890s, when it collapsed and stabilized at a relatively constant level.

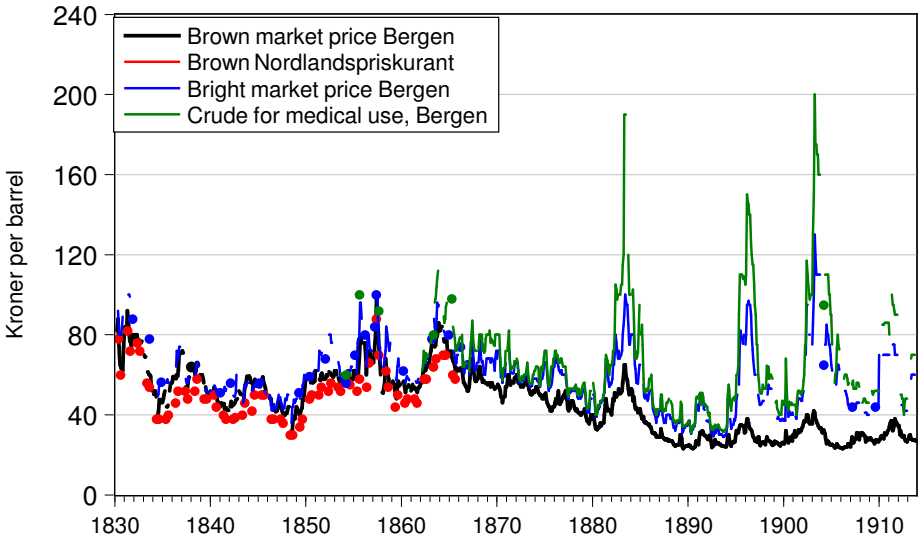


Figure 5.20: Prices of cod-liver oil 1830-1913. Not seasonally adjusted.

5.14 (N) Metals

Iron and copper were produced in Norway, and these are the only metals for which we have price observations in the early years. Swedish and Norwegian bar iron and iron nails were fairly actively traded by commodity brokers and on the city market in Christiania in the period from

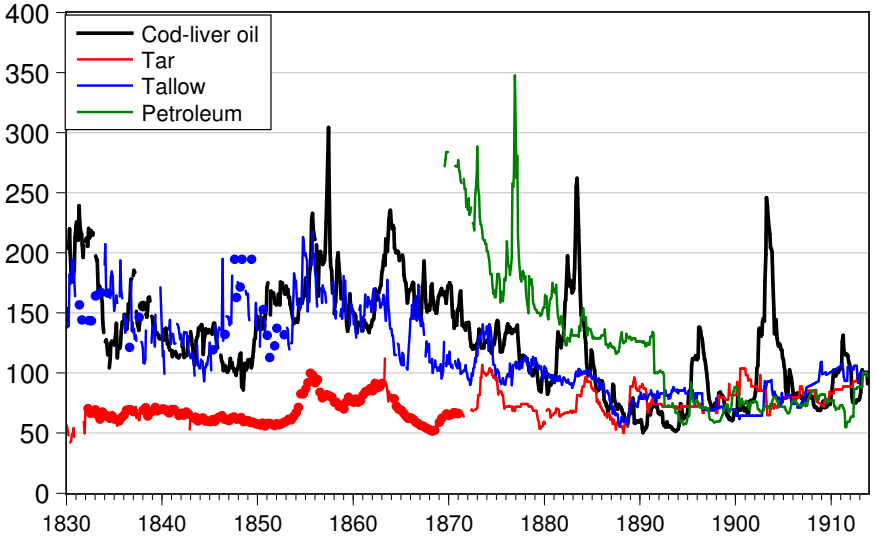


Figure 5.21: Price indices of oils and fats 1830-1913. Not seasonally adjusted. June 1913 = 100.

1830 to about 1860, but thereafter market price quotations were no longer forthcoming. In the second half of the century market reports in daily newspapers invariably referred to foreign price quotations in the cases of iron and metals. This was also the case regarding the weekly issues of *Farmand* beginning in 1891, but here we find a fairly detailed list of prices of iron manufactures and other metals in the regular price current. This was discontinued after April 1912, however.

Figure 5.22 features prices of bar iron and nails 1830 - 1871. Bar iron quoted on the Christiania town market and by brokers are both shown in the graph. A closer inspection of the two series reveals that they present a very similar picture of the course of iron prices, both with respect to cyclical fluctuations and levels. Bar iron prices are also positively correlated with the price of nails, particularly during the period of falling prices toward the trough in 1845. It is furthermore of some interest to compare the market price series with the unspecified 'iron' data (presumably bar iron) extracted from the magistrates' quarterly reports. It appears that there is in general a fairly close correlation between the two groups of data. This is of some importance because the magistrates' data is the only basis for piecing together a price index of iron in most of the 1850s and the 1860s, which can be continued by the trade statistics series after 1870.

Price indices of iron and copper are shown in Figure 5.23. Copper had for centuries been exported from Norway, chiefly from the mines at Røros. We use a consistent price series of refined copper exported from the Røros mines up to 1894. [73] These data are available as yearly averages only, being converted to monthly figures by the statistical method explained in section 3.3. From the early 1890s we also have price quotations of refined copper ingots from Trondhjem and monthly data on copper plates and refined copper from Christiania, in addition to average export prices from the trade statistics.

[73] See Vogt (1895) for an overview of copper production in Norway. The prices are from Kraft (1832) before 1830 and from Vogt (1895) thereafter.

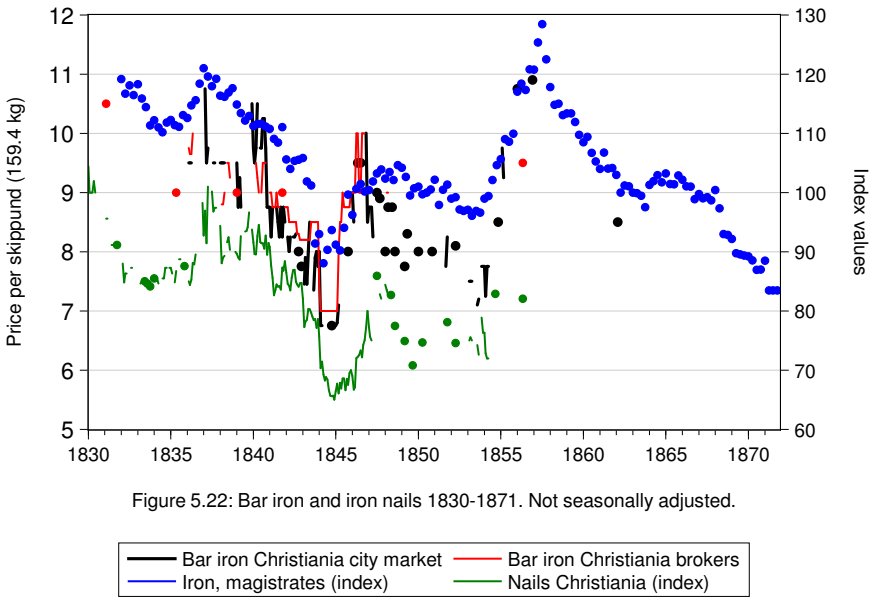


Figure 5.22: Bar iron and iron nails 1830-1871. Not seasonally adjusted.

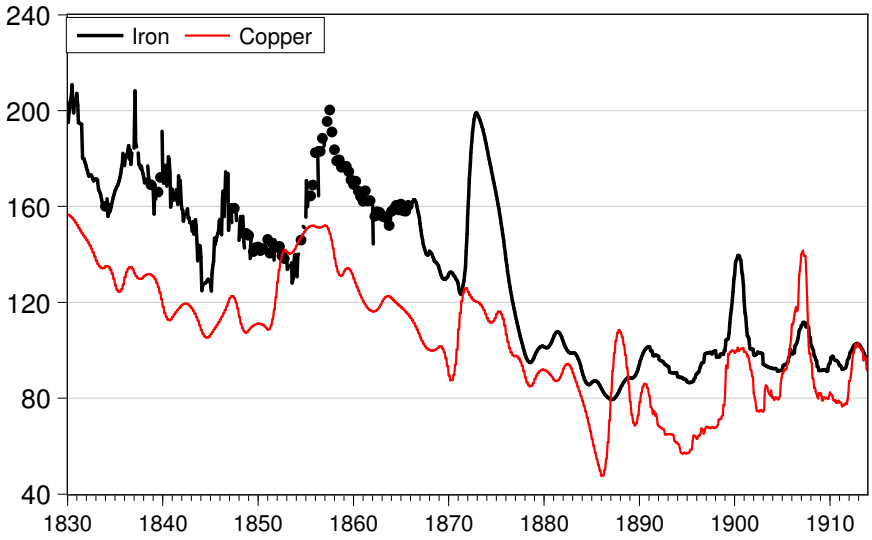


Figure 5.23: Price indices of iron and copper 1830-1913. Not seasonally adjusted. June 1913 = 100.

Metal prices were clearly falling during the first two decades beginning in 1830, but rose considerably during the inflationary 1850s. In general the two metal price series reflect the broad cyclical movements on international markets. These features include the superboom of the early 1870s, which above all was a coal and iron boom, the well known price inflation episodes around 1900 and 1907, also including the speculative attack on copper prices in 1889.

5.15 (O) Chemicals

This commodity group comprises only a few goods, with observations starting just before the turn of the century. In addition to three chemical products taken from the trade statistics (calcium carbide, calcium nitrate and ammonium nitrate) there are good market price data for raw materials used in the production of paints (zinc oxide, white lead and red lead). These goods were quoted on the Christiania commodity exchange and were in fact the only commodity group for which quotations were not discontinued towards the end of WWI. [74] Since there are few data prior to WWI we present no graphs of the data in this section.

5.16 (P) Minerals

Salt and coal are the two most important commodities in this group. Whereas there are excellent market price data, chiefly from Bergen, for the whole period until WWI for salt, it is much harder to get a satisfactory data base for coal prices. Figure 5.24 shows two salt price series from Bergen (St Ubes (now known as Setubal) and Trapani) and one from Stavanger (Trapani) for part of the period. Bergen and Stavanger were major ports for the importation of salt due to its use in the fish trade. Grain and salt were the only commodities nearly always quoted by the brokers in the Bergen and Stavanger markets during the first half of the nineteenth century. The quotations comprised several descriptions of salt from Portugal and the Mediterranean, which were quite close substitutes. This is evident from Figure 5.24 where the two salt price series from Portugal (St Ubes) and Sicily (Trapani) are hardly distinguishable. The Bergen and Stavanger prices also showed nearly identical fluctuations.[75] The Liverpool rock salt prices from Christiania show less apparent correlation with the Mediterranean salt price series.

The coal price index shown in Figure 5.25 had to be pieced together from a number of shorter market price series from Bergen, Stavanger and Christiania, supplemented by trade statistics data. The latter series is available monthly for the period 1895-1912; for other years monthly figures have been estimated from annual data. None of the individual market price series are of sufficient length to provide price estimates for more than a fragment of the time span covered here, but the resulting coal price index shown in Figure 5.25 may nevertheless be satisfactory.

Also shown is a price index of natural ice, based on trade statistics data. The frozen water trade was of importance in Norway, particularly from the final quarter of the nineteenth century until WWI, although it met with growing competition from artificially produced plant ice. As is evident from Figure 5.25 the price of ice was characterized by sporadic, but quite volatile, price fluctuations. These were largely caused by anomalous weather conditions. Following an unusual mild winter in Europe in 1882, prices rose to unprecedented heights in 1882, being more than three times the normal level.[76] Similar short-lived price spikes occurred in 1898 and 1910.

[74] Sugar, leather and petroleum were quoted through April 1918. A few sugar quotations were resumed in July 1919.

[75] There is a remarkable spike in the salt price series in the winter of 1846. Complaints of the lack of salt in the Bergen market during the peak of the herring salting season were heard in February, and in March salt prices had risen to more than twice the normal level. The arrival of several salt ships had been expected for a long time but had apparently been upheld by contrary winds (*Norsk Handels Tidende* 27 February and 6 March 1846).

[76] According to *Beretning om Amternes Økonomiske Tilstand i Femaaret 1881-85, Bratsberg Amt, pp. 10-11* the price paid in London for natural ice from Norway in the spring of 1882 was about 30 shillings per register ton, one cargo even fetched 60 shillings. In a normal year the price was about 10 shillings.

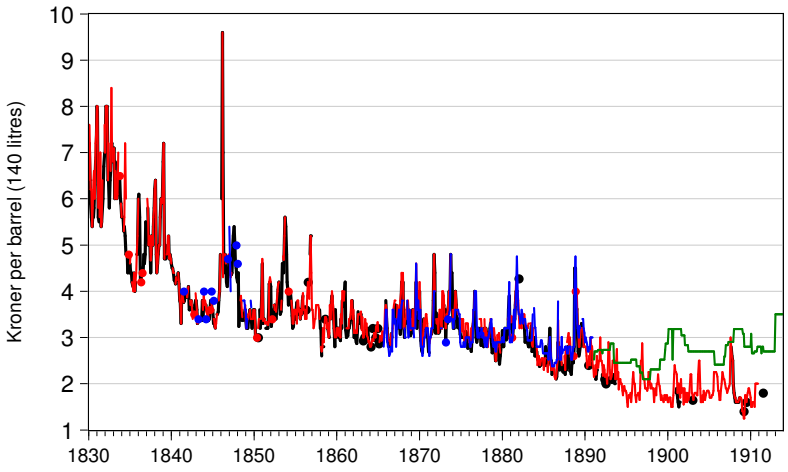
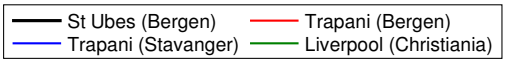


Figure 5.24: Salt prices 1830-1913. Not seasonally adjusted.



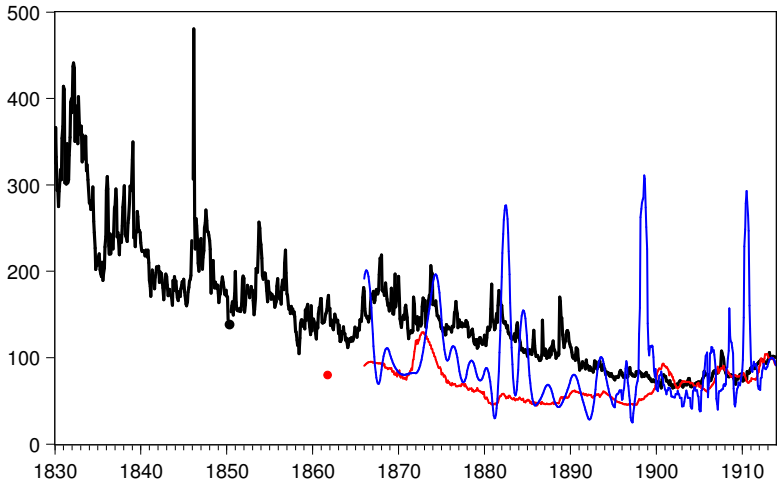
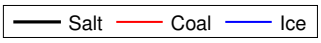


Figure 5.25: Price indices of salt, coal and ice 1830-1913. Not seasonally adjusted. June 1913 = 100.



6 A review of prices 1913-1920

The price history in this period is very different from the preceding decades – therefore we show price indices for this period in separate graphs. The existing price indices only give end-of-year data for the years 1913-1919, mostly at a fairly aggregate level. Our new indices will present a finer grid of the course of prices, both across commodities and with respect to intrayear movements.

6.1 Main foodstuffs

The indices for the main foodstuff groups are brought together in Figure 6.1. The prices of all foods rose greatly during WWI, reaching a level about four times the prewar level. Grain prices rose quickly after the war was declared in August 1914, having almost doubled by the winter of 1915, but then fell back somewhat and there was no further rise until the final months of 1916. Meat and dairy products (butter, cheese and eggs) rose at a more even pace until 1918. Vegetable foodstuffs, chiefly potatoes, exhibited substantial fluctuations in the first part of the war period and an even more extreme surge in prices in 1918.

An interesting general feature, which turns out to be reflected in nearly all our group price indices, is the abatement of the strong rate of inflation in 1918, which in some cases turned into a period of falling prices. This feature is clearly discernible for all the foodstuffs shown in Figure 6.1, although the timing of the peak varies quite a lot within the year. During 1919 (or in the early months of 1920 in a few cases) a period of sharply rising prices once again set in, which peaked during 1920. A major driver of this short but severe period of commodity price inflation was no doubt the international restocking boom of 1919-1920.[77] In the case of Norway it is also likely that expansive domestic monetary and fiscal policy during WWI and its immediate aftermath gave a further impetus to the inflationary environment.

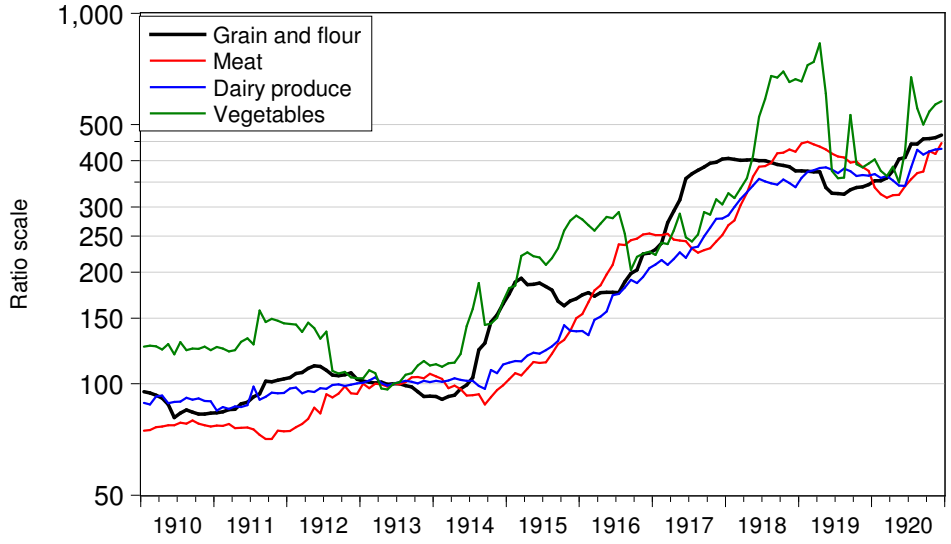


Figure 6.1: TPI indices of foodstuffs 1910 - 1920. Seasonally adjusted. June 1913 = 100.

[77] Eichengreen (1992, pp. 107-115).

6.2 Imported foodstuffs and beverages, feeding stuffs

Figure 6.2 shows that prices of colonial goods (sugar, coffee) as well as alcohol and tobacco increased much less than the other foodstuffs during WWI. These goods were subject to very strict price controls, which was easier to enforce than for goods which were mainly or in part produced at home, such as meat and dairy produce. Import duties and domestic excise taxes were important components of the market prices of these goods, which may have made it easier for the government to exert a dampening effect on the general rise in prices by restraining increases in tariff rates and taxes. In addition, the fact that the Norwegian currency was stronger than its prewar gold parity in the entire period between November 1915 and March 1919 may have exerted a downward influence on the prices of imported commodities.

The price index for alcohol and tobacco, as shown here, is conspicuously smooth, which is due to the fact that it had to be based on annual foreign trade prices as no market data exist for these goods in this period. But it will be seen that in the longer run it follows the price index of colonial goods, for which we have genuine market prices.[78]

Prices of feeding stuffs (chiefly oats and hay) showed a somewhat divergent behaviour. Two periods of sharply rising prices in 1914-1915 and in 1917 were followed by periods of falling prices. By the autumn of 1917 the price of feeding stuffs had reached a very high level, about five times the prewar level, which was higher than for any foodstuffs. After that the price index continued to fall through 1920, which normalized the relative price. Oats and hay were almost exclusively home products, hence international price fluctuations had less impact on these goods.

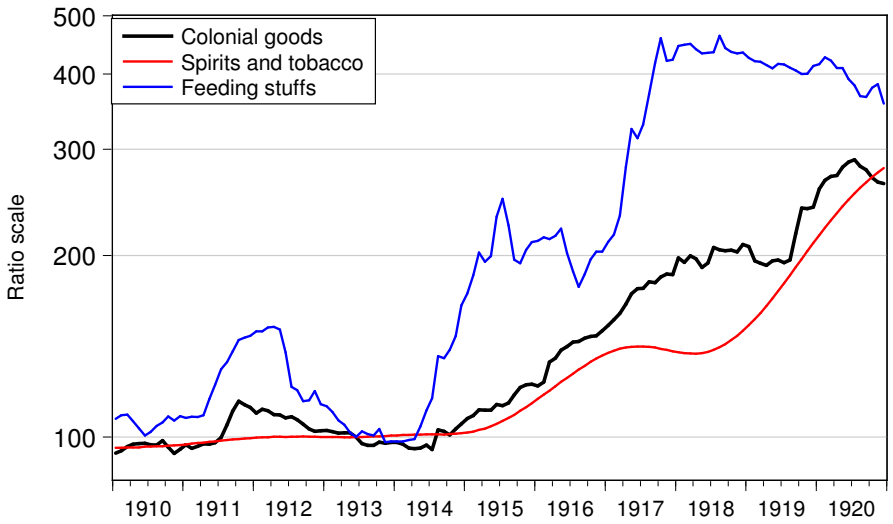


Figure 6.2: TPI indices of colonial goods, alcohol and feeding stuffs 1910-1920. June 1913 = 100. Seasonally adjusted. June 1913 = 100.

6.3 Main export goods: fish and wood

Although the Norwegian export economy had been substantially more diversified as from the beginning of the century, fish and wood products still accounted for a large share of export revenues. Figure 6.3 shows price indices of fish, wood and manufactures of wood. In the latter

[78] There are detailed and reliable monthly market prices on sugar, which are the most important ones, but for coffee we had to substitute retail prices for wholesale prices in part of the period.

category pulp and paper had by far outstripped sawn and planed wood from the sawmills as the leading export goods. It is the price rise of the pulp and paper products that stands out as the most spectacular one among the export goods. In the final months of 1920 their prices had risen to six times the level on the eve of WWI. Wood (chiefly sawn and planed, firewood) followed more or less the increase in pulp and paper prices until 1919, but did not match the peak of 1920.

After a great surge in 1915 and the first part of 1916 fish prices, on the other hand, followed a much more subdued course during this period. After the peak in May 1916 there was a period of falling prices during 1917 and into the middle of 1918, but only a modest recovery in 1919. Price movements of fish in this period may have been severely distorted by huge government purchases, on British and German account in 1916. Keilhau (1927, p. 133) noted that the huge British purchases of fish had created an 'artificial boom' in the Norwegian fish market in the spring of 1916 and 'artificial slump' in 1917, when these purchases were scaled down, which is reflected in Figure 6.3. Maximum prices on fish and an export ban were introduced. In January 1918 the government started buying fish on a large scale as part of the domestic food supply program, which may have contributed to the rising prices at that time seen in Figure 6.3. All these measures certainly put normal market price adjustment mechanisms out of play throughout the war period.[79]

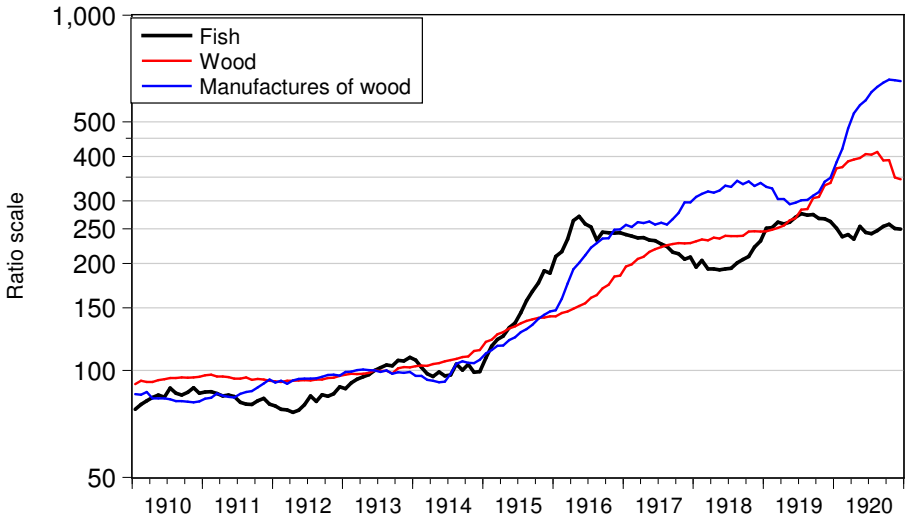


Figure 6.3: TPI indices of fish and wood 1910 - 1920.
Seasonally adjusted. June 1913 = 100.

[79]See Keilhau (1927) for a vivid discussion of these issues. Rygg (1954, pp. 398-399) gives a brief summary of these events.

6.4 Metals, minerals and chemicals

These commodity groups contain imported goods, such as iron, tin, lead, salt and coal, but also important export goods, such as copper, zinc, ferrosilicon, aluminium, artificial fertilizers as well as pyrites. The course of prices shown in Figure 6.4 traces a fairly similar and distinct pattern: a sustained rise until early 1918, then a substantial decrease towards a trough in the middle of 1919, before the characteristic restocking boom sets in.[80]

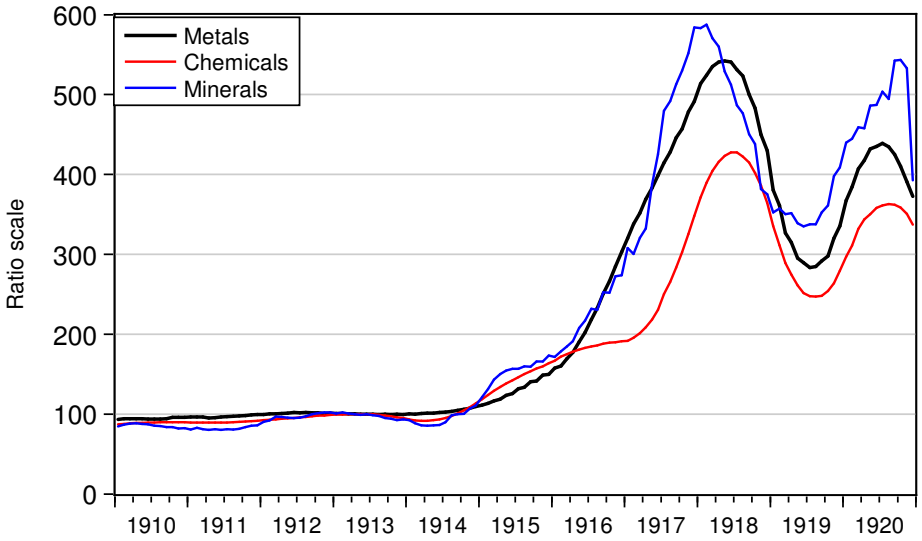


Figure 6.4: TPI indices of metals, chemicals and minerals 1910 - 1920. Seasonally adjusted. June 1913 = 100.

[80]The smooth behaviour of metals and chemicals prices is largely an effect of the use of foreign trade data.

6.5 Hides, textiles and oils

These indices, which are shown in Figure 6.5, show a rather mixed pattern. The quantity exported of hides and skins was of some importance, but the group was more heavily weighted towards imported goods. The time pattern of prices shown in Figure 6.5 follows the established pattern, although with an early peak at the end of 1919. The overall rise in prices is among the smallest of the groups presented here. Textiles were largely imported and show a smooth rise, the smoothness is due to the use of trade statistics data. The group index of oils comprises the important export categories of fish and whale oil, but also various imported oils of some significance (olive oil) and in particular petroleum. It is seen from the graph the there were violent swings in oil prices, with a very marked peak in 1918 and a strong revival after the trough of 1919.

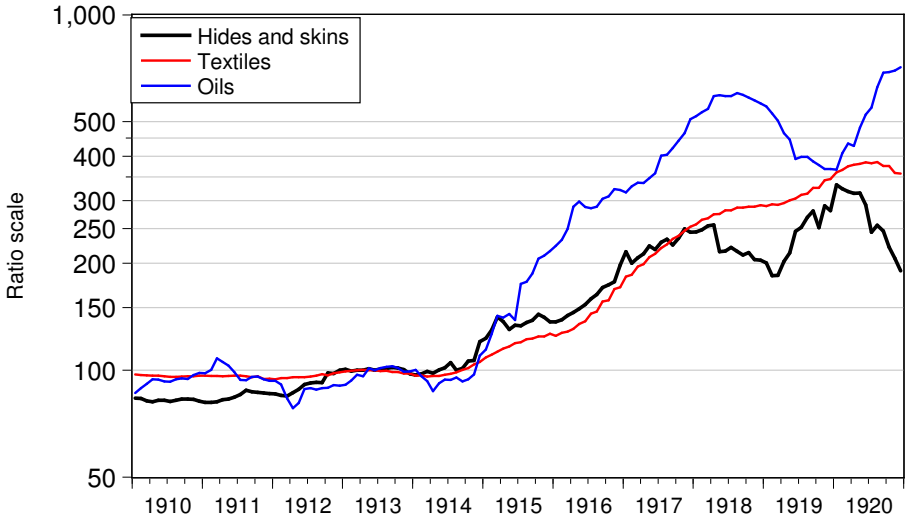


Figure 6.5: TPI indices of hides, textiles and oils 1910 - 1920.
Seasonally adjusted. June 1913 = 100.

7 The aggregate indices 1777 - 1920

After having reviewed individual prices and subgroups of commodity prices it is now time to look at the aggregate indices. In conformance with the discussion in section 3.5 three sets of indices are presented: producer price index (PPI), wholesale price index (WPI) and total supply price index (TPI). It will be recalled that the PPI index reflects the weighting of domestically produced goods sold at home and abroad; the WPI index differs from the PPI by including imported goods while excluding exported goods. The TPI index is constructed by using the combined weights of domestic goods, exports and imports.

The indices for four subperiods are shown in Figures 7.1 to 7.4. Two graphs covering the 1777 - 1830 period are presented in order to obtain a more detailed view of the years before 1800. The discussion here is only intended to give a descriptive summary of the main features of the new indices. We refrain from trying to systematically relate the price movements to monetary and political events, as this is the beyond the scope of this study, although a few incidents are touched upon.

As a guide to identify the major cyclical movements in the price indices Table 7.1 contains the dating of the turning points. The basis for this tabulation is the graphs shown here and Table A1 of the appendix, where monthly values of the indices are printed. The dating of the cycles is tentative only, as it is merely based on visual inspection of the series. Strict criteria for identifying cycles as in the Bry and Boschan (1971) tradition were not applied, but we do have in mind a notion of cycles not being too short and too weak.

When our sample starts in May 1777 it is seen from Figure 7.1 that prices were in general on a rising trend (although export prices were weak in 1778). It is difficult to single out any marked turning point in prices until August 1784, when all three price indices, PPI, WPI and TPI, reach a peak. At this time there is little or no further trend rise in prices until the final years of the century, but there are some mild cycles. There are peaks July 1789 and September 1795 and periods of slightly lower prices in the middle of 1792 and in 1796 or 1797.

A much stronger price cycle starts in 1799, peaking in April 1801, when the price level is estimated to have increased by 63 per cent relative to January 1799 according to the PPI and by 94 per cent according to the WPI index. This difference is related to the fact that import prices rose much faster (138 per cent) than export prices (27 per cent) over the same period. The inflationary episode coincides with years of great expansion in the money supply after a decade of relatively constant volumes of the circulation of *kurantsedler*.[81] The Danish-Norwegian currency circulation increased by 15 per cent in 1799, by 32 per cent in 1800 and by 24 per cent in 1801, which is likely to have created an inflationary environment.

[81] Svendsen (1968).

Table 7.1. Turning points of price indices 1777 - 1920.

Cylce	Troughs			Peaks		
	PPI	WPI	TPI	PPI	WPI	TPI
1				1784 AUG	1784 AUG	1784 AUG
2	1785 JUN	1785 JUN	1785 JUN	1789 JUL	1789 JUL	1789 JUL
3	1792 MAY	1792 MAY	1792 MAY	1795 SEP	1795 SEP	1795 SEP
4	1796 SEP	1797 AUG	1796 SEP	1801 APR	1801 APR	1801 APR
5	1802 APR	1802 APR	1802 APR	1813 SEP	1814 JUL	1813 SEP
6	1814 DEC	1815 MAR	1814 DEC	1817 MAR	1817 MAR	1817 MAR
7	1818 JUL	1818 JUL	1818 JUL	1819 SEP	1819 MAR	1819 MAY
8	1821 MAY	1821 JUN	1821 MAY	1822 JUL	1822 JUL	1822 JUL
9	1825 JUL	1825 JUL	1825 JUL	1826 NOV	1826 NOV	1826 NOV
10	1828 AUG	1828 APR	1828 AUG	1831 MAY	1831 MAY	1831 MAY
11	1834 JUN	1834 JUN	1834 JUN	1838 MAR	1838 FEB	1838 FEB
12	1842 MAR	1842 SEP	1842 SEP	1843 AUG	1843 AUG	1843 OCT
13	1844 DEC	1845 FEB	1844 DEC	1847 JUN	1847 JUN	1847 JUN
14	1850 JUN	1850 JUN	1850 JUN	1856 JAN	1856 JAN	1856 JAN
15	1859 OCT	1859 OCT	1859 OCT	1861 MAR	1861 FEB	1861 FEB
16	1865 APR	1865 JUN	1865 APR	1868 MAR	1868 FEB	1868 MAR
17	1870 NOV	1871 JAN	1870 NOV	1874 SEP	1874 JUL	1874 JUL
18	1876 MAR	1876 MAR	1876 MAR	1877 MAY	1877 MAY	1877 MAY
19	1879 APR	1879 APR	1879 APR	1881 SEP	1881 SEP	1881 SEP
20	1887 DEC	1888 MAR	1888 MAR	1891 SEP	1891 SEP	1891 SEP
21	1894 NOV	1895 FEB	1895 JAN	1900 JUL	1900 JUL	1900 JUL
22	1902 MAY	1901 OCT	1901 NOV	1907 JUL	1907 JUL	1907 JUL
23	1908 NOV	1909 JAN	1908 NOV	1913 OCT	1912 MAY	1913 OCT
24	1914 MAR	1914 MAR	1914 MAR	1918 OCT	1918 AUG	1918 AUG
25	1919 JUN	1919 JUL	1919 JUN	1920 OCT	1920 OCT	1920 OCT

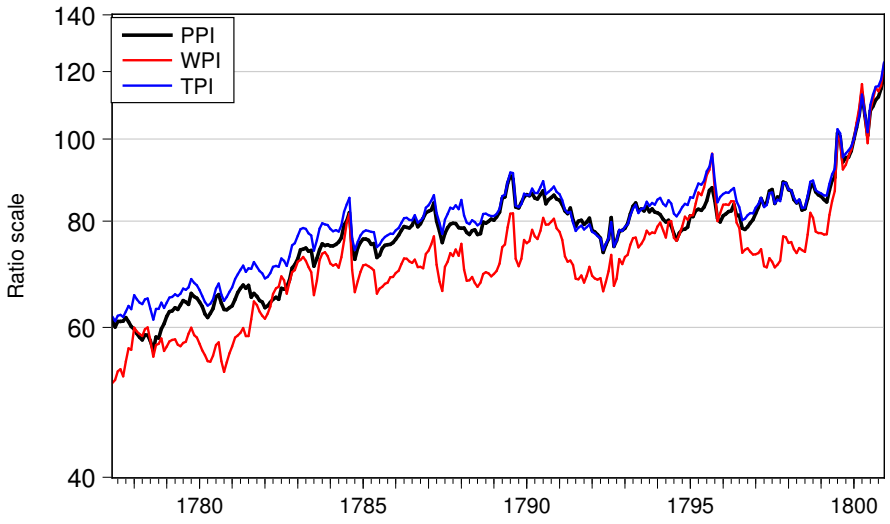


Figure 7.1: Aggregate price indices 1777 - 1800.
Seasonally adjusted. January 1800 = 100.

Considering the first three decades of the nineteenth century as portrayed in Figure 7.2 we get an overall view of the course of prices that is quite similar to the one left by looking at the exchange rate graph, see Figure 4.1. A striking feature of Figure 7.2 is the strong similarity of price movements between the indices. The general picture is independent of the choice of index, only during some brief periods are there any discernible discrepancies between them.

Prices showed cyclical fluctuations but no inclination towards a permanent rise in the first five years of the century. The great inflation period started in the final months of 1807. The surge in the WPI price index did not come to a halt until July 1814, when it was about 50 times the level of January 1800. Export and domestic prices, and hence the PPI and TPI indices, had already peaked in in September 1813, however.[82] In this period there are large discrepancies between the movements of the various price indices, which may be natural under the abnormal economic and political circumstances of the time, but it should be borne in mind that the underlying price data material is particularly scanty in 1813-1814, which implies that the empirical evidence should be interpreted with some caution.

During the second half of 1814 there was a short period of deflationary pressure as a reaction to the surge in prices in the preceding year – from the summer of 1813 to the summer of 1814 prices had risen almost 100 per cent. After March 1815 another period of sharply rising prices set in, which culminated in March 1817. At its peak the WPI was more than 100 times higher than it was in the first month of the century. The violent price fluctuations in these years largely mirror the exchange rate behaviour. The characteristic bimodality of the silver value of the currency, as reflected in exchange rate against Hamburg banco, applies to commodity prices as well. There are two distinct peaks in the price of banco, in September 1813 and January 1817 (Figure 4.1). The twin peaks of prices occur in September 1813 (July 1814 in the case of WPI) and March 1817. The winter of 1817 represents an all-time low for the international value of the currency and an all-time high for prices. In the case of the price index it took exactly one hundred years until this threshold was surpassed.[83]

From the peak in 1817 the long-run movement of prices was downward over next decade.

[82] See Table A1 of the appendix.
[83] See Table A1 of the appendix.

It is possible to identify several shorter cycle within this period, most notably a short period of severe deflation reaching a trough in July 1825. This episode coincides with the dramatic appreciation of the exchange rate on Hamburg, which went from 216.5 in July 1822 to 101.5 in August 1825.

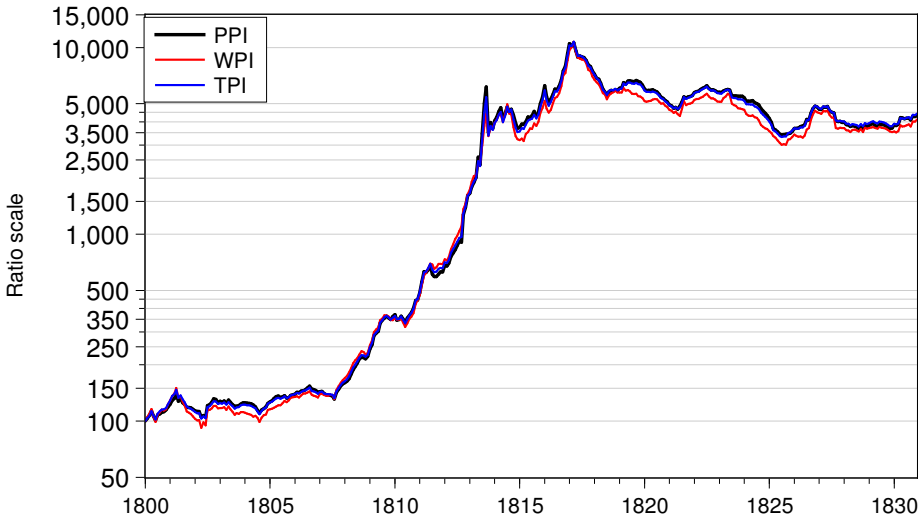


Figure 7.2: Aggregate price indices 1800 - 1830.
Seasonally adjusted. January 1800 = 100.

Figure 7.3 gives a bird's-eye view of the price indices over the period 1830 - 1913. The general picture is of one of strong cycles around distinct long-run price trends. In broad terms the new Norwegian indices follow the trend pattern of prices seen in many other European countries. The common features include the 25 years of generally rising prices from about 1850 to 1875, then a period of falling prices until the middle of the 1890s, often referred to as the great deflation, followed once again by an increasing price level towards WWI.[84] Upon these long-run trends is superimposed a picture of distinct price cycles, mostly of a five to ten years duration. The similarity with business cycles is not only with respect to amplitude and duration, but also with respect to timing. Many of the peak months of prices identified in Table 7.1 correspond to the business cycle peaks in chronologies for the major countries.[85] This is in particular the case for the decades beginning in the 1880s. All the peak years of prices in Norway – 1881, 1891, 1900, 1907, 1912/13, 1918, 1920 – fall in the same or within one year of the business cycle peaks in Britain. This might support a conjecture that prices were procyclical in this period, for which there is much international evidence, but the issue must await a more detailed econometric investigation.[86]

The final graph, Figure 7.4, shows the price indices in the 1910 - 1920 period. There was a peak in WPI in May 1912 and weak trough in March 1914: for PPI the cyclical movements around these dates are so small that they barely qualify as a genuine cycle. In contrast to the great inflation of the WWI years the prewar period stands out as one of stationary or slowly

[84] Church (1975).
[85] Zarnowitz and Moore (1986).
[86] In a study including Norway in the sample Smith (1992) concludes that the international evidence supports the procyclicality hypothesis prior to WWI. Somewhat different results are obtained by Grytten and Hunnes (2012) in their study based on correlations between annual GDP output gaps and consumer price indices for Norway.

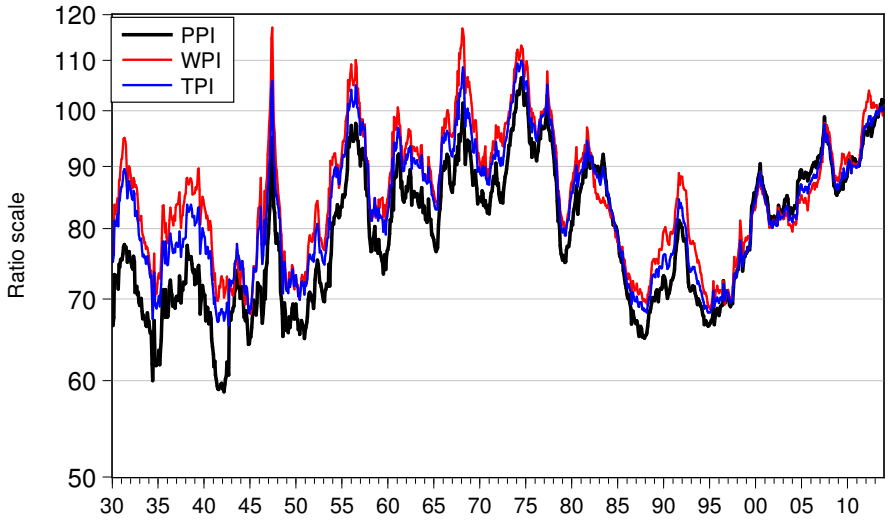


Figure 7.3: Aggregate price indices 1830 - 1913.
Seasonally adjusted. June 1913 = 100.

rising prices. The wartime evidence was a period of uninterrupted inflation rates hovering around 40 per cent per year. In 1915 and 1916 PPI was the most buoyant price index, while WPI was rising faster in 1917. The wartime inflation episode peaked just as the war was about to end, in October 1918 in the case of PPI and in August 1918 in the case of WPI. Then followed some months of falling prices until the postwar restocking boom began to take effect in the summer of 1919. The sharp inflation episode appears to have ended in October 1920.

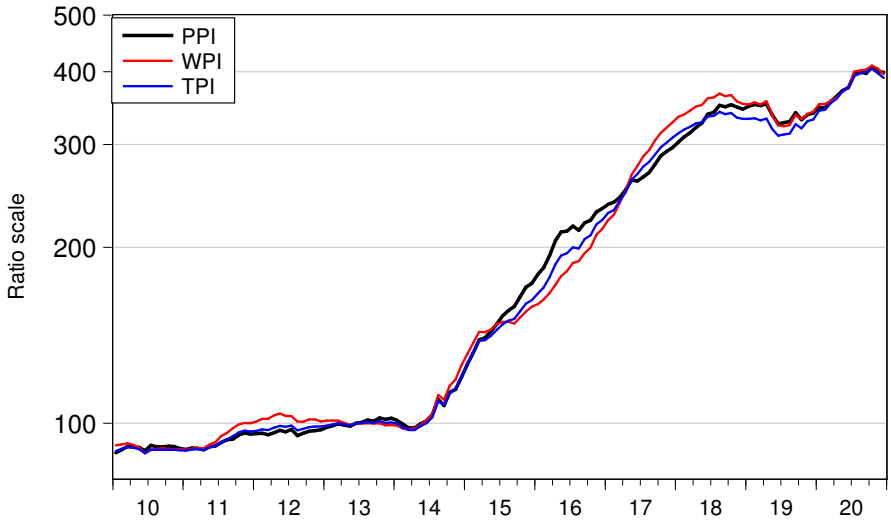


Figure 7.4: Aggregate price indices 1910 - 1920.
Seasonally adjusted. June 1913 = 100.

8 Export and import prices, terms of trade

Using export and import revenue shares in the benchmark years 1835, 1870, 1890 and 1910 we are able to derive monthly price indices of exports and imports for the whole period 1777-1920. We also compute time series for the ratio between export prices and import prices, referring to this for short as the terms of trade. It should be carefully noted however that this series deviates somewhat from the usual definition of the terms of trade. One source of difference emanates from the fact that our import price index is based on market prices in Norway rather than being on a cif basis, thus comprising tariffs and excise taxes. A further difference derives from the fact that the price indices presented here refer solely to prices of commodities, excluding services. Because of the very important role played by the shipping industry in Norway a conventional and more comprehensive terms of trade may deviate considerably from the time series shown here. The terms of trade, as defined here, is accordingly a somewhat defective, although still perhaps indicative, measure of the purchasing power of the nation's goods, excluding services.

The new data series for the period 1777 - 1830 are shown in Figure 8.1. The export series is largely dominated by wood and fish products, including fish oil, which accounted for 43.6 and 50.1 per cent of the export price index, respectively. [87] Other goods entering the export index in this period (weights in parentheses) are copper (2.6), iron (2.1) and tar (0.7). The most important components of the import price index are grain (44.6), textiles (14.0), alcohol and tobacco (8.0) and minerals (i.e salt and coal) (5.9), but the effective weights of these goods are higher, because price data for colonial goods (17.5) are missing prior to 1825.

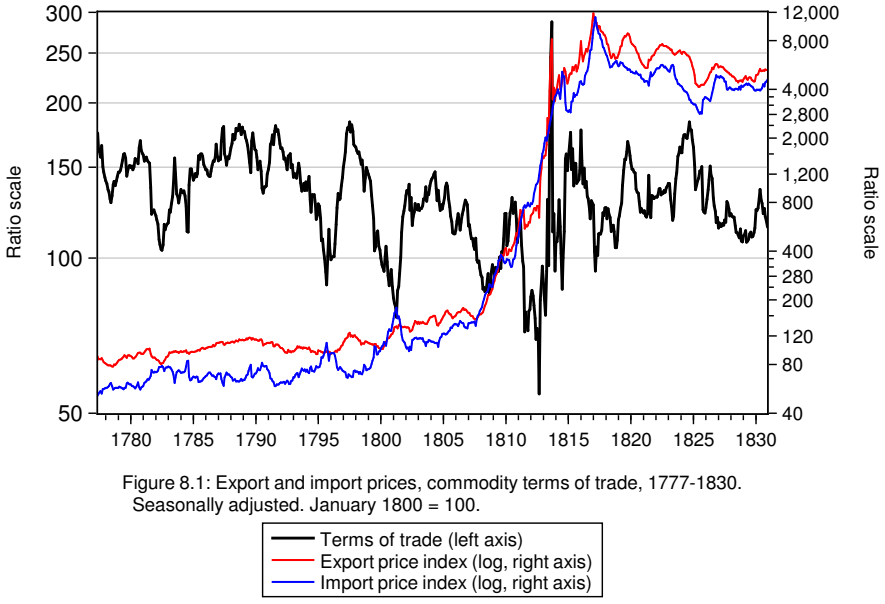


Figure 8.1: Export and import prices, commodity terms of trade, 1777-1830. Seasonally adjusted. January 1800 = 100.

These caveats imply caution in interpreting the curves shown in Figure 8.1, but the graph nevertheless invites to some tentative conclusions. There were large swings in the ratio of export prices to import prices, particularly from the middle of the 1790s. Prices of imports were on a slightly rising trend but exhibited some distinct short cycles peaking in September 1795 and in April 1801. Import prices started to rise somewhat in 1805, and more strongly from 1807. Export prices rose in line with import prices as from the first years of the new century, but

[87] See table of weights in the appendix.

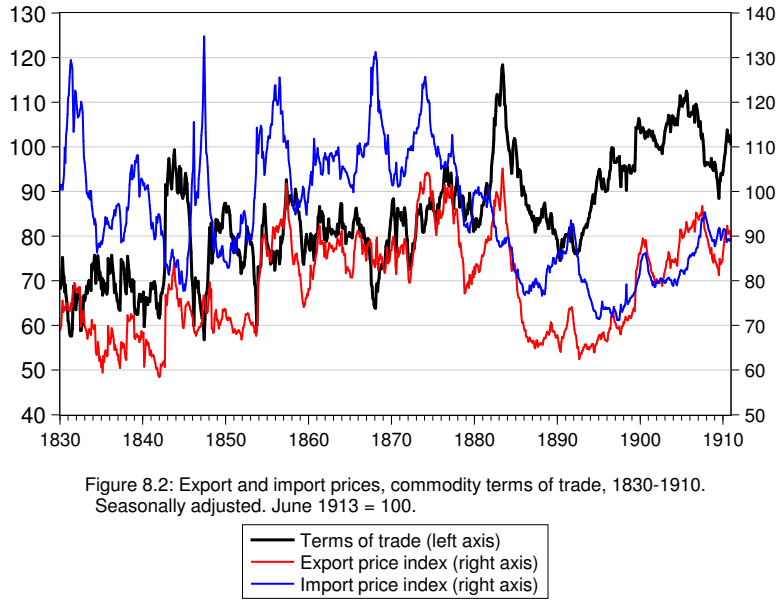


Figure 8.2: Export and import prices, commodity terms of trade, 1830-1910. Seasonally adjusted. June 1913 = 100.

showed less cyclical movements than import prices.[88]

It is only in the second half of 1808 that we see any persistent upward movement in the prices of export goods. During the whole blockade and wartime period until 1813 import prices are more buoyant than export prices. This result is in accordance with the contemporary view of the industrialist Jacob Aall, who by 1813 maintained that prices of goods produced at home still had not risen as much the fall in the currency value implied.[89]

The discrepancies between price fluctuations in exported and imported goods yield substantial movements in the terms of trade (as measured here). The export/import price ratio rises somewhat towards the year 1804, when a setback occurs. As discussed above, it is tempting to associate this with the effects of the political turmoil, from 1807 in particular with the naval blockade. In 1809 and 1810 the terms of trade are temporarily improving again, but a further decline sets in during the following year. The nadir is reached in 1812. After some violent swings, mostly due to wood prices, the terms of trade measure reverted to a level closer to the pre-blockade relationship only in 1819. [90]

Much has been written on the economic hardships facing Norway during the Napoleonic Wars and the final years before the secession from Denmark in 1814, but it has been difficult to underpin the text with figures because of the almost complete lack of aggregate data on production and trade. Figure 8.1 may be one of the first pieces of hard evidence in this respect, although the uncertainty regarding the wood price index should be born in mind when interpreting this graph, in particular short-run movements. The opening created by the trade in wood with Britain under the licence agreement starting in 1809 increased wood prices considerably, which is reflected in the terms of trade improvement at that time. But by 1810 wood prices were falling in Britain and freight costs and tariff rates increased, so that the wood trade was

[88]This may partly be a statistical artifact because of the smoothing procedures applied to wood and copper prices in this period

[89]Quoted in Rygg (1918, p. 26). This feature emerges clearly from a comparison of domestic and import price indices in Table A1 of the appendix.

[90]The wood prices were converted from pound sterling to Norwegian currency using the monthly sterling exchange rate, which causes extreme short-run fluctuations in this period.

hardly very profitable any more. Thereafter wood exports dwindled and ceased altogether in 1813 and 1814.[91] The wood price movements in these years may therefore be rather void of much significance for the wood export trade - prices were fair, but only a limited number of timber cargoes were shipped to Britain. [92]

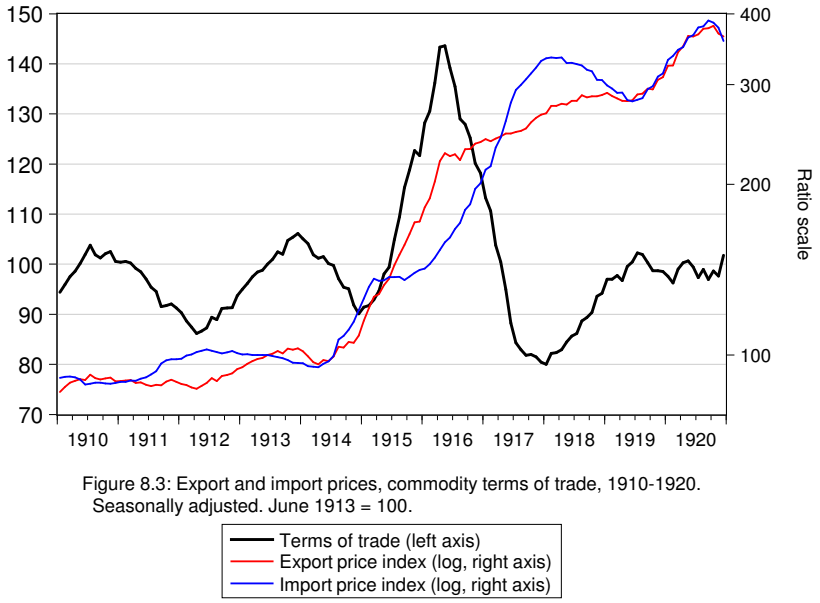


Figure 8.3: Export and import prices, commodity terms of trade, 1910-1920. Seasonally adjusted. June 1913 = 100.

As from 1817 export and import prices were both on a falling trend, which continued during the first half of the 1820s, but prices tended to converge toward a more stable level in the second half of the decade. The differential behaviour of the two indices are most marked around 1824, when the wood trade benefited from a boom on export markets while import prices declined steadily. Thereafter there was a quite marked decrease in the terms of trade towards the end of the decade.

Figure 8.2 portrays the same data series for the period 1830 - 1910. The main feature of the terms of trade measure is the sharp rise in two steps during the years 1838-1843. The first step, occurring in 1838 is due to a combination of falling import prices and rising prices of exports, in particular fish. The second step is clearly attributable to the greatly improved net sales prices of Norwegian wood on the English market following the substantial import tariff reductions in 1842-1843. It seems fairly safe to conclude that there was an upward shift in the ratio of export to import prices at this time, but the exact magnitude is difficult to measure, as discussed in section 5.10 above. The temporary setback in 1846-1847 may be largely due to the increased prices of grain on international markets.

A second major feature of this period is the strong cycle in the terms of trade during the 1880s. The upward movement in the years 1881-1883 is once again a combination of falling prices of imported goods and rising prices of exports, with a surge in fish prices playing a leading role. The subsequent fall in export prices relative to import prices towards 1890 is 36 per cent. This decade is known as a period of general depression in Norway, characterized by sluggish growth,

[91] Worm-Müller (1922, p. 78).

[92] According to Warburton (1835, p. 384) the volume of Norway deals imported into the United Kingdom in 1814 was only 18.6 per cent of the level during the height of the licence trade period in 1810 and 1811, which corresponded roughly to the normal level during prewar years.

the first round of bank failures and some years of net migration. This was also the decade of a large-scale transition from sail to steam in international shipping, which depressed ocean freight rates to a considerable degree. The fluctuations in our terms of trade variable are greater than in existing estimates of the the terms of trade as traditionally defined (including shipping).[93] This is an issue which may warrant further investigation.

The period comprising the WWI period is shown in Figure 8.3. The graph highlights the booming export prices during the first part of the war, being subsequently overtaken by the more strongly rising import prices in 1917. This resulted in a forceful positive terms-of-trade shock in 1916, which collapsed completely in 1917 A revival took place in 1918, which brought relative foreign trade prices back to prewar levels. In spite of the shocks from international commodity markets and the impediments to trade due to the war, as well as the draconian domestic price control measures, the terms of trade series ends up very close to the prewar level in 1920. Note again that these data only refer to commodity prices. If an index of ocean freight rates could be added to give a more complete picture, the positive terms of trade shock experienced by Norway in 1916 will most certainly be magnified, also improving the record for 1917.

[93] See Grytten (2004b) and Statistics Norway (1968).

9 A comparison with the consumer price index

Grytten (2004a) has published an annual consumer price index which covers the impressive time span 1516 - 1871, with links to previous work extending the index right up to our time. The underlying price material for this index is rather different from the one used in the present study, and there are many differences between the two types of indices in terms of composition, weighting and construction, which may lead to dissimilar movements in the two indices. After 1871 Grytten linked his index to a consumer price index constructed by Minde and Ramstad (1986), and from 1901 to 1916, to a price index from Christiania, thereafter to the Statistics Norway's consumer price index. In spite of all these differences, it is of some interest to compare the two indices to see whether they give basically the same picture of the trends and cycles in the price level in Norway.

First we look at the early years, including the great inflation period after 1807. The two indices are shown in Figure 9.1. Grytten's consumer price index is referred to as CPI. Our index is the WPI aggregated to annual levels from the underlying monthly data.[94] In Figure 10.1 the levels of the indices in 1800 are set equal to 100.

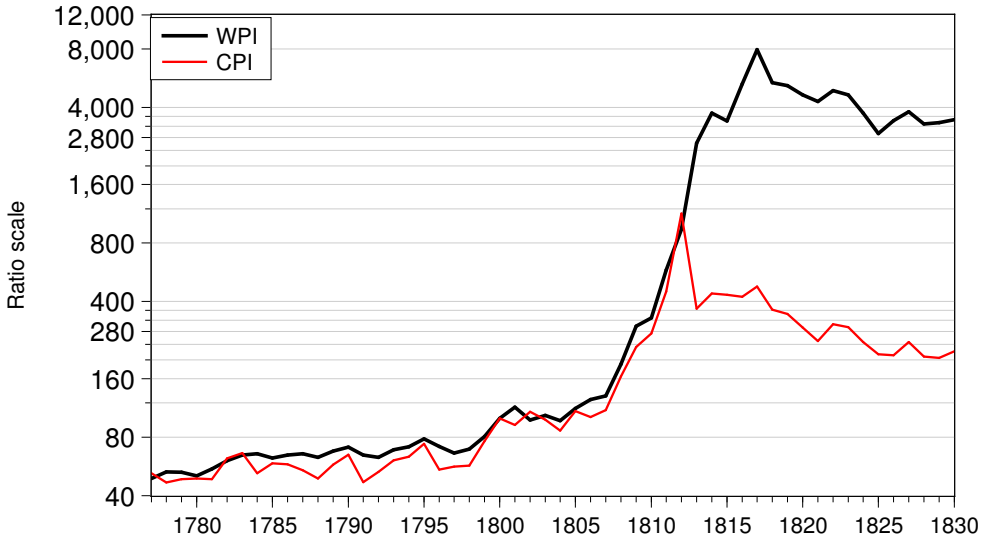


Figure 9.1: Wholesale price index and consumer price index, 1777-1830. January 1800 = 100.

The similarity between the two indices is quite good during the *kurantdaler* regime before 1813. There are some short-run deviations but the long run development is nearly identical. However, it is seen by a glance that there is a distinct break between the two series after 1812. This is almost certainly due to a different treatment of the transition from rigsdaler Danish courant to rigsbankdaler. Our procedure for handling this problem is discussed in detail in section 4. There is also a large discrepancy between the two series in the years from 1815 to 1817, at the time of the transition from rigsbankdaler to speciedaler. Between 1815 and 1817 CPI only increases by 10 per cent, whereas the new WPI index increases by 233 per cent.[95] The overall effect on the long-term price level is that, according to CPI, prices were about 3.5 times

[94] It is evident from the discussion in section 7 that the results would not have been much changed if the PPI or the TPI had been used instead.

[95] The data can be found in Table 14 in Grytten (2004a) and Table A3 of the appendix.

higher in 1820 than in 1800. This is very different from the WPI, which yields a corresponding ratio of about 46. Regarding the period between 1812 and 1818 it is clear that the two indices are incompatible, even taking into account a margin for a possible unsynchronized behaviour of consumer and wholesale prices.

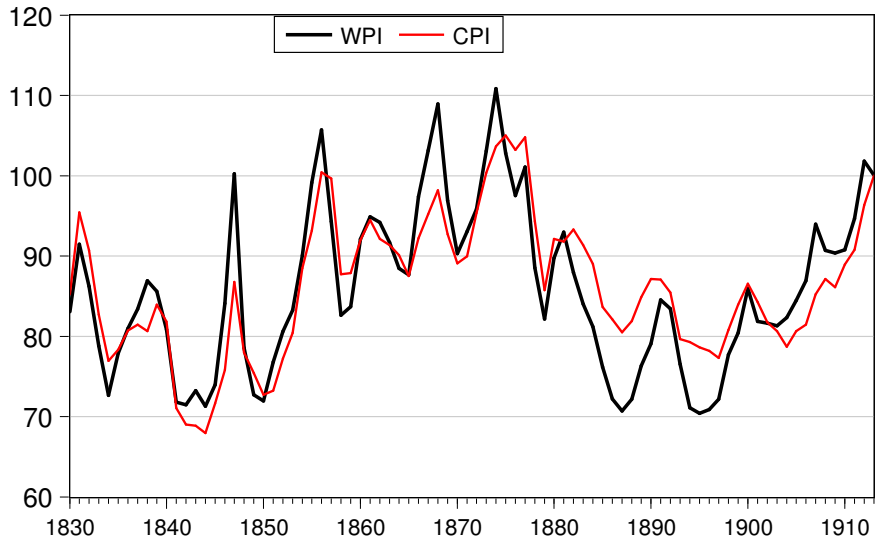


Figure 9.2: Wholesale price index and consumer price index, 1820-1913. 1913 = 100.

The comparison for the long period 1820 - 1910 shown in Figure 9.2 presents a totally different picture. Here the covariation between the two indices is as good as can be expected given the differences in the construction of the two indices. The short cycles are basically the same, but more pronounced for the WPI, which is normal against the less volatile consumer price index. After the 1870s the correlation is somewhat weaker. In particular it is seen that the WPI records much deeper troughs in 1887 and 1895 than does the CPI. After 1900 WPI shows more buoyancy than CPI, with a local peak in the international boom year 1907.

Finally, Figure 9.3 contains the comparative indices for the years 1910 - 1920. The stronger rise in WPI is consistent with established results regarding the comparison of consumer (or cost-of-living) indices and wholesale price indices. The CPI increased by a factor of 3.0 between 1913 and 1920, the WPI by 3.82. The latter figure is very close to the rate of increase of the the wholesale price index launched by Farmand, which is 3.95.[96]

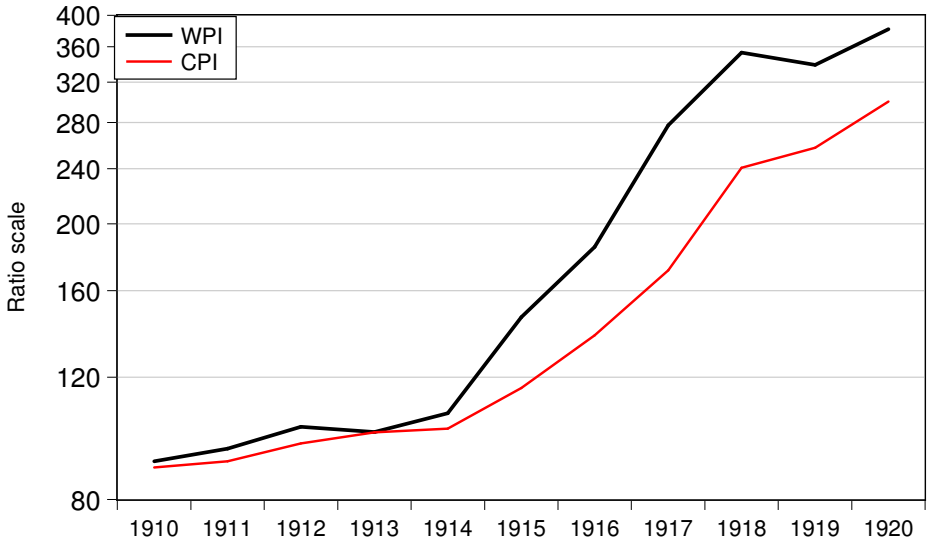


Figure 9.3: Wholesale price index and consumer price index, 1910-1920. 1913 = 100.

[96] See *Statistiske oversikter 1948*, Statistics Norway, Oslo, 1949 for summary data on these indices.

10 A comparison with foreign price indices

10.1 1790-1830

In view of the extreme inflationary environment of the first decades of the nineteenth century and the discrepancy between the new evidence presented here and previously published data for this period it may be useful to get a cross-check of the behaviour of the new index for Norway. Germany was the most important trading partner in the early years of this period. We use the general price index for Germany constructed by Jacobs and Richter (1935) for our comparison. This is a price index which comprises many of the same goods as the Norwegian index, weighted roughly in the same proportions as our WPI.[97] Agricultural products, for example, obtain a weight of 45 per cent in the German index, while these goods account for 58.4 per cent in the Norwegian index.

Figure 10.1 displays the Norwegian WPI and the German price index converted to Norwegian currency for the period 1792-1830, with 1800 set equal to 100 (scale on right axis). The real exchange rate (scale on left axis) is also shown, computed as

$$SR = S \cdot P^*/P$$

where S is the nominal exchange rate, P and P^* the domestic and the German price indices, respectively. The principle of purchasing power parity (PPP), if it were to hold exactly at each observation, would imply that domestic and foreign prices converted to Norwegian currency should be equal. The same principle implies that the real exchange rate, SR, should by invariant over time, equal to its value of 100 in the base year 1800.[98] In practice, this result is seldom or never obtained, even in periods of no impediments to trade and more tranquil and integrated financial markets. In this period there is even more reason not to expect the principle to apply on an annual basis. What we should look for in this connection is whether there is a tendency to equality in the long run, which is a useful cross-check for the validity of the new price index.[99]

Looking at Figure 10.1 the Norwegian and German price indices do indeed give an impression of following each other fairly well over time. The great inflation occurring between 1797 and 1803 and again between 1808 and 1817 is closely related to the what one would expect given the German price index and the exchange rate on Hamburg, and so is the reversal of the trend in the direction of a deflationary environment in the 1820s.

The close long-run relationship does not preclude quite significant discrepancies on an annual basis, however. This phenomenon is best studied by looking at the behaviour of the real exchange rate. Before 1808 the real exchange rate hovers around 100, well in accordance with the PPP principle. After this there are larger swings in the real exchange rate. From 1807 to 1812 the real exchange rate takes on values well below 100, which implies that there was a real appreciation. This implies that either the nominal exchange rate is stronger (or depreciated less) than PPP predicts, or that domestic prices are higher – or a combination of both factors. Recalling the discussion in section 8 it may be surmised that the first hypothesis is the more likely one, but resolving this issue requires further analysis.

The price material which forms the basis of the new price index is less than complete in this period, however. In addition, there are technical differences in the construction of the domestic

[97] The prices underlying the German index are computed from prices quoted in currencies with a fixed silver content (Jacobs and Richter (1935, p. 17)). There are several alternative index series in this source; here, we use the total index with 1820 weights tabulated on page 80. These data are annual and go back to 1792.

[98] The relative purchasing power parity hypothesis is that $S = k \cdot P/P^*$, where k is an arbitrary constant (for example 100). If the PPP hypothesis holds, it follows that $SR = k$, being invariant over time.

[99] It may nevertheless be added that Edison and Klovland (1987) found considerable support for an augmented PPP hypothesis on a century of Norwegian-British data, taking into account productivity and real interest rate differentials.

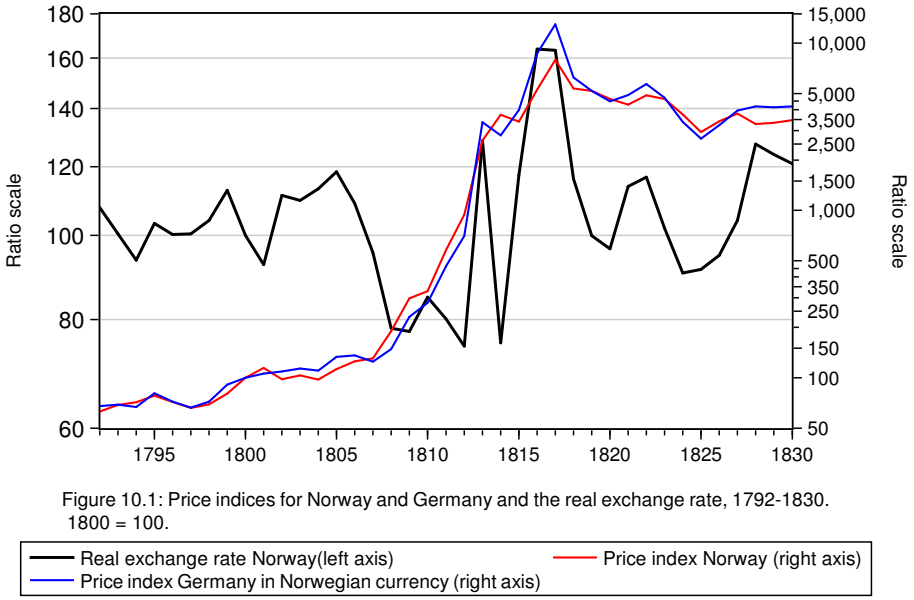


Figure 10.1: Price indices for Norway and Germany and the real exchange rate, 1792-1830. 1800 = 100.

and the German price index. It may therefore be useful to perform the same cross-check as above, but using a single commodity, thus testing the law of one price instead of PPP. Rye, which was an important cereal in both countries, is chosen for this purpose. This is shown in Figure 10.2. It is seen that the qualitatively same results for the 1808-1814 period are forthcoming here, but the fluctuations are even larger in this case. The law of one price could hardly be expected to hold during a period with large-scale disruptions to trade flows.

Between 1812 and 1818 the real exchange rate exhibits quite erratic movements. It is tempting to relate the real depreciation of the real exchange rate (increasing values) in Figure 10.1 to continued inflationary bias that followed from the actions undertaken by the new Rigsbank, which was formed in 1813. This may well have eroded public confidence in the international value of the Norwegian currency beyond the limits set by PPP. The political secession from the Danish rule in 1814 may seem to have reversed the situation temporarily, but as the inflationary climate continued, the nominal and real exchange rates depreciated further in the years 1815 to 1817.

After 1817 the real exchange rate reverted to more normal levels. In 1819 the real exchange rate stood at 99.9, thus being very close to what the purchasing power parity principle predicts. Although the nominal price level had risen by a factor of 51.8 between 1800 and 1819 the relationship between the domestic price level, the foreign price level and the exchange rate is thus exactly the same in 1819 as in 1800. Since the exchange rate can be almost perfectly measured, and the German price index stems from a well-founded source this gives some confidence to the view that the new price index rests on a firm basis as well.

One interpretation is that after the new speciedaler currency was introduced in 1817 and the new central bank began its operations, confidence in the new currency regime brought about more stability in financial markets. This may be the reason why we see that the former relationship between the exchange rate and the domestic and foreign price levels was restored at this time.

The 1820s were a much calmer period than the preceding decades in terms of price level and currency movements. There were still some swings in the real exchange rate, however; the

general price indices and the rye price conveys much the same picture here. In the middle of the 1820s it is of some interest to note that the real exchange rate (Figure 10.1) had reverted to virtually the same level as it started from in the year 1800, hovering around 100. Towards the end of the 1820s there is a real exchange rate depreciation.

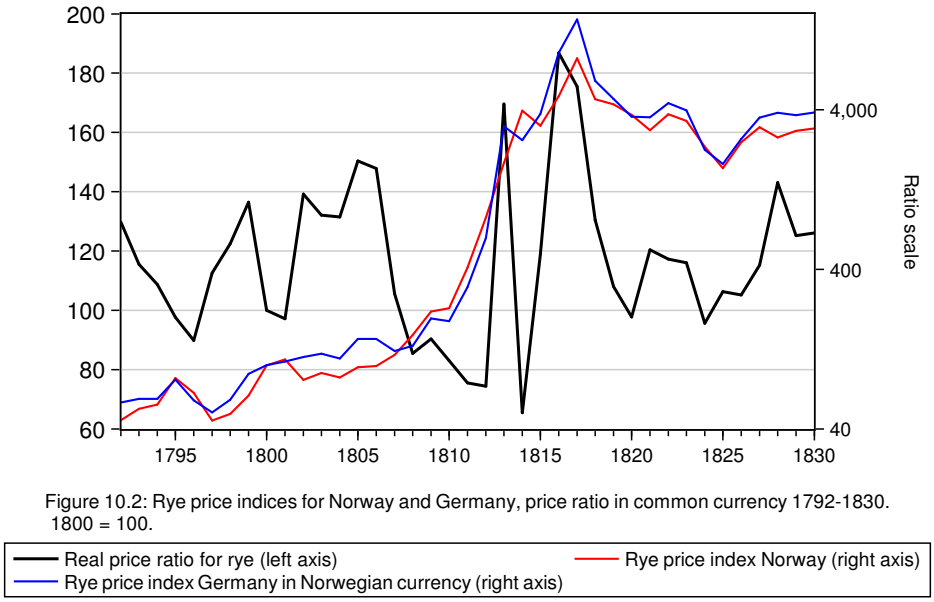


Figure 10.2: Rye price indices for Norway and Germany, price ratio in common currency 1792-1830. 1800 = 100.

10.2 1820-1850

This subperiod overlaps with the one used in the previous section because we now focus more on the cyclical behaviour of prices, using British prices as the foreign benchmark. We use the monthly wholesale price index constructed by Gayer et al. (1953) for the period 1820 - 1845, spliced to a modified and extended version of the Sauerbeck (1886) price index for the years 1846 - 1890 and contemporary estimates of the same index from 1891 - 1920.[100]

Figure 10.3 portrays the Norwegian WPI index and the British price index for the period 1820-1850. Also shown is a variable constructed by converting British prices into Norwegian currency, setting this series equal to Norwegian prices in August 1842, the month in which Norway returned to the par value of silver envisaged for the speciedaler. This curve thus shows the values predicted by the purchasing power parity principle, if it were to apply at each point in time.[101]

As to cyclical behaviour we see that Norwegian and British price indices are not highly correlated in the first part of this subperiod, which is natural given the changing exchange rate between Britain and Norway. When British prices are converted into Norwegian currency, however, the short cycles are more similar. This is most striking in the 1820s. Norwegian prices

[100]Klovland (1993) presented monthly values of the annual Sauerbeck index beginning in 1846. This source also corrects some inconsistencies in the original index, using market prices (duty paid) for all commodities, and adding some of the data series that were missing for the early years. Beginning 1891 monthly figures were taken from the summary table published in *Journal of the Royal Statistical Society,* March 1922, p. 275.

[101]The variable is constructed by multiplying the British price index P^* by the exchange rate S (Norwegian currency against sterling quoted in Christiania) and rebasing it in August 1842. The PPP hypothesis is that $P = S \cdot P^*$.

exhibit troughs in June 1821 and July 1825, peaks in July 1822 and November 1826. The converted British prices have similar turning points at the same date, as in 1822, or within 6 - 8 months in the other cases. The price fluctuations in the 1830s and the first half of the 1840s are more subdued and less synchronized, although the falling prices of the late 1830s and early 1840s are similar.

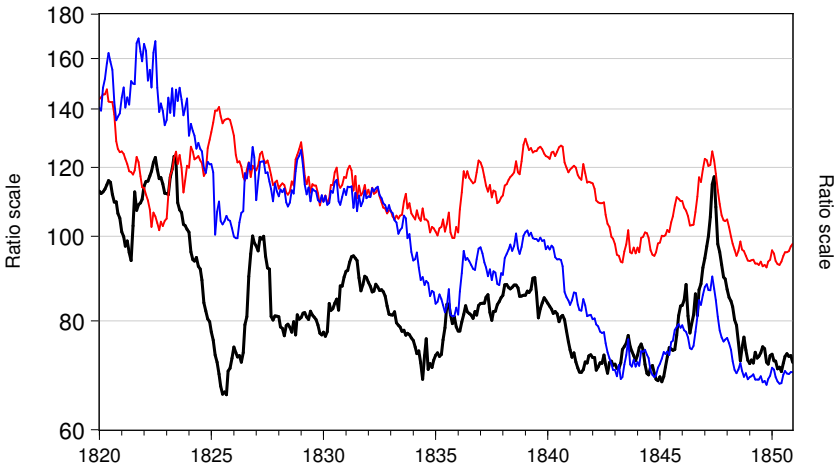


Figure 10.3: Price indices for Norway and Britain, 1820-1850. June 1913 = 100.

There is, however, a marked downward shift in the relationship in the middle of the 1830s. Such shifts may have been caused by changes in relative prices between the major commodities, which are weighted unequally in the two indices. More weight is attached to coal, iron, textiles and wheat in the British prices than in the Norwegian index. But it is also tempting to conjecture that the shift is due to the value of the Norwegian currency being held artificially low (the exchange rate too high) in this period. Norges Bank kept the minimum price for silver exchange fixed at 135 per cent from 1827 to February 1834, which contemporary critics, lead by professor Schweigaard, claimed was too high in consideration of the underlying strength of the economy, given the long-term aim of resumption at par.[102] Within a couple of years from 1834 the official rate was brought down to 115 per cent. In the currency markets the speciedaler appreciated by roughly 20 per cent against Hamburg banco and sterling.[103] The PPP theory illustrated in Figure 10.3 gives some tentative support to the argument that an earlier step towards reduction in the official rate would have been feasible – the relationship between the two price levels in the first part of the 1830s would have warranted a such measure.

The British price boom in 1847 was basically driven by the surge in grain and provision prices following a season of bad harvests in northern Europe.[104] The Norwegian price index follows a very similar pattern, peaking one month later (June 1847) than the British index.

[102] See Rygg (1918, pp. 202-209).

[103] Hamburg banco was fixed to silver and sterling to gold, so that the exchange rate against Hamburg and London could move somewhat differently, reflecting the relative prices of the two metals on world markets.

[104] Gayer et al. (1953, p. 508).

10.3 1850-1880

The general impression conveyed by Figure 10.4 is that the inflationary episodes of the middle of the 1850s and the early 1870s are broadly similar in the two countries, but the timing of the peaks differ. A great inflationary boom period was under way by early 1853. From the winter of 1854 the Crimean War interfered with the course of prices, primarily through sharply higher grain prices following the closure of the Black Sea ports. The well-known commercial boom of 1857 is not much visible in the Norwegian index, in contrast to the surge in the British index. The 1860s present a somewhat irregular pattern, but there is a distinct peak in Norway in the first half of 1868 not found in the British index. [105]

In the early 1870s there was a strong international boom in economic activity and prices throughout Europe. In Britain coal and iron prices were driven to unprecedented levels at the peak of economic activity at the end of 1872, with the peak in the price index occurring in January 1873. Prices of wood and timber had a somewhat delayed response to the general surge in demand, contributing to a later peak in Norwegian prices, in July 1874 according to our data. The final part of the 1870s was a period of subdued economic activity and persistent fall in prices until the nadir was reached in 1879, in March in Britain and in April in Norway.

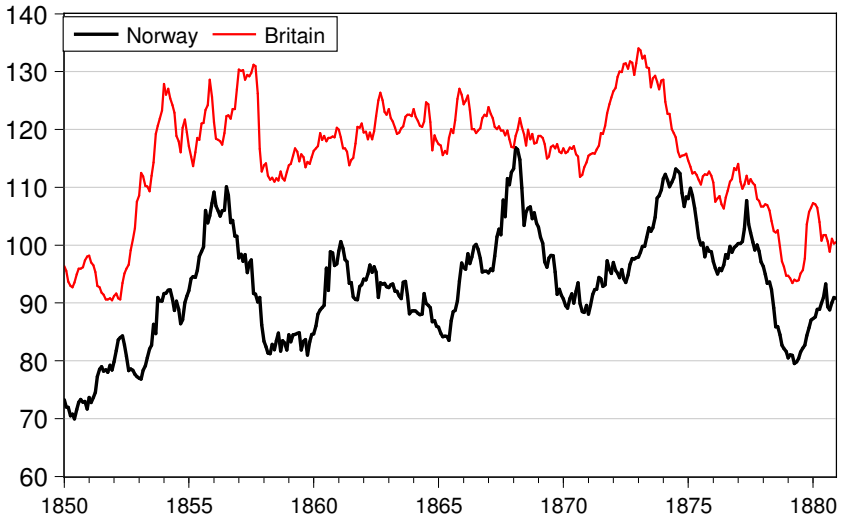


Figure 10.4: Price indices for Norway and Britain, 1850-1880.
June 1913 = 100.

10.4 1880-1913

The the general view of common turning points in price cycles, with prices in Britain often leading Norway with a few months is evident from Figure 10.5. The cycle peaks in Norway are September 1881, September 1891, July 1900 and July 1907. These are all close to dates of business cycle peaks in the international economy.[106] The dates are also within a whisker of the corresponding British price peaks.

Although similarities are far more evident than differences, particularly after 1891, there are two features which present a question mark. The first one concerns the years 1879 - 1882.

[105] Grain prices were particularly high in Norway around 1868.
[106] Moore and Zarnowitz (1986).

Britain had a particularly strong but short-lived recovery in 1879-1880, driven by a surge in American demand for British iron. Prices rose sharply until the beginning of 1880, but then collapsed.[107] These factors did not affect Norway much, where prices rose more evenly from the trough in the middle of 1879 in line with the international expansion in economic activity.

The second noteworthy feature is the more severe deflation in Norway during the second half of the 1880s, culminating in March 1888. We have seen above that our estimates indicate a marked deterioration in terms of trade in this period, which signify a weak demand for Norwegian export goods on international markets. In Britain the period of falling prices from the early 1870s until the middle of the 1890s used to be called the Great Depression by contemporary observers.[108] In Norway this description surely fits the second part of the 1870s and much of the 1880s, as economic growth was very sluggish. The 1876 figure for gross domestic product per capita, in fixed prices, was not surpassed until 1888.[109] Although we cannot wholly exclude that the differences between British and Norwegian prices during the 1880s are due to such factors as a different composition of the indices and changes in relative prices, it may be conjectured that the observed phenomenon is related to the contractionary forces affecting the Norwegian economy.

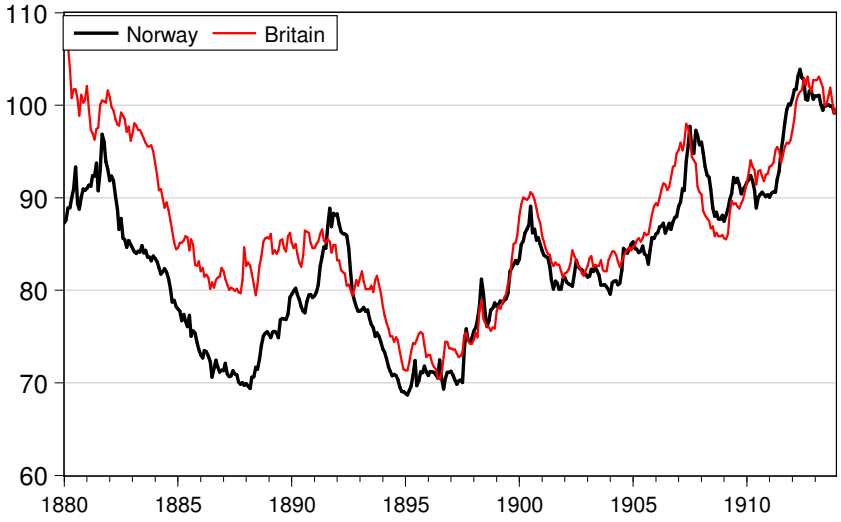


Figure 10.5: Price indices for Norway and Britain, 1880-1913. June 1913 = 100.

10.4.1 1910-1920

The great inflation of WWI and its aftermath is the dominant feature of Figure 10.6. The tranquility of the prewar years is in marked contrast to the steeply rising prices during WWI.

Prices in Norway got a kick-start in the first month of the war as the WPI rose by 7.7 per cent from July to August 1914. Foodstuff prices in particular rose steeply during the first weeks of panic following the declaration of war.[110] But then we see a slight reaction in September,

[107] This is documented in Klovland (1998b).
[108] See e.g. Fletcher (1961); Turner (1992).
[109] Calculated from Table 6 in Grytten (2004b).
[110] The atmosphere of panic after the war was declared is vividly narrated by Keilhau (1927, pp. 11-19).

with prices falling by 1.2 per cent in this month. A somewhat similar reaction can be observed in Britain as well where there was a mild decline in prices from September to November 1914. Although this is a minor event it is interesting to note this feature, which is likely to be connected with the lull in economic activity that can be observed world wide in the first few months of the war. The war implied major upheavals in the business of foreign trade which created much uncertainty, particularly concerning financing, insurance and direction of trade. Fayle (1920, p. 186), maintained that '[T]he proportion of the volume of British commerce thus brought to a standstill was serious'. Rygg (1954, p. 354) describes a similar reaction in Norway, but noting that the uncertainty was soon overcome. This is reflected in the price index, which started rising again in October.

From then on prices in Norway rose without interruption until August 1918. The rate of inflation was remarkably steady during the war, being slightly below 40 per cent per year throughout most of the period.[111] Between August 1918 and August 1919 prices fell by 12.2 per cent. Price movements in this period present a rather messy picture that is difficult to squeeze into an index number because of the extensive price control measures and general interference with markets that were introduced. Government purchases comprised both major import goods such as grain, sugar, coal and fats, as well as large stocks of fish in conjunction with more or less forced agreements with the belligerent nations Britain and Germany. For fish there was an export ban, which implied that export market quotations ceased. Late in 1917 there was only one type of commodities, namely paints and linseed oils, for which price quotations still were not discontinued on the Christiania commodity exchange. Although the quality and completeness of the price data underlying the index calculations are getting poorer in this period it is nevertheless believed that our index gives a roughly representative view of the course of prices in these years as well. It may be added that there is a similar decline in the price level in Britain in the second half of 1918, but here the renewed expansion sets in earlier than in Norway.

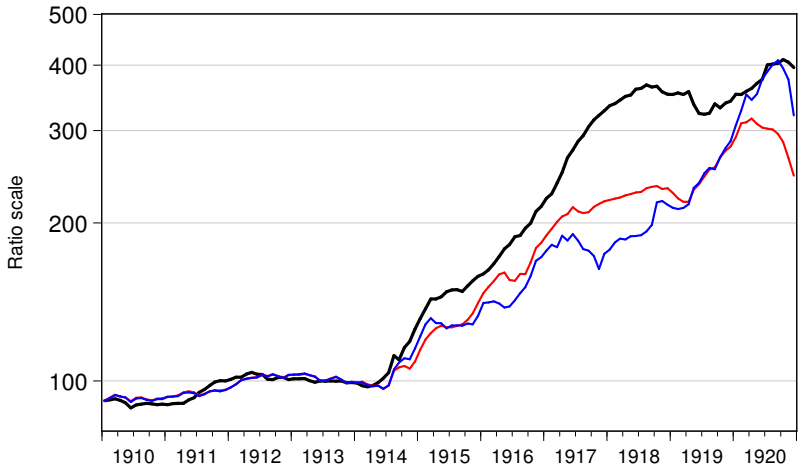


Figure 10.6: Price indices for Norway and Britain, 1910-1920.
June 1913 = 100.

[111]Note that, since Figure 10.6 applies a ratio scale the rate of change in prices is constant if the price curve follows a straight line, which it basically does over the period from the autumn of 1914 until the beginning of 1918.

From July 1919 the inflationary environment was back, as prices rose significantly until October 1920. In Britain we see a similar upward movement starting three months earlier, in April 1919, and ending six months earlier, in April 1920. A main factor driving this is the international restocking boom and dismantling of price controls 1919-1920. The spectacular 1920 boom ended in a short but particularly severe downturn in 1921 in many European countries.[112]

At the peak in October 1920 prices were a little more than four times as high as in June 1913. In Britain they rose to about three times the 1913 level. The reasons for the greater inflation in Norway and its effects on the exchange rate are intimately associated with monetary policy, but it cannot be dealt with here. However, we note with some interest from Figure 10.6 that the equilibrium relationship between the domestic and foreign price levels and the exchange rate is virtually identical to the one prevailing in the prewar period. After showing for some time increasingly large deviations in the years 1915 - 1919 the price level in Norway was once again back to the value predicted by the PPP theory in 1920. This observation gives some interesting perspectives on the price and exchange rate behaviour in Norway during these years. According to PPP it follows that prices in Norway were higher or the exchange rate lower (stronger) than theory predicts for most of the period, but once again spot on when conditions were normalized in 1920. There are obvious reasons why a valid case can be made for a 'stronger than PPP exchange rate' interpretation: significant improvements in the terms of trade, including ocean freight rates, and a strong demand for Norwegian export goods and shipping transport ensured that revenues from commodity exports and shipping were pouring into the Norwegian economy during the war. This led to an appreciation pressure on the Norwegian krone, which at one stage, in November 1917, was about 25 per cent stronger than the prewar parity against pound sterling. But, as always, the bonanza was temporary, once the extraordinary revenues ceased and the accumulated wealth was spent on imported goods, the relationship between the exchange rate and relative price levels was back on track.

[112] See Eichengreen (1992, pp. 100-124) for the international evidence. In terms of industrial output loss (relative to peak production level) the 1921 slump was most severe business cycle in Scandinavia during the whole century, even surpassing the Great Depression of 1929-1932, see Klovland (1998a).

11 A link to existing price indices 1920-1940

The sample period for the new price series collected here ends in December 1920. In order to get a coherent view of the price fluctuations in the whole interwar period the new WPI index has been linked to the existing wholesale price index published by the weekly financial journal Økonomisk Revue.[113] This index exists on an end-of-year basis for the years 1913-1919 and monthly from 1920. An alternative wholesale price index is the one constructed by Statistics Norway, which starts in January 1923.[114]

These two indices are shown in Figure 11.1. By construction these indices are fairly similar with respect to commodities included and weighting, but subindices for various commodity groups are somewhat differently arranged. As can be seen from the graph they give very much the same picture of the course of prices in the interwar years. The Økonomisk Revue index was chosen here primarily because the data extend back to 1920. This index was spliced with the WPI index in December 1920. Monthly values through 1940 are shown in Appendix Table A1.

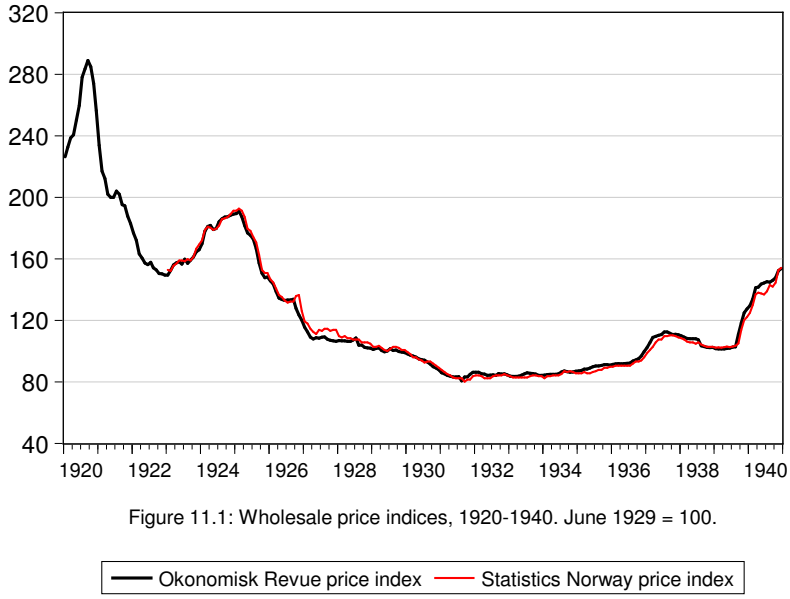


Figure 11.1: Wholesale price indices, 1920-1940. June 1929 = 100.

The two interwar price indices were based on price data from various published and unpublished sources, the latter often being private information obtained from importers, domestic producers and grocers. This information set cannot be reproduced now, which leaves the existing indices as the best available source for the study of price fluctuations in this period.

An attempt was also made to extend the price series on export and import goods throughout the interwar years, using the information available from the 12 subindices of the Økonomisk Revue index and the 11 subindices of the Statistics Norway index. The weights used reflects the composition of foreign trade in 1928. This exercise can only produce very approximate results because most of the subindices comprise both domestic and foreign goods. Fortunately, the Statistics Norway included a monthly subindex of prices of imported goods as from January

[113]The data are tabulated in detail in *Statistiske Oversikter 1948*, Statistics Norway, 1949.

[114]The construction of this index is explained in Wedervang (1924). A revised version was presented in *Statistiske Meddelelser,* 1931, no. 2, pp. 197-203, with a revised data set going back to January 1928. The total index as shown here has been recalculated for the years 1923-1927 applying the new weights to the original subindex figures published for this period.

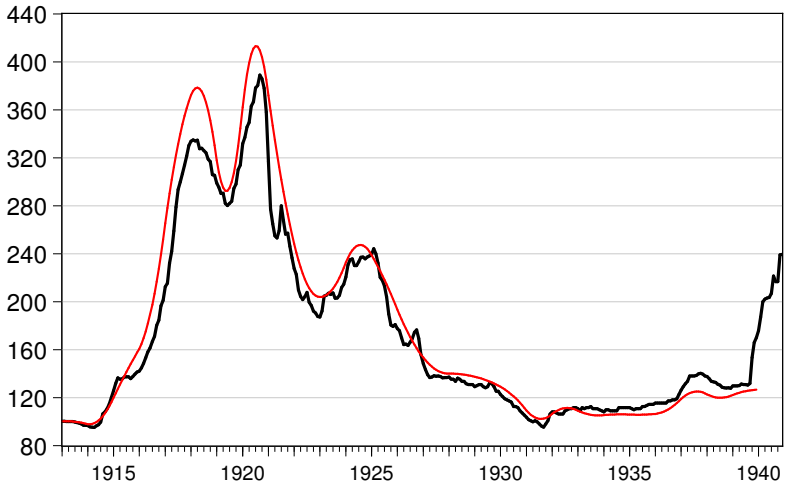


Figure 11.2: Monthly import price index and national accounts import price index 1913-1940. June 1913 = 100.

1928, which is the best alternative for the period 1928-1940 in the case of import prices. These data series are tabulated in Appendix Table A1.

The Statistics Norway's monthly import price index, spliced with a reconstructed approximative index for the years 1921-1927 and our new import price index for the years 1913-1920, is shown in Figure 11.2. Also shown is the implicit price index of total imports from the annual national accounts.[115] Annual figures are smoothed and distributed on monthly data by the Litterman (1983) procedure. By construction the national accounts (NA) index comprises a number of items not included in the wholesale price indices, the most important of which are imports of ships and operating costs and repairs of Norwegian ships abroad.

The figure has been extended back to 1913, using the new index presented here, to get a perspective on the measurement of wartime prices as well. In general the indices give the same impression of a strongly inflationary environment until 1920, then a long period of falling prices towards the 1930s, with a notable reaction in 1923-1924.

[115]The price deflators in Statistics Norway (1968, pp. 354-355) were used here.

For exports a comparison with national account deflators is difficult because it is not possible to exclude gross freight revenues earned by the ocean shipping industry before 1930. After 1920, when ocean freight rates had come down substantially from the extreme levels of the wartime period, this component does not exert such a great influence on the NA export deflator. As can be seen from Figure 11.3 the constructed export index largely follows the NA index in the interwar years after 1920, which indicates that it is not widely off the mark, although it should once again be noted that it is measured on a rather uncertain basis.

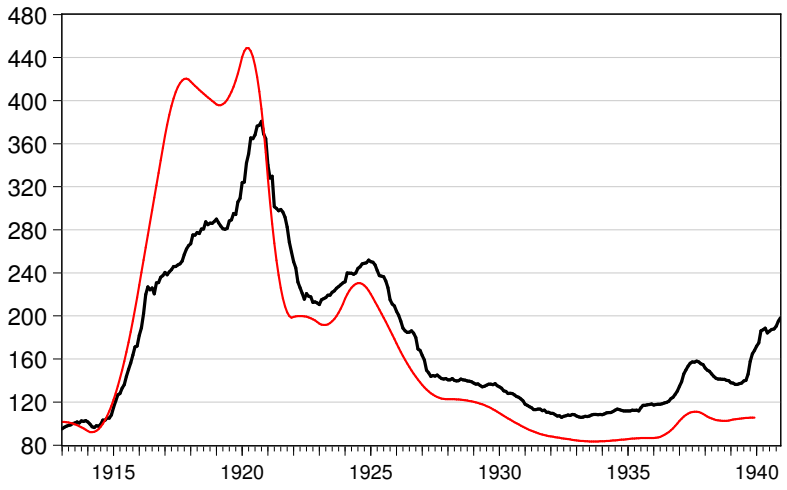


Figure 11.3: Monthly export price index and national accounts export price index, 1913-1940. June 1913 = 100.

12 Concluding remarks

The Swedish price historian Lennart Jörberg once remarked that 'investigations into price history raise more questions than can be answered.'[116] Hopefully, this has also been achieved by the present study. Using price history as a starting point for further analysis of issues in macroeconomic history may prove to be useful in many instances. One application, which has been dealt with here, albeit rather cursorily, is the light that price history may shed on exchange rate movements and, in more general terms, public confidence in the way monetary policy is conducted. This is but one of many application in which an accurate measure of prices may be useful.

But as eloquently noted by the authors of recent history of agricultural prices in Ireland:[117] 'The case for price history can be pressed too far. Prices represent pinpoints of light in the darkness of the past: a kind of scatter diagram in the night skies, as it were. So supplementary information is often needed to illuminate the surrounding circumstances.'

[116] Jörberg (1972, p. 3).
[117] Kennedy and Solar (2007, p. 3).

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APPENDIX:
SOURCES AND DATA DESCRIPTIONS

This appendix contains the following items:

- Sources
- Commodity specification list
- Weights used in the construction of the aggregate price indices
- Table A1: Monthly data series of aggregate price index numbers 1777 - 1940
- Table A2: Annual averages of index numbers: main commodities 1777 - 1920
- Table A3: Annual averages of index numbers: aggregate price indices 1777 - 1920

1 Sources

The newspapers and periodicals used as primary sources include the following: *Morgenbladet* (1820-1900), *Norsk Handels Tidende* (1825-1847), *Christiania Intelligenssedler* (1820-1840), *Bergens Stiftstidende* (1840-1855), *Bergenske Blade* (1848-1854), *Bergensposten* (1854-1889), *Bergens Tidende* (1871-1914), *Aftenposten* (1870-1920), *Bergens Aftenblad* (1890-1891), *Farmand* (1891-1920), *Norges Handels- og Sjøfartstidende* (1914-1920), *Økonomisk Revue* (1918-1921).

Much - but not all - of the price material published in these newspapers beginning 1830 were transcribed during the 1930s and are filed in the Wedervang Archive at the Norwegian School of Economics. References to the most relevant Wedervang files are given below as W( ).

These are the abbreviations used in the commodity specification list printed on the following pages.

A - Commodity exchange Christiania. Official price quotations for various commodities from *Christiania Børs* 1894-1920, published weekly in *Farmand* and contemporary newspapers. W(274).

B - Commodity exchange Bergen. Prices negotiated on *Bergen Børs*, taken from the official records of the commodity exchange (*børsprotokoller*) and *Bergen Priskurant* (first issue seen is from May 1777). This price current may also be found in contemporary newspapers from about 1825. Beginning with the 1850s, the information is collected from the records of commodity brokers (*meglerprotokoller*) and daily market reports in contemporary newspapers. W(207), W(263).

C - City markets *(torvpriser)* in Christiania, Bergen, Trondhjem and Stavanger. The main series of market prices from Christiania were collected by the city registrar *(stadsveieren)* and published in contemporary newspapers. This series is supplemented by prices quoted at the various market places *(Youngstorvet, Ankertorvet),* as well as those recorded by the city meat inspection *(kjøttkontrollen)*, and published in *Farmand* and other newspapers. Christiania: W(258), W(382), W(387); Bergen: W(129), W(130), W(389); Stavanger: W(394)

D - Retail prices in various towns, national averages collected by the government and published in *Sociale Meddelelser* (1915-1918), from 1919 collected by Statistics Norway and published in *Statistiske Meddelelser.*

F - Wholesale price current for Christiania, *Farmand*

FB - Export prices quoted in Bergen, reported in *Farmand*

FT - Wholesale prices quoted in Trondhjem, reported in *Farmand*

L - Agricultural prices collected by Christiania Landmandskontor, published in *Norsk Landmandsblad* (1882-1920), some series were also reproduced in newspapers. W(126).

M - Commodity brokers in Bergen, wholesale price current *(mellombudsvarer).* W(262), W(264).

N - Nordlandspriskurant price current issued in Bergen twice yearly (May and August) stipulating prices for the Nordland trade fairs in Bergen. These are available (with some gaps, particularly in the early years) beginning in 1815. This source was used through 1865. Some early copies and extracts are held by the University of Bergen Library (Fredrik Meltzer Wallem papers (Ms 1589) and Jørgen Grip papers (Ms 1294)). From 1842 this source is to be found at the Bergen City Archive. W(270)

OR - Price relatives for various commodity groups, published in *Økonomisk Revue.* End-of-year data 1914-1918, January, June and December observations for 1919 and monthly in 1920.

Q - Market prices collected by local magistrates in 40 towns, quarterly 1832-1871. W(139).

P - Wholesale prices in Stavanger, **Arendal and Fredrikshald,** prices recorded in *Norsk Handels Tidende* and other contemporary newspapers. W(392).

R - Prices quoted ex wharf or ex railway in Christiania as reported in newspapers. W(131).

S - Parliamentary Papers (*Stortingsmeddelelser)*

TA - **Implicit export and import prices**, derived from the annual foreign trade statistics (NOS *Norges Handel*) published by Statistics Norway. Monthly values were estimated using a RATS procdure due to Litterman (1983), which applies a 'Random Walk, Markov Model for the Distribution of Time Series'.

TM - **Implicit export and import prices**, derived from the monthly foreign trade statistics published by Statistics Norway 1895-1912, which is found in *Statistiske Meddelelser.* Prices were calculated by dividing the monthly value figures by monthly volumes.

V - Commodity brokers in Christiania, price quotes of commodities sold *ex ship* or *ex warehouse*, published in contemporary newspapers. W(131), W(137), W(273).

X - Other sources (see table footnotes)

Y - Trade fairs, annual or semi-annual. W(392)

2 Data descriptions

The detailed list of commodities on the following pages gives information on where the particular commodity description was quoted, the source (see above), the range of years for which data have been collected, and the number of monthly observations within that range. Names of commodity groups and individual items are given in both English and Norwegian in cases where the translation is not obvious. For some goods, in particular fish, only the specific Norwegian denomination can be given.

The places where prices were quoted are abbreviated as follows:

BER - Bergen

CHA - Christiania

STA - Stavanger

TRH - Trondhjem

FRH - Fredrikshald

ARL - Arendal

DRA - Drammenr

LAR - Larvik

KON - Kongsberg

SKI - Skien

SAN - Sandefjord

NAT - national

	Description	City	Source	Range	Obs.
1	Danzig & Königsberg	BER	B	1777-1882	1047
2	Mecklenburg & Pomerania	BER	B	1777-1877	453
3	Danish (before 1803 Zealand)	BER	B	1777-1892	716
4	Danish (Jutland)	BER	B	1777-1802	120
5	Danish (Lolland)	BER	B	1791-1802	37
6	Latvia	BER	B	1777-1788	68
7	Archangel	BER	B	1785-1876	123
8	Flemish	BER	B	1807-1814	11
9	Baltic, dried	BER	B	1819-1887	455
10	Odessa	BER	B	1846-1880	255
11	Swedish	BER	B	1854-1881	89
12	Memel	BER	B	1854-1879	13
13	Galatz & Ibraila	BER	B	1855-1886	69
14	St Petersburg	BER	B	1855-1898	239
15	Riga	BER	B	1819-1900	121
16	Taganrog	BER	B	1864-1880	73
17	Nicolaiev	BER	B	1868-1881	54
18	Salonica	BER	B	1869-1876	3
19	French	BER	B	1870-1892	29
20	Libau	BER	B	1873-1892	129
21	Sulina	BER	B	1873-1880	17
22	American	BER	B	1877-1898	32
23	Spanish	BER	B	1877-1892	19
24	Black Sea	BER	B	1881-1914	484
25	Baltic	BER	B	1881-1914	159
26	Rostock	BER	B	1883-1883	6
27	Prussian	STA	P	1865-1890	281
28	Black Sea	STA	P	1865-1890	201
29	Riga & Libau	STA	P	1869-1890	219
30	St Petersburg	STA	P	1870-1888	138
31	Rye, chiefly domestic	CHA	C	1830-1871	224
32	Baltic	CHA	V	1826-1914	566
33	Danish	CHA	V	1825-1878	317
34	Reval	CHA	V	1877-1890	22
35	French	CHA	V	1877-1893	78
36	St Petersburg	CHA	V	1877-1891	40
37	Libau	CHA	V	1878-1910	152
38	Spanish	CHA	V	1880-1881	10
39	Black Sea	CHA	V	1884-1914	301
40	American	CHA	V	1891-1899	31
41	Belgian	CHA	V	1893-1897	27
42	Pomerania	CHA	V	1896-1898	13
43	Danube	CHA	V	1906-1908	23
44	Rye, market price	NAT	S	1914-1915	14
45	Rye, Government price	NAT	S	1915-1920	70
	Total				7548

NOTE: Until about 1830 Danzig and Königsberg rye was often specified as Polish or Baltic. Before 1803 the highest price of Danish rye was quoted for Jutland, followed by Zealand and Lolland; thereafter the same price was usually quoted for all Danish rye. The market price 1914-1915 (series 44) is taken from Norwegian Parliamentary Papers *St. med. 7 (1916)*. It is referred to as 'market price in Norway', but with no further details. The government price 1915-1920 (series 45) reflects the prices stipulated by the government (as administered through *Provianteringsdirektoratet*) for sales, mostly of foreign rye, to the local food distribution boards (*Provianteringsråd*). From April 1919 the price stipulated by the government applies to the maximum price of sales from grocers, mills or *Provianteringsråd*. The sources are *Stortingsmeddelelser* (Parliamentary Papers) 1915-1922: no. 7 (1916), no. 7 (1917), no. 24 (1917), no. 14 (1918), no. 4 (1919), no. 4 (1920), no. 4 (1921), no. 4 (1922).

	Description	City	Source	Range	Obs.
1	Danish Heavy	BER	B	1777-1869	999
2	Danish Medium	BER	B	1777-1869	739
3	Danish Light	BER	B	1777-1858	349
4	Mecklenburg or Polish	BER	B	1777-1810	182
5	Scottish	BER	B	1777-1799	38
6	English	BER	B	1780-1789	13
7	Barley (Konow)	BER	X	1812-1814	9
8	Odessa	BER	B	1854-1883	97
9	Ibraila	BER	B	1866-1881	52
10	Königsberg	BER	B	1869-1880	46
11	Smyrna	BER	B	1869-1871	15
12	Salonica	BER	B	1869-1870	3
13	Stettin	BER	B	1869-1871	5
14	Lagos	BER	B	1869-1869	4
15	Foreign, by weight (4 series)	BER	B	1869-1877	283
16	Sulina	BER	B	1873-1881	55
17	Riga	BER	B	1873-1880	41
18	Swedish	BER	B	1874-1887	121
19	Libau	BER	B	1873-1880	35
20	St Petersburg	BER	B	1874-1874	3
21	Oran	BER	B	1876-1885	17
22	Memel	BER	B	1877-1880	13
23	Danzig	BER	B	1877-1878	3
24	Danish	BER	B	1878-1891	113
25	Nicolaiev	BER	B	1879-1880	5
26	Black Sea	BER	B	1881-1915	488
27	Baltic	BER	B	1883-1888	3
28	Danish	STA	P	1865-1890	278
29	Black Sea	STA	P	1880-1890	108
30	Barley unspecified	CHA	C	1830-1917	778
31	Two row barley	CHA	V	1825-1876	366
32	Two row barley	CHA	L	1878-1904	262
33	Six row barley	CHA	V	1825-1853	231
34	Six row barley	CHA	L	1878-1917	433
35	Danish	CHA	V	1877-1892	103
36	Baltic	CHA	V	1877-1877	11
37	Libau	CHA	V	1877-1880	10
38	Black Sea	CHA	V	1889-1893	22
39	Russian	CHA	V	1891-1914	274
40	Pomerian	CHA	V	1904-1904	3
41	Barley Government price	NAT	S	1917-1920	39
	Total				6649

NOTE: *Danish heavy barley (Series 1)* is chiefly represented by two-row barley, chiefly from Lolland, which in was referred to as Nakskov barley. *Danish medium barley (Series 2)* basically corresponds to six-row barley, mostly from from Zealand and Funen. *Danish light barley (Series 3)* is mainly from Jutland. Series 7 is taken from excerpts of the ledgers of the Bergen grain merchant Wollert Konow, filed in W(270). The government price series 1917-1920 (series 41) reflects the prices stipulated by the government (as administered through *Provianteringsdirektoratet*) for sales, mostly of foreign barley, to the local food distribution boards (*Provianteringsråd*). From April 1919 the price stipulated by the government applies to the maximum price in sales from grocers, mills or *Provianteringsråd*. The sources are various Parliamentary Papers 1915-1922, see notes to A1 above.

A3 WHEAT *[HVETE]* 1777 - 1920

	Description	City	Source	Range	Obs.
1	Danish	BER	B	1777-1880	679
2	Danzig & Königsberg	BER	B	1777-1875	687
3	Mecklenburg & Pomerania	BER	B	1777-1875	384
4	Latvia	BER	B	1777-1787	8
5	Polish red	BER	B	1784-1799	122
6	Holstein & Fehmarn	BER	B	1807-1872	251
7	Archangel	BER	B	1801-1820	53
8	Swedish	BER	B	1849-1878	57
9	Wheat unspecified	STA	P	1865-1875	35
10	Foreign, mostly Danish	CHA	V	1830-1872	315
11	Wheat average annual import price	NAT	TA	1873-1917	540
12	Wheat market price	NAT	S	1914-1915	14
13	Wheat Government price	NAT	S	1914-1920	72
	Total				3217

NOTE: Until about 1830 wheat from Danzig and Königsberg was often specified as Polish or Baltic. Market quotations for wheat were quite patchy after 1872, and no data were found after 1880. The within-year fluctuations of imported wheat (series 9) 1873-1917 were estimated by using wheat flour as related series. The market price 1914-1915 (series 12) is taken from Norwegian Parliamentary Papers *St. med. 7 (1916)*. It is referred to as 'market price in Norway', but with no further details. The government price 1914-1920 (series 13) reflects the prices stipulated by the government (as administered through *Provianteringsdirektoratet*) for sales, mostly of foreign wheat, to the local food distribution boards (*Provianteringsråd*). From April 1919 the price stipulated by the government applies to the maximum price in sales from grocers, mills or *Provianteringsråd*. The sources are various Parliamentary Papers 1915-1922, see see notes to A1 above.

A4 WHEAT FLOUR *[HVETEMEL]* 1826 - 1920

	Description	City	Source	Range	Obs.
1	Flour	CHA	C	1830-1836	18
2	Fine quality, casks and sacks	CHA	V	1839-1871	20
3	Flour, by weight(skippund)	CHA	V	1826-1842	15
4	Low, medium & high quality flour (3 series)	BER	M	1866-1916	1146
5	Copenhagen	BER	B	1875-1881	68
6	Flour *quality 000 or Patent*	CHA	F	1891-1914	282
7	Flour *Bikub*	CHA	F	1891-1917	300
8	Flour *Kohinoor*	CHA	F	1905-1917	140
9	Flour *Urania*	CHA	F	1915-1917	15
10	Crushed wheat *Fingrøpp*	CHA	F	1891-1914	282
11	Coarsely ground flour(4 series)	CHA	A	1902-1919	547
12	Finely ground flour (4 series)	CHA	A	1902-1917	514
13	Hungarian flour	CHA	A	1904-1915	125
14	Flour Government price	NAT	S	1914-1920	61
	Total				3533

NOTE: The government price 1914-1920 (series 14) reflects the prices stipulated by the government for sales of wheat flour to the local food distribution boards (*Provianteringsråd*). From April 1919 the price stipulated by the government applies to the maximum price in sales from grocers, mills or *Provianteringsråd*. The sources are various Parliamentary Papers 1915-1922, see see notes to A1 above.

A5 RYE FLOUR *[RUGMEL]* 1815 - 1920

	Description	City	Source	Range	Obs.
1	Rye flour	BER	N	1815-1865	87
2	Rye flour	CHA	C	1829-1848	90
3	Rye flour in sacks	CHA	V	1870-1871	8
4	Sifted rye flour	BER	M	1861-1916	635
5	Whole ground rye flour	BER	M	1861-1916	635
6	Copenhagen, in sacks	BER	M	1866-1890	248
7	German	BER	M	1908-1914	60
8	Rye flour *Krone*	CHA	F	1891-1917	311
9	Rye flour *quality 00*	CHA	F	1891-1913	265
10	Rye flour *quality 1*	CHA	F	1891-1913	265
11	Rye flour *Nordlys*	CHA	F	1913-1914	14
12	Whole ground rye flour	CHA	F	1914-1916	8
13	First bakers	CHA	A	1902-1917	178
14	Second, *quality 00*	CHA	A	1902-1915	156
15	Third, *quality 1*	CHA	A	1902-1914	148
16	American first	CHA	A	1914-1919	58
17	Rye flour *Krone*, retail price	CHA	D	1917-1920	46
18	Rye flour Government price	NAT	S	1918-1920	36
	Total				3248

NOTE: The government price 1918-1920 (series 18) reflects the prices stipulated by the government for sales of wheat flour to the local food distribution boards (*Provianteringsråd*). From April 1919 the price stipulated by the government concerns the maximum price regarding sales from grocers, mills or *Provianteringsråd*. The sources are various Parliamentary Papers 1919-1922, see see notes to A1 above.

A6 BARLEY FLOUR and GRITS *[BYGGMEL & GRYN]* 1777 - 1920

	Description	City	Source	Range	Obs.
1	Barley flour *Byggmel*	BER	N	1815-1865	87
2	Barley flour *Byggmel*	CHA	C	1829-1848	63
3	Pearl barley *Gryn*	BER	N	1822-1865	84
4	Pearl barley *Gryn*	BER	B	1777-1873	488
5	Pearl barley whole grain *Gryn hele*	CHA	V	1825-1856	239
6	Pearl barley split *Gryn halve*	CHA	V	1825-1856	227
7	Sifted barley flour *Siktet byggmel*	BER	M	1861-1906	535
8	Whole ground barley flour *Sammalt byggmel*	BER	M	1861-1916	635
9	Coarsely ground barley *Grynmel*	BER	M	1866-1916	572
10	Pearl barley *Gryn*	CHA	F	1891-1917	298
11	Barley flour *Byggmel quality 00*	CHA	F	1891-1917	300
12	Barley flour *Byggmel quality 2*	CHA	F	1891-1914	282
13	Coarsely ground barley *Grynmel 000*	CHA	F	1891-1917	309
14	Coarsely ground barley *Grynmel 00*	CHA	F	1891-1897	66
15	Barley flour *Byggmel quality 00*	CHA	A	1902-1917	174
16	Pearl barley whole grain *Byggryn hele*	CHA	D	1917-1920	48
17	Pearl barley Government price *Byggryn*	NAT	X	1918-1920	36
	Total				4443

NOTE: The government price 1918-1920 (series 17) reflects the prices stipulated by the government for sales of pearl barley to the local food distribution boards (*Provianteringsråd*). From April 1919 the price stipulated by the government applies to the maximum price in sales from grocers, mills or *Provianteringsråd*. The sources are various Parliamentary Papers 1919-1922, see see notes to A1 above.

A7 ROLLED OATS *[HAVREGRYN]* 1875 - 1920

	Description	City	Source	Range	Obs.
1	Rolled oats unspecified	STA	C	1875-1908	317
2	American	BER	M	1901-1916	143
3	Norwegian	BER	M	1906-1915	102
4	German	BER	M	1907-1913	79
5	American	CHA	A	1915-1920	59
6	American, retail price	CHA	D	1917-1920	48
7	Norwegian, retail price	CHA	D	1917-1920	47
8	Norwegian Government price	NAT	S	1918-1920	36
	Total				831

NOTE: The government price 1918-1920 (series 8) reflects the prices stipulated by the government for sales of rolled oats to the local food distribution boards (*Provianteringsråd*). From April 1919 the price stipulated by the government concerns the maximum price regarding sales from grocers, mills or *Provianteringsråd*. The sources are various Parliamentary Papers 1919-1922, see see notes to A1 above.

B1 BEEF *[STORFEKJØTT]* 1830 - 1920

	Description	City	Source	Range	Obs.
1	Beef (oxen), average quality	CHA	C	1830-1920	999
2	Beef (cow), average quality	CHA	C	1914-1920	83
3	Beef (oxen), from 1903 small and large (5 series)	CHA	L	1877-1920	696
4	Beef (cow)	CHA	L	1903-1920	216
5	Beef (heifer) *kvige*	CHA	L	1911-1919	108
6	Beef (cowcalf) *rempling*	CHA	L	1918-1919	24
7	Beef (oxen), average quality	BER	C	1841-1919	761
8	Beef (oxen), carcase	BER	C	1887-1916	291
9	Beef (cow)	BER	C	1914-1919	55
10	Beef (cow), live weight	BER	C	1905-1915	105
11	Beef (heifer) *kvige*	BER	C	1914-1915	14
12	Beef (oxen), average quality	TRH	C	1842-1920	652
13	Beef (cow) (2 series)	TRH	C	1913-1920	176
14	Beef (oxen)	STA	C	1874-1913	433
	Total				4613

NOTE: Meat sold on city markets were nearly always quoted without further specification as to quality. The mean of the high and low range of prices was used here.

B2 MUTTON *[SAUEKJØTT]* 1830 - 1920

	Description	City	Source	Range	Obs.
1	Mutton, average quality	CHA	C	1830-1920	935
2	Mutton, fresh	CHA	L	1877-1920	482
3	Mutton, salted	CHA	L	1877-1888	34
4	Mutton, average quality	TRH	C	1835-1891	284
5	Mutton, carcase	TRH	C	1884-1920	417
6	Mutton, fresh	BER	C	1840-1919	595
7	Mutton, salted	BER	C	1840-1867	17
8	Mutton, smoked	BER	C	1841-1864	16
9	Mutton, dried	BER	C	1843-1906	246
9	Goat's meat	BER	C	1916-1919	14
	Total				3040

B3 VEAL *[KALVEKJØTT]* 1830 - 1920

	Description	City	Source	Range	Obs.
1	Veal, average quality	CHA	C	1830-1897	595
2	Veal small *spekalv*	CHA	C	1897-1920	278
3	Veal large *gjøkalv*	CHA	C	1897-1921	281
4	Calf, carcase	CHA	L	1877-1894	142
5	Veal small *spekalv*	CHA	L	1895-1920	312
6	Veal large *gjøkalv*	CHA	L	1880-1920	468
7	Veal medium *mellomkalv*	CHA	L	1911-1919	108
8	Veal, average quality	BER	C	1841-1879	158
9	Veal small *spekalv*	BER	C	1914-1919	41
10	Veal large *gjøkalv*	BER	C	1880-1919	461
11	Veal, average quality	TRH	C	1864-1910	489
12	Veal small *spekalv*	TRH	C	1913-1920	88
13	Veal medium *mellomkalv*	TRH	C	1913-1920	88
	Total				3557

B4 BACON *[FLESK]* 1825 - 1920

	Description	City	Source	Range	Obs.
1	Bacon, average quality	CHA	C	1830-1920	968
2	Bacon smoked Danish	CHA	V	1825-1845	46
3	Bacon salted Danish	CHA	V	1825-1845	22
4	Bacon smoked	FRH	P	1827-1830	30
5	Bacon fresh	FRH	P	1827-1830	30
6	Bacon average	CHA	L	1877-1902	257
7	Bacon small	CHA	L	1903-1919	204
8	Bacon large	CHA	L	1903-1919	192
9	Bacon, average quality	TRH	C	1834-1905	661
10	Bacon, average quality	BER	C	1840-1919	772
	Total				3187

B5 HORSE MEAT *[HESTEKJØTT]* 1911 - 1920

	Description	City	Source	Range	Obs.
1	Horse meat	CHA	L	1911-1920	120
2	Horse meat	CHA	C	1913-1920	93
3	Horse meat	BER	C	1914-1919	35
	Total				248

B6 FOREIGN MEAT *[IMPORTERT KJØTT]* 1891 - 1920

	Description	City	Source	Range	Obs.
1	Bacon American short ribs	CHA	F,A	1891-1920	264
2	Bacon side *brystflesk*	CHA	A	1901-1920	122
3	Bacon side smoked *brystflesk røket*	CHA	A	1901-1920	122
4	Bacon back *fleskerygg*	CHA	A	1901-1920	119
5	Bacon cottage *karbonadeflesk*	CHA	A	1903-1920	185
6	Mess Pork trimmings	CHA	A	1901-1920	115
7	Pork shoulder *boger*	CHA	A	1900-1920	200
8	Pork shoulder smoked *boger røket*	CHA	A	1901-1920	183
9	Pork plates	CHA	A	1901-1920	96
10	Pork fatback *ryggspekk*	CHA	A	1901-1920	95
11	Ham picnic	CHA	A	1901-1920	191
12	Ham smoked	CHA	A	1901-1920	191
13	Beef American	CHA	F	1891-1901	123
13	Mutton Icelandic	CHA	A	1901-1920	86
	Total				2092

B7 LIVE CATTLE *[SLAKTEOKSER OG KYR]* 1834 - 1920

	Description	City	Source	Range	Obs.
1	Milching cows *melkekyr*	CHA	C	1834-1866	227
2	Cows fatstock *slaktekyr*	CHA	C	1834-1856	191
3	Cows fatstock *slaktekyr*	CHA	L	1889-1918	352
4	Calves, Norwegian ordinary	CHA	L	1889-1920	383
5	Calves, Norwegian large	CHA	L	1889-1920	375
6	Calves, Norwegian small	CHA	L	1912-1920	105
7	Calves, Swedish	CHA	L	1889-1916	265
8	Oxen live middling	CHA	L	1889-1918	352
9	Oxen live large	CHA	L	1889-1918	350
10	Heifers *kviger*	CHA	L	1889-1918	352
	Total				2952

B8 LIVE SHEEP *[SLAKTESAUER]* 1889 - 1918

	Description	City	Source	Range	Obs.
1	Sheep live *slaktesauer*	CHA	L	1889-1918	351
	Total				351

B9 LIVE PIGS *[SLAKTESVIN]* 1889 - 1920

	Description	City	Source	Range	Obs.
1	Pigs small live *smågriser*	CHA	L	1889-1920	355
2	Pigs live *slaktesvin*	CHA	L	1914-1916	29
3	Pigs live *slaktesvin*	TRH	C	1913-1920	88
4	Pigs live *slaktesvin*	TRH	C	1913-1920	88
	Total				560

B10 LIVE HORSES *[SLAKTEHESTER]* 1889 - 1919

	Description	City	Source	Range	Obs.
1	Horses live *slaktehester*	CHA	L	1889-1919	362
	Total				362

B11 GAME AND POULTRY *[VILT]* 1830 - 1920

	Description	City	Source	Range	Obs.
1	Capercaillie male *Tiur*	CHA	C	1830-1920	665
2	Capercaillie hen *Røy*	CHA	C	1834-1920	496
3	Grouse *Rype*	CHA	C	1830-1920	453
4	Hazel grouse *Jerpe*	CHA	C	1830-1920	424
5	Black grouse *Orrfugl*	CHA	C	1834-1879	307
6	Blackcock *Orrhane*	CHA	C	1879-1920	338
7	Greyhen *Orrhøne*	CHA	C	1879-1920	306
8	Grouse *Rype*	BER	C	1841-1916	398
9	Black grouse *Orrfugl*	BER	C	1841-1882	69
10	Hare *Hare*	BER	C	1841-1916	273
11	Hare *Hare*	CHA	L	1882-1890	192
12	Goose *Gås*	CHA	C	1830-1887	180
	Total				4101

C1 BUTTER *[SMOR]* 1815 - 1920

	Description	City	Source	Range	Obs.
1	Butter	BER	N	1815-1831	20
2	Farm butter *bondesmør*	CHA	C	1825-1919	973
3	Danish yellow	CHA	V	1825-1846	63
4	Domestic (Opland)	CHA	V	1825-1830	17
5	Butter	FRH	P	1827-1830	29
6	Farm butter *bondesmør*	BER	C	1840-1916	981
7	Cream butter *fløtesmør*	BER	C	1887-1916	291
8	Dairy butter *meierismør*	BER	C	1910-1916	50
9	Farm butter *bondesmør*	STA	Y	1841-1880	46
10	Dairy butter first *meierismør*	CHA	L	1877-1920	490
11	Dairy butter second *setersmør*	CHA	L	1891-1919	332
12	Farm butter *alminnelig smør*	CHA	L	1877-1897	173
13	Dairy butter first *meierismør*	CHA	F	1891-1917	318
14	Dairy butter second *meieribehandlet smør*	CHA	F	1891-1917	318
15	American butter	CHA	F	1891-1899	61
16	French butter	CHA	F	1891-1899	69
17	Finnish butter	CHA	F	1891-1896	42
18	Dairy butter first *meierismør*	TRH	FT	1893-1917	290
19	Dairy butter second *meieribehandlet smør*	TRH	FT	1893-1913	243
20	Farm butter *bondesmør*	TRH	FT	1893-1917	194
21	Farm butter *bondesmør*	TRH	C	1913-1920	88
22	Dairy butter first *meierismør*	CHA	A	1913-1920	79
23	Dairy butter second *meieribehandlet smør*	CHA	A	1913-1919	54
	Total				5221

C2 CHEESE *[OST]* 1840 - 1920

	Description	City	Source	Range	Obs.
1	Sour milk cheese *gammelost*	BER	C	1840-1916	941
2	Goat's-milk cheese (light brown) *brimost*	BER	C	1841-1916	846
3	Goat's-milk cheese (dark brown) *ekte gjetost*	BER	C	1869-1916	801
4	Whey cheese, fat *fet mysost*	BER	C	1905-1916	102
5	Sour milk cheese *gammelost*	STA	Y	1852-1880	23
6	Whey cheese (from cow's milk) *mysost ku*	CHA	L	1882-1920	849
7	Whey cheese (from goat's milk) *mysost gjet*	CHA	L	1891-1911	252
8	Goat's-milk cheese *gjetost*	CHA	L	1882-1920	302
9	Skimmed milk cheese, lean *pultost*	CHA	L	1882-1920	587
10	Clove cheese *nøkkelost*	CHA	L	1882-1920	840
11	Swiss cheese *schweizerost*	CHA	L	1882-1920	706
12	Cheddar cheese *cheddarost*	CHA	L	1891-1900	118
13	Gouda cheese *goudaost*	CHA	L	1905-1920	376
14	Goat's-milk cheese *gjetost*	TRH	C	1913-1920	176
15	Cow's-milk cheese *kuost*	TRH	C	1913-1920	176
	Total				7095

C3 EGGS *[EGG]* 1830 - 1920

	Description	City	Source	Range	Obs.
1	Eggs	CHA	C	1830-1920	549
2	Eggs	BER	C	1841-1916	810
3	Eggs	STA	Y	1852-1880	13
4	Eggs	STA	C	1874-1920	449
5	Eggs	CHA	L	1877-1920	457
6	Eggs	TRH	C	1914-1920	64
	Total				2353

C4 MARGARINE *[MARGARIN]* 1891 - 1901

	Description	City	Source	Range	Obs.
1	Margarine, Norwegian	CHA	F	1891-1901	124
2	Margarine, Dutch	CHA	F	1891-1901	124
	Total				248

C5 LARD *[SMULT]* 1891 - 1920

	Description	City	Source	Range	Obs.
1	Lard (tubs)	CHA	F,A	1891-1917	290
2	Lard (pails)	CHA	A	1901-1917	166
3	Lard pure (tubs)	CHA	A	1917-1920	39
4	Lard Norwegian	CHA	A	1917-1919	25
5	Refined fats (tubs)	CHA	A	1913-1920	68
6	Refined fats (pails)	CHA	A	1913-1920	68
	Total				656

D1 CLIPFISH (SPLIT, SALTED AND DRIED COD) *[KLIPPFISK]* 1777 - 1920

	Description	City	Source	Period	Obs.
1	Lofoten	BER	B	1777-1915	641
2	Small and inferior	BER	B	1779-1798	139
3	Local farmers' *bondefisk*	BER	B	1830-1915	173
4	Clipfish unspecified	BER	N	1800-1838	55
5	Finmark	BER	B	1868-1913	149
6	Clipfish unspecified	BER	X	1857-1867	11
7	Icelandic	BER	B	1871-1883	6
8	South Spanish market brand	BER	FB	1893-1905	86
9	North Spanish market brand	BER	FB	1893-1905	66
10	Mixed *samfengt*	BER	FB	1893-1906	61
11	Lofoten	BER	FB	1906-1914	28
12	Finmark	BER	FB	1906-1914	17
13	Local farmers' *hjemfisk*	BER	FB	1906-1915	33
14	Arendal *revtorsk*	CHA	F	1893-1915	210
15	Nordland	CHA	F	1914-1914	5
16	Clipfish retail price	CHA	D	1915-1920	71
17	Export price	NAT	TA	1914-1920	84
	Total				1835

NOTE: In order to supplement the patchy Bergen brokers' data in the period 1857 - 1867 the 'representative' observations (annual averages) from the Bergen trade collected by Wallem (1893, p. 203) have been used here (series 6), being entered as July observations. The same procedure was applied to supplement series 1 for the years 1858 and 1859, using annual average data published in *Bergensposten* 8 March 1861. The data from source N (*Nordlandspriskuranten*) are (at most) twice yearly, representing the stipulated prices for the 'Nordland Fairs' in May and August.

D2 STOCKFISH:ROUNDFISH *[TØRRFISK:RUNDFISK]* 1777 - 1920

	Description	City	Source	Period	Obs.
1	*Hollender almindelig*	BER	B	1777-1916	1035
2	*Bremer*	BER	B	1777-1887	603
3	*Mager & utskudd*	BER	B	1777-1880	349
4	*Samfengt (Italiener)*	BER	B	1830-1916	623
5	*Hollender Vestlofots (fyldig)*	BER	B	1867-1915	321
6	*Hollender fin*	BER	B	1881-1908	173
7	*Middelhav*	BER	B	1867-1880	35
8	*Finmark*	BER	B	1900-1915	68
9	*Vestlofots tynn*	BER	B	1906-1915	65
10	*Rundfisk*	BER	N	1800-1865	128
11	*Titling Hollender*	BER	B	1777-1888	583
12	*Titling Bremer*	BER	B	1777-1888	513
13	*Titling Gemein*	BER	B	1777-1801	282
14	*Titling hyse*	BER	B	1868-1882	37
15	*Titling brosme*	BER	B	1871-1885	4
16	*Titling*	BER	N	1800-1865	128
17	*Runde bromser*	BER	B	1869-1882	33
18	*Runde bromser*	BER	N	1800-1865	84
19	*Hollender almindelig*	BER	FB	1893-1916	162
20	*Hollender Vestlofots fyldig*	BER	FB	1893-1915	178
21	*Hollender Vestlofots tynn*	BER	FB	1908-1915	59
22	*Hollender fin*	BER	FB	1893-1908	95
23	*Samfengt*	BER	FB	1893-1916	100
24	*Bremer*	BER	FB	1893-1894	4
25	*Italiener*	BER	FB	1904-1916	94
26	*Finmark*	BER	FB	1907-1915	57
27	*Titling Hollender*	BER	FB	1893-1894	13
28	*Titling Bremer*	BER	FB	1893-1894	14
29	*Titling hyse*	BER	FB	1893-1894	15
30	*Runde bromser*	BER	FB	1893-1894	14
31	Roundfish export price *Tørrfisk rundfisk*	NAT	TA	1915-1920	72
	Total				5942

NOTE: There are three main categories: roundfish (*rundfisk*), raw-cut or split (*rotskjær*) and pollock (*sei*), which are grouped separately in Tables D2, D3 and D4. Descriptions are primarily given in Norwegian only as there is no intelligible translation into English of the various stockfish denominations. The main qualities of roundfish are made from cod, but there are also some varieties made from haddock (*hyse*) and cusk (*brosme*). For an overview of stockfish products see Coldevin(1938).

D3 STOCKFISH:RAW CUT *[TØRRFISK: ROTSKJÆR]* 1777 - 1920

	Description	City	Source	Period	Obs.
1	*Hollender zartfisk*	BER	B	1777-1888	604
2	*Zartlenger* small and large	BER	B	1777-1887	702
3	*Gemenlenger*	BER	B	1777-1869	310
4	*Skrulenger*	BER	B	1777-1888	451
5	*Wecherfisk Holland*	BER	B	1777-1888	551
5	*Wecherfisk Lübsk*	BER	B	1777-1799	270
6	*Høcherfisk Holland*	BER	B	1777-1888	499
7	*Zartfisk Dansk*	BER	B	1777-1888	467
7	*Zartfisk Lübsk*	BER	B	1777-1803	308
8	*Blanke bromser*	BER	B	1777-1880	322
9	*Blanke lenger*	BER	B	1777-1840	147
10	*Losfisk Lübsk*	BER	B	1777-1803	308
11	*Losfisk Hamburg*	BER	B	1777-1803	304
12	*Middelfisk Hamburg*	BER	B	1777-1803	308
14	*Rotskjær Sundmørsk*	BER	B	1777-1796	144
13	*Vinterrotskjær*	BER	B	1829-1888	201
14	*Rotskjær*	BER	N	1800-1865	127
15	*Lenger*	BER	N	1800-1865	128
16	*Rotskjærbrosmer*	BER	N	1851-1865	30
17	*Rotskjærbrosmer*	BER	B	1869-1888	44
18	*Zartfisk*	BER	X	1887-1892	6
19	*Hollender zartfisk*	BER	FB	1893-1915	37
20	*Zartlenger*	BER	FB	1893-1894	10
21	*Skrulenger*	BER	FB	1893-1894	12
22	*Vækkerfisk*	BER	FB	1893-1915	37
23	*Høkkerfisk*	BER	FB	1893-1915	34
24	*Vinterrotskjær*	BER	FB	1893-1894	14
25	*Rotskjærbrosmer*	BER	FB	1893-1894	12
26	*Dansk zartfisk*	BER	FB	1914-1915	22
27	*Rotskjær*	CHA	F	1891-1911	225
28	*Zartfisk*	CHA	F	1911-1920	42
29	*Vækkerfisk*	CHA	F	1912-1920	31
30	*Høkkerfisk*	CHA	F	1911-1920	44
31	*Danskfisk*	CHA	F	1911-1920	44
32	*Tørrfisk rotskjær* export price	NAT	TA	1892-1920	348
	Total				7144

NOTE: See general notes to Table D2 above. Unless otherwise stated these qualities of stockfish were made from cod; other varieties were made from ling *(lange)*, referred to as *lenger*, or from cusk *(brosme)*. Because monthly market data were not found for the period 1888 - 1892 the annual average observations from the Bergen trade collected by Wallem (1893) have been used here (series 18), being entered as July observations.

D4 STOCKFISH:POLLOCK *[TØRRFISK: SEI]* 1777 - 1920

	Description	City	Source	Period	Obs.
1	*Storsei Nordland*	BER	B	1777-1888	772
2	*Storsei bonde*	BER	B	1837-1875	130
3	*Middelsei*	BER	B	1820-1888	259
4	*Småsei*	BER	B	1777-1887	478
5	*Storsei*	BER	N	1800-1865	128
6	*Middelsei*	BER	N	1800-1865	124
7	*Småsei*	BER	N	1800-1865	128
8	*Storsei*	BER	X	1887-1892	6
9	*Storsei* (prime and middling)	BER	FB	1893-1915	45
10	*Middelsei*	BER	FB	1893-1915	29
11	*Småsei*	BER	FB	1893-1915	25
12	*Sei*	CHA	F	1891-1910	208
13	*Storsei*	CHA	F	1911-1920	42
14	*Middelsei*	CHA	F	1911-1920	43
15	*Småsei*	CHA	F	1911-1920	41
16	*Storsei* (prime and middling)	TRH	FT	1893-1915	364
17	*Småsei* (prime and middling)	TRH	FT	1893-1915	210
18	Pollock *Tørrfisk sei* export price	NAT	TA	1892-1920	348
	Total				3382

NOTE: See general notes to Table D2 above. Because monthly market data were not found for the period 1888 - 1892 the annual average observations from the Bergen trade collected by Wallem (1893) have been used here (series 8), being entered as July observations.

	Description	City	Source	Period	Obs.
1	Summer herring K *sommersild*	BER	B	1777-1851	326
2	Summer herring M *sommersild*	BER	B	1790-1865	184
3	Summer herring C *sommersild*	BER	B	1777-1848	281
4	Norland Herring K *Nordlandssild*	BER	B	1777-1811	91
5	Norland Herring M *Nordlandssild*	BER	B	1788-1803	33
6	Norland Herring C *Nordlandssild*	BER	B	1777-1801	82
7	Spring herring large *vårsild*	BER	B	1777-1829	121
8	Spring herring in fir barrels *vårsild*	BER	B	1824-1891	385
9	Spring herring in beech barrels *vårsild*	BER	B	1824-1876	290
10	Herring (Norland) K *Nordlandssild*	BER	N	1800-1839	45
11	Herring (Norland) C *Nordlandssild*	BER	N	1800-1839	44
12	Fat herring K *fetsild*	BER	B	1856-1911	282
13	Fat herring M *fetsild*	BER	B	1854-1912	311
14	Fat herring C *fetsild*	BER	B	1856-1914	297
15	Fat herring CX *fetsild*	BER	B	1856-1914	210
16	Fat herring CXX *fetsild*	BER	B	1891-1910	56
17	Fat herring KMC combined *fetsild*	BER	B	1873-1877	21
18	Large winter herring, export barrels *storsild eksportpakket*	BER	B	1867-1875	67
19	Large winter herring, round gutted *storsild rundsløyet*	BER	B	1869-1877	74
20	Large winter herring, fish barrels *storsild fiskepakket*	BER	B	1867-1875	24
21	Large winter herring (seine) *storsild notfanget*	BER	B	1888-1889	10
22	Herring (net) K *garnsild*	BER	B	1881-1910	91
23	Herring (net) M *garnsild*	BER	B	1882-1910	96
24	Herring (net) C *garnsild*	BER	B	1882-1910	83
25	Herring (net) CX *garnsild*	BER	B	1886-1910	48
26	Herring (net) average *garnsild*	BER	B	1914-1917	16
27	Icelandic herring *Islandssild*	BER	B	1880-1886	31
28	Herring (drift net) *drivgarnsild*	BER	B	1883-1883	4
29	Large herring *Slosild*	BER	B	1887-1889	16
30	Fat herring, 8 export qualities: KKKK to CX *fetsild*	BER	FB	1893-1904	385
31	Fat herring, 5 exp. qualities: five marks to one mark *fetsild*	BER	FB	1906-1911	223
32	Large winter herring, export barrels *storsild*	BER	FB	1896-1916	85
33	Large winter herring, fish barrels *storsild*	BER	B	1905-1918	57
34	Spring herring, export barrels *vårsild*	BER	FB	1897-1916	103
35	Spring herring, fish barrels *vårsild*	BER	B	1906-1918	57
36	Spring herring, fresh *vårsild*	BER	B	1914-1919	11
37	North Sea herring, export barrels *Nordsjøsild*	BER	FB	1903-1916	50
38	North Sea herring, fish barrels *Nordsjøsild*	BER	B	1905-1919	43
39	Icelandic herring, export barrels *Islandssild*	BER	FB	1906-1915	36
40	Icelandic herring, fish barrels *Islandssild*	BER	B	1906-1915	42
41	Large herring *Slosild*, export barrels	BER	FB	1906-1915	5
42	Fat herring, high and low price *fetsild*	CHA	F	1891-1910	405
43	Fat herring, 5 qualities: V through I *fetsild*	CHA	F	1910-1920	236
44	Icelandic herring *Islandssild*	CHA	F	1891-1920	81
45	Large herring *Slosild*	CHA	F	1891-1915	97
46	Spring herring *vårsild*	CHA	F	1893-1913	32
47	Herring in drift net *drivgarnsild*	CHA	F	1896-1910	65
48	Shetland herring *Shetlandssild*	CHA	F	1903-1905	9
49	Dutch herring *Hollandsk sild*	CHA	F	1904-1919	30
50	North Sea herring *Nordsjøsild*	CHA	F	1905-1915	57
51	Fat herring: 7 qualities KKKK through MX *fetsild*	TRH	FT	1893-1915	1078
52	Spring herring *vårsild*	TRH	FT	1897-1913	35
53	*Slofetsild: 4 and 3 marks, SW*	TRH	FT	1896-1915	243
54	*Slosild SW*	TRH	FT	1905-1907	11
55	Fat herring export price *fetsild*	NAT	TA	1914-1920	84
	Total				7179

NOTE: In Bergen herring was traditionally graded according to three main qualities. The best quality was denoted K (*kjøpmannssild*), followed by M (*middelsild*) and then C (*Christianiasild*). The latter category might also be divided into more inferior qualities, denoted as CX (*små Christianiasild*) and sometimes CXX, which was the lowest category. In Christiania and Trondhjem other systems, using marks from one to five (*streker*), were used; this classification was partly adopted in Bergen as well from the 1890s. Herring was sold either in fish barrels (*fiskepakket*), which were filled up three quarters (about 70 kilos) or in export barrels, which were completely filled up (*eksportpakket*), about 90 kilos. See Coldevin (1938, p. 183). Series 30,31,32,34,37,39 and 41 (source FB) are export price quotations from the Bergen price current in *Farmand*. Series 33,35,36,38 and 40 (source B) are Bergen domestic market prices found in weekly market reports from Bergen published in *Farmand*.

D6 FRESH AND SALTED FISH *[FERSK OG SALTET FISK]* 1777 - 1920

	Description	City	Source	Period	Obs.
1	Cod large (spring) *torsk*	BER	B	1777-1798	130
2	Cod small (autumn) *torsk*	BER	B	1777-1800	267
3	Ling salted *lange*	BER	B	1777-1800	208
4	Bream *brasme*	BER	B	1777-1800	257
5	Salmon salted *laks*	BER	B	1777-1795	67
6	Halibut *kveite*	BER	C	1890-1916	288
7	Halibut *hellefisk*	CHA	C	1893-1916	219
8	Salmon smoked *røket laks*	CHA	C	1894-1915	125
9	Plaice *flyndre*	CHA	C	1895-1915	81
10	Cod *torsk*	CHA	C	1895-1916	85
11	Cod salted *torsk*	CHA	F	1911-1920	32
12	Haddock *kolje*	CHA	C	1900-1915	52
13	Mackerel *makrell*	CHA	F	1911-1913	11
14	Haddock *hyse*	STA	C	1887-1908	140
15	Cod salted *saltet torsk*	STA	C	1887-1908	170
16	Cod salted *saltet torsk*	TRH	FT	1895-1911	188
17	Halibut *kveite*	TRH	FT	1893-1918	292
18	Plaice *flyndre*	TRH	FT	1893-1918	258
19	Cod *torsk*	TRH	FT	1893-1918	263
20	Haddock *hyse*	TRH	FT	1903-1918	166
21	Redfish *uer*	TRH	FT	1913-1918	57
22	Redfish salted *saltet uer*	TRH	FT	1895-1911	182
23	Pollock salted *saltet sei*	TRH	FT	1895-1905	51
24	Cod retail price *torsk*	CHA	D	1915-1920	59
25	Halibut retail price *hellefisk*	CHA	D	1915-1920	61
	Total				3778

NOTE: No useful price series of fresh or salted fish were found for the years 1800 - 1887.

	Description	City	Source	Period	Obs.
1	Roe unspecified (until 1863), thereafter prime	BER	B	1777-1915	644
2	Roe second	BER	B	1863-1915	349
3	Roe third	BER	B	1901-1915	79
4	Roe	BER	N	1800-1865	126
5	Roe first	BER	FB	1894-1915	134
6	Roe second	BER	FB	1894-1916	137
7	Roe third	BER	FB	1902-1915	71
8	Roe export price	NAT	TA	1915-1920	72
	Total				1612

NOTE: The second and third roe quality descriptions were not used before 1863 and 1901, respectively.

	Description	City	Source	Period	Obs.
1	Sugar white Havana	CHA	V	1825-1830	15
2	Powdered sugar white	CHA	V	1826-1836	80
3	Sugar yellow Havana	CHA	V	1825-1856	220
4	Sugar yellow St Croix	CHA	V	1827-1830	42
5	Sugar brown	CHA	V	1828-1832	26
6	Sugar yellow Havana	STA	P	1829-1830	10
7	Sugar brown, Havana	BER	M	1861-1885	274
8	Sugar yellow	BER	M	1866-1887	234
9	Sugar white	BER	M	1866-1901	411
10	Sugar, Demerara	CHA	F	1891-1917	178
11	Granulated sugar, Dutch *farin*	BER	M	1861-1914	471
12	Granulated sugar, German *farin*	BER	M	1901-1916	164
13	Granulated sugar, English *farin*	BER	M	1904-1914	115
14	Granulated sugar, Russian *farin*	BER	M	1904-1913	61
15	Granulated sugar, English *farin*	CHA	A,F	1891-1914	282
16	Granulated sugar, dry, English *farin*	CHA	A,F	1897-1914	199
17	Granulated sugar, Scottish *farin*	CHA	A,F	1891-1899	88
18	Granulated sugar, yellow, German *farin*	CHA	A,F	1891-1903	154
19	Granulated sugar, white, German *farin*	CHA	A,F	1898-1918	244
20	Granulated sugar, Dutch *farin*	CHA	A,F	1891-1901	98
21	Granulated sugar, Russian *farin*	CHA	A,F	1904-1914	55
22	Granulated sugar, yellow, Danish *farin*	CHA	A,F	1914-1915	4
23	Granulated sugar, white, American *farin*	CHA	A,F	1916-1920	29
24	Granulated sugar, white, Java *farin*	CHA	A,F	1916-1920	19
25	Granulated sugar, government stores *farin*	CHA	X	1917-1919	25
	Total				3498

NOTE: The price of sugar sold by the government (series 25) was taken from W(274).

E2 CRYSTALLIZED AND LUMP SUGAR *[RAFFINADE]* 1825 - 1920

	Description	City	Source	Period	Obs.
1	Lump sugar *raffinade*	CHA	V	1825-1871	257
2	Candy sugar, light *kandis*	CHA	V	1825-1871	245
3	Candy sugar, dark *kandis*	CHA	V	1825-1842	58
4	Icing sugar *melis*	CHA	V	1825-1852	170
5	Lump sugar *raffinade*	STA	P	1829-1830	10
6	Candy sugar *kandis*	STA	P	1829-1830	7
7	Icing sugar *melis*	STA	P	1829-1830	10
8	Candy sugar, brown *kandis*	BER	M	1861-1914	611
9	Loaf sugar *raffinade toppet*	BER	M	1884-1916	366
10	Icing sugar *melis*	BER	M	1885-1913	334
11	Icing sugar, crushed *melis*	BER	M	1910-1916	57
12	Candy sugar, yellow *kandis*	BER	M	1901-1915	150
13	Lump sugar –HG– *raffinade*	BER	M	1907-1915	61
14	Loaf sugar, German (Stettin) *raffinade toppet*	CHA	A,F	1891-1916	299
15	Loaf sugar, other German *raffinade toppet*	CHA	A,F	1891-1901	118
16	Lump sugar, German (Stettin) *raffinade klippet*	CHA	A,F	1891-1918	325
17	Lump sugar, German (Breslau) *raffinade klippet*	CHA	A,F	1891-1901	130
18	Loaf sugar, Dutch *raffinade toppet*	CHA	A,F	1898-1915	211
19	Lump sugar, Dutch *raffinade klippet*	CHA	A,F	1898-1915	206
20	Cube sugar, German *raffinade*	CHA	A,F	1898-1901	38
21	Sugar tablets *raffinade*	CHA	A,F	1899-1901	29
22	Crushed sugar, Dutch *raffinade*	CHA	A,F	1891-1918	314
23	Crushed sugar, German *raffinade*	CHA	A,F	1898-1920	83
24	Crushed sugar, Prague *raffinade Prager*	CHA	A,F	1912-1920	48
25	Crushed sugar, American *raffinade*	CHA	A,F	1916-1917	22
26	Icing sugar, French *flor*	CHA	A,F	1891-1920	318
27	Icing sugar, German *flor, tysk & Prager*	CHA	A,F	1912-1920	44
28	Icing sugar, American *flor*	CHA	A,F	1915-1920	40
29	Finely crushed sugar *raffinade finmalt*	CHA	A,F	1898-1910	142
30	Granulated sugar *raffinade*	CHA	A,F	1891-1918	320
31	Pearl sugar *perlesukker*	CHA	A,F	1898-1916	212
32	Crystallized sugar *raffinade krystallisert*	CHA	A,F	1916-1918	12
33	Candy sugar *kandis*	CHA	A,F	1891-1920	333
34	Lump sugar (4 series) *raffinade klippet*	CHA	A,F	1916-1919	92
35	Lump sugar, American (3 series) *raffinade klippet*	CHA	A,F	1916-1917	57
	Total				5729

E3 SYRUP *[SIRUP]* 1825 - 1916

	Description	City	Source	Period	Obs.
1	Syrup average price	CHA	V	1825-1871	185
2	Syrup average price	STA	P	1829-1830	8
3	Syrup average price	BER	M	1861-1916	635
4	Syrup average price	CHA	F	1891-1914	282
	Total				1110

E4 COFFEE *[KAFFE]* 1825 - 1920

	Description	City	Source	Period	Obs.
1	Coffee unspecified average	CHA	V	1825-1871	257
2	Coffee unspecified average	STA	P	1829-1830	10
3	Coffee unspecified average	BER	B	1830-1861	44
4	Coffee unspecified lowest price	BER	M	1861-1916	633
5	Coffee unspecified highest price	BER	M	1861-1916	632
6	Java Malang	CHA	F,A	1891-1920	287
7	Java WIB brands	CHA	F,A	1899-1914	185
8	Java middling qualities	CHA	A,F	1904-1914	116
9	La Guayara	CHA	A,F	1891-1904	164
10	Guatemala	CHA	A,F	1891-1904	166
11	Puerto Rico	CHA	A,F	1891-1900	113
12	Brasil	CHA	A,F	1891-1904	166
13	Rio	CHA	A,F	1904-1920	123
14	Santos	CHA	A,F	1904-1920	124
15	Caracas	CHA	A,F	1904-1914	117
16	Nicaragua	CHA	A,F	1904-1920	124
17	Preanger	CHA	A,FA	1903-1914	128
18	Java Malang retail price	CHA	D	1915-1920	72
	Total				3461

E5 TEA *[TE]* 1825 - 1856

	Description	City	Source	Period	Obs.
1	Congou tea	CHA	V	1825-1856	162
2	Congou tea	STA	P	1829-1830	7
	Total				169

E6 RAISINS *[ROSINER]* 1825 - 1848

	Description	City	Source	Period	Obs.
1	Raisins	CHA	V	1825-1848	114
2	Currants	CHA	V	1830-1846	25
3	Prunes	CHA	V	1825-1848	81
	Total				220

E7 SPICES *[KRYDDER]* 1825 - 1846

	Description	City	Source	Period	Obs.
1	Pepper	CHA	V	1825-1846	74
2	Ginger	CHA	V	1825-1846	63
3	Pimento *allehånde*	CHA	V	1825-1846	68
	Total				205

E8 RICE *[RIS]* 1825 - 1892

	Description	City	Source	Period	Obs.
1	Rice Carolina	CHA	V	1825-1856	221
2	Rice Carolina	STA	P	1829-1830	10
3	Rice whole grain	BER	M	1881-1892	129
4	Rice split	BER	M	1881-1892	129
	Total				489

F1 POTATOES *[POTETER]* 1825 - 1920

	Description	City	Source	Range	Obs.
1	Potatoes	FRH	P	1825-1830	40
2	Potatoes	ARL	P	1826-1830	34
3	Potatoes	CHA	C	1830-1920	952
4	Potatoes	BER	C	1840-1916	853
5	Potatoes	CHA	L	1882-1920	412
6	Potatoes	TRH	C	1914-1920	76
	Total				2367

F2 PEAS *[ERTER]* 1777 - 1920

	Description	City	Source	Range	Obs.
1	Baltic	BER	B	1777-1883	616
2	Danish	BER	B	1777-1876	789
3	Peas unspecified	BER	N	1815-1865	87
4	White peas	CHA	V	1825-1872	279
5	Danish	STA	P	1865-1878	141
6	Victoria	CHA	V	1877-1888	89
7	Small peas	CHA	V	1877-1888	89
8	Peas and beans import price	NAT	TA	1879-1920	504
	Total				2594

F3 CARAWAY *[KARVE]* 1825 - 1874

	Description	City	Source	Range	Obs.
1	Caraway	CHA	V	1825-1846	47
2	Caraway	CHA	C	1830-1874	215
	Total				262

F4 CARROTS *[GULRØTTER]* 1876 - 1918

	Description	City	Source	Range	Obs.
1	Carrots	BER	C	1876-1904	256
2	Carrots	STA	C	1887-1918	157
3	Carrots	CHA	C	1900-1916	100
	Total				513

F5 CABBAGE *[HOVEDKÅL]* 1900 - 1916

	Description	City	Source	Range	Obs.
1	Cabbage	CHA	C	1900-1916	110
	Total				110

F6 SWEDISH TURNIP *[KÅLRABI]* 1859 - 1916

	Description	City	Source	Range	Obs.
1	Swedish turnip	BER	C	1860-1904	269
2	Swedish turnip	STA	Y	1859-1880	18
3	Swedish turnip	STA	C	1881-1908	202
4	Swedish turnip	CHA	C	1900-1916	110
	Total				599

F7 POTATO FLOUR *[POTETMEL]* 1913 - 1920

	Description	City	Source	Range	Obs.
1	Potato flour	CHA	A	1913-1920	78
	Total				78

F8 LINSEED *[LINFRØ]* 1828 - 1920

	Description	City	Source	Range	Obs.
1	Linseed	CHA	V	1828-1846	6
2	Linseed	CHA	C	1830-1854	149
3	Linseed import price	NAT	TA	1866-1920	660
	Total				815

F8 HOPS *[HUMLE]* 1777 - 1800

	Description	City	Source	Range	Obs.
1	Flanders	BER	B	1777-1800	271
2	Rehberg	BER	B	1777-1800	260
3	Braunschweigh	BER	B	1777-1791	180
	Total				677

G1 SPIRITS *[BRENNEVIN]* 1777 - 1920

	Description	City	Source	Period	Obs.
1	Spirits Altona	BER	B	1777-1812	343
2	Spirits Flensburg	BER	B	1777-1806	123
3	Spirits French	BER	B	1777-1830	336
4	Spirits French	BER	N	1815-1846	49
5	Spirits Danish	BER	N	1815-1825	7
6	Spirits Altona	BER	N	1815-1817	3
7	Rum	BER	N	1822-1846	46
8	Grain spirits	BER	N	1823-1865	82
9	Grain spirits	BER	B	1822-1864	208
10	Spirits Spanish	BER	B	1825-1830	41
11	Spirits Norwegian	CHA	V	1825-1856	192
11	Spirits French	CHA	V	1825-1856	128
12	Spirits Bordeaux	CHA	V	1825-1848	109
13	Spirits Hamburg	CHA	V	1846-1847	4
14	Spirits Christiania	BER	M	1861-1892	317
15	Spirits Trondhjem	BER	M	1861-1892	299
16	Spirits Moss	BER	M	1861-1883	92
17	Spirits (magistrates' reports, 9 cities)	NAT	Q	1832-1871	160
18	Wine Bordeaux red	BER	B	1777-1812	331
19	Rectified spirits 96 per cent	CHA	F	1891-1909	222
20	Crude spirits 100 per cent	CHA	F	1891-1901	121
21	Purified and spiced spirits 39 per cent	CHA	F	1891-1909	222
22	Aquavit (3 series, 45, 42 and 40 per cent)	CHA	F	1891-1909	666
23	Imported spirits, duty paid, 50-60 per cent	NAT	TA	1909-1920	144
	Total				4245

NOTE: Prices are quoted inclusive of duty and excise taxes.

G2 MALT *[MALT]* 1777 - 1920

	Description	City	Source	Period	Obs.
1	Malt Rostock	BER	B	1777-1836	569
2	Malt Pommerania	BER	B	1777-1860	381
3	Malt Danish Jutland	BER	B	1777-1858	272
4	Malt Danish Zealand	BER	B	1777-1803	199
5	Malt Copenhagen brewery	BER	B	1816-1863	392
6	Malt English	BER	B	1777-1786	13
7	Malt	CHA	V	1825-1848	179
8	Malt	BER	N	1839-1865	54
9	Malt import price	NAT	TA	1866-1920	660
	Total				2719

NOTE: Prices are quoted inclusive of duty and excise taxes.

	Description	City	Source	Period	Obs.
1	Virginia leaf	BER	B	1777-1831	292
2	European	BER	B	1778-1803	287
3	One pound from tobacco chest	BER	N	1777-1803	312
4	Virginia leaf	BER	N	1815-1865	86
5	Virginia leaf	CHA	V	1826-1830	13
6	Leaf tobacco	BER	M	1861-1900	471
7	Tobacco, duty paid, import price	NAT	TA	1886-1920	420
	Total				1881

NOTE: Prices are quoted inclusive of duty and excise taxes.

H1 HAY *[HØY]* 1830 - 1920

	Description	City	Source	Range	Obs.
1	Meadow hay *Vollhøy*	CHA	C	1830-1920	1007
2	Timothy grass *Timoteihøy*	CHA	C	1830-1920	971
3	Meadow hay *Vollhøy*	CHA	L	1877-1920	413
4	Timothy grass *Timoteihøy*	CHA	L	1877-1917	457
5	Hay	BER	C	1841-1912	480
6	Meadow hay *Vollhøy*	TRH	C	1913-1920	88
7	Timothy grass *Timoteihøy*	TRH	C	1913-1920	88
	Total				3504

H2 STRAW *[HALM]* 1830 - 1920

	Description	City	Source	Range	Obs.
1	Rye straw	CHA	C	1830-1920	938
2	Oat straw	CHA	C	1830-1920	915
3	Barley straw	CHA	C	1830-1920	886
4	Rye straw	CHA	L	1877-1909	275
5	Oat straw	CHA	L	1877-1920	469
6	Barley straw	CHA	L	1877-1909	357
7	Chaff *hakkelse*	CHA	C	1907-1920	168
8	Straw	BER	C	1848-1914	390
9	Straw	TRH	C	1913-1920	88
	Total				4486

H3 OATS *[HAVRE]* 1777 - 1920

	Description	City	Source	Range	Obs.
1	Oats Danish	BER	B	1777-1865	851
2	Oats Baltic	BER	B	1777-1849	184
3	Oats Norwegian	BER	B	1847-1873	45
4	Oats	BER	N	1815-1865	84
5	Oats	CHA	C	1830-1920	950
6	Oats	CHA	V	1825-1856	160
7	Oats	CHA	L	1877-1920	456
8	Oats	TRH	FT	1893-1906	24
	Total				2754

H4 OAT MEAL *[HAVREMEL]* 1830 - 1915

	Description	City	Source	Range	Obs.
1	Oat meal	CHA	C	1830-1906	812
2	Oat meal	CHA	L	1877-1915	72
3	Oat meal	STA	Y	1852-1880	21
4	Oat meal	STA	C	1893-1908	111
	Total				1016

H5 BRAN *[KLI]* 1875 - 1917

	Description	City	Source	Range	Obs.
1	Rye bran *rugkli*	BER	B,M	1875-1892	91
2	Rye grits *ruggris*	BER	B,M	1875-1891	64
3	Rye bran *rugkli*	CHA	L	1877-1879	27
4	Rye bran *rugkli*	CHA	F	1891-1917	310
5	Rye bran *rugkli*	CHA	A	1902-1917	178
5	Barley bran *byggkli*	CHA	F	1891-1917	310
6	Wheat bran *hvetekli*	CHA	F	1916-1917	9
7	Rye meal seconds *rugdernest*	CHA	A	1902-1917	176
8	Rye meal seconds *rugdernest*	CHA	F	1910-1917	84
	Total				1249

H6 MAIZE *[MAIS]* 1857 - 1920

	Description	City	Source	Range	Obs.
1	Maize Black Sea or unspecified	BER	B	1857-1910	117
2	Maize United States	BER	B	1880-1907	38
3	Maize River Plate	BER	B	1901-1910	17
4	Maize	CHA	A	1915-1920	22
5	Maize crushed *maisgrøp*	CHA	F	1908-1916	100
6	Maize crushed *maisgrøp*	CHA	A	1915-1920	22
7	Maize import price	NAT	TA	1873-1901	348
	Total				664

I1 HIDES *[HUDER]* 1841 - 1920

	Description	City	Source	Range	Obs.
1	Oxhides	BER	C	1841-1916	309
2	Cowhides	BER	C	1861-1916	307
3	Cowhides raw	STA	C	1874-1908	333
4	Raw hides (two series)	CHA	C	1880-1920	579
5	Cowhides	CHA	L	1877-1900	242
6	Oxhides	CHA	L	1880-1900	217
7	Cow- and oxhides	CHA	L	1901-1910	120
8	Horse hides	CHA	C	1914-1920	58
9	Hides fresh	TRH	C	1913-1920	88
10	Hides salted	TRH	C	1913-1920	88
11	Horse hides	TRH	C	1913-1920	88
	Total				2429

I2 CALFSKIN *[KALVESKINN]* 1777 - 1920

	Description	City	Source	Range	Obs.
1	Calfskin	BER	B	1777-1860	405
2	Calfskin	BER	C	1860-1916	863
3	Calfskin wet	STA	C	1874-1908	324
4	Calfskin	CHA	L	1877-1910	362
5	Skin from unfattened calves *Spekalvskinn*	CHA	C	1903-1920	157
6	Skin from fattened calves *Gjøkalvskinn*	CHA	C	1906-1920	139
7	Calfskin	TRH	FT	1893-1912	221
8	Calfskin	TRH	C	1913-1920	88
	Total				2560

I3 SHEEPSKIN *[SAUESKINN]* 1777 - 1920

	Description	City	Source	Range	Obs.
1	Sheepskin	BER	B	1777-1801	289
2	Sheepskin	BER	C	1874-1916	606
3	Lambskin	BER	C	1889-1916	303
4	Sheepskin	CHA	L	1877-1910	362
5	Sheepskin	CHA	C	1903-1916	115
6	Sheepskin	TRH	FT	1893-1912	222
7	Lambskin	TRH	FT	1893-1912	221
8	Sheepskin	TRH	C	1913-1920	88
9	Lambskin	TRH	C	1913-1920	88
	Total				2294

I4 GOATSKIN *[GEITESKINN]* 1777 - 1920

	Description	City	Source	Range	Obs.
1	Buckskin large and small Nordland *Nordlandsk bukkeskinn*	BER	B	1777-1871	327
2	Buckskin (Nordland) *Nordlandsk bukkeskinn*	BER	N	1815-1865	87
3	Buckskin large and small (interior) *innlandsk bukkeskinn*	BER	B	1777-1859	739
4	Buckskin (interior) *innlandsk bukkeskinn*	BER	C	1855-1876	101
5	Buckskin *bukkeskinn*	BER	C	1874-1914	519
6	Goatskin *geiteskinn*	BER	B	1800-1857	107
7	Goatskin *geiteskinn*	BER	N	1823-1831	17
8	Goatskin *geiteskinn*	BER	C	1874-1916	725
9	Goatskin *geiteskinn*	TRH	FT	1893-1912	222
10	Kidskin *smågeitskinn*	TRH	FT	1893-1912	197
11	Goatskin *geiteskinn*	TRH	C	1913-1920	88
12	Kidskin *risbetskinn*	TRH	C	1913-1920	88
	Total				3487

I5 WILD ANIMAL SKINS *[VILLDYRSKINN]* 1874 - 1916

	Description	City	Source	Range	Obs.
1	Fox skin *reveskinn*	BER	C	1874-1916	580
2	Fox skin *reveskinn*	STA	C	1881-1908	252
3	Otter skin *oterskinn*	BER	C	1874-1916	555
4	Otter skin *oterskinn*	STA	C	1881-1908	251
5	Marten skin *mårskinn*	STA	C	1881-1908	237
	Total				1875

I6 LEATHER *[LÆR]* 1891 - 1918

	Description	City	Source	Range	Obs.
1	Greased leather *fettlær*	CHA	F	1891-1917	316
2	Greased leather (Norwegian) *fettlær norsk*	CHA	F	1914-1918	43
3	Sole leather (American) two series *sålelær amerikansk*	CHA	F	1891-1914	562
4	Sole leather (Norewegian) two series *sålelær norsk*	CHA	F	1891-1914	281
5	Sole leather, Quebracho tanned, three series *sålelær Quebracho*	CHA	F	1912-1918	203
6	In-sole leather *bindsålelær*	CHA	F	1891-1918	323
	Total				1728

J1 TIMBER *[TØMMER]* 1819 - 1920

	Description	City	Source	Period	Obs.
1	Saw timber Glommen water system (4)	CHA	X	1819-1877	37
2	Saw timber Drammen water system (2)	DRA	X	1823-1877	25
3	Saw timber Laagen water system (2)	LAR	X	1819-1876	12
4	Saw timber Halden water system	FRH	X	1861-1918	54
5	Saw timber Kongsberg timber fair (5)	KON	X	1872-1908	106
6	Saw timber Drammen timber fair (3)	DRA	X	1873-1898	39
7	Saw timber Christiania timber fair (12)	CHA	X	1878-1908	340
8	Saw timber Nordsjø water system (2)	SKI	X	1884-1908	75
9	Pulpwood Halden water system	FRH	X	1915-1920	5
10	Mining timber export price	NAT	TA	1876-1920	540
11	Pit props export price	NAT	TA	1876-1920	540
12	Pulpwood price index	NAT	OR	1914-1920	20
	Total				1793

NOTE: Figures in parentheses represent the number of series (timber dimensions) included. Data series (1), (2), (3), and (8) are annual timber prices of different dimensions from the main water systems as reported by Skogdirektøren (1909). Data before the 1870s are for selected years only. Item (7) is from the same source, giving prices at the Christiania midsummer timber fair. Series (4) and (9) are average timber prices from Halden (Tistedal) water system as reported in Norløff (1935). Item (5) is from the annual Kongsberg timber fairs in February each year: prices of 4 dimensions of timber (24 feet by 6 inches to 24 feet by 10 inches) 1872-1906 and prices of load measures 1903-1908. Item (6) is from the annual Drammen timber fairs in February 1873-1898: prices of timber 24 feet by 9 inches, spring and summer delivery. The source of (5) and (6) is W(131), quoting excerpts from the contemporary newspapers *Kongsberg Adresse, Drammens Blad, Drammens Tidende.*

J2 WOOD *[TRELAST]* 1777 - 1920

	Description	City	Source	Period	Obs.
1	Deals, estimated fob price in Christiania	NAT	X	1777-1876	1196
2	Deals, avg. export price planed deals	NAT	TA	1871-1920	612
3	Wood average export price timber and wood	NAT	TM	1895-1912	216
4	Avg. import price UK: Norway & Sweden planed deals	NAT	X	1870-1900	372
5	Avg. import price UK: Norway planed deals	NAT	X	1900-1913	168
	Total				2564

NOTE: *Series 1*: Annual fob prices of deals exported to London based on quoted prices on Norway deals in London, adjusted for transportation costs, import duty in the UK, insurance and commission and export duty and shipping charges in Norway, see text. Beginning 1830 intrayear price movements were estimated from monthly UK prices of best Christiania deals in London, monthly rates of freight on wood from Christiania to London and monthly data on timber import duty in the UK as well as export duty and shipping charges in Norway. Monthly data on wood prices were available from January 1830, freight rates from January 1835; for the earlier periods annual data were distributed over the year by the Litterman (1983) method. *Series 2*: Annual average export price of planed deals from the annual trade statistics. Monthly UK prices of Norway deals in London were used to estimate intrayear price movements. The UK import prices were computed from the monthly trade returns published in *The Economist Monthly Trade Supplement* 1870-1913. The trade returns data refer to 'wood: sawn or split, planed or dressed', basically corresponding to more commonly used 'deals, battens and boards' denomination. Norwegian exports are not separated from Swedish until 1900. No adjustment was made for transportation costs or duty, see text for further discussion.

	Description	City	Source	Period	Obs.
1	Birch *bjerkeved*	CHA	C	1825-1911	708
2	Spruce *granved*	CHA	C	1825-1911	806
3	Fir *furuved*	CHA	C	1825-1909	740
4	Birch (3 series)	BER	C	1840-1916	1002
5	Fir (3 series)	BER	C	1841-1916	909
6	Alder *olderved*(3 series)	BER	C	1840-1916	878
7	Birch *ex wharf (Revierbryggen)*	CHA	R	1881-1907	293
8	Spruce *ex wharf*	CHA	R	1881-1907	296
9	Fir *ex wharf*	CHA	R	1881-1907	293
10	Beech *ex wharf*	CHA	R	1881-1894	80
11	Common alder *ex wharf*	CHA	R	1881-1894	75
12	Splitwood *ex wharf (honved)*	CHA	R	1882-1892	61
13	Birch *ex railway*	CHA	R	1884-1916	193
14	Spruce *ex railway*	CHA	R	1884-1897	128
15	Fir *ex railway*	CHA	R	1884-1897	128
16	Splitwood *ex railway (honved)*	CHA	R	1888-1897	85
17	Fir and spruce *ex railway*	CHA	R	1911-1916	65
18	Birch	CHA	L	1882-1902	247
19	Spruce	CHA	L	1882-1902	247
20	Fir	CHA	L	1882-1902	247
21	Birch	TRH	C	1913-1920	88
22	Spruce	TRH	C	1913-1920	88
23	Fir	TRH	C	1913-1920	88
24	Splitwood	TRH	C	1913-1920	88
25	Birch wood, retail prices	NAT	D	1919-1920	21
	Total				7854

K1 STAVES *[STAVER]* 1829 - 1862

	Description	City	Source	Period	Obs.
1	Oak staves	BER	B	1829-1862	37
2	Beech staves	BER	B	1829-1862	48
	Total				85

K2 WOODEN BARRELS *[TRETØNNER]* 1815 - 1914

	Description	City	Source	Period	Obs.
1	Fir barrels	BER	N	1815-1865	87
2	Oak barrels	BER	N	1815-1865	87
3	Oak kegs	BER	N	1815-1855	66
4	Fir barrels	BER	B,M	1857-1914	627
5	Beech barrels	BER	B,M	1857-1879	165
6	Oak barrels	BER	M	1861-1914	620
	Total				1652

K3 HOOPS *[TØNNEBÅND]* 1861 - 1916

	Description	City	Source	Period	Obs.
1	Willow hoops *pilebånd*	BER	C	1861-1892	311
2	Hazel hoops *hasselbånd*	BER	C	1887-1916	323
3	Alder hoops *olderbånd*	BER	C	1887-1906	145
	Total				779

K4 CORK *[KORK]* 1861 - 1892

	Description	City	Source	Period	Obs.
1	Cork	BER	M	1861-1892	335
	Total				335

K5 MECHANICAL PULP *[TREMASSE]* 1886 - 1920

	Description	City	Source	Period	Obs.
1	Mechanical pulp wet	CHA	A,X	1890-1920	245
2	Mechanical pulp dry	CHA	A,X	1890-1920	51
3	Mechanical pulp dry, export price	NAT	TM	1895-1912	216
4	Mechanical pulp wet, export price	NAT	TM	1895-1912	216
5	Mechanical pulp wet, annual export price	NAT	TA	1886-1920	206
	Total				934

NOTE: Market prices of mechanical wood pulp were (somewhat irregularly) published in the weekly market reports in *Farmand* throughout the period from 1891 to 1920 (series 1 and 2). Additional information appeared in the daily newspaper *Norges Handels- og Sjøfartstidende* 1914-1920. From November 1919 weekly wood pulp quotations were taken up at the *Christiania Børs*. In the course of 1920, particularly in the second half of the year, these were mostly suspended due to an inactive market for wood pulp.

K6 CHEMICAL PULP *[CELLULOSE]* 1886 - 1920

	Description	City	Source	Period	Obs.
1	Easy bleaching sulphite	CHA	A,X	1894-1920	89
2	Strong sulphite	CHA	A,X	1911-1920	46
3	Bleached sulphite	CHA	A,X	1912-1920	24
4	Strong (kraft) sulphate	CHA	A,X	1912-1920	29
5	Chemical pulp wet, export price	NAT	TM	1895-1912	207
6	Chemical pulp dry, export price	NAT	TM	1895-1912	216
7	Chemical pulp dry, annual export price	NAT	TA	1886-1920	206
	Total				817

NOTE: As for mechanical wood pulp market prices of chemical wood pulp were found in the weekly market reports in *Farmand* from the early 1890s, but there were few quotations before about 1912 (series 1 through 4). Additional information appeared in the daily newspaper *Norges Handels- og Sjøfartstidende* 1914-1920. From November 1919 weekly wood pulp quotations were taken up at the *Christiania Børs*. In the course of 1920, particularly in the second half of the year, these were mostly suspended due to an inactive market for wood pulp.

K7 PAPER *[PAPIR]* 1867 - 1920

	Description	City	Source	Period	Obs.
1	Packing paper, export price	NAT	TM	1903-1912	120
2	Packing paper, annual export price	NAT	TA	1867-1919	518
3	Printing paper, export price	NAT	TM	1907-1912	72
4	Price index of paper	NAT	OR	1914-1920	20
	Total				730

	Description	City	Source	Period	Obs.
1	Matches, export price	NAT	TM	1895-1912	216
2	Matches, annual export price	NAT	TA	1882-1920	254
	Total				470

L1 COTTON *[BOMULL]* 1825 - 1920

	Description	City	Source	Range	Obs.
1	Cotton, Georgia or Pernambuco	CHA	V	1825-1848	133
2	Cotton, monthly import price	NAT	TM	1895-1912	216
3	Cotton, import price	NAT	TA	1867-1920	648
	Total				997

L2 COTTON GOODS *[BOMULLSVARER]* 1850 - 1920

	Description	City	Source	Range	Obs.
1	Plain cloth *stoff (verken)*	STA	Y	1850-1882	51
2	Cotton goods import price	NAT	TA	1866-1920	660
3	Textiles price index *tekstiler*	CHA	OR	1914-1920	20
	Total				731

NOTE: The plain cloth series from the Stavanger June and October trade fairs (series 1) is a cloth with cotton warp and woollen weft. The import price series (series 2) refers to plain, single coloured or bleached cotton goods in the trade statistics. Prices are inclusive of duty. The textiles price index (series 3) is based on end-of-year data 1914-1918; January, June and December observations for 1919 and a complete run of monthly data for 1920. It is likely that it comprises both cotton and woollen goods.

L3 WOOL *[ULL]* 1832 - 1920

	Description	City	Source	Range	Obs.
1	Wool (38 cities, magistrates' reports)	NAT	Q	1832-1871	119
2	Wool average of price range	STA	Y	1847-1875	44
3	Wool white	STA	Y	1869-1890	18
4	Wool black	STA	Y	1869-1882	14
5	Wool, import price	NAT	TA	1866-1920	660
	Total				855

L4 WOOLLEN GOODS *[ULLVARER]* 1837 - 1920

	Description	City	Source	Range	Obs.
1	Frieze white *vadmel hvit*	BER	N	1837-1865	56
2	Frieze grey *vadmel grå*	BER	N	1837-1865	56
3	Frieze white *vadmel hvit*	STA	Y	1847-1884	58
4	Frieze grey *vadmel grå*	STA	Y	1847-1876	35
5	Frieze *Hardangervadmel*	STA	Y	1866-1884	22
6	Woollen goods, monthly import price	NAT	TM	1895-1912	216
7	Woollen goods (2 series from 1898) import price	NAT	TA	1869-1920	901
8	Textiles price index *tekstiler*	CHA	OR	1914-1920	20
	Total				1364

NOTE: The import price series (series 6 and 7) refers to items labelled *'andre ullvarer ellers'* in the trade statistics. These were presumably plain woollen cloth or piece goods, which accounted for the bulk of the import value of woollen goods. Prices are inclusive of duty. The textiles price index (series 8) is based on end-of-year data 1914-1918; January, June and December observations for 1919 and a complete run of monthly data for 1920. It is likely that it comprises both cotton and woollen goods.

L5 HEMP *[HAMP]* 1777 - 1920

	Description	City	Source	Range	Obs.
1	Hemp Riga seconds	BER	B,M	1777-1901	1040
2	Hemp Riga coarse	BER	M	1861-1901	469
3	Hemp St Petersburg seconds	BER	B	1777-1844	528
4	Hemp Drojaner	BER	B	1777-1801	269
5	Hemp Pass	BER	B	1777-1800	260
6	Hemp Heede	BER	B	1777-1801	283
7	Hemp unspecified	BER	N	1815-1865	87
8	Hemp unspecified	FRH	P	1826-1830	36
9	Hemp (21 cities, magistrates' reports)	NAT	Q	1832-1871	157
10	Hemp average monthly import price	NAT	TM	1895-1907	156
11	Hemp import price	NAT	TA	1901-1920	240
	Total				3525

NOTE: The hemp series 4 through 6 are coarser qualities of hemp, referred to here by their contemporary German description.

L6 FLAX *[LIN]* 1777 - 1890

	Description	City	Source	Range	Obs.
1	Flax Baltic *lin*	BER	B	1777-1822	296
2	Flax (coarse) *lin Heede*	BER	B	1777-1802	299
3	Flax Dutch *lin*	BER	B	1818-1821	6
4	Flax Dutch *lin*	CHA	V	1825-1846	107
5	Flax Baltic *lin*	CHA	V	1825-1846	67
6	Tow Dutch *stry*	CHA	V	1839-1846	54
7	Tow Baltic *stry*	CHA	V	1836-1846	55
8	Flax Baltic *lin*	FRH	P	1826-1830	37
9	Flax (32 cities, magistrates' reports)	NAT	Q	1832-1871	157
10	Flax grey *lin*	BER	N	1837-1851	28
11	Tow, Codilla *kodillestry*	BER	M	1861-1890	320
	Total				1426

L7 LINEN GOODS *[LINVARER]* 1777 - 1920

	Description	City	Source	Range	Obs.
1	Sailcloth St Petersburg *seilduk*	BER	B	1777-1840	390
2	Sailcloth Lübeck *seilduk*	BER	B	1777-1796	231
3	Sailcloth Holland *seilduk*	BER	B	1777-1783	48
4	Linen cloth *klaverduk*	BER	B	1782-1830	247
5	Linen cloth *klaverduk*	BER	N	1815-1865	87
6	Canvas (hessian) *strielerret*	BER	N	1816-1865	87
7	Canvas (linen) *linlerret*	BER	N	1816-1865	86
8	Sailcloth unbleached *ravenduk*	BER	B	1830-1836	32
9	Canvas *lerret*	CHA	V	1838-1845	17
10	Canvas (linen) *linlerret*	STA	Y	1847-1873	16
11	Hessian *strie*	STA	Y	1847-1884	50
12	Linen goods import price	NAT	TA	1866-1920	660
	Total				1951

NOTE: The import price series (12) comprises sailcloth and other plain linen cloth. Prices are inclusive of duty.

L8 EELGRASS *[ÅLEGRESS]* 1881 - 1916

	Description	City	Source	Range	Obs.
1	Eelgrass *ålegress*	BER	C	1881-1916	393
	Total				393

NOTE: Eelgrass was used as stuffing for mattresses and as insulating material.

L9 LINES & ROPES *[SNØRER & TAUVERK]* 1815 - 1865

	Description	City	Source	Range	Obs.
1	Fishline *snører*	BER	N	1815-1865	87
2	Rope *kaler*	BER	N	1822-1865	84
3	Fishnet thread *fiskegarnstråd*	BER	N	1816-1865	86
4	Fishnet thread machine made *maskintråd*	BER	N	1848-1865	36
	Total				293

M1 COD LIVER OIL *[TRAN]* 1777 - 1917

	Description	City	Source	Range	Obs.
1	Brown *brun*	BER	B	1777-1917	1406
2	Brown *brun*	BER	N	1800-1865	128
3	Bright (for medical use) *blank*	BER	B	1777-1916	1026
4	Bright *blank*	BER	N	1800-1865	128
5	Bright brown (for medical use) *brunblank*	BER	B	1831-1916	604
6	Bright brown *brunblank*	BER	N	1839-1865	67
7	Greenland	BER	B	1777-1811	103
8	Steamed, cleaned *dampmedisintran koldklaret*	BER	B	1868-1916	350
9	Steamed, not cleaned *dampmedisintran uklaret*	BER	B	1892-1916	153
10	Crude, for medical use *råmedisintran*	BER	B	1853-1916	571
11	Bright brown, for industrial use *brunblank*	BER	B	1906-1917	41
12	Bright, for industrial use *blank*	BER	B	1906-1917	41
13	Brown *brun*	BER	FB	1893-1916	279
14	Bright brown *brunblank*	BER	FB	1893-1916	207
15	Bright *blank*	BER	FB	1893-1916	210
16	Crude, for medical use, Lofoten *råmedisintran*	BER	FB	1893-1916	229
17	Crude, for medical use, Finmark *råmedisintran*	BER	FB	1906-1908	8
18	Steamed, for medical use *dampmedisintran*	BER	FB	1893-1916	274
19	Brown *brun*	TRH	FT	1893-1896	37
20	Bright brown *brunblank*	TRO	FT	1893-1896	29
21	Bright *blank*	TRH	FT	1893-1896	22
22	For medical use *medisintran*	TRH	FT	1893-1898	48
23	Brown *brun*	CHA	F	1891-1911	240
24	Bright brown *brunblank*	CHA	F	1891-1911	206
25	Bright *blank*	CHA	F	1891-1911	86
26	For medical use *medisintran*	CHA	F	1891-1893	24
	Total				6525

M2 WHALE OIL *[HVALOLJE]* 1913 - 1919

	Description	City	Source	Period	Obs.
1	Whale oil (5 qualities)	SAN	A	1913-1919	242
	Total				242

NOTE: These are fob prices quoted on Sandefjord commodity bourse, as reported in *Farmand*. Only prices quoted in Norwegian kroner are used.

M3 TALLOW *[TALG]* 1777 - 1920

	Description	City	Source	Range	Obs.
1	Tallow	BER	B	1777-1800	277
2	Tallow	BER	N	1815-1850	49
3	Tallow	CHA	V	1825-1830	16
4	Tallow	FRH	P	1827-1830	35
5	Tallow (city market, 3 series)	BER	C	1840-1916	887
6	Tallow (city market)	CHA	C	1830-1920	886
7	Tallow (Meat inspection)	CHA	F	1903-1916	115
8	Tallow	STA	Y	1841-1876	28
	Total				2293

M4 TAR *[TJÆRE]* 1777 - 1914

	Description	City	Source	Range	Obs.
1	Tar, domestic or Swedish	BER	B,M	1777-1914	824
2	Tar Norwegian	BER	M	1863-1911	45
3	Tar Norwegian or Swedish	FRH	P	1825-1830	38
4	Tar Norwegian	ARL	P	1826-1830	39
5	Tar (40 cities, magistrates' reports)	NAT	Q	1832-1871	157
	Total				1103

M5 PETROLEUM *[PETROLUEM]* 1869 - 1920

	Description	City	Source	Range	Obs.
1	Petroleum 120	BER	M	1869-1911	488
2	Petroleum 150	BER	M	1903-1911	91
3	Paraffine oil	BER	M	1869-1880	101
4	Petroleum American	CHA	F	1891-1918	322
5	Petroleum Russian	CHA	F	1891-1913	268
6	Petroleum Nobel	CHA	F	1913-1915	23
7	Petroleum Water white	CHA	F	1914-1918	50
8	Petroleum price index	CHA	OR	1914-1920	20
	Total				1363

M6 LINSEED OIL *[LINOLJE]* 1838 - 1920

	Description	City	Source	Range	Obs.
1	Linseed oil	CHA	V	1838-1848	30
2	Crude linseed oil Norwegian	CHA	A,F	1891-1918	213
3	Crude linseed oil English	CHA	F	1891-1893	34
4	Crude linseed oil Dutch	CHA	F	1891-1893	34
5	Refined linseed oil Norwegian	CHA	A,F	1894-1920	312
6	Refined linseed oil English	CHA	F	1894-1897	48
7	Refined linseed oil Dutch	CHA	F	1894-1894	8
8	Refined linseed oil foreign	CHA	A,F	1917-1918	10
	Total				689

M7 RAPESEED OIL *[RAPSOLJE]* 1891 - 1916

	Description	City	Source	Range	Obs.
1	Rapeseed oil Norwegian	CHA	F	1891-1916	287
2	Rapeseed oil Stettin	CHA	F	1891-1907	199
3	Rapeseed oil Belgian	CHA	F	1891-1904	116
	Total				602

M8 OLIVE OIL *[BOMOLJE]* 1891 - 1916

	Description	City	Source	Range	Obs.
1	Crude olive oil Messina	CHA	F	1891-1907	185
2	Crude olive oil Malaga or Marseilles	CHA	F	1891-1906	190
3	Crude olive oil prime quality	CHA	F	1907-1916	115
	Total				490

M9 LAMP OIL *[LAMPEOLJE]* 1837 - 1848

	Description	City	Source	Range	Obs.
1	Lamp oil	CHA	V	1837-1848	14
	Total				14

M10 TURPENTINE OIL *[TERPENTINOLJE]* 1902 - 1916

	Description	City	Source	Range	Obs.
1	Turpentine oil	CHA	F	1902-1916	161
	Total				161

N1 IRON *[JERN]* 1777 - 1920

	Description	City	Source	Period	Obs.
1	Iron, Norwegian	BER	B	1777-1838	474
2	Bar iron	CHA	V	1825-1856	94
3	Iron plates double	CHA	V	1825-1836	13
4	Bar iron	STA	V	1825-1830	7
5	Bar iron	FRH	V	1825-1830	39
6	Bar iron	ARL	V	1826-1830	40
7	Bar iron	CHA	C	1836-1862	105
8	Iron (17 cities, magistrates' reports)	NAT	Q	1832-1871	160
9	Bar iron Swedish	CHA	F	1891-1912	254
10	Bar iron English	CHA	F	1891-1912	254
11	Iron plates galvanized	CHA	F	1891-1912	252
12	Iron plates Swedish	CHA	F	1891-1906	174
12	Iron plates English	CHA	F	1891-1903	153
13	Iron plates Staffordshire	CHA	F	1891-1903	153
14	Iron plates black	CHA	F	1904-1912	93
15	Iron hoops black	CHA	F	1891-1912	254
16	Pig iron import price	NAT	TA	1866-1920	660
17	Bar iron import price	NAT	TA	1866-1920	660
18	Iron plates import price	NAT	TA	1866-1920	660
	Total				4499

NOTE: Regarding series 1 to 7: during the 1820s and 1830 some quotations may be for Swedish iron, as the Bergen Price Current and other early 19the century sources did not always make a distinction between Norwegian and Swedish iron. In this period they seemed to command very much the same prices.

N2 NAILS *[SPIKER]* 1825 - 1920

	Description	City	Source	Period	Obs.
1	Nails 4 inches Swedish	CHA	V	1825-1848	159
2	Nails 3 inches Swedish	CHA	V	1825-1847	149
3	Nails 4 inches Norwegian	CHA	V	1841-1856	5
4	Nails 3 inches Norwegian	CHA	V	1846-1856	2
5	Nails 4 inches	CHA	C	1836-1854	106
6	Nails 3 inches	CHA	C	1836-1854	90
7	Nails export price	NAT	TA	1886-1920	420
8	Horseshoe nails export price *søm*	NAT	TA	1886-1920	420
	Total				1351

N3 COPPER *[KOBBER]* 1777 - 1920

	Description	City	Source	Period	Obs.
1	Sales price Røros mines, after 1894 export price	NAT	X/TA	1777-1920	1724
2	Refined copper *gahrkobber*	CHA	F	1891-1912	253
3	Copper plates	CHA	F	1891-1912	253
4	Refined copper ingots	TRO	TF	1893-1915	248
	Total				2478

NOTE: The annual Røros prices are from Kraft (1832) prior to 1830 and thereafter from Vogt (1895). This series was spliced with the annual export price calculated from *Norges Handel* and converted to monthly data by the Litterman (1983) method.

N4 TIN *[TINN]* 1891 - 1912

	Description	City	Source	Period	Obs.
1	Tin ingots	CHA	F	1891-1912	253
2	Tin bars	CHA	F	1909-1912	37
	Total				290

N5 ZINC *[SINK]* 1891 - 1920

	Description	City	Source	Period	Obs.
1	Zinc plates	CHA	F	1891-1912	254
2	Zinc ingots (W. H. brand)	CHA	F	1901-1912	135
3	Zinc ingots (Hohenlohl brand)	CHA	F	1901-1912	135
4	Zinc export price	NAT	TA	1903-1920	216
	Total				740

N6 LEAD *[BLY]* 1891 - 1912

	Description	City	Source	Period	Obs.
1	Lead ingots	CHA	F	1891-1912	254
	Total				254

N7 TIN PLATES*[BLIKKPLATER]* 1891 - 1912

	Description	City	Source	Period	Obs.
1	Tin plates IC	CHA	F	1891-1912	254
2	Tin plates IXX	CHA	F	1891-1912	254
3	Tin plates Coke	CHA	F	1891-1912	254
	Total				762

N8 FERROSILICON *[FERROSILISIUM]* 1903 - 1920

	Description	City	Source	Period	Obs.
1	Ferrosilicon import price	NAT	TA	1903-1920	216
	Total				216

N9 ALUMINIUM *[ALUMINIUM]* 1908 - 1920

	Description	City	Source	Period	Obs.
1	Aluminium export price	NAT	TA	1908-1920	156
	Total				216

O1 PAINTS *[MALERVARER]* 1898 - 1920

	Description	City	Source	Range	Obs.
1	Zinc oxide foreign *sinkhvitt*	CHA	A,F	1898-1920	263
2	Zinc oxide Norwegian *sinkhvitt*	CHA	A,F	1903-1920	145
3	Zinc oxide Dutch or Belgian *sinkhvitt*	CHA	A,F	1912-1920	58
4	White lead *blyhvitt*	CHA	A,F	1904-1920	194
5	Red lead *blymønje*	CHA	A,F	1904-1920	194
	Total				854

O2 CALCIUM CARBIDE *[KALSIUMKARBID]* 1899 - 1920

	Description	City	Source	Range	Obs.
1	Calcium carbide export price	NAT	TA	1899-1920	264
	Total				264

O3 CALCIUM NITRATE *[SALPETER]* 1905 - 1920

	Description	City	Source	Range	Obs.
1	Calcium nitrate export price *Norgesalpeter*	NAT	TA	1905-1920	192
	Total				192

O4 AMMONIUM NITRATE *[AMMONIUMNITRAT]* 1911 - 1920

	Description	City	Source	Range	Obs.
1	Ammonium nitrate export price	NAT	TA	1911-1920	120
	Total				120

	Description	City	Source	Period	Obs.
1	St Ubes (Setubal)	BER	B	1777-1911	1021
2	Cadix	BER	B	1777-1890	341
3	Eiland (Mediterranean)	BER	B	1777-1829	258
4	Lisbon	BER	B	1777-1905	274
5	French	BER	B	1777-1877	683
6	Trapani	BER	B	1829-1914	894
7	Torrevieja	BER	B	1832-1914	133
8	Liverpool	BER	B	1854-1882	33
9	Augusta	BER	B	1892-1905	13
10	Ibiza	BER	B	1897-1913	127
11	Tunis	BER	B	1901-1914	129
12	Port Said	BER	B	1904-1914	32
13	Mediterranean, ex ship	BER	B	1914-1918	19
14	Mediterranean, ex warehouse	BER	B	1914-1919	49
15	English	BER	B	1916-1919	24
16	German	BER	B	1916-1919	20
17	St Ubes (Setubal)	BER	N	1815-1830	19
18	Eiland (Mediterranean)	BER	N	1815-1830	19
19	Lisbon	BER	N	1816-1830	16
20	French	BER	N	1815-1830	18
21	St Ubes	STA	P	1841-1890	303
22	Trapani	STA	P	1841-1890	300
23	St Ubes	CHA	F	1891-1912	262
24	Torrevieja	CHA	F	1891-1912	262
25	Liverool	CHA	F	1891-1917	303
26	German *Tysk smørsalt*	CHA	F	1893-1917	272
27	Falcon	CHA	F	1893-1917	214
28	Brown salt	CHA	F	1913-1917	40
	Total				6078

P2 COAL *[KULL]* 1777 - 1920

	Description	City	Source	Period	Obs.
1	Coal Newcastle	BER	B	1771-1799	194
2	Coal	BER	C	1861-1872	51
3	Household coal	STA	C	1874-1908	292
4	Coal, by tons	CHA	R	1881-1888	77
5	Coal, by barrel or 100 kilos	CHA	R	1881-1888	77
6	Average monthly import price	NAT	TM	1895-1912	216
7	Coke, actual prices paid by importers	CHA	S	1911-1915	15
8	Coke, actual prices paid by importers	STA	S	1910-1914	7
9	Coke, actual prices paid by importers	TRO	S	1912-1915	10
10	Coke from gas works	CHA	S	1911-1915	17
11	Coke from gas works	STA	S	1911-1915	8
12	Coke from gas works	TRH	S	1912-1915	13
13	Coke from gas works	BER	S	1910-1915	19
14	Household coal, retail prices	NAT	D	1914-1919	60
15	Coke, retail prices	NAT	D	1914-1919	60
16	Coal and coke price index	NAT	OR	1914-1920	20
17	Import price	NAT	TA	1866-1919	648
	Total				1784

NOTE: The coke price series 7 through 13 are from St. meld. no. 7, 1917.

P3 NATURAL ICE *[NATURIS]* 1866 - 1920

	Description	City	Source	Period	Obs.
1	Monthly import price	NAT	TM	1895-1912	216
2	Annual import price	NAT	TA	1866-1920	660
	Total				876

P4 PYRITES *[SVOVELKIS]* 1866 - 1920

	Description	City	Source	Period	Obs.
1	Monthly import price	NAT	TM	1895-1912	216
2	Annual import price	NAT	TA	1866-1920	660
	Total				876

P5 BRICKS AND TILES *[MURSTEN, TAKSTEN]* 1861 - 1920

	Description	City	Source	Period	Obs.
1	Bricks Norwegian	BER	M	1861-1863	14
2	Tiles Belgian	BER	M	1861-1873	75
3	Tiles Dutch	BER	M	1863-1864	4
4	Import price	NAT	TA	1866-1920	660
	Total				753

P6 LIME *[KALK]* 1822 - 1865

	Description	City	Source	Period	Obs.
1	Lime	BER	N	1822-1865	85
	Total				85

	1835 weights						1870 weights					
	DOM	EXP	IMP	TPI	WPI	PPI	DOM	EXP	IMP	TPI	WPI	PPI
A GRAIN & FLOUR	**12.3**		**44.6**	**16.2**	**22.0**	**8.2**	**28.7**	**0.04**	**38.1**	**23.9**	**32.2**	**18.4**
A1 Rye	15		35	26	26	15	8		56	31	31	8
A2 Barley	77		43	53	53	77	42	5	22	34	34	40
A3 Wheat	8		4	5	5	8	4		6	3	3	4
A4 Wheat flour			4	5	5		4		6	3	3	4
A5 Rye flour			9	5	5		21	53	6	17	17	24
A6 Barley flour & grits			4	5	5		21	42	6	10	10	20
A7 Rolled oats												
B MEAT	**7.2**	**0.04**	**1.1**	**4.0**	**5.3**	**4.8**	**7.4**	**0.07**	**2.4**	**4.1**	**5.5**	**4.7**
B1 Beef	48	28	38	45	45	48	43	7	31	42	42	43
B2 Mutton	14	28		14	14	14	22	7		17	17	22
B3 Veal	5			5	5	5	4			4	4	4
B4 Bacon	19	17	63	23	23	19	17	7	63	25	25	17
B5 Horse meat												
B6 Foreign meat												
B7 Live cattle	10			9	9	10	9	7	6	8	8	9
B8 Live sheep												
B9 Live pigs												
B10 Live horses												
B11 Game & poultry	5	28		5	5	5	4	71		4	4	4
C DAIRY PRODUCE	**4.9**	**0.07**	**2.7**	**3.2**	**4.3**	**3.3**	**5.6**	**0.1**	**3.2**	**3.5**	**4.7**	**3.7**
C1 Butter	69	100	91	74	74	69	71	91	83	77	77	71
C2 Cheese							7	9	8	8	8	7
C3 Eggs	31		9	27	27	31	21		8	15	15	21
C4 Margarine												
C5 Lard												
D FISH	**2.4**	**43.3**		**12.6**	**1.7**	**16.2**	**1.8**	**43.7**		**12.2**	**1.2**	**16.9**
D1 Clipfish	8	14		14	8	14	18	25		25	18	25
D2 Stockfish: Roundfish	8	14		14	8	14	6	10		10	6	10
D3 Stockfish: Raw-cut	4	10		10	4	10	6	5		5	6	5
D4 Stockfish: Pollock	4	5		5	4	5	6	5		5	6	5
D5 Herring	42	48		48	42	48	59	50		50	59	50
D6 Fresh and salted fish	29	5		5	29	5						
D7 Roe	4	5		5	4	5	6	5		5	6	5
E COLONIAL GOODS			**17.5**	**3.9**	**5.3**				**16.7**	**4.6**	**6.2**	
E1 Sugar			13	13	13				18	18	18	
E2 Crystallized and lump sugar			22	22	22				14	14	14	
E3 Syrup			4	4	4				5	5	5	
E4 Coffee			43	43	43				45	45	45	
E5 Tea			4	4	4				5	5	5	
E6 Raisins			4	4	4				5	5	5	
E7 Spices			4	4	4				5	5	5	
E8 Rice			4	4	4				5	5	5	

	1835 weights						1870 weights					
	DOM	EXP	IMP	TPI	WPI	PPI	DOM	EXP	IMP	TPI	WPI	PPI
F VEGETABLES & SEEDS	**14.5**	**0.2**	**1.7**	**7.9**	**10.6**	**9.7**	**14.0**	**0.1**	**2.5**	**7.2**	**9.7**	**9.0**
F1 Potatoes	77		6	71	71	77	67	9	5	67	67	67
F2 Peas	8		63	7	7	8	7		30	7	7	7
F3 Caraway	8	77	6	7	7	8	7	91		7	7	7
F4 Carrots							7		5	7	7	7
F5 Cabbage							7		5	7	7	7
F6 Swedish turnip												
F7 Potato flour												
F8 Linseed	8	23	6	7	7	8	7		55	7	7	7
F9 Hops			19	7	7							
G ALCOHOL & TOBACCO	**2.7**		**8.0**	**3.2**	**4.3**	**1.8**	**1.1**	**0.03**	**4.6**	**1.8**	**2.4**	**0.7**
G1 Spirits	100		32	59	59	100	100	100	31	50	50	100
G2 Malt			16	12	12				6	5	5	
G3 Tobacco			53	29	29				63	45	45	
H ANIMAL FODDER	**20.4**	**0.01**	**1.9**	**11.0**	**14.8**	**13.5**	**18.0**	**1.3**	**0.2**	**8.7**	**11.4**	**12.0**
H1 Hay	40		59	40	40	37	36	8	7	33	33	33
H2 Straw	5			5	5	5	5			5	5	5
H3 Oats	50	100	35	50	50	53	45	83	71	48	48	48
H4 Oat meal	5		6	5	5	5	5		7	5	5	5
H5 Bran							5	8	7	5	5	5
H6 Maize & maize meal							5		7	5	5	5
I HIDES & LEATHER	**1.8**	**0.03**	**0.5**	**1.1**	**1.4**	**1.2**	**1.3**	**1.4**	**1.9**	**1.5**	**1.5**	**1.3**
I1 Hides							36	5	43	33	40	22
I2 Calfskin	33	56	71	38	36	33	25	50	43	42	36	37
I3 Sheepskin	33	22	14	31	32	33	25	15	4	13	12	22
I4 Goatskin	33	22	14	31	32	33	4	15	4	4	4	7
I5 Wild animal skins							11	15	4	8	8	11
I6 Leather												
J TIMBER & WOOD	**14.6**	**43.6**		**19.0**	**10.2**	**24.4**	**11.5**	**41.5**	**1.1**	**16.4**	**7.6**	**22.3**
J1 Timber	5	8		7	5	7	6	8	50	8	5	8
J2 Sawn & planed wood	48	83		71	48	71	63	83	50	83	63	83
J3 Firewood	48	8		21	48	21	31	8		8	31	8
K WOOD PRODUCTS	**5.7**	**0.3**		**3.0**	**4.0**	**3.9**	**2.9**	**1.1**	**0.8**	**1.9**	**2.1**	**2.2**
K1 Staves		50		8		8		77	11	12	6	13
K2 Wooden barrels	83	50		77	83	77	83	8	5	59	63	67
K3 Hoops	17			15	17	15	17	8	53	18	19	13
K4 Cork									26	16	6	
K5 Mechanical pulp												
K6 Chemical pulp												
K7 Paper												
K8 Matches								8	5	6	6	7

	1835 weights						1870 weights					
	DOM	EXP	IMP	TPI	WPI	PPI	DOM	EXP	IMP	TPI	WPI	PPI
L TEXTILES	**7.0**		**14.0**	**6.7**	**9.1**	**4.6**	**3.7**		**16.6**	**6.3**	**8.5**	**2.3**
L1 Cotton			3	3	3				27	21	21	
L2 Cotton goods							10		3	5	5	10
L3 Wool	59		3	32	32	59	50		3	16	16	50
L4 Woolen goods	12		34	23	23	12	10		33	26	26	10
L5 Hemp			17	6	6				17	13	13	
L6 Flax			17	9	9				3	3	3	
L7 Linen goods	24		24	23	23	24	25		10	13	13	25
L8 Eelgrass												
L9 Lines & ropes	6			3	3	6	5		3	3	3	5
M OILS & FATS	**1.8**	**7.5**	**1.2**	**3.2**	**1.7**	**3.7**	**0.8**	**7.7**	**1.6**	**2.8**	**1.1**	**3.3**
M1 Cod liver oil	9	91	4	59	7	67	26	71	6	67	14	71
M2 Whale oil												
M3 Tallow	47		8	18	41	20	37	7	6	7	17	7
M4 Tar	43	9	15	12	37	13	37	7	6	7	21	7
M5 Petroleum									59	7	34	
M6 Linseed oil			35	6	7			7	12	7	7	7
M7 Rapeseed oil												
M8 Olive oil												
M9 Lamp oil			38	6	7			7	12	7	7	7
M10 Turpentine oil												
N IRON & METALS	**4.5**	**4.9**	**0.9**	**3.8**	**3.4**	**4.6**	**2.3**	**1.6**	**2.8**	**2.2**	**2.5**	**2.0**
N1 Iron	53	42	48	50	53	50	67	42	83	71	71	63
N2 Nails	37	5	48	25	37	25	27	5	8	14	21	29
N3 Copper	11	53	5	25	11	25	7	53	8	14	7	19
N4 Tin												
N5 Zinc												
N6 Lead												
N7 Tin plates												
N8 Ferrosilicon												
N9 Aluminium												
O CHEMICALS												
O1 Paints												
O2 Calcium Carbide												
O3 Calcium nitrate												
O4 Ammonium nitrate												
P MINERALS	**0.1**		**5.9**	**1.3**	**1.8**	**0.1**	**1.0**	**1.3**	**7.4**	**2.9**	**3.4**	**1.1**
P1 Salt			91	83	83				45	33	38	
P2 Coal			9	8	8				50	37	42	
P3 Natural ice								21		4		11
P4 Pyrites								71		7		32
P5 Bricks & tiles							91	7	5	15	17	53
P6 Lime	100			8	8	100	9			4	4	5

NOTE: For each of the commodity groups A to P the rows (in boldface) give the weights as percentage shares. **DOM** = domestic production for domestic use; **EXP** = commodity exports; **IMP** = commodity imports; **TPI** = total supply price index (DOM, EXP, IMP); **WPI** = wholesale price index (DOM, IMP); **PPI** = producer price index (DOM, EXP). The columns below the main group index line contain the weights for individual commodities within the groups, given as percentage shares. The column weights, as shown here, may not sum to 100 because of rounding. Blank cells may imply that the weight is actually zero *or* that data are not available for the time period for which the weights apply. The individual commodity weights are capped by imposing constraints on upper and lower bounds, see text for details.

Example: *A Grain and flour, 1835 weights*: This group accounts for 12.3 per cent of domestic production for domestic use, none of exports, and 44.6 per cent of imports. The index weights following from this is: 16.2 per cent in TPI, 22.0 per cent in WPI and 8.2 per cent in PPI. The percentage weights within grain and flour imports are: rye 35, barley 43, wheat 4, wheat flour 4, rye flour 9, and barley flour 4.

	1890 weights						1910 weights					
	DOM	EXP	IMP	TPI	WPI	PPI	DOM	EXP	IMP	TPI	WPI	PPI
A GRAIN & FLOUR	**22.0**	**0.1**	**25.1**	**17.3**	**23.3**	**13.5**	**17.0**	**0.1**	**24.8**	**14.4**	**20.8**	**9.2**
A1 Rye	7	5	50	29	29	7	4	6	40	26	26	4
A2 Barley	32	10	15	26	26	32	17	6	24	21	21	17
A3 Wheat	4	5	5	3	3	4	4		4	5	5	4
A4 Wheat flour	4	5	15	9	9	4	9	6	16	13	13	9
A5 Rye flour	36	50	10	24	24	36	43	56	8	26	26	43
A6 Barley flour & grits	18	25	5	9	9	18	17	22	4	8	8	17
A7 Rolled oats							4	6	4	3	3	4
B MEAT	**13.4**	**1.4**	**7.6**	**8.4**	**10.8**	**8.7**	**16.1**	**0.4**	**3.3**	**7.0**	**9.9**	**8.8**
B1 Beef	40	3		29	29	40	40	8		34	34	40
B2 Mutton	12	3		9	9	12	8	8		7	7	8
B3 Veal	8			6	6	8	4			3	3	4
B4 Bacon	16	3		11	12	16	20	4		17	17	20
B5 Horse meat							4			3	3	4
B6 Foreign meat			67	23	24				56	10	10	
B7 Live cattle	8	14	13	9	9	8	8	4	33	10	10	8
B8 Live sheep	4	28	7	3	3	4	4	4	6	3	3	4
B9 Live pigs	4	3	7	3	3	4	4	4		3	3	4
B10 Live horses	4	34	7	6	3	4	4	28	6	3	3	4
B11 Game & poultry	4	10		3	3	4	4	40		3	3	4
C DAIRY PRODUCE	**9.6**	**1.8**	**4.2**	**5.8**	**7.2**	**6.6**	**16.8**	**1.5**	**1.6**	**7.0**	**9.5**	**9.7**
C1 Butter	59	20	67	56	59	56	48	71	18	50	48	50
C2 Cheese	12	7	7	11	12	11	19	7	12	20	19	20
C3 Eggs	18	7	13	17	18	17	24	7	6	20	24	20
C4 Margarine	6	67	7	11	6	11	5	14	6	5	5	5
C5 Lard	6		7	6	6	6	5		59	5	5	5
D FISH	**2.5**	**37.4**	**0.4**	**10.9**	**1.6**	**16.1**	**2.7**	**26.1**	**1.1**	**9.4**	**1.9**	**13.5**
D1 Clipfish	21	43	50	42	22	42	13	32	50	32	23	31
D2 Stockfish: Roundfish	7	13		13	7	13	9	23		19	7	22
D3 Stockfish: Raw-cut	4	4		4	4	4	4	3		3	3	3
D4 Stockfish: Pollock	4	4		4	4	4	4	3		3	3	3
D5 Herring	25	26		25	22	25	22	29	40	29	27	28
D6 Fresh and salted fish	36	4	45	8	37	8	43	6		10	33	9
D7 Roe	4	4	5	4	4	4	4	3	10	3	3	3
E COLONIAL GOODS			**15.9**	**5.2**	**7.1**				**13.2**	**4.4**	**6.4**	
E1 Sugar			13	13	13				33	33	33	
E2 Crystallized and lump sugar			13	13	13				13	13	13	
E3 Syrup			6	6	6				13	13	13	
E4 Coffee			63	63	63				42	42	42	
E5 Tea												
E6 Raisins												
E7 Spices												
E8 Rice			6	6	6							

	1890 weights						1910 weights					
	DOM	EXP	IMP	TPI	WPI	PPI	DOM	EXP	IMP	TPI	WPI	PPI
F VEGETABLES & SEEDS	**15.0**	**0.1**	**1.2**	**6.6**	**8.9**	**9.2**	**9.1**	**0.01**	**1.8**	**3.9**	**5.6**	**4.9**
F1 Potatoes	71	67	5	67	67	71	67	63	11	63	63	67
F2 Peas	7	7	38	7	7	7	7	13	16	6	6	7
F3 Caraway	7	27		7	7	7						
F4 Carrots	7		5	7	7	7	7	6	5	6	6	7
F5 Cabbage							7	6	5	6	6	7
F6 Swedish turnip	7		5	7	7	7	7	6	5	6	6	7
F7 Potato flour							7	6	5	6	6	7
F8 Linseed			48	7	7				53	6	6	
F9 Hops												
G ALCOHOL & TOBACCO	**1.2**	**0.1**	**2.7**	**1.4**	**1.9**	**0.8**	**0.9**	**0.03**	**2.8**	**1.3**	**1.8**	**0.5**
G1 Spirits	100	100	30	56	56	100	100	100	56	67	67	100
G2 Malt			20	11	11				6	7	7	
G3 Tobacco			50	33	33				39	27	27	
H ANIMAL FODDER	**16.4**	**0.9**	**0.2**	**7.1**	**9.2**	**10.4**	**13.3**	**1.4**	**1.6**	**5.7**	**7.7**	**7.8**
H1 Hay	36	7	15	32	33	32	35	43	5	32	30	33
H2 Straw	5			5	5	5	4	5		4	4	4
H3 Oats	45	20	38	45	48	45	43	5	35	40	43	42
H4 Oat meal	5	7	4	5	5	5	4		5	4	4	4
H5 Bran	5	67	23	9	5	9	9	48	5	12	9	13
H6 Maize & maize meal	5		19	5	5	5	4		50	8	9	4
I HIDES & LEATHER	**1.9**	**2.7**	**4.1**	**2.8**	**2.9**	**2.2**	**4.1**	**3.8**	**5.8**	**4.6**	**4.9**	**4.0**
I1 Hides	25	5	16	18	20	16	13	45	30	29	23	28
I2 Calfskin	16	50	16	23	15	31	6	36	30	25	18	20
I3 Sheepskin	19	5	5	5	5	13	6	5	3	4	5	4
I4 Goatskin	6	10	5	5	5	6	6	5	3	4	5	4
I5 Wild animal skins	3	5	5	5	5	3	6	5	3	4	5	4
I6 Leather	31	25	53	45	50	31	63	5	30	36	45	40
J TIMBER & WOOD	**9.4**	**29.2**	**2.8**	**12.4**	**6.5**	**17.1**	**9.5**	**17.3**	**3.6**	**10.0**	**6.7**	**13.1**
J1 Timber	6	8	100	14	25	8	6	8	100	20	29	8
J2 Wood	63	83		71	50	77	63	83		67	48	77
J3 Firewood	31	8		14	25	15	31	8		13	24	15
K WOOD PRODUCTS	**2.3**	**14.3**	**2.3**	**5.5**	**2.3**	**7.0**	**4.7**	**32.0**	**0.9**	**11.8**	**2.9**	**17.3**
K1 Staves												
K2 Wooden barrels	24	4	4	3	14	4	7	3	5	3	8	3
K3 Hoops	5	4	4	3	5	4	4	3	19	3	4	3
K4 Cork			12	3	7				19	3	4	
K5 Mechanical pulp	24	38	20	34	23	38	22	23		23	19	23
K6 Chemical pulp	12	31	20	28	16	27	22	33	10	30	19	33
K7 Paper	10	12	40	14	23	12	37	33	48	33	38	33
K8 Matches	24	12		14	14	15	7	3		3	8	3

	1890 weights						1910 weights					
	DOM	EXP	IMP	TPI	WPI	PPI	DOM	EXP	IMP	TPI	WPI	PPI
L TEXTILES	**1.9**		**15.0**	**5.7**	**7.8**	**1.2**	**1.3**		**12.2**	**4.5**	**6.5**	**0.7**
L1 Cotton			14	12	12				19	18	18	
L2 Cotton goods	7		9	8	8	7			16	15	15	
L3 Wool	71		14	20	20	71	77		16	24	24	77
L4 Woolen goods	7		45	40	40	7	8		32	29	29	8
L5 Hemp			9	8	8				10	6	6	
L6 Flax			5	4	4				3	3	3	
L7 Linen goods	7		5	4	4	7	8		3	3	3	8
L8 Eelgrass	7			4	4	7	8			3	3	8
L9 Lines & ropes												
M OILS & FATS	**0.5**	**5.6**	**2.1**	**2.4**	**1.2**	**2.5**	**0.4**	**3.8**	**3.9**	**2.6**	**2.1**	**2.0**
M1 Cod liver oil	33	77	7	56	11	71	30	63	11	37	10	59
M2 Whale oil								19		11		18
M3 Tallow	48	8		6	11	7	50	6		4	5	6
M4 Tar	19		7	6	11	7	20		5	4	5	6
M5 Petroleum			67	17	53				53	26	50	
M6 Linseed oil		8	7	6	5	7		6	5	4	5	6
M7 Rapeseed oil		8	7	6	5	7		6	5	4	5	6
M8 Olive oil			7	6	5				16	7	15	
M9 Lamp oil												
M10 Turpentine oil									5	4	5	
N IRON & METALS	**2.7**	**4.0**	**5.3**	**3.9**	**3.9**	**3.2**	**2.9**	**3.6**	**9.6**	**5.3**	**6.1**	**3.2**
N1 Iron	71	7	63	48	59	33	59	9	50	42	48	31
N2 Nails	21	67	6	29	12	48	35	20	5	8	10	25
N3 Copper	7	13	6	5	6	10	6	18		4	5	13
N4 Tin			6	5	6				5	4	5	
N5 Zinc		7	6	5	6	5		20	10	13	10	9
N6 Lead		7	6	5	6	5		2	5	4	5	3
N7 Tin plates			6	5	6				25	17	19	
N8 Ferrosilicon								9		4		6
N9 Aluminium								22		4		13
O CHEMICALS							**0.4**	**4.6**	**0.2**	**1.6**	**0.3**	**2.3**
O1 Paints							100	6	100	12	100	6
O2 Calcium Carbide								63		59		63
O3 Calcium nitrate								19		18		19
O4 Ammonium nitrate								13		12		13
P MINERALS	**1.1**	**2.2**	**10.9**	**4.6**	**5.5**	**1.6**	**1.0**	**5.2**	**13.7**	**6.5**	**7.1**	**2.9**
P1 Salt			15	13	14				8	6	8	
P2 Coal			77	63	71				83	63	83	
P3 Natural ice		56		6		33		27		6		24
P4 Pyrites		39		6		19		67		19		59
P5 Bricks & tiles	100	6	8	13	14	48	100	7	8	6	7	18
P6 Lime												

NOTE: For each of the commodity groups A to P the rows (in boldface) give the weights as percentage shares. **DOM** = domestic production for domestic use; **EXP** = commodity exports; **IMP** = commodity imports; **TPI** = total supply price index (DOM, EXP, IMP); **WPI** = wholesale price index (DOM, IMP); **PPI** = producer price index (DOM, EXP). The columns below the main group index line contain the weights for individual commodities within the groups, given as percentage shares. The column weights, as shown here, may not sum to 100 because of rounding. Blank cells may imply that the weight is actually zero *or* that data are not available for the time period for which the weights apply. The individual commodity weights are capped by imposing constraints on upper and lower bounds, see text for details.

Example: *A Grain and flour, 1890 weights*: This group accounts for 22.0 per cent of domestic production for domestic use, 0.1 per cent of exports, 25.1 per cent of imports. The index weights following from this is: 17.3 per cent in TPI, 23.3 per cent in WPI and 13.5 per cent in PPI. The percentage weights within grain and flour imports are: rye 50, barley 15, wheat 5, wheat flour 15, rye flour 10, and barley flour 5.

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1777												
TPI					1.20	1.18	1.20	1.20	1.20	1.21	1.23	1.22
WPI					1.13	1.14	1.16	1.17	1.15	1.19	1.24	1.23
PPI					1.07	1.05	1.06	1.06	1.06	1.07	1.06	1.05
EXP					1.26	1.21	1.22	1.21	1.23	1.19	1.17	1.15
IMP					1.30	1.35	1.37	1.40	1.35	1.43	1.43	1.45
DOM					0.90	0.90	0.93	0.93	0.92	0.96	0.96	0.95
1778												
TPI	1.27	1.25	1.24	1.24	1.25	1.26	1.22	1.19	1.22	1.22	1.24	1.23
WPI	1.31	1.29	1.29	1.28	1.30	1.31	1.26	1.21	1.25	1.25	1.27	1.23
PPI	1.04	1.03	1.02	1.01	1.02	1.02	1.01	0.98	1.02	1.01	1.04	1.05
EXP	1.14	1.13	1.11	1.11	1.11	1.11	1.10	1.10	1.12	1.12	1.14	1.16
IMP	1.46	1.46	1.48	1.50	1.54	1.56	1.50	1.42	1.44	1.46	1.46	1.46
DOM	0.94	0.93	0.93	0.91	0.93	0.93	0.92	0.88	0.92	0.92	0.94	0.95
1779												
TPI	1.24	1.26	1.26	1.27	1.27	1.27	1.29	1.29	1.30	1.33	1.31	1.30
WPI	1.24	1.26	1.26	1.27	1.25	1.24	1.25	1.26	1.29	1.31	1.28	1.27
PPI	1.08	1.09	1.09	1.10	1.10	1.11	1.12	1.12	1.11	1.15	1.14	1.13
EXP	1.19	1.20	1.21	1.22	1.24	1.26	1.28	1.26	1.24	1.28	1.29	1.28
IMP	1.46	1.48	1.47	1.46	1.45	1.43	1.46	1.46	1.55	1.57	1.54	1.53
DOM	0.97	0.98	0.98	0.99	0.97	0.97	0.97	0.98	0.98	1.01	0.99	0.98
1780												
TPI	1.29	1.27	1.25	1.23	1.24	1.25	1.29	1.31	1.27	1.25	1.26	1.28
WPI	1.25	1.23	1.21	1.19	1.19	1.21	1.25	1.26	1.20	1.16	1.19	1.22
PPI	1.12	1.11	1.08	1.07	1.09	1.10	1.14	1.14	1.12	1.10	1.10	1.10
EXP	1.27	1.25	1.23	1.23	1.25	1.26	1.30	1.33	1.33	1.33	1.31	1.31
IMP	1.53	1.50	1.50	1.48	1.45	1.47	1.51	1.58	1.47	1.42	1.47	1.49
DOM	0.97	0.96	0.94	0.92	0.93	0.95	0.98	0.97	0.92	0.89	0.90	0.91
1781												
TPI	1.30	1.33	1.34	1.36	1.38	1.35	1.37	1.36	1.39	1.37	1.36	1.35
WPI	1.24	1.27	1.28	1.29	1.31	1.28	1.28	1.34	1.40	1.39	1.37	1.35
PPI	1.11	1.13	1.15	1.16	1.17	1.16	1.17	1.13	1.15	1.14	1.12	1.12
EXP	1.31	1.34	1.37	1.39	1.41	1.39	1.41	1.31	1.27	1.24	1.24	1.24
IMP	1.50	1.57	1.58	1.61	1.65	1.64	1.67	1.73	1.88	1.82	1.81	1.84
DOM	0.92	0.94	0.95	0.95	0.96	0.95	0.94	0.96	1.01	1.01	0.99	0.98
1782												
TPI	1.33	1.33	1.35	1.37	1.37	1.37	1.40	1.39	1.38	1.41	1.45	1.46
WPI	1.34	1.36	1.39	1.43	1.46	1.46	1.50	1.49	1.44	1.48	1.52	1.53
PPI	1.10	1.11	1.12	1.13	1.13	1.13	1.16	1.16	1.17	1.19	1.23	1.24
EXP	1.22	1.20	1.20	1.18	1.15	1.13	1.14	1.15	1.19	1.20	1.25	1.26
IMP	1.82	1.83	1.86	1.96	1.96	1.97	2.00	1.96	1.85	1.92	1.96	1.95
DOM	0.97	1.00	1.02	1.05	1.08	1.09	1.14	1.13	1.11	1.14	1.17	1.18
1783												
TPI	1.49	1.52	1.52	1.52	1.50	1.49	1.43	1.47	1.52	1.54	1.54	1.53
WPI	1.56	1.57	1.58	1.57	1.54	1.52	1.43	1.49	1.57	1.60	1.60	1.59
PPI	1.26	1.29	1.29	1.29	1.28	1.29	1.23	1.26	1.29	1.31	1.30	1.31
EXP	1.28	1.34	1.33	1.34	1.34	1.36	1.35	1.37	1.34	1.35	1.33	1.35
IMP	1.98	1.95	1.95	1.90	1.84	1.75	1.56	1.69	1.82	1.85	1.88	1.84
DOM	1.20	1.21	1.22	1.22	1.20	1.20	1.11	1.14	1.21	1.24	1.24	1.23
1784												
TPI	1.52	1.51	1.51	1.51	1.53	1.59	1.62	1.65	1.48	1.43	1.47	1.49
WPI	1.56	1.55	1.55	1.54	1.58	1.66	1.74	1.78	1.53	1.44	1.48	1.52
PPI	1.30	1.30	1.31	1.32	1.33	1.38	1.39	1.43	1.30	1.26	1.30	1.31
EXP	1.36	1.35	1.35	1.36	1.36	1.38	1.33	1.33	1.31	1.34	1.35	1.35
IMP	1.80	1.81	1.82	1.82	1.85	1.98	2.13	2.15	1.71	1.62	1.64	1.68
DOM	1.22	1.23	1.23	1.24	1.27	1.33	1.40	1.45	1.25	1.16	1.22	1.25

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1785												
TPI	1.51	1.51	1.51	1.51	1.51	1.45	1.46	1.47	1.49	1.49	1.50	1.50
WPI	1.55	1.55	1.54	1.54	1.53	1.43	1.45	1.46	1.47	1.48	1.50	1.50
PPI	1.33	1.33	1.32	1.31	1.31	1.26	1.27	1.29	1.30	1.31	1.31	1.31
EXP	1.34	1.35	1.36	1.36	1.38	1.38	1.37	1.41	1.42	1.43	1.41	1.41
IMP	1.71	1.71	1.68	1.71	1.71	1.58	1.59	1.60	1.61	1.64	1.68	1.69
DOM	1.27	1.26	1.25	1.23	1.22	1.14	1.16	1.17	1.18	1.18	1.19	1.21
1786												
TPI	1.51	1.52	1.54	1.56	1.56	1.56	1.56	1.58	1.54	1.55	1.57	1.61
WPI	1.52	1.53	1.55	1.58	1.58	1.56	1.56	1.57	1.54	1.54	1.54	1.60
PPI	1.33	1.34	1.36	1.37	1.37	1.37	1.38	1.40	1.37	1.38	1.40	1.43
EXP	1.42	1.43	1.43	1.45	1.45	1.45	1.45	1.49	1.46	1.48	1.52	1.53
IMP	1.73	1.74	1.78	1.81	1.82	1.77	1.73	1.74	1.71	1.70	1.65	1.75
DOM	1.22	1.24	1.26	1.28	1.27	1.26	1.28	1.29	1.27	1.27	1.27	1.30
1787												
TPI	1.62	1.64	1.66	1.59	1.54	1.50	1.56	1.58	1.61	1.60	1.62	1.60
WPI	1.61	1.64	1.68	1.55	1.48	1.44	1.54	1.56	1.60	1.59	1.62	1.59
PPI	1.43	1.44	1.46	1.39	1.36	1.31	1.35	1.37	1.38	1.39	1.38	1.37
EXP	1.53	1.53	1.54	1.55	1.55	1.50	1.49	1.52	1.52	1.54	1.53	1.53
IMP	1.79	1.77	1.79	1.66	1.57	1.50	1.69	1.75	1.82	1.77	1.77	1.74
DOM	1.31	1.31	1.36	1.24	1.17	1.14	1.20	1.22	1.24	1.23	1.24	1.21
1788												
TPI	1.64	1.58	1.54	1.54	1.55	1.55	1.53	1.54	1.58	1.58	1.58	1.57
WPI	1.64	1.53	1.49	1.49	1.50	1.48	1.46	1.48	1.51	1.52	1.51	1.50
PPI	1.37	1.37	1.35	1.34	1.36	1.36	1.34	1.35	1.39	1.39	1.39	1.40
EXP	1.54	1.56	1.56	1.54	1.56	1.58	1.57	1.57	1.61	1.60	1.59	1.60
IMP	1.71	1.69	1.62	1.64	1.65	1.60	1.61	1.60	1.60	1.62	1.66	1.61
DOM	1.19	1.19	1.16	1.16	1.17	1.16	1.14	1.15	1.19	1.19	1.20	1.21
1789												
TPI	1.57	1.58	1.60	1.66	1.67	1.73	1.77	1.77	1.62	1.61	1.62	1.67
WPI	1.51	1.52	1.56	1.63	1.64	1.72	1.78	1.78	1.58	1.54	1.58	1.66
PPI	1.40	1.41	1.43	1.48	1.49	1.54	1.58	1.56	1.45	1.44	1.47	1.49
EXP	1.59	1.59	1.59	1.63	1.61	1.64	1.65	1.64	1.60	1.64	1.62	1.60
IMP	1.63	1.63	1.68	1.74	1.76	1.85	1.95	2.02	1.72	1.69	1.73	1.78
DOM	1.22	1.24	1.26	1.34	1.35	1.43	1.48	1.46	1.29	1.26	1.31	1.36
1790												
TPI	1.66	1.67	1.69	1.67	1.67	1.70	1.73	1.67	1.68	1.69	1.70	1.68
WPI	1.64	1.65	1.71	1.68	1.66	1.70	1.76	1.73	1.73	1.74	1.76	1.71
PPI	1.50	1.49	1.50	1.48	1.48	1.50	1.51	1.46	1.48	1.49	1.49	1.48
EXP	1.61	1.59	1.58	1.58	1.60	1.61	1.58	1.48	1.50	1.51	1.52	1.53
IMP	1.79	1.83	1.93	1.88	1.88	1.97	2.09	2.00	1.97	1.99	1.99	1.90
DOM	1.38	1.38	1.40	1.37	1.35	1.37	1.42	1.41	1.42	1.43	1.43	1.40
1791												
TPI	1.67	1.64	1.60	1.59	1.59	1.54	1.51	1.52	1.53	1.52	1.53	1.54
WPI	1.70	1.66	1.59	1.56	1.57	1.55	1.49	1.49	1.51	1.48	1.50	1.54
PPI	1.47	1.46	1.43	1.42	1.44	1.40	1.37	1.39	1.40	1.38	1.39	1.40
EXP	1.53	1.52	1.54	1.54	1.54	1.46	1.46	1.50	1.49	1.50	1.47	1.44
IMP	1.87	1.80	1.67	1.66	1.61	1.58	1.50	1.50	1.53	1.52	1.53	1.56
DOM	1.39	1.37	1.31	1.29	1.33	1.32	1.27	1.28	1.29	1.25	1.29	1.34
1792												
TPI	1.51	1.50	1.49	1.48	1.44	1.46	1.48	1.55	1.45	1.47	1.52	1.51
WPI	1.50	1.49	1.49	1.50	1.44	1.48	1.52	1.59	1.47	1.49	1.58	1.55
PPI	1.36	1.35	1.34	1.33	1.28	1.31	1.33	1.41	1.30	1.32	1.36	1.36
EXP	1.42	1.42	1.40	1.37	1.34	1.34	1.33	1.39	1.35	1.36	1.34	1.36
IMP	1.57	1.57	1.58	1.59	1.55	1.58	1.62	1.59	1.54	1.54	1.61	1.62
DOM	1.27	1.26	1.26	1.26	1.20	1.24	1.29	1.38	1.24	1.26	1.34	1.33

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1793												
TPI	1.53	1.54	1.58	1.61	1.62	1.59	1.60	1.61	1.64	1.62	1.63	1.62
WPI	1.58	1.59	1.64	1.67	1.67	1.63	1.64	1.66	1.70	1.68	1.69	1.69
PPI	1.37	1.38	1.42	1.45	1.46	1.43	1.44	1.43	1.45	1.43	1.44	1.43
EXP	1.35	1.37	1.39	1.42	1.46	1.44	1.45	1.42	1.44	1.41	1.44	1.42
IMP	1.70	1.69	1.75	1.79	1.79	1.70	1.76	1.84	1.92	1.88	1.86	1.90
DOM	1.34	1.36	1.41	1.44	1.43	1.39	1.39	1.40	1.42	1.40	1.41	1.39
1794												
TPI	1.64	1.65	1.63	1.62	1.64	1.63	1.58	1.57	1.59	1.61	1.63	1.62
WPI	1.72	1.74	1.70	1.67	1.74	1.75	1.67	1.65	1.68	1.72	1.77	1.75
PPI	1.43	1.42	1.40	1.39	1.40	1.38	1.35	1.32	1.35	1.36	1.36	1.37
EXP	1.43	1.41	1.41	1.43	1.39	1.34	1.36	1.35	1.35	1.34	1.31	1.31
IMP	1.84	1.89	1.83	1.80	1.94	1.98	1.86	1.86	1.83	1.90	1.99	1.95
DOM	1.39	1.38	1.36	1.32	1.37	1.37	1.30	1.27	1.32	1.35	1.37	1.38
1795												
TPI	1.66	1.65	1.69	1.72	1.71	1.73	1.77	1.80	1.86	1.73	1.63	1.66
WPI	1.77	1.77	1.83	1.89	1.87	1.91	1.98	2.01	2.10	1.90	1.75	1.78
PPI	1.41	1.41	1.43	1.44	1.43	1.45	1.47	1.51	1.52	1.47	1.40	1.39
EXP	1.38	1.37	1.36	1.35	1.35	1.33	1.34	1.35	1.36	1.36	1.35	1.35
IMP	1.95	1.96	2.06	2.25	2.23	2.31	2.42	2.59	2.77	2.44	2.14	2.35
DOM	1.41	1.41	1.46	1.47	1.46	1.50	1.53	1.60	1.61	1.52	1.40	1.38
1796												
TPI	1.67	1.68	1.68	1.69	1.70	1.64	1.61	1.56	1.56	1.58	1.59	1.58
WPI	1.83	1.83	1.82	1.84	1.84	1.74	1.71	1.60	1.62	1.62	1.61	1.60
PPI	1.41	1.42	1.43	1.43	1.46	1.41	1.42	1.37	1.36	1.37	1.39	1.40
EXP	1.31	1.33	1.33	1.33	1.36	1.37	1.35	1.39	1.38	1.41	1.46	1.48
IMP	2.39	2.39	2.39	2.39	2.30	2.13	1.95	1.89	1.93	1.96	1.91	1.87
DOM	1.45	1.45	1.46	1.47	1.49	1.41	1.43	1.31	1.31	1.30	1.29	1.30
1797												
TPI	1.61	1.63	1.65	1.61	1.62	1.67	1.68	1.63	1.64	1.64	1.72	1.72
WPI	1.60	1.60	1.62	1.55	1.54	1.58	1.56	1.54	1.55	1.57	1.68	1.67
PPI	1.42	1.45	1.48	1.45	1.47	1.51	1.52	1.46	1.49	1.48	1.55	1.54
EXP	1.54	1.58	1.62	1.63	1.67	1.74	1.77	1.68	1.71	1.66	1.70	1.70
IMP	1.85	1.83	1.82	1.70	1.68	1.77	1.74	1.73	1.70	1.70	1.85	1.87
DOM	1.30	1.31	1.34	1.28	1.28	1.30	1.28	1.25	1.28	1.30	1.39	1.38
1798												
TPI	1.69	1.69	1.65	1.63	1.65	1.61	1.61	1.66	1.73	1.73	1.69	1.68
WPI	1.65	1.65	1.62	1.60	1.62	1.61	1.61	1.68	1.79	1.76	1.70	1.69
PPI	1.52	1.51	1.48	1.46	1.47	1.44	1.44	1.48	1.53	1.54	1.51	1.50
EXP	1.67	1.65	1.61	1.59	1.58	1.50	1.52	1.52	1.51	1.56	1.56	1.54
IMP	1.83	1.85	1.83	1.78	1.83	1.78	1.77	1.86	2.03	1.98	1.88	1.89
DOM	1.36	1.37	1.33	1.33	1.35	1.34	1.34	1.40	1.48	1.47	1.42	1.41
1799												
TPI	1.67	1.66	1.66	1.72	1.76	1.79	1.99	1.97	1.84	1.86	1.88	1.90
WPI	1.69	1.68	1.69	1.77	1.84	1.89	2.20	2.17	2.01	2.03	2.08	2.12
PPI	1.49	1.48	1.47	1.51	1.56	1.57	1.77	1.75	1.64	1.66	1.66	1.69
EXP	1.53	1.52	1.51	1.50	1.50	1.48	1.51	1.51	1.45	1.47	1.43	1.41
IMP	1.91	1.91	1.94	2.05	2.14	2.25	2.63	2.59	2.35	2.35	2.44	2.46
DOM	1.41	1.39	1.38	1.47	1.54	1.57	1.90	1.88	1.72	1.74	1.78	1.84
1800												
TPI	1.94	2.00	2.06	2.19	2.07	1.97	2.12	2.19	2.23	2.23	2.28	2.38
WPI	2.18	2.28	2.38	2.53	2.32	2.16	2.36	2.43	2.51	2.48	2.52	2.68
PPI	1.74	1.79	1.86	1.97	1.85	1.75	1.88	1.90	1.93	1.95	2.00	2.07
EXP	1.41	1.41	1.41	1.46	1.53	1.55	1.60	1.65	1.64	1.68	1.73	1.74
IMP	2.55	2.63	2.65	2.81	2.75	2.66	2.95	3.23	3.35	3.27	3.28	3.58
DOM	1.93	2.02	2.14	2.29	2.03	1.86	2.03	2.03	2.10	2.09	2.13	2.25

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1801												
TPI	2.49	2.63	2.69	2.85	2.58	2.65	2.53	2.44	2.31	2.28	2.26	2.22
WPI	2.81	2.97	3.06	3.28	2.90	2.96	2.76	2.65	2.46	2.41	2.38	2.31
PPI	2.13	2.24	2.29	2.43	2.22	2.29	2.18	2.14	2.06	2.06	2.05	2.01
EXP	1.81	1.91	1.92	1.94	1.88	1.97	1.99	1.93	1.93	1.91	1.92	1.93
IMP	3.91	4.22	4.32	4.55	3.93	4.04	3.86	3.48	3.11	2.87	2.81	2.76
DOM	2.31	2.42	2.50	2.71	2.40	2.46	2.25	2.22	2.09	2.10	2.09	2.01
1802												
TPI	2.16	2.13	2.14	2.00	2.05	2.01	2.30	2.33	2.40	2.48	2.46	2.39
WPI	2.24	2.20	2.21	2.00	2.15	2.07	2.51	2.50	2.55	2.63	2.63	2.55
PPI	1.98	1.96	1.96	1.82	1.86	1.83	2.10	2.13	2.20	2.29	2.27	2.19
EXP	1.91	1.91	1.91	1.89	1.79	1.81	1.84	1.93	2.01	2.09	2.06	2.00
IMP	2.61	2.55	2.59	2.45	2.62	2.50	2.88	2.89	2.95	2.97	2.98	2.92
DOM	1.97	1.94	1.94	1.72	1.87	1.80	2.24	2.23	2.28	2.37	2.37	2.28
1803												
TPI	2.42	2.40	2.43	2.37	2.45	2.38	2.32	2.26	2.29	2.30	2.35	2.38
WPI	2.56	2.56	2.59	2.51	2.61	2.52	2.44	2.35	2.41	2.38	2.43	2.43
PPI	2.22	2.19	2.23	2.17	2.25	2.19	2.13	2.09	2.09	2.10	2.15	2.18
EXP	2.07	2.01	2.05	2.02	2.06	2.03	2.02	2.01	2.00	2.06	2.12	2.19
IMP	2.94	2.94	2.97	2.93	2.95	2.82	2.80	2.64	2.80	2.79	2.88	2.86
DOM	2.29	2.28	2.31	2.22	2.34	2.26	2.17	2.10	2.12	2.09	2.13	2.14
1804												
TPI	2.37	2.36	2.35	2.34	2.30	2.26	2.18	2.11	2.20	2.25	2.29	2.40
WPI	2.41	2.39	2.37	2.35	2.30	2.33	2.26	2.16	2.27	2.34	2.36	2.50
PPI	2.18	2.17	2.16	2.15	2.12	2.07	1.98	1.92	1.99	2.03	2.07	2.16
EXP	2.21	2.22	2.24	2.25	2.24	2.09	1.98	1.96	2.02	2.04	2.12	2.16
IMP	2.82	2.81	2.81	2.79	2.75	2.77	2.76	2.62	2.84	2.98	3.02	3.14
DOM	2.13	2.10	2.08	2.05	2.00	2.04	1.96	1.87	1.95	2.00	2.01	2.14
1805												
TPI	2.43	2.46	2.51	2.56	2.58	2.55	2.58	2.63	2.57	2.60	2.66	2.68
WPI	2.52	2.54	2.56	2.61	2.65	2.65	2.71	2.80	2.75	2.82	2.90	2.92
PPI	2.20	2.24	2.30	2.35	2.37	2.32	2.34	2.38	2.31	2.33	2.39	2.41
EXP	2.23	2.29	2.37	2.42	2.43	2.35	2.30	2.30	2.22	2.18	2.21	2.23
IMP	3.16	3.15	3.12	3.13	3.18	3.27	3.30	3.44	3.41	3.51	3.59	3.62
DOM	2.16	2.18	2.23	2.29	2.32	2.29	2.36	2.42	2.37	2.43	2.51	2.53
1806												
TPI	2.69	2.74	2.72	2.78	2.81	2.83	2.87	2.92	2.81	2.79	2.77	2.71
WPI	2.93	2.96	2.91	2.99	3.06	3.06	3.10	3.15	3.01	2.99	2.96	2.91
PPI	2.42	2.48	2.47	2.52	2.53	2.55	2.61	2.67	2.57	2.57	2.54	2.48
EXP	2.26	2.34	2.37	2.38	2.37	2.41	2.46	2.52	2.45	2.47	2.44	2.39
IMP	3.60	3.59	3.51	3.62	3.77	3.71	3.67	3.66	3.50	3.44	3.44	3.40
DOM	2.54	2.58	2.54	2.61	2.65	2.66	2.73	2.79	2.67	2.66	2.63	2.57
1807												
TPI	2.77	2.78	2.72	2.70	2.69	2.69	2.68	2.57	2.80	2.91	3.03	3.11
WPI	3.04	3.04	3.00	2.98	2.98	3.01	3.01	2.86	3.21	3.36	3.50	3.61
PPI	2.50	2.51	2.44	2.41	2.40	2.39	2.37	2.28	2.48	2.58	2.69	2.75
EXP	2.34	2.35	2.27	2.24	2.24	2.17	2.15	2.13	2.14	2.20	2.27	2.30
IMP	3.66	3.66	3.67	3.71	3.71	3.71	3.75	3.53	3.90	4.06	4.16	4.35
DOM	2.65	2.66	2.60	2.56	2.54	2.59	2.57	2.44	2.77	2.90	3.04	3.13
1808												
TPI	3.17	3.24	3.37	3.54	3.75	3.90	4.03	4.24	4.37	4.36	4.29	4.39
WPI	3.71	3.80	3.98	4.18	4.45	4.62	4.73	4.96	5.17	5.11	4.95	5.04
PPI	2.79	2.85	2.94	3.09	3.28	3.41	3.54	3.75	3.81	3.80	3.75	3.86
EXP	2.30	2.34	2.37	2.50	2.60	2.69	2.86	3.03	3.02	3.08	3.19	3.30
IMP	4.48	4.60	4.92	5.15	5.46	5.62	5.71	5.87	6.38	6.30	6.16	6.13
DOM	3.21	3.28	3.41	3.58	3.83	4.00	4.10	4.33	4.44	4.38	4.21	4.33

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1809												
TPI	4.81	5.09	5.59	5.76	5.92	6.53	6.73	6.99	7.08	6.95	6.77	6.93
WPI	5.55	5.90	6.51	6.74	6.89	7.57	7.71	8.02	8.02	7.91	7.58	7.55
PPI	4.23	4.47	4.99	5.13	5.27	5.80	6.04	6.20	6.34	6.23	6.09	6.31
EXP	3.54	3.70	3.98	4.06	4.23	4.67	4.97	5.12	5.38	5.24	5.31	5.80
IMP	6.76	7.25	7.48	7.81	8.06	8.96	8.94	9.69	9.46	9.26	8.81	8.60
DOM	4.78	5.07	5.76	5.94	6.05	6.64	6.82	7.00	7.04	6.97	6.68	6.70
1810												
TPI	7.10	6.79	6.82	7.03	6.76	6.48	6.79	7.14	7.33	7.73	8.57	8.72
WPI	7.76	7.61	7.61	7.71	7.35	6.95	7.27	7.70	7.87	8.24	9.26	9.65
PPI	6.47	6.04	6.09	6.34	6.12	5.84	6.19	6.42	6.61	7.00	7.69	7.73
EXP	5.91	5.33	5.40	5.80	5.72	5.65	5.94	6.13	6.34	6.79	7.28	6.98
IMP	8.74	9.11	9.04	9.00	8.46	8.16	8.20	9.08	9.18	9.55	11.06	11.77
DOM	6.90	6.59	6.61	6.74	6.43	6.00	6.40	6.66	6.83	7.17	7.99	8.25
1811												
TPI	9.46	10.80	12.11	12.23	12.69	13.45	12.50	12.14	12.23	12.68	12.83	12.77
WPI	10.3	11.7	13.1	13.5	14.3	15.2	15.0	14.2	14.5	15.1	15.1	15.1
PPI	8.43	9.69	10.97	10.87	11.19	11.82	10.62	10.31	10.33	10.65	10.95	10.94
EXP	7.82	9.03	10.14	9.70	9.66	10.14	7.79	8.25	8.01	8.15	8.55	8.47
IMP	12.6	14.1	15.3	16.6	17.7	19.0	19.6	19.0	19.4	20.4	19.6	19.3
DOM	8.84	10.13	11.49	11.65	12.22	12.95	12.60	11.76	11.96	12.42	12.64	12.69
1812												
TPI	13.7	13.6	14.1	15.4	16.2	16.9	17.6	18.5	18.8	25.0	27.2	31.1
WPI	16.1	15.8	16.4	18.1	19.2	20.6	21.3	22.7	24.1	29.8	31.7	35.8
PPI	11.9	11.8	12.2	13.2	13.8	14.4	15.1	15.9	15.8	22.2	24.3	28.0
EXP	9.37	9.53	9.75	10.36	10.43	10.09	10.74	10.70	9.07	15.78	18.32	21.71
IMP	20.1	19.9	20.9	23.1	24.7	26.2	26.6	27.6	30.1	34.4	36.9	40.7
DOM	13.6	13.3	13.8	15.2	16.1	17.4	18.2	19.6	20.5	26.4	28.1	32.1
1813												
TPI	32.2	34.9	37.1	38.6	47.8	44.9	62.5	87.1	105.0	65.5	73.8	70.2
WPI	37.8	41.6	44.8	45.1	52.4	52.2	65.2	82.9	96.4	73.3	81.1	81.0
PPI	28.9	31.2	33.0	35.1	45.0	41.0	60.3	87.6	107.2	60.8	69.2	63.9
EXP	21.2	21.9	22.0	25.6	37.6	30.3	55.0	90.5	115.1	49.0	57.7	48.0
IMP	42.9	47.1	51.4	49.1	52.3	56.6	61.4	66.7	72.4	78.7	85.6	91.9
DOM	33.9	37.4	40.2	41.3	49.5	47.9	63.0	83.8	99.3	68.2	76.0	74.2
1814												
TPI	76.2	79.5	85.1	87.6	77.3	83.5	93.5	87.7	90.3	79.9	72.2	68.4
WPI	86.0	89.7	95.3	95.8	87.0	95.8	108.4	96.8	95.7	81.6	73.1	70.4
PPI	70.5	73.6	79.2	83.0	72.3	77.1	83.9	78.7	81.5	75.8	68.5	64.2
EXP	55.6	57.9	63.2	69.1	56.7	57.9	63.0	67.5	76.4	72.8	66.8	61.2
IMP	93.7	97.2	102.1	96.3	89.0	102.5	130.9	121.8	122.6	84.4	75.8	74.9
DOM	79.8	83.4	89.1	91.1	82.0	89.2	97.1	84.9	83.2	76.2	67.9	64.7
1815												
TPI	68.9	71.7	71.0	74.8	78.8	79.8	80.7	84.8	80.8	85.0	93.9	101.4
WPI	69.6	70.9	68.7	75.0	76.9	80.7	79.8	85.5	83.2	87.5	97.3	103.7
PPI	64.9	67.8	67.4	69.6	74.0	73.3	75.1	79.1	74.6	78.6	87.3	94.6
EXP	64.0	69.3	71.1	70.4	77.8	73.9	77.6	79.8	72.7	76.5	83.1	92.8
IMP	74.1	76.0	73.3	85.6	86.3	96.7	91.8	94.4	94.1	98.1	105.8	113.3
DOM	63.8	64.9	62.9	67.2	69.3	70.9	71.2	74.4	71.1	75.3	85.5	91.3
1816												
TPI	114.3	101.5	94.5	99.3	106.0	112.9	112.7	118.2	128.6	143.9	151.2	176.2
WPI	112.9	103.0	97.8	101.2	109.9	116.8	118.6	124.5	135.5	154.6	159.5	186.4
PPI	109.0	95.0	87.2	92.3	97.6	104.5	103.6	108.3	116.9	130.7	138.4	161.5
EXP	112.1	94.3	84.1	91.1	93.9	100.4	96.5	100.9	109.6	117.1	128.8	149.1
IMP	114.3	110.2	109.1	110.2	123.7	128.8	132.4	139.9	158.2	177.7	180.0	210.9
DOM	102.7	90.4	83.5	87.1	94.2	101.3	102.1	107.0	116.0	135.0	140.6	166.9

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1817												
TPI	198.9	197.7	208.0	187.3	174.8	175.5	173.1	170.2	164.8	154.8	152.0	144.5
WPI	211.5	218.5	234.4	204.7	192.7	190.3	187.5	187.5	180.0	165.8	163.3	152.8
PPI	182.8	177.0	184.8	166.6	154.4	157.1	155.0	153.8	148.8	140.5	137.8	130.8
EXP	166.6	149.3	148.7	145.9	132.8	139.4	138.0	129.6	128.4	126.5	123.1	121.5
IMP	237.3	262.3	284.9	251.1	237.3	226.1	223.1	210.5	204.8	186.7	184.1	175.4
DOM	192.1	194.1	208.3	178.7	166.4	166.7	164.1	167.8	159.9	146.8	144.5	133.4
1818												
TPI	138.7	132.6	129.8	123.8	115.3	112.0	108.2	113.5	114.9	114.5	116.5	114.5
WPI	146.7	142.0	138.6	133.0	124.3	121.9	115.1	121.0	124.0	125.9	128.2	125.3
PPI	125.5	119.3	117.9	112.2	104.2	100.4	96.0	101.3	102.7	101.8	103.7	102.3
EXP	116.4	108.1	106.8	100.3	92.5	87.8	89.7	93.7	92.0	87.2	88.7	88.2
IMP	167.8	163.9	154.8	149.1	139.5	140.8	141.3	146.1	147.6	150.4	153.1	147.2
DOM	127.8	122.8	121.3	115.9	107.5	104.2	95.3	101.8	105.3	107.1	109.4	107.3
1819												
TPI	116.3	117.2	124.5	122.1	125.8	125.7	124.5	123.8	125.3	123.6	122.8	119.1
WPI	125.6	125.5	132.4	128.2	129.2	127.3	123.4	123.0	123.6	119.7	119.5	116.9
PPI	105.4	106.1	113.2	110.8	115.0	115.8	114.7	114.1	115.9	114.6	113.5	109.6
EXP	92.9	95.7	103.5	104.9	113.6	117.0	120.7	119.6	122.8	125.2	123.6	117.9
IMP	141.4	143.2	149.8	148.3	148.3	142.8	140.2	139.2	138.0	134.5	136.0	134.8
DOM	109.5	108.9	116.0	110.9	112.2	111.3	106.9	106.7	107.7	103.8	103.1	100.1
1820												
TPI	113.8	112.3	112.3	112.0	112.5	111.8	110.1	107.2	104.0	102.9	99.9	98.2
WPI	112.8	111.9	112.5	113.3	114.6	115.8	115.4	111.8	109.5	109.6	106.2	105.0
PPI	104.3	102.5	102.8	102.8	103.6	102.1	100.8	97.7	94.4	93.1	90.6	89.1
EXP	110.6	107.6	106.8	104.3	103.3	99.0	94.9	93.5	88.7	85.5	83.0	80.8
IMP	130.7	130.7	129.6	128.4	127.7	131.4	127.8	126.4	124.6	125.8	120.2	118.1
DOM	96.0	95.0	96.1	97.7	99.8	100.3	100.8	96.5	94.1	94.1	91.4	90.3
1821												
TPI	95.2	93.8	91.7	92.6	90.8	92.7	98.3	105.1	102.8	104.3	105.1	106.6
WPI	101.2	100.0	97.5	98.8	95.8	93.8	102.8	112.5	107.1	108.8	109.3	110.3
PPI	85.8	84.9	82.4	83.3	81.4	84.6	89.2	94.9	93.5	94.8	95.1	96.4
EXP	79.2	77.6	76.5	76.5	76.9	86.2	85.2	86.2	89.8	91.1	92.1	94.6
IMP	117.0	113.5	114.5	115.0	114.0	107.7	118.3	130.1	122.7	124.7	127.7	130.3
DOM	85.8	85.3	81.7	83.4	79.8	78.9	87.7	97.0	92.0	93.5	93.3	93.8
1822												
TPI	110.5	112.1	112.4	114.4	116.2	118.0	119.6	116.3	114.0	114.3	112.9	110.5
WPI	114.2	115.7	115.7	117.3	118.8	121.6	123.2	119.3	116.5	116.8	114.9	112.1
PPI	99.9	101.2	101.6	103.9	105.3	106.8	108.6	105.1	103.2	103.4	102.5	100.3
EXP	98.3	100.1	100.8	103.8	105.8	105.8	107.5	105.2	104.3	104.6	104.3	102.8
IMP	135.1	137.7	137.5	137.5	140.2	144.2	144.5	142.5	139.3	140.8	137.7	134.7
DOM	97.5	98.5	98.6	100.8	101.8	104.4	106.5	101.8	99.1	99.1	97.5	94.5
1823												
TPI	110.3	109.6	112.2	114.2	115.2	113.8	105.0	104.0	103.8	102.3	102.3	102.0
WPI	112.0	111.7	116.9	119.5	123.5	121.7	109.3	107.3	106.5	103.2	102.9	101.9
PPI	100.4	99.9	101.8	103.2	104.0	103.1	95.8	95.9	96.1	95.4	95.5	95.6
EXP	102.4	101.1	98.7	99.5	94.6	94.0	92.4	93.4	94.6	96.4	96.9	98.1
IMP	132.5	131.0	137.5	142.9	144.3	140.9	125.2	118.3	116.6	110.5	110.0	107.9
DOM	94.8	94.5	99.2	100.8	105.5	104.5	93.3	93.0	92.8	90.4	90.4	89.8
1824												
TPI	100.4	96.5	96.2	95.8	96.1	93.9	92.9	91.0	86.9	84.8	82.3	80.6
WPI	101.1	96.0	94.0	93.7	94.6	92.4	91.7	89.1	83.9	82.1	80.4	79.8
PPI	93.9	89.8	90.0	90.0	90.5	88.2	87.3	85.7	82.1	79.6	77.5	75.5
EXP	94.9	93.7	96.4	96.1	95.1	93.1	91.5	91.3	89.3	86.6	82.8	78.8
IMP	107.0	105.8	102.2	100.1	98.9	98.3	96.9	93.5	87.9	88.0	84.4	83.9
DOM	89.2	83.0	81.6	81.9	83.5	81.0	80.6	78.0	73.2	70.9	69.7	69.2

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1825												
TPI	77.8	74.6	70.0	68.8	67.1	65.1	64.3	64.9	64.8	67.5	67.8	69.5
WPI	77.7	76.0	73.1	71.7	69.5	67.3	65.9	66.3	65.8	70.1	70.5	72.4
PPI	72.7	69.1	64.0	63.1	61.5	59.8	59.3	59.6	59.7	60.2	60.5	61.9
EXP	74.9	69.0	61.5	60.6	59.7	58.4	58.9	59.7	60.2	60.3	60.4	61.7
IMP	82.4	82.2	81.9	79.1	76.5	73.8	72.0	73.7	72.3	87.7	88.7	91.1
DOM	67.0	64.8	61.1	60.2	58.3	56.5	55.7	56.0	55.9	57.2	57.5	59.1
1826												
TPI	71.5	71.2	71.3	72.3	72.3	73.7	79.0	79.7	86.7	91.3	94.7	93.3
WPI	74.7	73.6	72.7	73.0	71.7	73.5	79.1	80.9	89.9	95.4	100.1	98.3
PPI	64.2	64.3	64.6	65.8	66.2	67.0	71.9	71.2	77.8	81.9	84.5	83.5
EXP	63.0	64.5	66.6	68.9	71.9	72.3	76.9	75.3	77.6	80.2	80.9	80.5
IMP	91.0	89.7	88.6	87.8	86.1	90.3	97.3	104.2	111.2	117.6	124.7	121.2
DOM	62.1	61.2	60.5	61.0	59.8	61.0	66.4	66.3	76.1	81.2	85.1	83.5
1827												
TPI	91.8	91.0	93.7	93.1	93.7	89.5	87.2	86.7	78.9	78.1	78.5	78.1
WPI	97.5	96.3	99.7	99.3	100.0	94.8	92.0	91.7	80.9	80.1	81.0	81.0
PPI	81.5	81.1	83.5	83.4	84.2	80.0	78.2	77.7	70.8	69.9	70.1	69.2
EXP	77.2	77.7	78.5	77.6	77.8	76.1	74.8	73.8	72.7	71.8	71.3	70.0
IMP	122.0	120.0	123.3	121.4	120.6	118.6	114.0	113.7	102.1	101.7	103.5	104.7
DOM	82.2	81.3	84.8	85.0	86.3	80.3	78.2	77.8	67.0	66.2	66.8	66.1
1828												
TPI	77.9	75.8	75.7	74.4	75.4	75.0	74.5	73.3	75.4	73.5	76.5	75.4
WPI	80.9	78.7	78.4	76.9	79.0	79.3	78.7	77.6	79.8	77.0	81.3	80.3
PPI	69.3	67.2	67.0	65.7	66.5	66.0	65.4	64.2	65.8	64.3	66.8	65.8
EXP	69.5	67.8	67.9	67.0	65.7	63.9	63.6	62.2	63.9	63.9	64.2	62.8
IMP	103.1	101.7	102.1	100.8	102.8	103.0	102.5	101.4	105.6	101.5	107.5	105.6
DOM	66.6	64.2	63.8	62.2	64.3	64.9	64.1	63.0	64.7	62.2	66.1	65.4
1829												
TPI	76.3	77.5	78.2	76.7	76.1	77.9	77.5	77.0	76.0	75.0	73.5	73.4
WPI	80.7	81.6	81.8	80.8	80.3	82.0	81.2	80.8	80.3	79.1	77.4	77.0
PPI	66.8	67.7	68.4	66.3	65.9	67.5	67.4	67.2	66.2	65.4	64.3	64.6
EXP	64.9	66.6	68.3	65.8	64.8	66.5	67.2	66.5	64.5	63.9	63.0	63.4
IMP	106.2	108.5	109.2	110.8	108.4	110.5	109.0	106.9	106.2	104.8	101.7	100.3
DOM	65.7	66.2	66.2	64.3	64.2	65.8	65.1	65.2	64.8	63.9	62.7	63.0
1830												
TPI	75.6	75.2	76.1	81.2	81.0	80.4	81.4	82.2	80.4	84.5	84.3	85.9
WPI	77.6	76.8	77.8	83.7	82.2	82.6	83.8	84.7	82.3	87.7	87.7	89.8
PPI	67.3	66.6	67.6	73.3	73.2	72.2	72.9	72.8	71.4	74.8	74.3	75.5
EXP	68.9	69.4	70.0	73.4	75.5	73.0	73.4	74.1	73.5	75.0	74.4	74.4
IMP	100.3	101.5	101.3	101.5	100.4	102.0	103.9	109.8	106.4	112.6	114.0	117.2
DOM	64.0	62.5	63.8	71.6	70.0	69.7	70.6	69.7	67.8	72.7	72.4	74.1
1831												
TPI	86.6	86.7	87.9	89.1	89.6	88.8	88.9	86.8	84.8	86.2	87.5	86.8
WPI	91.2	91.4	93.4	94.8	95.0	94.4	93.8	89.6	86.6	88.0	90.0	89.7
PPI	75.5	75.4	76.3	77.3	77.6	77.0	77.3	76.6	75.1	76.2	76.6	75.9
EXP	73.8	73.5	73.2	74.0	75.0	74.1	75.5	77.9	78.0	79.5	79.2	77.5
IMP	120.9	121.6	125.5	128.3	129.4	128.5	127.5	118.2	113.4	116.5	122.6	122.1
DOM	74.6	74.6	76.2	77.4	77.4	76.9	76.5	73.7	71.2	72.0	72.9	72.6
1832												
TPI	86.1	85.4	84.6	84.5	86.0	85.5	81.9	82.5	82.7	81.5	80.8	79.0
WPI	88.5	87.7	86.3	86.5	88.1	87.5	86.6	86.9	86.4	85.4	83.2	81.4
PPI	75.4	75.0	74.3	74.1	75.9	75.1	70.9	71.3	71.7	70.6	70.9	69.6
EXP	78.1	78.0	78.3	77.3	78.5	78.5	69.7	70.7	72.5	70.7	73.2	71.7
IMP	120.2	118.3	116.6	116.8	117.1	118.3	118.5	120.1	119.2	117.7	111.3	107.6
DOM	71.6	70.9	69.6	69.7	71.8	70.6	69.3	69.2	68.9	68.0	67.0	65.6

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1833												
TPI	78.4	78.2	78.5	76.7	75.9	76.2	75.7	75.9	74.9	75.0	75.9	74.8
WPI	81.3	81.2	82.0	79.6	79.1	78.7	77.8	78.0	77.0	77.4	77.1	76.4
PPI	69.2	69.3	70.1	68.4	67.4	67.9	67.5	67.4	66.6	66.5	68.2	67.1
EXP	69.8	69.4	68.9	68.4	67.0	68.5	69.1	69.2	68.3	67.9	71.2	69.6
IMP	106.4	104.5	101.9	99.5	99.7	98.9	98.6	100.0	98.2	100.1	96.8	96.2
DOM	66.0	66.4	68.2	65.6	64.9	64.6	63.6	63.3	62.5	62.7	63.4	62.7
1834												
TPI	74.6	73.5	72.9	73.2	69.8	67.4	70.7	73.7	69.2	69.0	68.8	69.5
WPI	76.0	74.6	73.3	73.9	71.5	68.5	73.0	76.3	70.3	71.4	70.7	72.1
PPI	67.1	66.0	65.6	65.8	61.9	60.0	64.0	67.2	62.1	61.7	61.7	62.5
EXP	69.8	69.2	70.1	69.8	64.3	63.4	64.1	66.3	65.1	62.0	63.0	62.3
IMP	94.4	94.0	92.6	93.8	92.6	88.2	86.3	87.7	88.0	88.3	87.6	88.1
DOM	62.7	61.1	60.0	60.5	57.7	55.0	61.2	65.2	57.4	58.6	58.2	59.8
1835												
TPI	69.5	70.4	69.1	70.6	72.0	74.5	78.0	78.1	76.1	74.9	78.1	75.7
WPI	73.0	73.5	72.8	73.2	76.1	78.6	83.5	83.6	81.4	79.4	80.8	78.7
PPI	62.3	63.5	61.8	63.3	64.8	67.3	71.0	71.3	68.9	67.6	71.3	68.7
EXP	60.6	62.3	59.5	63.2	61.8	63.9	64.3	64.4	63.1	63.4	69.9	67.2
IMP	88.8	88.3	89.0	90.2	91.5	92.4	94.2	92.7	94.1	92.7	93.2	92.4
DOM	60.7	61.9	60.7	60.9	64.5	67.3	73.3	73.6	70.5	68.3	70.1	67.6
1836												
TPI	74.7	74.8	76.4	78.1	79.3	78.0	77.6	76.6	76.4	77.0	76.5	77.6
WPI	77.8	77.9	79.8	81.3	83.3	81.9	81.6	81.2	80.5	82.0	81.2	83.3
PPI	67.6	67.8	69.8	71.7	72.5	71.1	70.5	69.1	69.1	69.7	68.8	70.1
EXP	65.8	66.2	67.2	69.4	68.7	67.5	66.8	64.5	65.5	64.5	64.7	63.4
IMP	91.9	91.8	92.0	91.6	93.6	94.1	94.5	95.8	94.6	95.4	96.8	96.8
DOM	66.7	66.8	69.5	71.6	73.3	71.5	71.0	70.1	69.6	71.3	69.9	72.7
1837												
TPI	77.9	77.5	77.3	77.8	79.6	77.4	75.8	77.5	77.3	78.5	78.4	78.5
WPI	83.7	83.8	83.8	85.1	85.7	81.8	80.1	82.0	82.1	83.5	84.2	85.1
PPI	70.4	69.9	69.8	70.5	73.1	71.4	69.5	71.5	71.2	72.3	72.2	72.1
EXP	63.4	62.2	61.5	60.5	64.5	66.3	65.0	66.0	65.1	65.8	64.1	62.6
IMP	97.0	97.2	96.9	95.4	92.4	88.6	89.4	89.0	89.0	90.5	91.1	92.3
DOM	73.1	73.0	73.4	75.3	77.1	73.0	70.5	73.1	73.2	74.6	75.5	76.4
1838												
TPI	78.7	82.1	83.7	82.8	82.6	82.9	83.4	83.7	83.0	81.8	81.7	82.0
WPI	85.5	88.0	88.1	87.4	87.0	87.4	88.0	87.9	87.3	85.3	85.4	85.6
PPI	72.2	75.5	77.5	76.2	75.7	75.5	75.6	75.9	74.8	74.0	73.6	74.0
EXP	62.3	67.3	72.3	70.9	71.1	71.1	71.4	72.5	71.6	72.1	71.6	72.2
IMP	92.8	96.4	95.8	96.4	98.9	101.5	104.0	104.9	105.9	102.7	104.1	103.3
DOM	76.8	79.1	79.4	78.0	77.0	76.7	76.8	76.5	75.3	73.6	73.3	73.7
1839												
TPI	80.5	80.9	80.9	81.5	83.1	83.3	80.7	76.3	78.0	78.8	80.1	79.4
WPI	85.6	86.5	86.2	86.8	89.5	89.7	86.1	80.7	82.6	83.9	85.0	84.5
PPI	72.0	72.1	72.1	72.6	74.4	74.6	72.4	68.1	69.7	70.3	71.8	71.0
EXP	67.4	67.0	67.5	68.1	67.5	67.6	67.6	66.2	67.3	66.8	68.7	67.9
IMP	104.8	106.8	106.4	107.7	108.1	108.1	103.8	98.9	100.5	102.3	102.9	102.6
DOM	73.3	73.8	73.5	74.0	77.6	77.7	74.3	68.4	70.3	71.3	72.7	71.9
1840												
TPI	78.9	78.7	76.3	76.2	77.3	77.2	75.6	76.3	76.7	75.7	73.4	72.1
WPI	83.8	83.1	82.5	81.6	82.0	81.5	79.8	80.8	81.2	80.2	77.9	75.7
PPI	70.6	70.5	67.2	67.6	68.9	68.8	66.8	67.5	68.2	67.4	64.9	63.9
EXP	67.3	68.4	60.8	62.7	65.5	66.8	65.8	65.6	66.2	65.3	63.3	64.4
IMP	102.2	101.4	101.8	100.4	100.5	100.8	101.1	101.4	100.6	99.0	97.0	95.0
DOM	71.3	70.7	69.5	69.1	69.7	68.8	66.3	67.3	68.1	67.5	64.9	62.6

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1841												
TPI	70.8	69.4	70.2	68.9	68.1	67.2	67.0	67.2	68.2	68.0	68.6	68.7
WPI	74.1	72.6	73.5	71.7	70.6	69.8	69.8	70.3	71.7	71.5	72.9	73.1
PPI	63.0	61.6	62.2	60.6	60.1	59.4	59.1	59.0	59.2	59.3	59.6	59.7
EXP	64.3	63.0	63.4	63.4	63.1	62.3	61.6	60.7	60.2	60.4	59.2	58.8
IMP	92.6	91.7	93.0	92.5	90.6	89.3	89.5	90.3	94.3	93.0	94.5	94.9
DOM	61.4	60.0	60.6	58.1	57.4	56.7	56.6	57.0	57.7	57.8	59.1	59.5
1842												
TPI	68.2	68.3	67.2	67.7	68.3	68.3	69.5	68.0	66.6	72.6	72.4	71.8
WPI	72.6	72.6	70.2	70.8	71.6	71.5	73.1	71.2	69.6	71.7	71.9	71.1
PPI	59.1	59.3	58.7	59.6	60.2	60.5	62.1	61.2	60.6	68.3	68.0	67.3
EXP	58.4	58.7	61.3	60.8	61.2	61.6	61.9	61.6	60.7	76.8	75.3	74.5
IMP	94.8	93.9	92.0	90.3	91.1	90.2	89.6	87.1	83.0	83.9	83.7	83.5
DOM	58.5	58.7	56.5	57.8	58.6	58.9	61.2	60.0	59.6	62.1	62.5	61.6
1843												
TPI	72.5	72.2	72.4	72.9	74.8	75.3	75.7	77.7	76.1	76.0	75.5	74.0
WPI	71.3	70.5	70.5	71.6	74.2	74.7	75.4	77.0	74.8	73.8	72.9	72.0
PPI	68.3	68.4	68.8	69.1	71.0	71.3	71.5	73.9	72.5	72.4	72.1	70.1
EXP	77.1	78.3	79.2	78.1	78.2	78.1	78.1	81.3	81.7	83.7	83.3	80.0
IMP	83.1	81.8	81.4	82.5	84.5	85.1	86.3	87.0	85.3	85.2	83.9	83.9
DOM	62.1	61.5	61.6	62.6	65.7	66.2	66.6	68.5	66.3	64.9	64.2	62.9
1844												
TPI	74.3	75.2	75.2	74.2	71.7	71.0	70.6	71.7	71.4	69.8	68.5	68.2
WPI	73.0	74.5	75.3	74.1	71.3	69.6	69.3	70.8	71.1	69.6	68.5	68.3
PPI	70.7	71.7	71.4	70.0	67.7	67.6	67.2	68.5	67.3	65.6	64.3	64.3
EXP	78.9	78.3	76.1	75.9	74.3	75.9	75.0	75.9	73.5	71.5	69.8	69.4
IMP	83.1	83.8	84.6	84.6	82.5	79.4	79.3	79.8	82.1	80.4	78.9	77.8
DOM	64.8	66.6	67.4	65.5	62.5	61.6	61.3	63.1	62.6	61.1	60.2	60.3
1845												
TPI	69.1	68.8	69.9	71.1	72.9	74.3	74.1	73.8	73.8	75.8	78.6	80.0
WPI	69.0	68.1	69.0	70.8	72.7	74.5	74.2	74.0	74.1	77.0	81.1	83.2
PPI	65.0	65.2	66.3	67.5	69.1	69.9	69.2	68.5	67.9	69.5	72.2	72.0
EXP	70.8	72.3	74.2	74.5	74.9	74.8	75.3	74.5	74.3	73.5	73.2	72.2
IMP	79.2	77.9	78.9	80.2	81.7	85.1	86.2	87.4	90.0	92.5	95.8	101.6
DOM	60.7	60.1	61.1	62.9	64.6	65.6	64.6	63.6	63.1	65.8	70.2	70.5
1846												
TPI	80.0	80.7	83.4	77.7	74.8	76.1	77.7	81.3	77.7	81.9	82.9	85.7
WPI	83.3	84.5	88.1	81.1	77.4	79.3	81.2	85.9	81.2	86.8	88.2	92.0
PPI	71.2	71.7	71.4	69.0	66.9	68.1	69.5	73.9	70.0	74.2	75.0	77.8
EXP	72.0	70.8	69.2	68.4	68.5	67.7	68.1	68.8	68.9	69.4	69.7	69.7
IMP	104.1	104.8	115.5	101.1	96.9	97.5	99.3	100.0	98.6	102.8	104.5	107.1
DOM	69.4	70.6	71.0	67.5	64.3	66.6	68.4	74.7	68.8	75.1	76.2	80.7
1847												
TPI	87.5	89.9	91.9	96.9	104.2	105.8	99.0	91.2	89.4	87.1	85.0	85.3
WPI	94.4	97.3	100.1	105.3	114.8	117.1	108.0	98.0	95.9	92.8	89.8	89.4
PPI	79.3	81.5	83.5	88.4	94.2	95.1	90.2	83.3	82.5	79.7	77.8	79.3
EXP	69.9	70.6	70.6	75.5	76.7	76.5	75.8	74.0	72.9	72.7	73.1	75.6
IMP	109.8	112.6	114.8	119.7	130.3	134.7	123.6	113.2	108.7	108.0	105.4	101.6
DOM	82.7	85.6	88.7	93.9	102.2	103.8	96.5	87.0	86.3	82.2	79.1	80.0
1848												
TPI	83.8	83.2	81.7	81.5	77.0	76.2	73.3	70.8	73.3	75.1	73.4	71.4
WPI	86.9	85.1	84.3	83.0	80.2	79.0	75.5	71.9	74.5	76.6	74.0	72.0
PPI	78.0	78.0	76.8	76.7	71.0	70.0	68.1	65.2	67.5	69.5	68.4	66.0
EXP	76.7	79.6	76.0	78.1	69.3	69.3	68.3	68.7	71.5	72.8	73.5	71.1
IMP	99.2	97.2	94.7	94.1	93.6	93.2	87.2	86.4	89.7	90.9	87.8	86.8
DOM	77.3	75.8	75.7	74.2	70.5	68.9	66.4	61.9	64.1	66.7	64.4	62.1

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1849												
TPI	71.1	71.5	70.8	72.6	71.6	72.1	72.8	73.8	74.0	72.0	71.8	73.1
WPI	71.4	72.1	71.5	73.6	72.5	72.8	73.5	74.7	74.3	71.7	71.3	73.0
PPI	66.2	66.7	65.7	67.7	66.3	67.2	67.6	68.8	69.4	67.5	67.4	69.1
EXP	71.4	70.9	69.3	70.6	70.0	70.8	71.3	71.9	73.5	73.2	73.4	73.7
IMP	85.5	85.2	85.3	86.3	86.7	85.6	87.3	87.8	87.0	84.8	84.4	84.4
DOM	61.9	63.0	62.1	64.5	62.7	63.7	64.0	65.4	65.4	62.8	62.5	64.8
1850												
TPI	73.3	71.8	71.6	70.4	70.7	70.0	71.3	72.3	72.4	71.8	71.7	70.6
WPI	73.3	72.0	71.9	70.5	70.8	70.0	71.5	72.8	73.3	72.8	73.0	71.7
PPI	69.3	67.4	67.3	66.1	66.5	65.5	66.7	67.2	66.9	66.6	66.5	65.0
EXP	73.5	71.8	71.4	71.2	71.8	71.3	71.7	71.6	70.7	69.9	69.1	68.3
IMP	84.2	84.2	83.5	83.0	82.9	83.2	84.7	86.8	88.4	87.0	86.8	87.2
DOM	65.3	63.5	63.7	61.9	62.2	60.9	62.4	63.3	63.2	63.2	63.4	61.5
1851												
TPI	72.3	71.7	72.2	72.8	74.8	75.9	76.2	75.6	75.7	75.3	76.1	75.2
WPI	73.7	72.8	73.6	74.5	77.3	78.5	79.0	78.2	78.4	78.0	79.2	78.4
PPI	66.0	66.3	67.0	67.7	69.9	70.8	70.9	70.5	70.6	69.8	69.6	68.8
EXP	68.6	69.1	68.5	68.1	68.2	68.8	68.6	68.9	68.5	68.3	67.8	66.9
IMP	90.0	86.9	86.3	86.8	88.0	90.1	90.6	89.7	89.9	90.9	94.7	93.1
DOM	62.9	63.0	64.5	65.7	69.1	70.2	70.5	69.8	69.9	68.8	69.0	68.3
1852												
TPI	76.5	78.2	79.7	80.2	80.7	79.8	78.4	76.5	76.8	76.5	75.8	75.3
WPI	79.8	81.8	83.6	84.0	84.3	82.7	80.8	78.3	78.6	78.3	77.7	77.2
PPI	70.4	72.6	74.0	74.5	75.4	74.8	73.7	72.2	72.1	71.7	71.0	70.4
EXP	67.8	69.5	69.5	70.3	71.4	72.5	72.5	72.4	72.7	72.4	71.7	71.1
IMP	92.9	93.9	95.2	95.6	94.8	93.4	91.2	88.2	89.7	90.0	89.3	89.5
DOM	70.3	72.8	74.9	75.3	76.0	74.5	72.9	70.8	70.5	70.0	69.3	68.7
1853												
TPI	75.0	74.7	75.9	76.5	77.4	78.5	78.7	81.6	79.9	84.7	84.9	87.0
WPI	77.0	76.8	78.4	79.1	80.5	82.0	82.7	86.3	84.7	91.0	90.3	90.3
PPI	69.8	69.7	71.1	71.3	72.0	71.8	71.8	74.8	71.8	75.1	76.3	80.1
EXP	70.6	70.2	70.3	70.6	69.9	69.7	68.4	69.6	67.7	68.5	71.3	79.4
IMP	90.3	89.3	90.0	91.3	92.8	98.0	98.5	101.3	104.4	114.3	111.8	108.5
DOM	67.9	68.0	69.9	70.3	71.7	71.4	72.0	76.0	72.5	77.3	77.7	79.2
1854												
TPI	88.2	88.4	89.3	89.8	89.9	88.2	89.7	88.7	87.0	87.3	89.0	89.6
WPI	91.6	91.7	92.2	92.3	90.7	88.7	90.3	88.9	86.4	87.1	90.0	91.2
PPI	80.9	80.7	81.7	82.0	82.5	82.5	83.7	82.8	81.7	82.0	83.3	83.5
EXP	80.8	80.8	83.0	84.3	89.3	88.5	89.7	89.8	90.4	90.3	88.6	87.1
IMP	111.3	112.6	113.4	114.7	114.0	107.6	108.9	107.3	103.8	104.3	106.7	108.8
DOM	79.9	79.2	79.6	78.9	77.0	77.5	78.6	77.3	75.1	75.9	78.8	79.6
1855												
TPI	89.9	91.8	92.0	91.7	92.0	93.8	94.5	95.9	101.3	100.1	100.8	102.1
WPI	92.1	94.2	94.6	94.4	95.6	98.0	98.9	99.7	106.0	103.8	105.0	107.3
PPI	83.3	85.3	85.2	84.9	85.4	86.8	87.8	89.5	95.1	93.3	94.2	94.6
EXP	85.5	86.9	86.7	85.9	84.8	84.3	85.1	88.3	90.7	92.0	91.0	89.5
IMP	109.6	111.2	112.4	111.9	111.9	114.3	115.1	115.0	119.0	120.2	120.3	123.7
DOM	80.2	82.7	82.6	82.7	84.3	86.5	87.5	88.4	95.4	91.9	93.7	95.4
1856												
TPI	104.1	102.1	101.7	100.8	101.3	101.6	104.9	103.9	100.6	100.5	98.8	98.6
WPI	109.2	106.8	105.9	105.0	105.9	106.0	110.1	108.6	103.9	104.3	101.5	101.5
PPI	97.3	95.8	95.3	94.4	94.9	94.9	97.6	97.2	94.8	94.4	92.1	92.9
EXP	91.8	91.1	92.3	91.5	90.9	91.8	92.7	93.0	93.7	92.3	93.5	92.5
IMP	123.8	120.4	120.3	119.4	119.7	121.0	125.5	123.3	117.5	117.8	118.0	115.1
DOM	98.2	96.3	95.1	94.1	95.3	94.8	98.3	97.3	93.2	93.7	89.7	91.3

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1857												
TPI	95.5	97.0	96.4	97.8	96.7	97.0	96.7	91.5	91.2	89.9	90.4	86.2
WPI	97.8	98.4	97.2	98.3	95.3	96.9	97.4	91.6	91.5	90.2	90.9	86.2
PPI	90.1	91.6	91.2	93.1	91.9	92.2	91.5	86.2	86.3	85.1	86.2	81.6
EXP	91.7	95.2	96.1	98.3	101.7	98.8	96.8	93.9	93.3	92.2	91.5	88.9
IMP	111.1	112.5	111.5	111.0	109.8	109.8	111.4	107.0	106.2	105.0	102.7	100.5
DOM	87.4	87.5	86.5	88.4	84.7	86.9	87.2	80.7	81.1	79.9	81.9	76.2
1858												
TPI	83.5	82.5	81.3	81.3	82.8	82.4	83.5	84.8	82.0	83.2	82.4	81.2
WPI	83.3	82.5	81.3	81.2	82.8	81.9	83.5	84.8	81.7	83.5	83.1	81.8
PPI	78.7	77.6	76.6	76.7	78.4	78.4	79.5	80.3	76.8	78.4	77.9	76.4
EXP	86.9	85.0	83.7	83.8	84.6	85.9	85.7	86.1	84.5	83.8	82.4	81.2
IMP	98.9	97.8	96.3	95.7	96.2	94.9	95.8	98.0	98.4	98.2	96.6	96.6
DOM	73.0	72.3	71.4	71.5	73.6	72.8	74.5	75.5	70.9	73.6	73.7	71.9
1859												
TPI	83.1	81.6	82.1	81.8	81.7	81.4	79.5	80.6	81.2	79.1	81.2	81.9
WPI	84.5	83.3	84.5	84.5	84.8	84.8	81.9	83.4	83.7	81.0	83.3	84.5
PPI	78.3	76.4	76.5	76.0	75.3	75.1	73.4	75.0	76.2	74.0	75.7	76.7
EXP	81.5	79.2	77.3	76.3	75.0	74.1	75.0	74.7	76.1	76.2	77.1	76.7
IMP	97.8	97.8	98.8	99.3	101.1	100.6	98.4	97.9	96.3	94.8	97.5	97.6
DOM	75.0	73.2	74.3	74.1	73.5	74.0	71.0	73.7	74.5	71.2	73.2	75.0
1860												
TPI	82.5	83.4	84.9	86.8	86.7	86.7	91.3	88.7	94.2	94.1	92.8	93.2
WPI	84.6	86.0	88.1	88.8	89.2	89.6	96.0	92.2	98.9	98.7	96.5	96.8
PPI	76.9	77.6	79.2	81.4	81.1	81.8	86.6	82.9	87.9	88.9	88.1	88.4
EXP	78.2	78.0	78.4	83.4	82.0	81.3	80.4	81.5	83.4	83.7	84.8	85.9
IMP	99.8	100.8	102.0	103.6	104.4	101.5	104.2	106.2	111.8	108.2	105.9	106.8
DOM	74.1	75.4	78.0	78.3	78.5	80.0	87.8	81.6	88.4	89.8	87.9	87.9
1861												
TPI	95.1	96.8	96.5	95.1	95.1	91.4	91.6	89.8	89.2	89.3	90.8	90.5
WPI	99.0	100.6	99.4	97.5	97.1	93.4	93.5	91.0	90.6	90.5	92.8	93.1
PPI	90.2	91.9	92.1	90.6	91.0	86.4	87.5	85.1	84.4	84.1	85.3	84.8
EXP	86.4	88.5	91.1	91.1	92.3	88.3	88.8	88.9	88.2	88.5	87.7	85.4
IMP	107.8	109.7	108.0	107.6	106.6	106.2	104.0	103.9	103.8	104.7	107.4	107.7
DOM	90.4	91.7	90.7	88.3	88.4	83.5	84.8	81.1	80.7	80.0	82.2	82.5
1862												
TPI	92.1	91.2	91.8	93.1	92.5	93.5	93.2	89.6	91.5	91.2	91.4	90.7
WPI	94.1	94.0	95.0	96.5	95.3	96.3	95.3	90.9	93.5	93.3	93.4	92.8
PPI	86.7	85.8	86.4	88.3	87.7	89.5	88.1	83.7	85.8	85.4	85.8	85.0
EXP	88.7	85.9	85.0	85.5	86.7	87.2	88.5	88.0	87.8	87.4	87.8	87.2
IMP	108.6	107.2	107.7	107.3	106.5	104.0	107.8	108.4	108.5	108.6	107.8	107.8
DOM	83.5	83.9	85.2	88.0	86.7	88.6	85.6	79.5	82.8	82.5	82.9	82.1
1863												
TPI	90.5	90.9	91.1	90.2	90.0	89.8	89.8	91.6	92.0	89.9	87.7	88.6
WPI	92.6	93.1	93.3	92.0	92.0	91.2	90.7	93.6	93.7	91.3	88.1	88.6
PPI	85.1	85.4	85.5	84.3	83.8	83.3	83.6	85.3	86.5	84.5	82.5	83.5
EXP	86.5	87.0	87.3	87.2	87.1	88.3	89.4	88.4	89.0	87.8	88.5	90.4
IMP	106.8	107.8	108.0	108.1	109.0	109.1	108.2	109.9	107.6	105.6	102.8	103.5
DOM	82.6	82.8	82.9	81.0	80.5	79.3	79.3	82.5	83.9	81.4	78.0	78.6
1864												
TPI	88.7	87.5	87.5	87.1	87.3	89.9	87.5	87.5	87.3	85.3	85.3	84.6
WPI	88.7	88.6	88.2	88.0	88.1	91.6	89.9	89.6	89.2	86.7	86.9	86.0
PPI	83.2	81.4	81.4	81.0	81.3	84.6	81.4	81.5	81.4	79.0	79.2	78.6
EXP	91.2	86.4	87.3	85.8	86.0	86.0	81.7	82.9	83.1	82.7	82.2	82.3
IMP	104.7	105.6	105.6	105.1	105.0	104.7	104.3	104.2	103.7	103.3	102.8	101.9
DOM	78.1	77.5	76.9	76.9	77.1	82.3	79.8	79.3	78.9	75.6	76.2	75.3

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1865												
TPI	84.3	83.5	83.0	82.9	83.2	83.0	86.5	87.9	88.3	89.9	92.7	95.0
WPI	85.8	84.8	84.1	84.3	84.2	83.5	86.9	88.5	88.7	90.4	93.8	96.9
PPI	78.4	77.4	76.8	76.6	77.0	77.2	80.6	82.5	83.0	85.0	87.9	90.0
EXP	81.5	80.8	81.0	80.7	81.5	82.8	86.6	87.4	89.0	90.1	90.6	91.1
IMP	101.4	101.1	100.9	101.4	101.2	99.8	103.5	104.0	104.1	104.4	106.6	110.3
DOM	75.3	73.7	72.8	72.9	72.8	72.5	75.8	78.1	78.3	80.6	84.5	87.3
1866												
TPI	94.5	94.2	95.8	94.6	95.4	96.3	95.9	95.8	94.5	92.8	92.5	91.9
WPI	96.1	95.8	98.5	96.8	97.9	99.8	100.1	99.3	97.7	95.3	95.5	95.5
PPI	89.6	89.3	90.8	89.7	90.7	92.1	91.6	91.6	90.0	87.1	86.6	86.1
EXP	91.2	91.0	89.8	90.0	90.3	88.8	86.0	88.1	87.7	87.8	86.7	84.5
IMP	108.9	108.4	110.8	109.4	109.5	108.3	107.9	107.7	108.1	110.0	110.6	110.1
DOM	87.0	86.6	89.9	88.0	89.4	92.5	93.0	92.1	90.0	85.6	85.5	85.9
1867												
TPI	91.8	93.0	92.7	94.8	97.2	98.5	97.4	101.8	98.5	103.4	102.8	104.2
WPI	95.2	95.9	95.6	98.1	101.4	102.7	101.8	107.8	104.9	111.5	110.4	112.6
PPI	85.7	87.3	87.0	89.3	91.6	91.8	90.3	93.4	91.0	95.6	94.4	95.6
EXP	84.8	88.0	87.9	88.6	88.5	89.2	88.0	88.4	83.6	84.1	84.7	84.0
IMP	110.4	110.8	110.6	111.9	115.0	119.2	119.2	127.7	121.7	127.3	128.6	130.2
DOM	85.3	86.1	85.8	88.9	92.5	92.2	90.5	95.1	94.0	100.9	98.6	100.8
1868												
TPI	104.4	107.3	108.6	107.5	102.4	97.1	99.4	100.1	100.4	98.6	99.5	98.0
WPI	113.2	116.8	116.5	114.8	109.9	103.4	105.7	106.4	106.6	104.6	105.6	103.8
PPI	95.9	99.2	101.5	100.2	95.2	90.4	92.8	94.3	94.6	92.9	94.3	92.6
EXP	83.1	83.8	89.0	89.7	84.0	82.4	85.0	85.3	85.9	84.8	85.3	84.3
IMP	129.9	131.2	129.6	129.4	124.2	118.0	120.3	117.6	118.2	116.7	115.6	114.6
DOM	101.8	106.5	106.9	104.5	100.2	94.0	96.4	98.5	98.3	96.2	98.4	96.0
1869												
TPI	97.3	95.8	94.8	92.5	92.4	93.9	94.8	93.9	91.9	89.1	89.9	89.6
WPI	103.1	101.4	100.3	97.1	96.2	97.8	98.2	98.2	95.4	91.5	92.3	91.3
PPI	91.8	90.2	88.9	86.8	87.1	88.9	89.3	87.6	86.3	83.8	85.0	84.8
EXP	83.5	82.4	81.8	82.1	84.3	85.3	87.5	83.9	84.2	84.4	85.2	86.8
IMP	114.2	112.9	112.7	109.7	108.5	108.5	110.8	112.6	108.5	104.8	104.5	103.9
DOM	95.0	93.3	91.6	88.2	87.4	89.5	89.0	87.8	86.0	82.0	83.4	82.3
1870												
TPI	89.1	88.7	88.5	89.9	90.0	88.5	89.2	89.8	88.0	87.7	87.0	88.0
WPI	90.7	89.5	89.1	90.8	91.6	90.0	92.0	93.5	89.9	88.5	88.4	89.6
PPI	84.7	84.5	84.2	85.9	85.5	83.5	84.3	84.4	83.2	83.2	82.4	83.6
EXP	86.8	88.6	89.2	89.9	88.2	86.8	83.4	81.5	85.0	87.4	85.4	86.0
IMP	102.4	101.5	101.3	101.7	103.7	103.9	104.1	106.5	102.9	101.3	101.1	101.3
DOM	81.9	80.7	80.3	82.6	82.7	80.4	83.3	84.2	80.8	79.5	79.3	81.0
1871												
TPI	87.0	88.2	89.7	90.5	90.4	91.6	92.0	91.4	91.3	94.3	92.7	91.8
WPI	88.1	89.5	91.5	92.3	92.3	94.4	94.2	92.8	93.1	97.3	95.8	95.1
PPI	82.3	83.5	85.0	85.7	85.9	87.6	88.3	87.5	87.2	90.6	88.0	86.8
EXP	86.2	87.4	87.7	88.0	87.6	86.0	88.3	89.4	88.4	88.5	86.4	84.9
IMP	101.4	102.5	104.7	105.4	104.6	104.3	103.4	103.5	104.3	105.8	107.6	107.5
DOM	79.0	80.5	82.6	83.4	84.1	87.5	87.4	85.4	85.5	90.7	87.8	86.8
1872												
TPI	92.7	91.1	90.6	90.1	91.5	90.6	90.3	91.8	93.3	94.3	94.6	95.2
WPI	97.0	95.6	95.1	94.4	95.8	94.2	93.5	94.8	96.6	97.7	97.6	97.8
PPI	87.2	85.4	84.6	84.1	85.6	84.7	84.0	86.2	87.3	88.2	88.8	89.6
EXP	82.4	80.3	79.5	79.7	81.4	82.9	83.5	85.5	86.6	87.5	89.3	90.5
IMP	109.5	109.3	109.6	109.3	110.1	109.3	110.2	109.2	112.2	113.3	113.0	113.1
DOM	88.3	86.6	85.7	84.6	86.1	84.0	82.5	84.9	86.2	87.1	87.3	87.6

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1873												
TPI	96.2	97.5	98.6	98.7	100.1	101.5	101.6	101.7	103.1	105.5	105.6	106.6
WPI	97.9	98.7	99.8	99.8	101.3	103.0	102.4	103.0	104.8	108.2	108.5	109.6
PPI	90.9	92.2	93.7	93.7	94.9	96.3	96.7	96.4	97.4	99.4	99.7	100.6
EXP	94.0	96.6	97.9	98.2	99.3	99.6	102.1	100.7	100.8	100.5	99.6	100.6
IMP	113.1	114.2	114.1	114.5	116.0	117.2	117.2	118.1	120.8	124.0	123.2	124.2
DOM	87.8	88.4	89.9	89.8	91.2	93.2	92.3	92.6	94.1	97.3	98.2	99.2
1874												
TPI	108.3	109.4	108.6	107.8	108.4	108.9	110.0	109.7	109.1	105.6	104.1	105.5
WPI	111.5	112.3	111.2	110.1	110.9	111.6	113.2	112.8	112.4	109.0	106.7	108.3
PPI	102.7	103.8	103.3	103.1	104.2	105.0	106.4	106.1	106.5	102.6	101.0	103.1
EXP	102.5	103.9	103.7	104.3	104.2	104.1	103.9	103.4	102.5	98.0	98.8	100.1
IMP	124.7	125.7	124.0	121.5	120.7	120.0	120.4	119.6	115.8	113.8	113.0	112.2
DOM	101.6	102.3	101.8	101.5	103.1	104.6	106.9	106.6	107.8	103.6	100.5	103.3
1875												
TPI	105.3	105.8	104.4	102.5	100.3	98.0	97.5	98.6	96.0	97.6	97.5	97.3
WPI	108.1	109.8	108.6	106.4	103.9	101.3	100.0	100.4	98.0	99.6	99.0	98.8
PPI	102.7	103.3	102.0	99.5	97.0	94.3	93.9	94.9	91.6	94.0	94.1	94.0
EXP	99.5	96.2	94.6	93.2	91.6	90.2	92.2	95.8	92.7	94.3	95.7	95.0
IMP	112.7	112.3	110.7	110.1	109.5	108.4	107.8	110.1	109.6	108.6	107.9	107.1
DOM	102.8	105.7	104.4	101.1	97.8	94.3	92.7	92.4	89.0	92.0	91.5	91.7
1876												
TPI	95.8	95.0	94.5	95.4	95.6	97.3	97.9	97.2	99.0	98.8	99.1	99.2
WPI	97.1	96.0	95.0	96.0	95.6	96.5	98.4	97.7	99.8	98.8	99.6	99.9
PPI	92.7	91.7	91.0	92.1	92.6	94.8	95.4	94.8	97.2	97.0	96.9	96.7
EXP	94.1	94.7	95.0	95.6	97.7	101.5	98.5	97.5	98.6	100.8	99.4	99.1
IMP	105.1	105.4	105.5	105.8	105.4	106.2	106.7	105.5	105.9	105.6	106.8	108.3
DOM	90.3	88.6	87.1	88.3	88.2	89.4	92.0	91.7	94.6	93.2	93.9	93.7
1877												
TPI	99.3	99.4	100.3	101.8	105.0	101.0	99.2	98.5	97.4	98.3	97.4	96.0
WPI	100.3	100.3	100.6	102.8	107.7	103.7	102.1	100.5	99.1	100.0	98.9	97.1
PPI	96.8	96.8	98.2	99.9	103.0	98.5	96.6	96.1	94.5	96.0	95.0	93.8
EXP	98.5	98.8	101.5	101.1	99.6	95.5	92.8	94.9	94.7	96.0	95.7	96.0
IMP	108.1	108.4	107.8	108.9	112.7	109.2	107.7	106.2	106.3	105.5	104.6	103.0
DOM	94.3	94.1	94.9	97.6	103.3	98.5	96.7	94.7	92.5	94.6	93.4	91.5
1878												
TPI	94.7	93.2	91.3	91.3	90.5	87.7	85.0	84.9	83.5	81.2	80.3	79.9
WPI	96.3	94.9	93.4	93.6	92.3	89.2	85.9	85.9	84.5	82.7	82.1	81.6
PPI	92.3	90.7	88.6	88.1	87.6	84.3	81.1	81.5	80.1	77.5	76.3	75.8
EXP	93.3	91.2	88.3	87.5	88.4	86.6	85.3	85.2	83.8	79.6	77.2	77.3
IMP	102.1	100.7	99.1	101.2	99.2	98.2	97.1	95.7	94.6	92.4	92.5	92.5
DOM	90.4	89.1	87.3	87.0	86.0	81.9	77.7	78.5	77.2	75.3	74.4	73.5
1879												
TPI	79.4	80.0	79.8	79.0	79.0	80.2	81.0	81.3	81.4	83.2	84.3	85.0
WPI	80.5	81.0	80.9	79.5	79.8	80.4	81.5	82.2	82.7	84.3	85.7	87.0
PPI	75.4	76.0	75.6	75.1	75.2	76.8	77.4	77.3	77.3	78.3	79.4	79.8
EXP	78.3	79.2	78.9	79.7	78.4	81.3	81.0	80.1	79.2	81.4	82.2	80.8
IMP	92.0	92.3	92.9	91.4	91.0	90.8	92.1	93.1	93.2	96.7	98.0	99.7
DOM	72.3	72.9	72.6	71.3	72.0	72.9	75.3	75.6	76.5	76.7	78.4	79.7
1880												
TPI	85.8	85.6	87.0	87.2	87.7	88.5	90.1	87.0	86.6	87.9	88.7	88.9
WPI	87.3	87.6	88.9	88.9	90.0	90.9	93.3	89.3	88.8	90.1	91.0	90.8
PPI	81.1	80.5	82.6	83.0	83.8	84.5	86.8	82.9	82.2	84.2	85.3	85.9
EXP	83.1	81.6	83.5	83.7	83.3	83.4	82.9	81.9	82.4	83.4	84.3	85.7
IMP	99.3	100.1	100.2	99.8	99.7	100.3	101.0	99.2	99.7	99.5	99.6	98.7
DOM	80.3	80.4	82.6	83.0	84.8	86.0	90.1	84.2	82.9	85.4	86.9	87.0

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1881												
TPI	89.1	89.4	89.4	90.6	91.0	92.2	89.8	91.5	94.5	93.8	92.3	91.7
WPI	91.0	91.4	91.3	92.4	92.3	93.7	90.8	92.9	96.9	96.0	93.9	93.1
PPI	86.5	87.0	87.2	88.5	89.2	90.9	88.2	90.2	93.2	92.3	91.0	90.7
EXP	85.6	85.5	86.2	87.2	88.4	89.2	88.6	88.9	90.0	89.1	89.3	89.2
IMP	98.6	98.4	98.1	98.8	98.5	98.2	96.5	97.6	101.0	100.6	99.1	97.8
DOM	87.8	88.6	88.6	90.0	90.2	92.7	88.6	91.9	96.4	95.3	92.8	92.3
1882												
TPI	90.8	91.8	91.7	90.6	89.8	89.1	89.6	88.7	88.8	88.1	88.5	88.1
WPI	91.8	92.3	91.8	90.2	88.8	86.6	87.8	85.6	85.5	84.6	85.4	85.0
PPI	89.7	91.3	91.7	90.3	90.0	89.3	90.2	89.1	89.9	89.5	90.0	89.3
EXP	89.3	92.2	93.0	93.7	94.7	98.0	96.7	99.0	99.8	99.5	98.8	98.4
IMP	96.7	96.4	95.4	94.8	93.3	92.1	92.3	91.8	90.1	89.0	88.8	88.9
DOM	90.7	91.6	91.5	89.0	87.7	84.4	86.6	83.2	83.9	83.3	84.7	83.8
1883												
TPI	87.5	87.0	87.5	88.3	89.0	89.9	88.6	88.2	87.2	86.7	85.4	85.7
WPI	84.6	84.2	84.0	84.2	84.1	84.8	84.0	84.3	83.6	83.6	83.2	83.7
PPI	88.9	88.2	88.8	90.1	90.9	92.1	90.5	89.6	87.8	87.5	85.2	85.4
EXP	97.2	95.8	98.3	100.9	103.6	105.1	102.2	99.9	97.9	96.5	92.8	92.7
IMP	88.1	87.6	87.8	87.7	88.1	88.8	88.1	88.7	89.5	88.4	89.1	89.7
DOM	83.9	83.5	83.1	83.5	83.1	84.0	83.0	83.0	81.1	81.8	80.6	81.1
1884												
TPI	85.2	84.7	83.8	82.8	82.8	82.4	81.7	81.2	80.8	79.7	79.9	79.4
WPI	83.4	83.1	82.4	81.7	82.0	82.3	82.0	81.3	80.1	78.7	78.9	78.3
PPI	84.8	84.1	83.0	82.3	82.3	81.7	80.6	80.7	80.6	80.0	80.3	79.6
EXP	91.6	90.2	88.5	86.9	86.5	83.9	82.2	82.7	84.1	83.6	83.8	83.3
IMP	89.6	89.7	89.1	87.7	87.8	87.2	87.4	85.8	84.4	82.6	82.3	82.1
DOM	80.8	80.2	79.5	79.4	79.8	80.6	79.7	79.7	78.7	77.7	78.2	77.3
1885												
TPI	78.9	78.3	76.9	77.1	76.3	75.9	76.6	74.9	74.6	73.9	73.3	72.7
WPI	78.0	77.8	76.7	77.4	76.7	76.1	77.3	75.0	75.6	75.4	74.3	73.6
PPI	78.9	77.9	76.3	75.9	75.6	75.1	76.4	73.9	73.5	72.6	72.1	71.5
EXP	82.1	80.6	77.9	76.9	76.2	76.2	75.5	75.2	72.5	70.7	70.8	70.5
IMP	81.9	81.8	81.0	82.5	80.6	80.2	79.8	79.6	79.3	79.3	78.5	77.5
DOM	76.9	76.5	75.3	75.3	75.4	74.6	77.2	73.2	74.5	74.1	73.0	72.3
1886												
TPI	72.0	71.5	72.0	71.6	71.3	70.8	69.4	70.2	70.9	70.2	69.7	70.0
WPI	73.0	72.7	73.5	73.3	72.9	72.3	70.6	71.5	72.4	71.8	71.2	71.4
PPI	70.6	70.1	70.6	70.0	69.5	68.7	66.8	68.1	68.4	67.6	67.3	66.9
EXP	69.3	68.8	68.9	67.5	67.5	67.2	66.3	67.0	67.3	66.7	66.5	66.6
IMP	77.1	76.8	77.3	77.5	77.6	77.5	77.3	77.2	78.9	78.6	77.8	79.1
DOM	71.6	71.2	72.2	71.9	71.0	70.0	67.1	69.0	69.4	68.4	67.9	67.3
1887												
TPI	69.7	70.3	69.6	69.0	69.0	69.6	69.6	69.5	68.7	68.6	68.8	68.4
WPI	71.3	72.1	71.0	70.7	70.7	71.3	71.0	70.8	70.1	69.8	70.0	69.7
PPI	66.8	67.2	66.7	65.6	65.2	65.9	66.5	66.2	65.2	65.4	65.2	65.0
EXP	66.1	66.5	66.4	65.3	64.9	65.7	66.6	66.7	65.2	65.9	65.9	65.6
IMP	78.8	79.7	78.6	79.1	80.2	80.5	79.3	79.8	79.1	78.5	79.4	78.8
DOM	67.5	68.0	67.0	66.1	65.6	66.3	66.6	66.1	65.2	65.1	64.9	64.8
1888												
TPI	68.6	68.4	68.2	69.1	69.4	70.3	70.1	70.9	72.2	73.1	73.3	73.3
WPI	69.9	69.6	69.4	70.6	70.6	71.7	71.5	72.5	74.0	75.1	75.3	75.5
PPI	65.3	65.4	65.6	66.5	67.2	68.4	68.3	68.8	69.4	70.1	70.2	70.1
EXP	66.0	66.0	66.0	65.7	66.7	67.2	67.3	67.1	67.9	68.5	68.6	68.1
IMP	78.5	77.8	76.7	77.9	77.2	77.2	76.9	78.3	81.0	82.4	82.7	83.4
DOM	65.3	65.5	65.8	67.4	67.8	69.5	69.3	70.1	70.7	71.5	71.7	71.6

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1889												
TPI	73.0	73.0	73.8	74.1	73.8	73.0	74.3	74.5	74.3	74.2	74.4	75.8
WPI	75.2	74.9	75.5	75.5	75.4	74.9	76.8	77.0	76.9	76.8	77.4	79.2
PPI	69.8	70.2	71.0	71.3	70.7	69.7	71.0	71.3	71.5	71.3	71.6	73.0
EXP	67.9	68.6	69.8	70.7	70.3	68.8	68.6	68.7	68.4	67.9	67.3	67.6
IMP	83.1	81.9	83.0	83.0	83.3	83.5	85.1	85.0	84.0	83.8	83.9	85.1
DOM	71.2	71.5	71.9	71.8	71.2	70.3	72.8	73.2	73.8	73.9	74.7	76.8
1890												
TPI	76.1	76.2	76.1	75.3	74.7	74.1	74.3	74.6	75.4	75.9	76.3	76.2
WPI	79.5	79.9	80.2	79.5	79.0	78.2	77.7	77.6	78.8	79.5	79.5	79.2
PPI	73.2	73.0	72.5	71.6	70.7	70.1	70.6	70.8	71.3	72.0	72.5	72.6
EXP	67.8	67.2	66.1	65.1	64.3	64.1	66.3	67.4	67.2	67.2	68.3	68.7
IMP	85.7	86.2	86.7	86.2	86.3	85.5	84.8	85.1	86.6	86.6	86.3	86.2
DOM	77.0	77.1	77.2	76.2	75.2	74.3	73.7	73.2	74.2	75.4	75.7	75.3
1891												
TPI	76.4	76.7	77.5	79.2	80.3	81.4	81.5	83.2	84.5	83.2	84.0	83.5
WPI	79.4	79.8	80.6	82.6	83.7	84.7	84.5	87.0	88.9	86.9	88.3	88.1
PPI	72.9	73.3	74.0	75.7	76.8	78.0	78.4	80.1	81.3	80.3	80.8	80.2
EXP	69.1	69.2	70.0	70.9	72.2	73.4	73.8	73.7	73.6	74.1	73.1	71.7
IMP	86.1	86.4	87.1	88.8	90.2	91.1	90.2	91.9	93.5	91.2	92.7	92.6
DOM	75.6	76.1	76.8	79.1	80.1	81.3	81.7	84.6	86.6	84.6	86.2	86.0
1892												
TPI	83.2	82.0	81.2	80.8	80.5	80.0	79.0	77.0	74.9	74.5	74.1	73.7
WPI	88.3	87.1	86.3	86.1	86.1	85.9	84.6	82.2	79.8	78.9	78.2	77.8
PPI	80.2	79.0	78.2	78.3	78.5	78.1	76.8	74.6	72.3	71.6	71.3	71.1
EXP	70.4	69.0	68.0	67.7	66.7	65.0	65.2	64.0	62.4	63.3	63.8	63.6
IMP	91.8	90.5	89.5	88.3	86.8	85.5	85.2	83.2	81.4	81.3	80.7	79.9
DOM	86.9	85.8	85.2	85.7	86.8	87.4	85.1	82.2	79.3	77.7	76.8	76.5
1893												
TPI	73.9	74.1	74.4	74.2	74.4	73.7	73.3	72.8	72.1	72.4	72.0	71.7
WPI	77.7	77.9	78.1	77.7	77.9	76.9	76.3	75.9	75.0	75.4	75.0	74.4
PPI	71.3	71.3	71.8	71.6	71.7	70.8	70.4	70.0	69.3	70.0	69.8	69.5
EXP	64.3	64.4	65.0	65.2	65.7	65.4	65.7	64.8	64.7	65.1	64.6	65.0
IMP	79.8	80.1	79.9	79.7	80.3	79.7	79.5	79.1	78.3	77.7	76.8	76.4
DOM	76.3	76.2	76.7	76.2	75.9	74.6	73.8	73.6	72.6	73.6	73.5	72.7
1894												
TPI	71.1	71.0	70.6	70.0	69.6	68.8	68.8	69.1	68.9	68.4	68.2	68.3
WPI	73.6	73.3	72.6	71.7	71.3	70.8	70.9	70.8	70.4	69.5	69.1	69.0
PPI	69.1	69.0	68.7	67.9	67.8	66.7	66.8	67.2	67.0	66.7	66.5	66.6
EXP	65.0	65.4	65.7	65.8	65.8	64.0	64.0	65.5	65.7	66.0	66.7	66.9
IMP	75.9	75.6	74.9	74.5	73.7	73.2	73.3	73.2	72.8	71.7	71.6	71.7
DOM	72.1	71.8	71.0	69.6	69.4	68.9	69.0	68.7	68.2	67.5	66.8	66.8
1895												
TPI	68.3	68.3	68.7	68.8	69.7	71.1	69.0	69.6	70.0	69.8	70.2	69.8
WPI	68.9	68.7	69.2	69.6	70.8	72.4	69.7	70.2	71.2	71.1	71.8	71.2
PPI	66.9	66.9	67.3	67.2	67.8	69.2	66.7	67.7	68.5	68.2	68.8	68.3
EXP	67.5	67.9	67.8	66.9	67.2	68.2	67.8	68.4	67.4	66.8	66.7	66.6
IMP	71.5	71.5	71.8	72.2	73.7	75.3	74.1	73.7	73.8	73.7	74.1	73.8
DOM	66.9	66.7	67.3	67.8	68.7	70.3	66.3	67.6	69.5	69.5	70.5	69.7
1896												
TPI	69.5	69.8	70.2	70.2	70.2	69.9	72.1	70.6	69.8	70.9	71.2	70.8
WPI	70.8	71.2	71.2	71.1	70.9	70.5	72.5	70.5	69.3	70.4	71.1	71.1
PPI	67.8	68.3	69.0	69.1	69.3	69.2	72.5	70.7	69.5	70.5	70.4	70.1
EXP	66.4	66.8	68.4	68.6	69.5	69.2	71.9	71.8	72.0	73.0	71.9	70.9
IMP	73.7	73.9	73.8	73.9	73.5	72.8	72.9	72.0	72.2	73.2	74.1	73.5
DOM	69.0	69.6	69.7	69.7	69.5	69.5	73.3	70.3	68.1	69.2	69.7	70.0

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1897												
TPI	70.9	70.5	69.9	69.5	69.7	69.9	69.7	71.8	73.4	72.9	72.9	73.2
WPI	71.3	70.9	70.3	69.8	70.2	70.3	70.0	73.4	75.8	74.6	74.4	74.8
PPI	70.3	69.9	69.2	69.0	69.5	69.5	69.4	71.5	73.2	72.8	73.0	73.3
EXP	70.6	70.1	69.6	69.4	69.3	69.4	69.7	68.2	68.0	69.5	69.9	69.9
IMP	73.2	72.7	72.0	71.2	71.1	71.3	71.3	72.9	74.7	73.6	73.1	73.5
DOM	70.5	70.1	69.5	69.3	70.0	70.0	69.7	74.2	77.2	75.7	75.6	76.1
1898												
TPI	74.0	74.2	74.9	76.2	78.2	77.0	75.4	74.5	75.2	76.0	76.0	76.4
WPI	75.6	76.0	76.8	78.3	81.2	79.6	77.6	76.1	76.8	77.9	78.1	78.6
PPI	74.0	74.0	75.2	76.6	77.8	77.5	75.5	73.8	75.0	76.0	75.9	76.5
EXP	70.8	70.4	71.2	71.9	71.5	71.4	71.1	71.6	72.1	72.2	71.7	71.7
IMP	74.0	74.3	74.5	75.4	79.2	75.8	74.8	75.3	75.3	75.7	76.2	76.2
DOM	76.6	76.9	78.3	80.3	82.5	82.1	78.9	75.7	77.2	78.9	79.0	80.0
1899												
TPI	76.4	76.6	77.1	77.1	77.1	77.9	80.4	82.2	82.7	83.3	84.0	83.9
WPI	78.2	78.5	78.9	78.6	78.9	79.1	79.7	82.0	82.4	82.8	83.2	82.9
PPI	76.3	76.6	77.2	76.9	76.9	77.9	81.2	83.4	83.8	84.6	85.6	85.2
EXP	72.5	72.8	73.4	74.0	73.2	75.7	82.1	82.5	83.2	84.4	85.8	86.1
IMP	76.4	76.7	76.7	77.3	77.4	77.6	78.7	79.2	79.9	80.3	80.8	81.4
DOM	79.2	79.4	80.1	79.2	79.7	79.7	79.8	83.7	83.9	84.4	85.0	83.8
1900												
TPI	84.3	85.7	86.2	87.1	87.7	87.9	89.1	86.8	87.6	86.3	86.1	85.2
WPI	83.3	84.9	85.3	86.2	86.6	87.1	89.1	86.2	86.6	85.4	85.7	85.0
PPI	85.1	86.4	86.8	87.8	88.5	88.8	90.4	87.3	88.3	86.9	86.7	86.1
EXP	86.0	86.9	87.7	88.6	89.5	89.1	88.3	87.6	89.1	87.9	86.5	85.4
IMP	82.7	84.2	84.7	85.3	85.8	85.9	86.0	86.0	86.2	85.2	84.5	83.4
DOM	83.6	85.4	85.7	86.9	87.3	88.2	91.9	86.5	87.0	85.5	86.7	86.3
1901												
TPI	84.7	84.2	83.8	83.6	82.6	81.3	80.7	81.1	81.0	80.2	80.2	81.0
WPI	84.3	83.8	83.6	83.5	82.6	81.0	80.1	81.0	80.8	80.1	80.1	81.3
PPI	85.8	85.4	85.1	84.9	83.7	82.0	81.5	81.6	81.8	80.9	80.9	81.6
EXP	85.1	84.6	84.0	83.3	82.3	81.8	81.8	80.9	81.1	80.0	79.8	79.9
IMP	82.2	81.6	81.2	80.8	80.2	80.0	79.0	79.8	79.1	78.6	78.7	79.8
DOM	86.0	85.7	85.8	85.9	84.5	81.8	80.9	81.9	82.2	81.3	81.3	82.6
1902												
TPI	81.3	80.8	80.5	80.5	80.4	81.6	82.7	82.1	81.4	81.7	81.6	81.8
WPI	81.4	80.9	80.7	80.6	80.4	81.8	83.3	82.6	82.3	82.2	81.8	81.8
PPI	81.9	81.2	80.9	80.7	80.6	82.1	83.6	82.9	82.1	82.7	82.4	82.8
EXP	80.3	79.8	79.5	79.5	79.5	80.2	80.5	80.2	78.9	80.2	80.7	81.5
IMP	79.8	79.6	79.6	79.8	79.9	80.3	80.5	80.5	80.1	79.8	80.0	79.9
DOM	82.8	82.0	81.6	81.4	81.1	83.4	86.2	85.0	84.8	84.9	83.9	84.1
1903												
TPI	81.8	82.1	83.0	82.9	83.2	83.5	83.1	82.1	81.3	81.8	81.7	81.4
WPI	81.4	81.5	82.3	82.0	82.5	82.1	81.7	80.6	80.5	80.6	80.4	80.0
PPI	83.0	83.5	84.5	84.3	84.7	85.2	84.6	83.3	82.1	82.9	83.2	82.8
EXP	82.3	83.0	84.3	84.5	84.7	86.4	86.1	85.3	82.9	84.3	84.7	84.6
IMP	79.6	79.6	80.2	80.3	80.6	80.7	80.6	80.2	80.2	80.1	79.3	79.1
DOM	83.8	84.2	85.0	84.6	85.3	84.5	83.7	81.8	81.9	82.1	82.3	81.7
1904												
TPI	81.0	81.9	81.9	82.1	81.7	81.4	82.3	84.9	85.2	85.5	86.6	87.0
WPI	79.6	80.8	81.0	81.0	80.6	80.8	82.1	84.5	84.2	84.0	84.5	85.0
PPI	82.3	83.0	83.1	83.6	83.2	83.1	84.1	87.4	87.7	87.8	89.1	89.4
EXP	84.2	84.2	84.2	84.9	84.5	83.4	83.4	86.1	87.6	88.9	91.4	91.4
IMP	78.9	80.0	80.3	80.1	79.5	79.0	79.5	80.3	80.8	81.3	82.0	82.4
DOM	80.8	82.1	82.1	82.3	82.1	82.9	85.0	88.8	87.9	86.9	87.2	87.7

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1905												
TPI	86.9	86.1	86.2	85.8	86.0	86.6	86.1	86.5	85.6	86.3	87.0	87.1
WPI	85.2	84.5	84.5	84.1	84.2	84.8	83.9	83.8	82.8	84.3	85.7	85.6
PPI	89.4	88.2	88.3	88.0	88.5	89.0	88.4	88.8	87.6	88.0	88.6	88.8
EXP	90.8	89.6	90.2	89.8	90.4	90.9	91.5	93.1	92.3	91.5	90.9	91.5
IMP	82.3	82.1	82.2	81.8	81.6	82.4	82.4	82.8	82.6	83.9	85.0	85.2
DOM	88.3	87.0	86.9	86.5	86.9	87.3	85.6	85.0	83.3	85.0	86.6	86.3
1906												
TPI	87.5	87.6	88.0	88.2	88.6	88.1	88.5	88.1	88.3	89.6	90.0	89.8
WPI	86.1	86.2	86.8	87.0	87.3	86.2	86.7	87.2	86.6	87.4	87.9	88.0
PPI	89.0	89.5	90.0	90.3	90.7	90.1	90.8	89.8	90.0	91.5	91.8	91.5
EXP	91.5	91.9	91.8	92.2	92.7	93.3	93.5	91.0	92.9	95.2	95.1	94.4
IMP	85.7	85.4	85.7	85.8	86.2	85.8	85.7	86.3	86.4	86.9	87.4	87.4
DOM	86.8	87.4	88.4	88.6	88.8	87.3	88.2	88.6	87.3	88.1	88.6	88.8
1907												
TPI	90.6	90.9	92.2	92.1	94.2	95.6	97.5	95.2	94.5	95.7	95.1	94.2
WPI	89.1	89.5	91.0	90.8	93.9	95.6	97.7	95.2	94.8	97.3	96.8	95.7
PPI	91.9	91.7	93.1	93.2	94.9	96.3	98.8	95.7	94.4	95.6	94.6	93.9
EXP	94.1	93.7	94.6	94.8	94.6	95.3	96.7	94.8	93.4	91.9	91.3	90.8
IMP	88.5	89.5	90.1	89.8	92.2	93.6	94.0	93.5	94.0	95.2	95.3	94.2
DOM	89.9	89.7	91.8	91.7	95.1	97.2	100.8	96.4	94.9	98.6	97.5	96.6
1908												
TPI	93.9	93.1	91.9	90.9	90.6	89.4	87.7	87.5	87.1	86.4	86.1	87.0
WPI	96.0	94.9	93.3	92.4	92.2	90.9	88.9	88.0	88.4	87.7	87.7	88.1
PPI	93.9	93.0	91.5	90.5	90.3	88.9	86.8	86.7	86.4	85.5	85.2	86.3
EXP	89.9	89.8	89.1	88.1	87.6	87.0	86.1	87.4	85.1	84.6	84.1	85.9
IMP	93.6	93.1	92.4	91.5	91.2	90.8	90.1	89.7	89.0	89.0	88.8	89.2
DOM	97.7	96.0	93.7	92.9	92.9	90.7	87.5	86.3	87.8	86.5	86.6	87.0
1909												
TPI	86.2	86.6	87.0	87.5	87.9	88.9	88.1	89.7	88.8	88.1	88.5	88.8
WPI	87.5	88.1	88.8	89.8	90.5	92.2	91.7	92.1	91.4	90.4	90.9	91.2
PPI	85.7	86.0	86.1	86.4	86.7	87.6	86.2	88.5	87.7	87.5	87.9	88.2
EXP	84.7	84.4	83.8	83.4	83.1	82.5	81.2	84.9	83.7	83.8	84.1	84.6
IMP	87.7	88.1	88.9	89.6	90.1	91.2	91.8	91.7	90.7	89.1	89.8	90.2
DOM	87.1	88.0	88.6	89.6	90.5	92.8	91.2	92.2	91.9	91.5	91.8	91.9
1910												
TPI	89.6	90.3	91.0	90.8	90.3	88.8	90.2	90.0	90.0	90.0	90.1	89.8
WPI	91.7	92.0	92.4	91.8	90.8	88.9	90.0	90.4	90.6	90.4	90.1	90.3
PPI	89.0	90.0	91.2	91.1	90.9	89.8	91.6	91.2	91.1	91.3	91.2	90.5
EXP	86.0	87.8	89.3	90.1	90.6	90.3	92.3	91.0	90.5	90.9	91.2	89.8
IMP	91.1	91.5	91.5	91.3	90.5	88.6	89.0	89.3	89.4	89.0	88.9	89.3
DOM	92.1	92.4	93.2	92.3	91.2	89.3	91.1	91.5	91.9	91.8	91.4	91.4
1911												
TPI	89.8	90.2	90.3	90.0	91.0	91.5	92.8	93.8	95.0	96.5	97.1	96.8
WPI	90.0	90.5	90.6	90.6	92.0	92.9	95.1	96.3	98.1	99.5	100.1	100.0
PPI	90.2	90.7	90.6	90.1	91.1	91.5	92.8	93.6	93.9	95.5	96.2	95.8
EXP	90.0	90.2	90.3	89.2	89.4	88.6	88.2	88.5	88.4	89.7	90.4	89.6
IMP	89.6	89.7	90.1	90.0	90.8	91.3	92.4	93.6	96.6	97.8	98.2	98.2
DOM	90.6	91.3	91.2	91.3	93.2	94.5	97.9	98.9	99.5	101.2	102.0	101.9
1912												
TPI	97.0	97.6	97.3	98.2	99.0	98.6	99.0	97.3	97.8	98.5	98.8	98.7
WPI	100.7	101.7	101.7	103.1	103.9	102.9	102.8	100.7	100.6	101.5	101.5	100.6
PPI	96.0	96.1	95.5	96.4	97.3	96.7	97.6	95.3	96.1	96.9	97.2	97.5
EXP	88.9	88.5	87.6	87.2	88.2	89.2	91.0	89.9	91.8	92.2	92.8	94.4
IMP	98.5	99.8	100.2	101.2	101.7	102.3	101.8	101.1	100.7	101.1	101.6	100.8
DOM	103.0	103.7	103.2	105.2	106.2	103.7	103.8	100.3	100.4	101.8	101.4	100.5

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1913												
TPI	99.1	99.5	99.9	99.5	99.2	100.0	100.1	100.5	100.1	100.8	100.1	100.4
WPI	101.0	101.0	101.1	100.1	99.4	100.0	99.9	100.1	99.9	100.0	99.2	99.3
PPI	98.4	99.0	99.8	99.3	98.9	100.0	100.4	101.2	100.8	102.1	101.6	102.0
EXP	95.2	96.5	97.5	98.4	98.8	100.0	100.6	101.6	100.7	102.6	102.1	102.7
IMP	100.2	100.3	100.0	100.0	100.0	100.0	99.6	99.1	98.7	98.0	96.9	96.8
DOM	101.7	101.6	102.0	100.1	98.9	100.0	100.3	101.0	101.1	101.8	101.1	101.5
1914												
TPI	99.8	98.4	97.4	97.4	98.8	100.0	102.3	109.1	107.6	112.5	114.5	120.1
WPI	99.1	97.9	97.5	98.0	99.3	101.2	103.8	111.8	109.7	115.8	118.9	125.7
PPI	101.2	99.6	98.2	98.2	99.7	100.9	103.4	109.9	107.2	113.0	114.2	119.8
EXP	101.5	99.4	97.1	96.3	98.0	97.5	99.3	103.4	103.0	105.4	105.1	108.1
IMP	96.7	95.5	95.3	95.2	96.5	97.4	99.6	106.5	108.0	110.8	114.5	120.1
DOM	101.1	99.9	99.2	100.3	101.6	104.4	107.4	116.1	110.9	120.1	122.7	130.7
1915												
TPI	126.3	132.2	138.3	138.7	141.3	144.6	147.8	149.8	150.8	155.5	160.3	162.5
WPI	131.4	137.2	143.3	143.2	144.7	148.0	149.2	149.3	148.1	151.8	155.3	158.4
PPI	126.2	132.0	138.9	140.0	143.6	147.9	152.9	155.9	158.5	164.6	171.0	173.6
EXP	115.0	120.9	126.7	128.0	132.8	136.3	144.0	150.2	156.4	163.5	171.3	171.9
IMP	125.8	131.8	136.3	135.2	135.5	137.1	137.2	137.3	135.7	137.6	139.7	141.3
DOM	136.6	142.4	150.3	151.1	153.7	159.0	161.7	161.7	161.2	166.6	171.8	176.4
1916												
TPI	166.7	170.8	177.9	187.3	193.8	195.3	200.1	199.2	206.7	209.8	218.9	222.8
WPI	160.0	162.8	167.2	172.7	178.6	182.1	188.2	189.4	195.4	199.8	210.3	215.1
PPI	179.8	184.7	193.8	205.5	212.6	213.3	217.5	214.1	220.2	222.8	230.1	233.3
EXP	182.0	188.8	202.1	219.7	226.9	224.3	226.1	220.6	230.7	231.0	236.0	237.4
IMP	142.0	144.6	148.4	153.3	158.0	161.1	166.9	171.0	180.3	184.4	196.5	201.0
DOM	178.9	182.2	187.5	193.7	200.6	204.4	210.9	209.2	211.9	216.6	225.7	230.3
1917												
TPI	229.3	231.7	240.3	248.7	261.0	267.3	275.0	280.2	288.6	296.9	302.6	308.1
WPI	222.8	227.3	238.3	249.7	266.3	275.7	286.5	293.6	305.0	314.4	321.0	327.2
PPI	236.9	239.0	243.3	251.1	260.6	259.9	264.0	268.6	277.8	287.1	292.0	296.3
EXP	240.4	238.2	240.9	242.9	245.8	246.0	247.4	248.5	250.9	257.2	262.0	265.4
IMP	212.4	215.4	232.1	241.8	258.8	278.8	293.5	299.7	306.6	313.8	321.6	330.1
DOM	234.2	239.9	245.1	258.0	274.0	272.2	278.6	287.1	302.6	315.1	320.6	324.9
1918												
TPI	313.6	318.5	321.6	326.3	327.5	335.1	336.0	341.6	338.2	339.6	333.4	331.9
WPI	334.6	337.9	342.9	348.5	350.8	360.0	361.4	366.9	363.2	364.6	355.6	352.1
PPI	302.8	309.4	314.5	321.1	326.7	338.1	340.7	350.3	348.4	351.1	347.9	345.2
EXP	267.0	275.2	275.0	277.6	276.6	280.9	280.7	287.4	284.8	286.2	286.1	287.7
IMP	333.6	334.8	334.0	334.7	327.5	327.9	325.9	324.2	318.7	316.7	305.7	305.4
DOM	336.6	342.2	353.0	364.2	376.9	395.6	401.0	414.1	412.3	416.2	410.0	402.7
1919												
TPI	332.1	332.7	329.9	332.2	318.8	310.7	312.1	313.4	324.9	320.0	328.8	331.4
WPI	351.5	354.2	351.5	356.1	336.6	323.5	322.4	323.9	337.5	331.6	338.5	341.4
PPI	348.9	351.5	349.8	352.5	337.0	325.6	327.2	328.4	340.0	330.9	337.4	339.7
EXP	290.0	286.4	283.5	280.9	280.5	281.4	288.3	289.2	295.2	294.2	305.9	309.2
IMP	299.0	295.3	290.1	290.4	281.8	280.1	282.0	283.7	294.4	298.1	309.9	313.9
DOM	407.9	416.4	415.9	423.8	393.4	367.1	363.4	364.7	381.2	366.5	367.8	369.4
1920												
TPI	342.9	344.2	353.5	359.4	370.4	375.2	393.1	397.0	398.7	404.6	397.6	390.2
WPI	352.0	351.7	356.7	361.0	369.4	376.0	400.3	401.6	403.1	409.8	405.1	395.7
PPI	347.5	346.5	356.1	362.5	371.2	375.7	395.3	399.7	397.2	407.3	400.4	399.1
EXP	323.8	324.4	342.1	350.3	365.4	364.6	368.1	376.3	377.1	380.7	369.1	364.6
IMP	331.8	336.9	345.5	349.3	363.1	366.6	378.2	380.1	389.0	385.9	378.0	358.2
DOM	372.3	366.9	368.2	372.8	375.5	384.9	419.4	420.6	414.7	431.0	429.1	431.0

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1921												
WPI	361.1	334.8	327.5	311.8	308.6	308.6	314.9	311.8	301.3	300.2	289.7	282.4
EXP	340.1	328.1	329.7	301.4	299.9	297.6	298.8	296.3	291.7	282.5	268.5	259.2
IMP	316.7	277.1	265.0	254.8	253.0	259.2	279.9	267.6	256.2	257.1	246.1	236.6
1922												
WPI	272.9	265.6	251.9	247.7	242.8	241.1	243.5	238.0	235.9	232.1	231.9	230.5
EXP	250.5	244.8	231.5	226.2	221.0	215.6	220.7	218.3	217.9	212.6	213.1	212.0
IMP	227.5	222.7	209.7	204.3	201.7	204.1	207.8	199.5	196.8	192.1	190.5	187.7
1923												
WPI	230.5	235.4	240.8	242.9	244.0	241.6	246.7	242.5	245.7	248.7	254.0	256.2
EXP	210.5	214.9	216.0	216.9	219.4	219.3	221.9	223.3	225.8	227.2	229.0	230.8
IMP	187.2	192.1	204.6	205.3	206.9	206.0	207.3	202.8	203.1	205.2	211.6	214.4
1924												
WPI	262.1	274.8	279.6	280.6	276.3	277.5	284.1	287.2	289.0	289.2	290.8	291.8
EXP	231.8	240.0	239.8	239.6	238.7	239.8	244.3	245.7	248.3	248.8	249.3	252.0
IMP	220.3	230.8	235.0	235.6	230.0	230.0	233.2	237.1	237.2	235.7	237.3	238.1
1925												
WPI	292.3	294.7	289.3	280.4	272.9	270.5	266.6	257.1	242.8	232.4	228.0	228.7
EXP	250.3	249.8	247.3	242.2	237.5	236.9	236.6	232.4	226.2	215.1	210.9	209.3
IMP	239.2	244.2	239.8	232.1	220.2	217.8	213.1	203.8	189.5	180.4	179.3	180.9
1926												
WPI	224.8	221.7	214.1	207.6	206.2	205.0	205.6	205.6	206.5	197.1	190.7	185.5
EXP	204.4	200.6	195.1	188.7	186.1	184.6	185.0	186.1	183.9	179.9	169.3	168.1
IMP	177.5	175.8	169.8	164.2	164.7	163.5	166.0	169.2	174.3	176.3	169.2	155.9
1927												
WPI	178.2	173.5	168.3	166.6	167.8	167.3	168.3	168.7	166.2	165.2	164.6	164.1
EXP	163.3	159.0	149.6	147.2	143.9	144.5	144.2	145.0	143.4	141.9	141.3	141.8
IMP	148.3	143.3	139.1	136.7	137.0	138.2	137.7	137.9	137.4	136.5	136.7	136.6
1928												
WPI	164.9	164.7	164.7	164.1	164.1	165.4	167.5	160.3	160.4	158.2	157.6	157.3
EXP	140.5	140.5	141.8	140.0	139.7	139.8	141.4	140.7	140.3	139.6	139.4	138.9
IMP	137.1	135.3	135.3	133.4	136.2	135.3	133.4	133.4	131.6	130.8	130.8	130.8
1929												
WPI	156.1	156.9	157.7	155.0	153.7	154.4	156.8	155.0	155.3	153.9	153.3	152.9
EXP	137.6	136.7	137.0	135.4	134.1	134.7	135.7	136.5	136.6	136.3	137.2	135.2
IMP	129.0	129.9	130.8	130.8	129.0	128.1	129.0	132.5	131.6	129.0	125.3	125.3
1930												
WPI	151.5	150.2	149.4	148.4	146.5	145.8	145.3	143.5	141.3	138.6	137.2	135.5
EXP	134.1	132.9	130.4	129.9	127.9	128.1	128.0	126.7	125.2	124.4	123.0	121.3
IMP	122.5	120.7	119.0	118.1	117.2	116.2	112.6	112.6	111.7	108.9	107.2	105.3
1931												
WPI	132.7	131.6	129.8	129.2	128.4	128.3	128.7	124.4	128.4	128.4	130.9	133.2
EXP	117.9	117.0	115.7	114.7	113.0	112.9	113.5	113.5	112.1	112.5	110.4	110.6
IMP	103.5	101.7	100.8	99.8	100.8	99.8	98.0	96.3	95.4	98.0	100.8	106.3
1932												
WPI	133.1	133.0	131.4	131.3	130.1	130.2	130.5	130.1	131.8	131.3	131.5	130.5
EXP	109.6	109.5	108.3	107.0	107.2	105.7	106.8	107.2	108.0	107.6	108.5	108.2
IMP	108.1	108.1	107.2	106.3	106.3	106.3	108.9	109.8	110.7	110.7	111.7	111.7
1933												
WPI	129.1	129.0	129.0	129.1	130.3	131.6	132.7	132.2	131.8	131.2	129.9	130.1
EXP	107.0	106.3	105.8	106.1	106.9	106.4	107.0	108.1	108.6	108.5	108.3	108.5
IMP	110.7	108.9	111.7	110.7	111.7	111.7	112.6	110.7	110.7	110.7	109.8	108.9

Table A1. Aggregate price indices monthly 1777 - 1940

Seasonally adjusted. June 1913 = 100.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1934												
WPI	130.2	130.8	131.1	131.0	131.1	131.5	133.4	134.4	133.7	133.1	133.3	134.0
EXP	108.3	109.0	109.9	110.4	110.1	111.2	112.5	113.5	113.0	112.3	111.8	111.8
IMP	108.1	109.8	109.8	108.9	108.9	108.9	108.9	111.7	111.7	111.7	111.7	111.7
1935												
WPI	134.5	135.0	136.3	136.1	137.3	138.6	139.5	139.5	140.0	140.7	140.8	140.3
EXP	111.8	111.7	112.5	112.3	112.4	111.7	114.7	116.9	117.1	117.4	117.8	118.1
IMP	111.7	110.7	109.8	110.7	110.7	110.7	112.6	112.6	113.5	114.4	114.4	114.4
1936												
WPI	141.1	141.6	141.8	141.6	141.7	142.0	142.2	144.5	145.4	146.8	149.4	153.8
EXP	117.3	117.8	118.0	117.9	118.5	119.2	119.6	120.8	123.1	124.3	127.2	130.1
IMP	115.3	115.3	115.3	115.3	115.3	115.3	117.2	117.2	118.1	118.1	119.0	122.5
1937												
WPI	157.9	162.8	168.1	169.0	170.3	171.0	173.6	173.5	172.1	171.0	171.2	170.8
EXP	134.7	138.8	146.2	149.9	153.3	156.1	157.3	157.1	158.1	157.4	155.6	154.8
IMP	126.2	129.0	131.6	133.4	137.9	137.9	137.9	138.5	139.7	140.3	139.6	137.9
1938												
WPI	169.6	168.4	167.1	166.7	166.7	166.8	165.6	159.6	158.9	158.0	157.8	158.0
EXP	151.7	149.7	148.5	146.2	143.8	142.0	141.4	141.3	141.1	141.2	140.2	139.8
IMP	137.5	135.8	133.4	133.0	132.6	131.1	130.4	128.6	128.2	127.9	128.1	127.8
1939												
WPI	156.8	156.4	156.5	156.6	157.0	157.3	158.3	158.5	171.2	182.5	192.8	196.7
EXP	137.8	137.6	136.4	136.3	137.1	137.5	139.5	140.0	145.8	157.8	164.7	168.1
IMP	129.8	129.6	129.6	129.9	131.2	130.9	130.8	130.4	131.7	153.5	165.8	170.0
1940												
WPI	199.8	206.7	217.9	218.6	221.8	222.7	224.1	223.5	225.4	227.9	235.0	237.1
EXP	171.9	175.1	186.1	187.2	188.6	184.2	185.9	187.3	187.8	190.4	195.1	198.5
IMP	175.7	187.2	199.9	202.2	203.0	203.5	206.9	221.3	216.6	216.6	238.9	239.4

Table A2-1. Price indices of grain and meat.

Annual averages. 1913=100.

Year	**A**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**B**	**B1**	**B2**	**B4**	**B11**
1777	1.09	1.50	0.79	0.88			1.16					
1778	1.17	1.59	0.87	1.12			1.17					
1779	1.32	1.54	1.08	1.01			1.40					
1780	1.30	1.50	1.06	0.98			1.45					
1781	1.49	1.89	1.16	1.05			1.64					
1782	1.88	2.35	1.53	1.06			1.82					
1783	1.84	2.12	1.53	1.21			1.89					
1784	2.03	2.27	1.69	1.35			2.53					
1785	1.76	2.04	1.46	1.25			1.55					
1786	1.94	2.36	1.60	1.27			1.82					
1787	1.78	2.43	1.38	1.09			1.88					
1788	1.60	2.16	1.22	1.07			1.70					
1789	1.82	2.43	1.38	1.63			1.79					
1790	1.97	2.78	1.44	1.87			1.93					
1791	1.41	1.97	0.98	1.22			1.72					
1792	1.41	1.93	1.04	1.11			1.53					
1793	1.77	2.28	1.41	1.19			1.69					
1794	1.86	2.42	1.44	1.36			2.15					
1795	2.38	3.56	1.71	1.86			2.67					
1796	2.07	2.87	1.56	1.84			1.82					
1797	1.56	1.92	1.24	1.24			1.67					
1798	1.72	2.12	1.41	1.09			1.70					
1799	2.31	2.76	1.92	1.30								
1800	3.24	4.27	2.53	1.95			3.03					
1801	3.91	4.65	2.93	2.93			3.13					
1802	2.89	3.46	2.38	2.43			1.82					
1803	3.11	3.83	2.52	2.28			3.03					
1804	2.67	3.58	2.08	1.88			2.50					
1805	3.24	4.15	2.57	2.72								
1806	3.34	4.23	2.65	2.86								
1807	3.48	4.97	2.56	2.84			3.03					
1808	5.16	6.62	4.07	4.16								
1809	8.25	9.29	7.17	5.33			6.97					
1810	8.30	9.75	6.78	5.60								
1811	14.5	17.5	11.8	10.6			14.6					
1812	28.8	36.1	22.7	23.7			24.6					
1813	82.2	79.2	64.8	42.6								
1814	127.7	168.4	113.4	95.5								
1815	83.9	135.5	56.6	91.6		158.8	78.5					
1816	151.6	208.3	112.2	171.9		215.0	192.6					
1817	279.5	359.6	220.5	330.2		413.5	272.8					
1818	170.7	198.8	133.2	177.8			218.3					

A = TPI index grain, A1 = rye, A2 = barley, A3 = wheat, A4 = wheat flour, A5 = rye flour, A6 = barley flour
B = TPI index meat, B1 = beef, B2 = mutton, B4 = bacon, B11 = game and poultry

Table A2-1. Price indices of grain and meat.

Annual averages. 1913=100.

Year	**A**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**B**	**B1**	**B2**	**B4**	**B11**
1819	156.4	184.8	119.3	140.8			247.4					
1820	124.1	158.5	90.4	117.5			141.0					
1821	104.7	127.2	81.1	89.4			95.5					
1822	123.6	160.4	94.1	107.0		211.7	135.3					
1823	115.9	145.8	90.1	88.2		223.3	137.7					
1824	81.3	100.1	64.1	62.7		139.0	91.9					
1825	65.1	73.7	53.6	52.5		115.8	82.2	36.4			61.7	
1826	93.8	106.8	80.7	58.6		137.3	112.7	30.5			53.6	
1827	117.8	132.6	103.7	67.0		175.3	147.8	32.7			56.3	
1828	97.0	114.3	77.3	81.1		170.4	113.6	37.2			64.0	
1829	110.5	126.2	87.8	107.3		161.7	111.5	37.3			65.0	
1830	109.3	130.3	85.8	93.4		171.3	121.8	42.0	59.6	27.5	67.6	30.3
1831	144.5	153.4	128.7	108.6		198.5	144.7					
1832	123.2	126.9	111.2	94.6		195.2	124.8					
1833	88.9	106.2	71.2	68.1		170.5	90.8	50.9				20.8
1834	79.2	96.0	63.7	56.7		149.1	78.2	50.0	74.2	28.0	79.8	29.9
1835	87.4	94.0	79.0	52.8		145.0	83.2	44.3	67.6	28.3	64.3	25.9
1836	90.3	86.1	85.8	54.7		132.4	88.0	62.2	103.2	38.8	90.6	29.9
1837	89.4	87.8	82.8	59.7		145.7	90.5	59.9	97.8	33.2	91.4	29.2
1838	110.6	111.4	102.8	73.9		162.1	93.7	55.5	82.9	26.7	96.8	22.5
1839	112.5	113.1	99.5	101.1		160.2	98.1	61.9	100.1	35.9	99.3	27.9
1840	106.1	109.8	89.3	93.1		152.9	90.7	56.2	92.9	32.4	88.1	24.1
1841	94.2	115.7	71.7	75.8		127.4	78.3	49.8	75.4	33.4	74.8	28.8
1842	98.0	112.5	74.5	86.4		153.1	79.3	44.9	63.6	36.4	63.8	26.4
1843	95.0	99.9	79.3	72.1		145.8	76.0	42.4	58.4	39.7	66.2	18.3
1844	89.8	88.9	83.7	71.3		121.6	74.0	46.3	71.5	33.7	68.1	20.0
1845	94.2	103.1	83.4	73.2		120.7	73.3	48.7	67.6	34.3	76.7	26.1
1846	124.8	142.9	110.2	100.4		164.2	89.4	50.9	76.4	35.2	77.7	32.3
1847	163.2	174.5	157.3	134.3		203.2	128.1	57.5	84.2	37.4	95.6	33.5
1848	106.9	115.0	94.2	91.9		134.5	85.3	57.0	85.2	39.5	94.5	22.6
1849	91.5	96.8	75.9	86.3		126.7	77.5	48.0	67.5	31.8	78.8	31.0
1850	88.5	95.4	72.7	84.9		120.4	72.5	41.8	56.5	34.4	65.5	29.5
1851	97.5	108.0	82.6	86.6		126.7	75.7	39.5	52.3	31.4	64.4	22.8
1852	107.8	117.9	94.6	89.6		134.6	88.2	42.6	52.6		63.3	27.0
1853	121.1	129.2	107.9	122.8		153.6	97.0	42.5	58.2	35.5	65.1	20.9
1854	133.9	149.4	115.1	149.9		171.1	104.4	50.1	68.4	45.2	71.7	20.7
1855	144.0	164.6	123.2	160.0		182.1	108.5	53.4	73.2	46.6	80.4	20.5
1856	155.2	178.1	133.0	159.2		191.7	130.2	57.8	76.4	52.7	87.8	23.1
1857	125.5	140.0	100.8	121.6		156.8	122.3	60.2	77.4	59.9	92.2	24.9
1858	108.3	115.6	86.4	114.3		141.0	105.8	59.2	78.7	58.0	85.9	28.2
1859	106.7	111.5	90.8	114.9		131.5	94.1	58.1	75.0	57.7	82.2	31.3
1860	119.7	126.5	103.9	132.8		150.5	102.9	50.8	64.8	48.1	77.5	32.2

A = TPI index grain, A1 = rye, A2 = barley, A3 = wheat, A4 = wheat flour, A5 = rye flour, A6 = barley flour
B = TPI index meat, B1 = beef, B2 = mutton, B4 = bacon, B11 = game and poultry

Table A2-1. Price indices of grain and meat.

Annual averages. 1913=100.

Year	**A**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**B**	**B1**	**B2**	**B4**	**B11**
1861	121.5	135.7	99.9	136.3		152.6	107.5	59.6	78.0	51.1	84.9	41.2
1862	122.2	131.7	100.7	137.2		164.0	102.7	60.1	78.4	56.7	87.4	34.9
1863	112.4	124.0	91.4	115.6		148.4	94.1	61.3	83.6	62.7	79.7	31.9
1864	101.1	109.4	83.0	104.5		129.7	87.8	57.2	82.1	54.3	74.5	28.4
1865	99.5	105.9	82.8	106.8		127.3	85.9	53.3	71.8	54.5	68.9	36.6
1866	118.0	115.1	112.2	129.7	150.2	132.1	109.7	56.2	77.1	52.6	79.6	28.4
1867	147.8	158.1	132.5	158.4	176.7	167.8	124.8	58.5	80.1	55.0	84.2	34.9
1868	158.9	170.0	144.1	157.0	189.7	178.4	135.3	62.9	85.0	64.4	90.9	34.7
1869	128.6	135.9	117.0	126.9	141.5	142.7	116.7	62.8	83.3	63.2	95.4	34.9
1870	113.9	118.9	102.3	121.6	132.9	126.4	106.0	61.1	80.3	60.0	94.4	33.9
1871	119.8	120.7	112.5	138.5	146.9	129.6	106.8	59.5	78.6	59.5	92.9	25.4
1872	116.2	117.4	107.7	138.5	146.9	127.5	103.0	61.5	86.4	62.1	87.9	23.1
1873	132.9	131.5	126.8	149.6	150.8	143.1	124.5	70.6	98.6	71.4	98.3	31.4
1874	142.3	139.6	140.3	138.3	140.1	149.4	141.0	76.0	104.8	76.8	104.9	49.9
1875	125.3	125.7	118.7	115.8	118.2	135.1	130.2	73.2	100.1	69.3	104.7	52.9
1876	123.5	126.1	115.1	127.5	121.1	132.4	123.3	67.5	88.5	74.4	98.6	35.4
1877	130.1	131.6	123.1	129.1	136.1	139.3	126.8	70.3	94.1	83.9	97.6	28.9
1878	114.8	109.8	109.1	110.8	122.2	129.3	121.0	65.8	84.4	79.1	86.4	47.5
1879	109.0	106.0	103.6	130.0	120.4	121.1	112.2	57.6	69.4	68.6	84.7	51.0
1880	126.7	136.8	114.3	127.6	125.8	147.4	117.1	56.6	63.7	66.4	90.4	49.2
1881	128.5	143.0	111.1	128.3	122.2	155.1	114.7	57.9	65.8	77.4	89.7	38.9
1882	110.4	112.9	99.1	113.1	125.4	128.3	106.6	58.0	63.0	70.4	93.1	46.4
1883	106.5	106.2	100.1	125.6	115.2	120.2	105.4	53.4	52.6	73.8	94.6	54.8
1884	101.0	103.2	96.2	94.5	103.6	113.6	102.1	50.3	48.7	72.0	82.7	58.1
1885	92.6	94.4	87.5	89.6	92.5	106.2	92.8	46.7	45.5	67.8	75.6	43.0
1886	84.8	84.9	80.9	87.1	87.8	95.7	87.5	44.4	44.4	69.8	66.5	44.0
1887	79.0	76.7	76.6	85.8	91.1	86.6	81.9	41.7	41.2	67.0	60.6	45.6
1888	78.0	74.4	78.4	88.3	90.1	83.4	81.3	43.0	43.1	72.5	57.0	57.3
1889	82.9	79.6	87.0	91.4	89.4	86.8	85.1	44.0	44.7	84.6	56.1	41.3
1890	90.2	90.6	93.1	91.4	90.8	96.3	86.3	51.4	55.6	94.6	59.0	51.6
1891	112.2	122.9	104.4	106.9	104.1	128.2	102.3	53.4	57.6	96.7	58.7	47.1
1892	106.2	113.3	102.9	93.3	95.8	122.5	95.6	54.0	55.8	92.0	61.7	69.5
1893	81.3	82.3	80.7	79.0	81.1	91.4	75.9	57.6	56.1	89.4	67.5	74.5
1894	68.2	66.9	70.3	63.5	71.2	74.6	66.1	55.5	54.6	92.8	64.4	73.3
1895	68.6	66.5	69.3	66.6	72.9	75.8	69.8	52.9	55.7	83.9	53.8	66.8
1896	69.5	64.9	73.5	73.7	73.3	74.9	73.3	49.2	53.1	69.8	50.5	144.9
1897	74.2	71.6	75.7	87.6	86.5	79.1	69.9	52.1	54.5	57.7	61.3	120.1
1898	85.0	84.7	84.1	87.6	97.0	92.9	78.8	58.2	57.3	58.1	70.1	111.2
1899	88.0	89.9	88.6	83.2	83.9	95.5	83.2	59.0	59.0	60.9	72.1	92.6
1900	87.9	85.3	94.7	80.7	81.2	91.0	88.4	64.6	60.2	62.4	76.9	116.1
1901	82.0	77.9	88.2	80.7	78.1	83.5	80.8	68.5	65.2	65.8	78.8	108.7
1902	84.3	81.9	90.8	81.4	78.5	85.0	80.2	67.5	64.0	64.7	76.4	98.6

A = TPI index grain, A1 = rye, A2 = barley, A3 = wheat, A4 = wheat flour, A5 = rye flour, A6 = barley flour
B = TPI index meat, B1 = beef, B2 = mutton, B4 = bacon, B11 = game and poultry

Table A2-1. Price indices of grain and meat.

Annual averages. 1913=100.

Year	**A**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**B**	**B1**	**B2**	**B4**	**B11**
1903	81.1	78.5	83.0	81.4	80.5	82.7	77.2	68.0	65.7	62.7	69.9	111.1
1904	81.6	80.3	78.8	90.7	87.5	82.6	73.5	63.9	63.8	72.6	63.9	77.3
1905	87.2	85.9	88.0	86.6	89.3	90.6	77.3	69.3	67.9	72.8	74.7	80.7
1906	87.5	82.3	92.1	85.1	83.6	93.3	79.5	75.7	73.6	75.9	80.8	76.6
1907	103.5	102.4	102.0	98.1	92.0	116.1	97.3	75.2	75.3	79.7	74.6	60.6
1908	105.9	107.6	103.0	103.1	99.8	114.5	94.2	70.1	71.3	79.6	67.3	80.8
1909	100.9	105.2	92.3	106.2	108.9	103.2	87.6	70.6	67.5	78.3	79.3	62.9
1910	88.4	88.1	84.3	92.5	100.2	88.0	80.2	76.2	69.1	79.2	89.9	62.5
1911	94.0	92.6	93.5	96.8	96.2	95.4	90.3	74.1	72.0	77.4	77.3	71.2
1912	108.9	110.5	115.3	105.6	100.6	108.5	107.8	86.1	87.8	85.1	79.1	95.1
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1914	117.3	115.5	110.1	125.6	111.5	129.3	109.4	95.1	96.7	101.0	91.6	102.0
1915	181.4	175.5	167.7	190.1	151.1	221.1	175.0	118.3	119.5	116.5	125.9	134.7
1916	192.0	164.0	171.8	206.3	169.7	255.8	208.9	211.1	231.9	204.8	205.9	227.9
1917	341.5	287.9	326.6	406.3	288.0	448.3	353.2	239.0	240.1	266.9	273.9	170.0
1918	402.4	342.4	396.9	470.6	315.3	507.3	477.3	362.0	436.6	350.2	402.7	373.3
1919	353.2	338.3	332.5	420.6	274.7	428.8	364.9	411.4	495.9	358.2	399.6	419.5
1920	422.7	369.1	385.9	532.0	418.1	499.3	426.7	359.0	424.8	355.2	324.0	461.2

A = TPI index grain, A1 = rye, A2 = barley, A3 = wheat, A4 = wheat flour, A5 = rye flour, A6 = barley flour
B = TPI index meat, B1 = beef, B2 = mutton, B4 = bacon, B11 = game and poultry

Table A2-2. Price indices of dairy produce and fish.

Annual averages. 1913=100.

Year	C	C1	C2	C3	D	D1	D2	D3	D4	D5	D6	D7
1777					1.01	1.66	0.61	1.01	0.49	1.17	0.85	1.26
1778					0.90	1.61	0.69	0.97	0.47	0.92	0.87	0.93
1779					0.93	1.74	0.99	1.06	0.43	0.88	0.98	0.56
1780					1.14	2.32	1.34	1.27	0.47	1.05	1.00	1.12
1781					1.27	2.94	1.34	1.54	0.59	1.11	1.20	1.19
1782					1.13	2.83	1.34	1.63	0.57	0.84	1.31	1.22
1783					1.04	1.64	1.06	1.40	0.53	1.03	1.06	0.53
1784					0.96	1.58	0.93	1.32	0.58	0.92	0.94	0.62
1785					0.97	1.61	0.96	1.24	0.59	0.90	1.08	0.92
1786					1.01	1.29	1.06	1.19	0.50	1.06	1.02	0.73
1787					1.06	1.45	1.24	1.22	0.50	1.08	0.96	0.85
1788					1.02	1.72	1.23	1.22	0.53	0.90	0.91	1.37
1789					0.96	1.41	1.12	1.24	0.51	0.84	0.95	1.71
1790					0.95	1.37	0.99	1.26	0.45	0.88	0.94	1.29
1791					0.85	1.46	1.03	1.23	0.52	0.74	0.90	0.50
1792					0.80	1.35	0.93	1.22	0.69	0.71	0.92	0.32
1793					0.76	1.31	0.69	1.20	0.67	0.73	0.90	0.20
1794					0.89	1.69	0.64	1.12	0.66	0.96	1.01	0.28
1795					1.02	1.72	0.91	1.13	0.68	1.07	1.09	0.40
1796					0.98	1.78	0.99	1.18	0.79	0.90	1.06	0.54
1797					1.10	2.14	0.95	1.21	0.79	1.02	1.21	1.05
1798					1.07	2.13	1.03	1.22	0.80	0.94	1.19	0.95
1799					1.06	1.68	1.14	1.18	0.87	0.95	1.15	0.97
1800					1.15	1.59	1.05	1.13	0.94	1.23	1.15	0.87
1801					1.22	1.85	1.17	1.17	1.24	1.14		0.89
1802					1.33	1.77	1.20	1.18	1.20	1.40		1.19
1803					1.39	1.95	1.43	1.33	1.18	1.36		1.47
1804					1.77	2.19	2.02	1.58	1.45	1.74		1.27
1805					1.75	1.91	1.81	2.01	1.72	1.85		0.97
1806					1.41	1.96	1.39	1.80	1.45	1.37		1.05
1807					1.32	1.74	1.15	1.57	1.28	1.45		1.14
1808					1.05	0.88	0.78	0.94	0.92			0.54
1809					1.32	0.87	0.99	1.00	1.54	1.32		1.36
1810					2.54	1.86	2.00	1.51	2.82	3.39		3.92
1811					2.73	3.12	2.24	1.53	2.38	3.71		2.34
1812					3.73	5.56	3.02	2.66	3.52	4.85		3.77
1813					6.24		12.24	11.62	16.14	2.06		7.62
1814					14.4	44.7	36.7	34.4	39.1			45.2
1815	58.4	54.3			24.8	101.6	63.0	54.5	53.9	10.7		38.9
1816	78.7	84.4			33.4	79.3	107.7	77.2	54.6	11.2		109.6
1817	93.8	96.5			62.5	140.1	142.2	97.6	90.5	26.5		335.2
1818					69.3	59.5	107.3	62.2	51.4	65.9		79.9

C = TPI index dairy products, C1 = butter, C2 = cheese, C3 = eggs
D = TPI index fish, D1 = clipfish, D2 = stockfish (roundfish), D3 = stockfish (raw cut),
D4 = stockfish (pollock), D5 = herring, D6 = fresh and salted fish, D7 = roe

Table A2-2. Price indices of dairy produce and fish.

Annual averages. 1913=100.

Year	C	C1	C2	C3	D	D1	D2	D3	D4	D5	D6	D7
1819					77.0	64.0	98.2	63.6	49.3	84.2		73.5
1820					73.7	67.2	96.8	59.4	46.6	86.6		50.9
1821					66.1	91.2	93.7	63.3	46.2	58.9		27.2
1822	66.0	66.3			77.5	89.7	95.4	68.4	71.2	83.5		35.4
1823	55.0	54.3			63.0		82.0	63.8	50.9	54.6		37.5
1824	48.2	48.2			59.7	47.3	57.3	57.6	37.8	82.6		27.6
1825	43.8	52.1			44.0	29.5	36.8	49.4	31.8	56.8		23.3
1826	48.9	48.3			49.4	46.1	52.9	51.6	34.8	56.8		22.9
1827	57.0	57.1			61.8	57.2	74.4	55.1	37.3	74.7		31.1
1828	55.2	55.1			57.2	50.7	56.4	46.5	40.5	74.1		22.4
1829	48.3	47.3			53.1	45.9	53.7	43.5	32.3	63.9		37.3
1830	53.2	55.4		52.0	55.7	52.2	44.8	41.0	29.0	75.2		39.6
1831	58.2	52.9			58.6	74.1	51.2	41.9	26.4	71.8		57.9
1832					58.3	66.9	57.5	45.4	27.7	64.9		65.9
1833	57.9	50.4		85.6	50.8	64.7	57.3	46.4	25.3	55.9		27.2
1834	47.0	46.1		53.7	48.5	56.0	51.6	51.7	31.7	53.4		29.6
1835	50.6	52.1		47.7	50.2	49.9	47.5	52.2	38.8	59.6		21.3
1836	58.2	62.6		51.7	44.7	54.3	38.2	45.1	43.2	53.2		19.1
1837	62.3	68.4		52.3	38.0	44.4	28.7	40.2	38.9	43.8		19.6
1838	60.9	61.3		73.1	49.1	48.7	48.0	38.3	47.2	58.3		39.5
1839	61.1	69.1		39.2	49.3	55.8	59.9	38.5	47.4	54.5		29.7
1840	56.2	62.6	57.6		47.9	70.8	67.8	48.3	42.2	42.0		50.9
1841	48.1	52.0	62.7	29.3	48.3	48.3	58.3	47.2	34.5	53.3		35.4
1842	45.0	48.8	55.8	25.9	46.8	50.5	54.5	42.3	34.0	53.0		31.1
1843	50.8	57.7	49.8	25.8	50.9	53.8	62.4	40.4	32.8	59.1		39.0
1844	52.5	57.4	47.9	35.9	41.4	54.5	58.4	45.0	35.4	37.9		37.4
1845	56.0	61.5	60.1	33.3	40.2	53.3	59.1	49.3	32.9	36.5		44.6
1846	55.2	59.9	63.1	31.7	35.1	42.2	43.3	41.7	34.5	31.0		37.3
1847	57.6	58.4			35.7	46.6	39.4	40.4	39.3	34.7		21.8
1848	52.0	55.4	66.5	37.6	36.3	42.0	42.0	44.3	44.9	35.8		25.4
1849	46.2	48.5			35.9	53.0	57.5	46.0	55.1	28.3		32.3
1850	44.7	46.2			36.9	35.2	44.7	41.4	45.2	36.3		36.2
1851	48.6	50.5			30.3	29.7	39.0	35.4	39.0	30.1		34.4
1852	49.0	51.8	47.7	38.0	35.8	40.4	37.4	34.4	39.0	35.9		26.1
1853	50.2	53.6	44.3	38.0	35.8	45.4	35.1	36.9	36.6	36.6		27.0
1854	57.1	62.1	54.5	38.0	37.8	56.9	48.3	45.7	40.6	31.9		57.7
1855	63.1	70.3	71.1	30.2	37.0	43.9	45.5	52.0	53.5	34.2		32.6
1856	66.0	72.5			42.9	44.2	46.1	49.7	63.3	44.9		34.6
1857	67.1	75.2			49.1	58.6	55.0	45.9	67.2	46.4		75.1
1858	56.5	61.3			42.6	66.1	55.3	38.7	44.8	35.1		55.2
1859	60.2	67.5	54.5		37.7	64.9	62.0	41.0	43.0	27.0		55.8
1860	66.6	76.2	67.1	32.2	38.4	56.0	63.8	48.1	41.9	28.7		56.0

C = TPI index dairy products, C1 = butter, C2 = cheese, C3 = eggs
D = TPI index fish, D1 = clipfish, D2 = stockfish (roundfish), D3 = stockfish (raw cut),
D4 = stockfish (pollock), D5 = herring, D6 = fresh and salted fish, D7 = roe

Table A2-2. Price indices of dairy produce and fish.

Annual averages. 1913=100.

Year	C	C1	C2	C3	D	D1	D2	D3	D4	D5	D6	D7
1861	63.9	70.6	70.9	35.1	51.7	57.9	66.1	57.8	54.9	52.3		66.3
1862	62.6	67.3	67.5	41.0	45.4	79.5	67.4	60.1	63.0	31.4		81.7
1863	59.3	63.2	66.0	38.8	44.9	69.4	74.8	56.7	66.0	31.3		74.1
1864	63.2	68.6	72.8	35.9	44.1	64.4	77.4	48.8	52.0	33.5		73.9
1865	64.2	69.9	67.2	39.5	49.0	70.4	78.2	48.6	47.3	41.5		86.5
1866	73.5	81.3	71.0		52.6	70.1	58.1	59.5	49.8	45.0		98.7
1867	70.9	73.3	87.8	52.8	51.4	53.7	51.2	69.7	50.9	48.7		105.1
1868	71.7	76.6	69.7	48.6	47.5	47.6	53.2	63.5	50.5	47.2		76.2
1869	70.2	73.8	70.3	51.7	49.2	64.5	77.9	52.6	44.9	41.1		102.3
1870	71.3	75.5	64.9	53.2	55.9	64.3	76.6	52.6	47.2	51.7		80.3
1871	67.3	71.7	65.4	47.1	58.2	69.1	79.0	58.9	56.5	55.6		73.6
1872	68.5	73.3	61.5	48.5	48.4	62.2	71.6	66.4	66.0	39.6		72.3
1873	73.9	79.0	65.4	53.6	61.0	66.1	76.4	65.6	62.8	58.5		105.9
1874	92.6	100.9	77.4	61.3	57.3	65.2	82.6	60.9	58.8	50.4		125.3
1875	89.7	96.4	84.1	62.2	53.7	55.9	74.5	54.6	49.6	50.7		81.4
1876	87.1	92.4	83.3	63.7	61.5	78.9	85.9	63.8	48.0	56.7		92.9
1877	91.6	96.8	88.2	66.5	60.0	60.7	87.1	68.5	51.2	59.6		59.4
1878	76.4	78.2	86.7	59.4	54.5	71.7	73.2	63.4	40.4	49.0		59.6
1879	68.3	68.6	71.9	61.0	54.5	55.8	59.9	49.6	32.4	64.3		56.1
1880	76.3	82.6	69.9	57.0	57.5	50.2	64.2	55.9	39.7	81.6		48.4
1881	74.9	78.2	74.6	60.5	65.3	80.0	71.7	61.4	51.5	59.0		46.7
1882	76.4	81.1	73.8	59.2	72.4	85.5	93.8	61.9	53.7	67.3		42.3
1883	70.6	72.1	70.5	60.8	84.4	94.9	112.4	65.8	61.2	76.7		109.2
1884	71.6	74.6	69.8	58.6	69.2	72.7	77.8	63.7	63.5	61.5		97.1
1885	68.3	69.7	70.3	58.0	57.2	57.3	52.5	61.5	62.9	60.7		38.7
1886	64.6	62.9	70.2	61.4	45.0	50.3	48.9	49.4	54.2	40.4		34.6
1887	64.4	64.8	68.2	56.0	44.3	57.7	55.5	35.9	38.4	28.7	43.1	41.9
1888	65.5	65.1	70.5	58.7	47.8	64.4	59.5	39.2	33.1	33.2	41.4	35.9
1889	70.8	72.1	75.0	58.7	47.2	65.2	65.7	56.4	28.6	31.1	39.8	29.9
1890	69.6	70.1	73.5	60.3	48.1	57.4	67.5	64.7	40.1	34.5	48.1	23.4
1891	73.7	73.2	74.4	65.7	61.5	83.7	82.2	74.9	55.5	43.1	52.6	38.3
1892	77.0	77.2	79.3	65.0	50.8	64.7	52.9	69.1	48.8	30.7	45.0	42.6
1893	75.8	71.5	80.3	68.1	46.2	63.9	56.4	60.9	44.5	25.4	40.3	50.7
1894	71.1	67.9	75.8	60.9	48.9	60.0	64.5	52.6	38.5	35.3	42.5	67.3
1895	67.7	64.8	77.1	60.2	53.3	66.2	68.9	55.4	38.6	42.5	41.4	49.4
1896	67.4	66.2	79.4	59.7	52.6	72.2	80.9	63.6	41.0	29.3	41.7	70.0
1897	66.2	63.3	78.5	64.0	51.2	57.2	69.2	68.2	44.8	40.7	42.2	51.6
1898	72.8	70.5	82.5	73.2	53.9	64.2	66.9	68.5	47.6	42.0	42.7	49.9
1899	75.6	73.2	92.9	72.6	69.6	86.3	85.7	79.4	52.0	57.8	47.8	46.6
1900	76.0	73.7	89.9	69.6	78.2	86.4	107.6	98.5	58.9	64.0	54.2	98.6
1901	77.0	75.7	88.2	69.9	71.2	81.8	89.5	92.1	63.8	53.7	50.5	113.2
1902	76.2	74.7	81.0	72.5	74.5	85.2	84.9	91.4	64.0	59.8	52.6	155.1

C = TPI index dairy products, C1 = butter, C2 = cheese, C3 = eggs
D = TPI index fish, D1 = clipfish, D2 = stockfish (roundfish), D3 = stockfish (raw cut),
D4 = stockfish (pollock), D5 = herring, D6 = fresh and salted fish, D7 = roe

Table A2-2. Price indices of dairy produce and fish.

Annual averages. 1913=100.

Year	**C**	**C1**	**C2**	**C3**	**D**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**	**D7**
1903	76.2	75.1	78.2	74.9	78.7	92.5	118.2	94.3	60.0	53.7	60.5	124.7
1904	75.5	73.1	81.5	77.1	82.4	99.5	115.5	103.4	50.0	56.1	67.8	145.8
1905	77.2	76.1	82.2	78.0	92.4	102.0	122.1	142.1	91.7	67.2	74.9	153.4
1906	83.0	80.8	91.1	81.9	93.1	104.0	119.5	137.7	126.1	67.3	80.5	76.8
1907	84.1	81.4	89.2	84.9	89.4	103.7	122.7	129.4	130.1	59.9	84.8	55.8
1908	85.7	84.7	83.5	90.4	77.2	84.2	115.0	118.3	124.5	45.0	89.5	55.6
1909	82.7	84.3	70.0	91.9	74.1	76.2	93.1	113.7	113.0	49.6	90.7	119.8
1910	89.2	90.1	82.6	91.6	84.7	92.1	98.5	128.0	121.9	62.1	85.1	108.0
1911	89.2	90.8	82.5	92.9	83.6	83.9	104.9	115.8	99.2	66.8	92.0	65.6
1912	96.5	99.3	92.1	95.4	81.8	82.5	81.1	91.5	96.4	82.8	95.6	45.6
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1914	102.1	100.6	103.5	105.5	100.2	100.5	115.1	133.9	107.6	87.8	112.5	68.2
1915	124.2	119.2	137.3	126.8	147.2	134.6	143.8	193.0	144.7	180.4	124.7	92.2
1916	168.1	137.8	236.1	199.6	243.2	182.3	267.0	308.0	257.2	344.1	180.6	221.4
1917	233.8	195.8	330.3	270.6	226.0	189.1	283.9	307.5	283.5	243.3	207.9	121.4
1918	331.0	274.9	458.8	398.5	203.0	153.4	216.3	330.8	314.6	241.5	237.5	116.7
1919	368.9	304.9	531.5	437.4	264.9	184.2	324.5	471.8	462.8	288.5	281.1	350.1
1920	382.6	321.0	538.1	453.4	247.4	209.6	283.9	389.6	370.1	235.7	268.8	291.7

C = TPI index dairy products, C1 = butter, C2 = cheese, C3 = eggs
D = TPI index fish, D1 = clipfish, D2 = stockfish (roundfish), D3 = stockfish (raw cut),
D4 = stockfish (pollock), D5 = herring, D6 = fresh and salted fish, D7 = roe

NOTE: The data series on fresh and salted fish (D6) is discontinued after 1800. To benchmark the index values for the period 1777 - 1800, the index value of 1800 has been set equal to the group average.

Table A2-3. Price indices of colonial goods, vegetables and alcohol and tobacco.
Annual averages. 1913=100.

Year	**E**	**E1**	**E2**	**E3**	**E4**	**F**	**F1**	**F2**	**G**	**G1**	**G2**	**G3**
1777						1.14		0.46	0.67	0.43	0.33	1.64
1778						1.52		0.44	0.73	0.46	0.35	1.94
1779						1.14		0.38	0.67	0.44	0.35	1.54
1780						1.03		0.37	0.64	0.42	0.36	1.46
1781						1.27		0.41	0.69	0.47	0.38	1.48
1782						1.37		0.56	0.72	0.51	0.48	1.38
1783						1.58		0.57	0.74	0.56	0.57	1.13
1784						1.51		0.65	0.67	0.55	0.70	0.79
1785						1.53		0.58	0.63	0.53	0.59	0.72
1786						1.44		0.60	0.61	0.51	0.68	0.65
1787						1.73		0.58	0.63	0.55	0.62	0.64
1788						1.52		0.47	0.62	0.56	0.54	0.64
1789						1.37		0.51	0.62	0.55	0.76	0.58
1790						1.44		0.60	0.70	0.67	0.66	0.60
1791						1.37		0.56	0.61	0.61	0.46	0.56
1792						1.36		0.58	0.60	0.59	0.49	0.54
1793						1.40		0.63	0.67	0.68	0.57	0.54
1794						1.80		0.62	0.68	0.69	0.56	0.57
1795						1.85		0.78	0.75	0.76	0.72	0.57
1796						1.41		0.65	0.70	0.69	0.58	0.61
1797						1.28		0.51	0.66	0.60	0.47	0.74
1798						1.51		0.67	0.73	0.65	0.52	0.83
1799						1.87		0.99	0.77	0.70	0.64	0.80
1800						2.69		1.81	0.78	0.73	0.79	0.69
1801						2.50		1.61	0.85	0.83	0.89	0.67
1802						2.05		1.32	0.78	0.74	0.84	0.66
1803						2.02		1.30	0.83	0.76	0.80	0.75
1804						1.76		1.13	0.95	0.74	0.80	
1805						2.03		1.31	1.12	0.79	0.88	
1806						2.34		1.50	1.34	0.88	0.99	
1807						2.48		1.57	1.75		0.98	
1808						3.80		2.70	2.58		1.51	
1809						6.61		3.93	3.86		2.83	
1810						5.99		3.79	5.31		2.39	
1811						9.24		5.92	8.11		4.98	
1812						18.91		11.06	12.47	9.19	9.15	
1813						56.6		28.4	20.7		39.1	
1814						80.4		50.5	30.1		37.6	
1815						58.3		35.0	40.9	34.6	21.6	64.6
1816						96.0		58.8	70.1	63.1	45.7	
1817						173.8		109.2	108.3	110.3	86.7	129.2
1818						120.3		76.3	77.2		53.3	

E = TPI index colonial goods, E1 = sugar, E2 = crystallized and lump sugar, E3 = syrup, E4 = coffee,
F = TPI index vegetables, F1 = potatoes, F2 = peas,
G = TPI index alcohol and tobacco , G1 = alochol, G2 = malt, G3 = tobacco

Table A2-3. Price indices of colonial goods, vegetables and alcohol and tobacco.
Annual averages. 1913=100.

Year	**E**	**E1**	**E2**	**E3**	**E4**	**F**	**F1**	**F2**	**G**	**G1**	**G2**	**G3**
1819						98.5		63.4	65.2	60.9	52.8	59.1
1820						90.8		58.4	64.7		36.3	
1821						80.1		51.6	64.7		29.8	
1822						84.3		54.0	66.2	65.3	38.2	60.8
1823						88.3		56.3	55.1	55.1	36.9	50.9
1824						64.1		41.0	45.8	45.2	26.6	43.8
1825	127.2	226.0	271.0	385.9	88.0	46.0	35.6	29.8	40.3	41.8	22.1	35.4
1826	131.6	229.4	283.7	385.9	91.4	59.3	52.0	43.3	43.3	44.2	30.4	39.4
1827	136.7	253.4	310.3	366.6	92.2	74.0	64.7	66.1	48.5	47.9	40.9	43.6
1828	129.1	266.8	321.6	320.3	78.6	61.5	52.6	49.6	43.6	45.1	31.3	37.1
1829	122.4	250.7	291.9	286.3	76.6	58.6	49.6	45.0	42.8	44.0	32.6	35.2
1830	114.7	225.3	265.2	248.2	74.9	78.9	67.2	53.3	42.3	44.0	31.8	34.1
1831	122.0	199.0	257.8	307.9	90.7	85.0		60.4	47.2	50.6	39.7	35.1
1832	136.1	209.7	258.8	352.0	111.6	70.0		48.8	44.8	48.3	39.1	31.5
1833	130.1	199.4	243.7	279.1	108.1	64.9	54.3	44.9	41.7	42.4	29.8	36.7
1834	116.7	187.0	218.4	254.7	94.1	52.1	39.7	39.3	39.8	37.6	26.1	41.9
1835	112.3	199.7	209.9	245.7	87.2	68.7	54.6	41.4	40.3	38.9	29.4	38.0
1836	117.5	226.3	246.8	262.7	83.5	68.6	57.4	41.7	38.9	37.1	31.6	36.7
1837	106.2	185.8	232.4	248.2	75.9	80.1	70.4	42.5	41.3	40.5	33.2	36.7
1838	99.6	183.2	206.7	227.3	69.3	80.6	76.8	48.8	42.2	40.1	34.0	36.7
1839	100.4	170.6	198.1	271.5	72.1	66.0	57.5	52.5	47.5	39.9	38.5	59.0
1840	97.5	162.0	195.6	253.1	69.0	61.9	55.5	54.3	42.6	37.4	36.4	49.8
1841	84.4	135.6	175.1	229.3	57.1	57.1	50.2	46.6	32.8	32.3	30.8	32.8
1842	76.3	123.2	158.3	227.3	51.1	55.8	49.6	45.8	29.1	30.8	29.3	26.2
1843	71.8	130.3	147.5		45.9	58.4	50.6	44.4	29.3	31.3	32.0	26.2
1844	70.9	131.8	151.0	205.5	45.8	58.6	48.0	50.8	29.7	30.9	32.4	27.5
1845	76.9	158.9	178.5	241.3	46.7	70.6	56.2	63.0	31.4	33.0	32.6	28.8
1846	76.4	152.0	171.3	228.9	47.0	66.7	55.7	72.0	33.1	35.9	38.1	28.8
1847	79.2	156.6	168.8	266.8	48.8	93.4	79.4	89.6	33.8	36.4	48.4	28.8
1848	79.5	152.8	166.7	276.6	48.8	66.6	60.7	61.8	31.9	30.4	41.2	32.8
1849						65.0	55.4	53.4	31.7	30.9	35.6	31.5
1850	84.4	136.2	155.3	212.8	60.5	71.2	63.9	57.4	32.3	31.9	32.6	31.5
1851						83.9	74.5	60.0	35.4	32.0	35.2	40.6
1852	79.8	131.4	160.8	197.3	54.1	93.6	90.2	67.2	34.1	35.0	39.3	31.5
1853						78.3	69.9	81.8	33.9	35.2	43.3	31.5
1854						59.5	46.7	91.4	35.5	36.3	48.9	32.8
1855						93.3	78.2	83.6	40.8	44.9	47.7	35.4
1856	97.3	198.4	208.3		61.3	105.5	92.3	89.3	44.5	48.2	54.6	38.0
1857						86.6	76.6	74.8	51.1	48.4	53.3	55.0
1858						71.3	59.4	81.0	50.0	45.1	49.6	55.0
1859						74.8	65.3	76.1	49.9	43.3	51.3	57.7
1860						105.1	96.4	77.6	50.1	41.9	58.0	57.7

E = TPI index colonial goods, E1 = sugar, E2 = crystallized and lump sugar, E3 = syrup, E4 = coffee,
F = TPI index vegetables, F1 = potatoes, F2 = peas,
G = TPI index alcohol and tobacco , G1 = alochol, G2 = malt, G3 = tobacco

Table A2-3. Price indices of colonial goods, vegetables and alcohol and tobacco.
Annual averages. 1913=100.

Year	**E**	**E1**	**E2**	**E3**	**E4**	**F**	**F1**	**F2**	**G**	**G1**	**G2**	**G3**
1861	113.9	183.8	192.9	226.7	78.8	118.3	114.1	75.6	52.5	47.3	64.4	54.8
1862	119.9	188.4	193.1	212.0	86.1	98.8	93.6	71.1	52.4	42.5	63.0	63.3
1863	125.2	187.0	190.8	188.9	95.0	90.9	82.6	68.5	53.5	41.4	63.2	67.8
1864	129.0	204.7	210.9	185.8	94.3	93.4	84.2	66.7	51.9	40.6	60.2	65.5
1865	124.0	189.4	211.7	195.0	89.6	88.1	77.4	71.2	49.9	40.1	58.2	61.0
1866	121.0	178.4	203.7	217.4	87.6	100.4	91.4	86.2	48.8	40.6	61.0	57.1
1867	114.5	175.5	195.3	208.2	80.7	96.2	83.0	103.0	46.8	41.1	67.8	50.8
1868	110.8	178.7	195.1	212.4	75.1	110.8	96.6	114.2	47.4	45.0	71.2	46.8
1869	112.6	187.0	202.1	215.1	75.1	96.9	84.0	97.2	45.1	42.6	62.9	45.0
1870	112.5	180.9	211.4	213.2	74.9	87.8	76.0	83.3	47.8	44.7	62.9	48.8
1871	115.2	173.4	219.2	212.1	79.0	79.3	63.4	85.3	46.3	40.9	70.1	49.5
1872	127.9	178.6	218.0	203.1	94.7	88.6	75.7	83.6	44.5	39.0	70.1	47.7
1873	136.1	176.5	214.8	191.0	107.8	95.7	85.5	80.4	47.6	43.5	78.5	48.5
1874	138.4	162.2	206.2	191.8	116.4	104.6	93.9	97.1	49.8	46.0	78.5	50.7
1875	136.1	163.9	204.6	201.1	112.1	111.1	102.8	100.5	50.7	41.9	78.5	58.3
1876	135.8	160.9	205.8	200.8	112.3	87.1	75.0	92.9	49.5	40.2	78.9	57.9
1877	144.0	183.9	217.6	211.9	115.6	93.8	84.2	85.3	52.7	45.5	78.1	58.1
1878	135.6	167.5	217.0	211.9	107.8	81.0	71.8	82.8	55.4	48.6	72.0	60.7
1879	128.8	169.1	211.9	202.6	99.1	67.6	56.8	79.7	55.8	46.9	95.2	61.6
1880	130.0	176.8	212.8	197.4	99.3	77.3	68.2	88.8	58.5	50.0	106.7	61.8
1881	120.2	176.0	211.7	190.6	88.7	76.5	66.4	96.5	58.5	50.6	102.9	61.3
1882	110.8	172.7	204.3	185.2	79.3	76.8	65.9	88.0	55.6	48.2	102.9	57.2
1883	106.3	169.1	200.1	183.8	74.9	85.8	80.6	90.0	57.6	51.3	102.9	57.2
1884	106.8	158.4	181.5	170.1	78.6	71.2	63.8	81.9	58.6	49.3	102.1	64.4
1885	97.8	149.9	168.2	160.3	70.5	70.8	63.3	69.6	55.1	45.0	91.4	64.7
1886	100.4	145.7	160.7	146.0	75.7	67.0	59.4	67.8	55.3	45.3	90.7	64.7
1887	123.5	140.8	155.5	142.8	107.0	62.7	54.5	63.3	54.7	45.5	87.6	63.3
1888	117.7	146.7	158.3	145.4	97.9	68.0	63.1	63.3	61.9	52.4	91.4	73.0
1889	129.6	158.1	167.5	140.3	111.5	65.4	57.9	68.9	65.1		94.5	75.9
1890	129.7	144.2	154.2	124.7	116.7	64.5	57.0	73.3	65.4		93.9	73.5
1891	125.0	135.7	142.6	113.1	113.4	85.5	86.4	82.2	68.9	60.8	92.2	76.5
1892	117.6	119.7	125.5	103.9	109.2	93.5	98.4	82.2	68.5	60.2	92.2	76.5
1893	119.0	113.4	117.2	100.9	114.1	75.3	71.2	75.6	66.9	58.1	86.5	77.2
1894	114.7	103.0	107.5	93.0	112.9	68.4	64.4	62.2	70.9	65.2	81.9	77.2
1895	112.0	94.4	99.4	83.6	113.8	77.5	77.4	62.2	77.5	76.8	81.5	77.2
1896	108.5	95.5	101.8	82.1	108.0	83.9	88.6	60.0	80.4	81.9	83.1	76.5
1897	96.9	87.7	94.4	75.1	94.9	77.9	76.1	64.9	81.0	81.9	86.1	77.2
1898	86.2	90.5	93.0	75.3	79.4	94.3	96.7	68.0	82.0	83.2	89.5	77.2
1899	85.1	94.2	97.9	79.3	76.0	100.8	104.1	75.6	82.3	83.6	90.3	77.2
1900	90.3	97.1	101.8	81.9	84.8	107.7	109.3	77.8	82.2	83.6	89.5	77.2
1901	84.7	92.8	97.0	82.1	76.5	104.2	100.5	80.0	82.6	83.6	84.6	79.6
1902	80.9	85.2	89.4	80.2	75.6	105.4	100.7	80.0	85.5	83.0	83.0	92.9

E = TPI index colonial goods, E1 = sugar, E2 = crystallized and lump sugar, E3 = syrup, E4 = coffee,
F = TPI index vegetables, F1 = potatoes, F2 = peas,
G = TPI index alcohol and tobacco , G1 = alochol, G2 = malt, G3 = tobacco

Table A2-3. Price indices of colonial goods, vegetables and alcohol and tobacco.
Annual averages. 1913=100.

Year	**E**	**E1**	**E2**	**E3**	**E4**	**F**	**F1**	**F2**	**G**	**G1**	**G2**	**G3**
1903	81.0	89.1	93.1	79.2	72.5	100.2	96.3	79.1	84.8	82.5	77.3	92.9
1904	83.8	93.0	99.3	76.6	75.4	111.0	119.7	78.7	86.7	84.3	86.9	92.9
1905	88.9	106.3	110.4	76.5	75.8	99.6	98.3	73.3	92.2	91.1	86.5	96.3
1906	90.3	109.1	113.2	76.8	76.2	85.8	83.5	84.4	92.3	90.6	87.6	97.9
1907	90.4	111.7	114.8	77.9	74.5	119.6	135.6	88.0	93.3	91.4	91.4	99.0
1908	94.9	115.7	118.6	91.2	76.8	111.1	123.2	93.3	95.5	93.5	99.1	99.8
1909	89.9	99.3	101.2	97.9	78.2	114.4	122.3	99.6	95.7	94.8	93.3	98.7
1910	96.8	108.0	111.0	100.0	84.7	118.6	122.0	95.6	96.3	96.4	88.8	97.9
1911	103.5	108.7	111.4	98.1	99.4	129.1	127.1	104.4	98.4	97.9	101.3	98.7
1912	107.5	110.9	112.9	100.0	105.9	119.8	110.6	105.3	99.9	99.4	108.6	99.3
1913	100.0	100.1	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1914	99.5	102.1	103.8	100.0	94.3	131.8	144.4	117.8	100.9	100.0	114.7	100.0
1915	114.8	115.8	127.1	161.8	100.1	215.9	241.9	233.3	106.4	104.1	140.2	105.3
1916	139.9	165.3	175.2	172.2	104.1	241.6	264.8	235.6	126.2	124.7	217.2	113.6
1917	174.1	189.2	223.7		137.2	251.9	240.9	288.9	140.0	126.6	304.8	148.3
1918	201.5	207.8	263.5		164.9	491.8	535.9	488.9	140.9	128.8	342.9	141.4
1919	210.3	213.5	278.8		173.8	501.8	588.8	422.2	178.8	173.9	304.8	168.1
1920	274.5	336.3	370.4		193.9	452.1	491.8	377.8	249.2	253.4	342.9	220.8

E = TPI index colonial goods, E1 = sugar, E2 = crystallized and lump sugar, E3 = syrup, E4 = coffee,
F = TPI index vegetables, F1 = potatoes, F2 = peas,
G = TPI index alcohol and tobacco , G1 = alochol, G2 = malt, G3 = tobacco

Table A2-4. Price indices of feeding stuffs, hides and timber and wood

Annual averages. 1913=100.

Year	**H**	**H1**	**H2**	**H3**	**I**	**I1**	**I2**	**I4**	**J**	**J1**	**J2**	**J3**
1777	0.55			0.46	1.00		0.72	1.15	0.63		0.59	
1778	0.58			0.48	0.95		0.62	1.18	0.60		0.56	
1779	0.61			0.51	0.91		0.59	1.14	0.74		0.69	
1780	0.61			0.51	0.87		0.59	1.04	0.61		0.57	
1781	0.64			0.54	0.88		0.59	1.09	0.55		0.51	
1782	0.90			0.75	0.89		0.61	1.14	0.48		0.45	
1783	0.92			0.77	0.80		0.60	1.04	0.78		0.73	
1784	0.94			0.77	0.77		0.59	1.11	0.85		0.80	
1785	0.86			0.72	0.85		0.59	1.10	0.88		0.82	
1786	0.93			0.78	0.85		0.59	1.05	0.97		0.91	
1787	0.72			0.61	0.86		0.59	1.10	1.03		0.97	
1788	0.56			0.47	1.05		0.86	1.17	1.12		1.04	
1789	0.79			0.66	1.26		1.22	1.22	1.22		1.15	
1790	0.86			0.72	1.35		1.26	1.42	1.16		1.08	
1791	0.77			0.65	1.31		1.06	1.52	1.16		1.08	
1792	0.83			0.70	1.26		0.99	1.46	1.01		0.95	
1793	0.95			0.80	1.18		0.92	1.33	1.11		1.04	
1794	0.96			0.81	1.20		1.01	1.23	0.95		0.89	
1795	1.21			1.01	1.21		0.98	1.33	0.80		0.75	
1796	1.05			0.89	1.24		1.00	1.41	0.85		0.80	
1797	0.76			0.64	1.35		1.14	1.56	1.13		1.06	
1798	0.90			0.76	1.33		1.19	1.42	1.02		0.96	
1799	1.34			1.09	1.34		1.19	1.46	0.90		0.84	
1800	1.53			1.29	1.30		1.19	1.32	0.94		0.88	
1801	1.62			1.36	1.26		1.19	1.16	1.28		1.20	
1802	1.56			1.31	1.55			1.44	1.22		1.14	
1803	1.70			1.43	2.01			2.12	1.32		1.24	
1804	1.42			1.19	2.11			1.57	1.13		1.05	
1805	1.55			1.30					1.37		1.28	
1806	1.47			1.24					1.77		1.65	
1807	1.63			1.37	2.91			1.49	1.59		1.49	
1808	2.73			2.30					2.49		2.33	
1809	4.09			3.45					4.64		4.34	
1810	4.37			3.66	6.40			4.27	5.34		5.01	
1811	7.23			6.07					8.40		7.89	
1812	16.45			13.70	11.59			9.72	11.33		10.64	
1813	43.5			29.7					56.3		54.0	
1814	61.7			49.2					70.2		66.0	
1815	37.6			31.4	36.3			57.5	75.3		70.6	
1816	65.7			55.0	47.1			76.7	107.3		100.8	
1817	145.9			124.1	57.4			95.9	123.7		115.1	
1818	96.7			81.7					59.2		55.3	

H = TPI index feedings stuffs, H1 = hay, H2 = straw, H3 = oats
I = TPI index hides and skins, I1 = hides, I2 = calfskin, I4 = goatskin
J = TPI index timber and wood , J1 = saw timber, J2 = wood, J3 = firewood

Table A2-4. Price indices of feeding stuffs, hides and timber and wood

Annual averages. 1913=100.

Year	**H**	**H1**	**H2**	**H3**	**I**	**I1**	**I2**	**I4**	**J**	**J1**	**J2**	**J3**
1819	81.1			68.4	64.3		57.1	66.4	75.0	36.0	71.7	
1820	75.6			63.4					54.3		49.9	
1821	68.9			57.5					44.2		40.0	
1822	78.9			66.2	79.9		64.2	95.4	61.2		56.8	
1823	63.9			53.7	70.6			82.5	67.4	40.6	63.2	
1824	51.4			44.1	58.3			70.5	65.0		61.0	
1825	42.8			35.9	50.9		34.2	69.5	39.6		35.7	
1826	53.3			44.8	48.1			62.1	49.7	32.9	46.5	
1827	73.3			61.4	48.2			61.0	41.2	26.1	38.2	
1828	51.9			43.6	47.3		34.8	59.3	30.2		27.0	
1829	54.5			45.7	51.2		42.3	60.2	30.8	28.6	27.5	
1830	46.2	49.8	68.5	43.6	55.5		47.1	59.0	38.0		37.5	74.1
1831	51.6			56.2	58.2		51.4	59.6	38.2		39.6	
1832	45.2			45.8	62.3		53.5	66.2	38.0		38.2	
1833	39.9	45.8	47.2	33.9	63.4		52.8	70.4	38.8	22.1	37.6	
1834	39.3	55.2		29.2	63.4		51.4	72.1	38.5		37.7	78.5
1835	56.5	100.3		36.2	56.9		43.5	69.0	34.5		32.0	78.3
1836	55.3	84.5	87.4	39.4	55.9		42.8	68.8	40.2	33.2	38.6	86.2
1837	58.4	90.6		40.4	56.8		44.2	70.5	42.9	23.7	41.2	96.8
1838	62.3	85.5	111.0	47.8	56.2		43.9	66.3	42.8		41.8	95.8
1839	65.3	84.0	96.5	52.3	62.8		50.9	67.8	40.1		39.4	84.4
1840	56.3	59.1	86.0	50.1	69.1		57.1	73.0	39.0	29.0	38.6	74.2
1841	40.0	43.0	41.7	36.4	69.4	97.2	57.8	74.3	33.9		33.0	68.9
1842	42.7	50.6	39.8	36.5	63.5		48.5	59.7	40.5		41.7	70.7
1843	51.8	69.3	71.2	39.9	68.2		58.5	61.2	63.6		71.2	68.4
1844	47.6	58.5	73.2	38.1	70.3		61.0	62.4	64.9	23.0	71.3	73.2
1845	40.6	43.4	54.2	36.8	72.8		65.2	64.7	64.4	35.6	68.3	77.9
1846	48.9	45.2	91.1	46.3	76.1		70.4	67.3	63.7		67.6	73.7
1847	65.2	53.5	109.2	67.5	77.1		71.3	67.6	70.4		74.5	83.8
1848	49.7	46.7	65.2	48.8	70.1		65.3	63.4	69.7	42.0	74.8	71.5
1849	48.6	52.3	54.1	44.1	68.0		57.5	54.7	66.6		72.2	62.7
1850	48.1	50.7	55.9	44.6	77.6		73.0	63.1	61.4	39.2	65.3	61.9
1851	53.5	51.9	68.7	52.5	80.2		78.1	64.0	62.1		65.7	64.2
1852	55.7	52.6	67.0	55.5	78.9			66.6	59.8		62.1	
1853	56.7	53.7	75.4	56.5	84.7		85.6	68.3	59.3	43.3	60.8	76.1
1854	60.4	57.4	67.3	59.6	89.7		94.9	71.2	85.8		92.8	90.9
1855	66.6	64.1	61.8	65.1	93.6		108.4	66.4	82.6	46.6	87.5	97.5
1856	73.6	81.3	99.5	63.2	105.1		111.8	70.5	83.9	50.6	87.9	106.5
1857	61.6	61.1	67.7	58.5	118.7		162.2	80.6	79.3		82.6	101.2
1858	49.3	42.5	51.4	50.7	86.4		74.2	63.3	74.5		77.8	85.1
1859	55.3	51.1	64.4	54.2	90.7			62.4	67.3		69.0	82.1
1860	57.5	58.5	85.9	52.0	92.4		92.4	75.4	77.2	53.0	79.8	91.8

H = TPI index feedings stuffs, H1 = hay, H2 = straw, H3 = oats

I = TPI index hides and skins, I1 = hides, I2 = calfskin, I4 = goatskin

J = TPI index timber and wood , J1 = saw timber, J2 = wood, J3 = firewood

Table A2-4. Price indices of feeding stuffs, hides and timber and wood

Annual averages. 1913=100.

Year	**H**	**H1**	**H2**	**H3**	**I**	**I1**	**I2**	**I4**	**J**	**J1**	**J2**	**J3**
1861	59.4	61.4	87.2	52.5	83.5	101.3	81.6	76.7	74.9	65.0	76.7	85.9
1862	66.7	83.1	149.7	52.1	78.7	90.7	80.0	75.7	77.0	61.3	79.7	84.8
1863	64.8	81.1	98.9	52.3	89.7	99.0	96.0	80.7	74.5	63.1	75.4	95.6
1864	61.0	79.2	111.0	46.2	89.0	100.9	94.5	78.4	70.5	62.8	71.2	89.7
1865	65.5	79.6	134.2	51.9	89.7	101.1	92.1	75.4	68.4	61.1	69.3	83.5
1866	84.9	106.2	146.8	70.6	81.7	97.7	82.9	78.9	71.1	60.3	72.2	88.6
1867	80.9	120.0	130.1	59.7	81.7	88.4	87.1	75.6	69.8	61.0	69.2	106.6
1868	92.5	126.8	128.5	72.5	80.8	98.2	80.0	76.4	72.1	63.3	71.8	106.0
1869	80.6	120.3	138.0	58.8	84.5		85.1	73.2	67.7	64.3	68.0	87.4
1870	72.4	116.3	77.1	52.2	85.0		85.9	74.0	65.2	60.2	66.3	78.1
1871	90.8	137.1	94.2	71.0	92.3		100.5	74.2	63.8	54.1	64.4	79.9
1872	79.8	119.4	98.3	61.7	113.3		147.7	79.0	70.2	63.5	69.9	85.6
1873	74.5	98.2	100.0	59.5	110.7		140.6	89.1	82.5	94.5	82.3	89.7
1874	94.7	142.6	113.0	72.4	93.2	90.8	108.8	77.5	93.5	100.8	94.1	107.9
1875	87.9	114.8	173.6	72.3	79.4	81.4	81.7	82.3	83.5	85.0	84.7	88.4
1876	90.3	128.4	220.2	69.6	65.0	68.9	65.4	71.3	81.2	85.0	82.4	83.1
1877	96.6	154.2	289.0	67.5	65.7	67.6	65.6	76.5	83.5	80.5	85.4	86.4
1878	70.5	80.6	142.4	60.7	60.7	57.3	64.6	75.2	70.8	56.8	72.6	84.4
1879	64.7	76.5	128.7	54.0	65.8	54.3	80.3	77.4	63.4	54.1	65.5	62.8
1880	82.3	108.6	122.1	65.3	80.9	67.5	97.7	83.9	75.1	72.3	77.3	66.3
1881	124.8	162.9	198.8	109.1	78.5	67.5	91.0	86.3	74.3	71.3	74.9	72.9
1882	112.3	123.4	178.8	110.8	79.2	68.1	90.7	89.3	77.5	71.7	78.6	76.4
1883	94.5	78.3	120.3	108.4	81.4	70.5	92.8	91.6	70.0	63.9	71.0	69.7
1884	102.1	92.2	124.7	115.5	80.5	73.0	90.2	81.8	66.2	61.7	65.5	73.7
1885	100.0	97.0	123.3	109.6	75.5	69.8	87.7	77.6	64.4	59.3	63.9	71.3
1886	90.1	90.9	121.9	94.5	72.3	66.5	85.1	79.6	62.5	57.8	62.1	68.3
1887	82.7	91.7	124.6	80.1	68.6	59.3	83.8	74.3	60.3	53.9	60.4	65.5
1888	90.7	108.7	169.5	83.8	66.4	54.8	82.8	68.5	64.1	64.7	63.3	66.4
1889	101.8	117.3	167.1	101.7	66.6	51.9	82.8	73.8	71.0	68.9	70.1	76.3
1890	102.2	100.9	155.4	116.0	63.8	49.1	78.4	74.6	68.5	64.7	65.7	87.5
1891	96.6	81.3	97.0	116.3	68.1	51.4	86.1	83.1	64.9	64.0	61.2	86.3
1892	108.4	107.0	116.9	127.5	60.6	45.2	69.2	72.5	64.6	62.3	61.2	85.4
1893	100.8	118.8	132.4	105.0	59.8	43.0	67.1	75.0	65.3	64.5	61.4	88.0
1894	89.9	106.5	132.0	93.8	56.9	43.1	59.8	72.5	67.8	67.1	64.3	87.8
1895	79.3	89.8	111.1	81.4	62.2	49.0	65.7	72.5	67.6	66.9	64.5	84.7
1896	79.5	91.9	109.1	80.5	64.3	49.9	68.6	78.7	74.8	72.3	73.5	83.1
1897	93.7	109.5	146.6	97.2	64.5	50.9	70.1	78.0	79.9	77.2	79.2	85.1
1898	100.8	113.5	172.5	108.5	68.1	63.1	72.0	77.9	79.1	77.3	77.4	89.1
1899	97.0	106.8	135.2	105.0	67.0	59.5	68.0	77.7	79.6	80.0	76.7	94.3
1900	109.4	130.8	160.8	114.0	68.5	61.6	69.3	81.0	86.5	85.6	84.8	96.9
1901	100.7	111.9	122.9	110.3	67.7	58.0	73.0	80.7	79.5	73.3	79.1	92.6
1902	106.9	112.2	133.2	118.7	71.4	60.2	83.1	84.9	78.0	80.7	75.7	86.6

H = TPI index feedings stuffs, H1 = hay, H2 = straw, H3 = oats
I = TPI index hides and skins, I1 = hides, I2 = calfskin, I4 = goatskin
J = TPI index timber and wood , J1 = saw timber, J2 = wood, J3 = firewood

Table A2-4. Price indices of feeding stuffs, hides and timber and wood

Annual averages. 1913=100.

Year	**H**	**H1**	**H2**	**H3**	**I**	**I1**	**I2**	**I4**	**J**	**J1**	**J2**	**J3**
1903	99.7	121.1	166.1	93.5	69.4	62.6	71.2	85.7	84.9	86.0	84.9	83.6
1904	107.3	133.0	181.1	104.3	72.3	70.6	69.0	92.0	78.6	79.9	77.9	80.5
1905	109.3	139.3	158.5	102.0	74.8	75.3	71.6	93.7	75.2	81.6	73.3	75.8
1906	106.6	131.5	120.8	103.8	82.5	87.9	79.9	100.6	83.6	90.9	84.0	71.9
1907	111.8	120.1	119.2	116.1	84.7	91.4	81.1	97.4	88.3	92.4	88.3	83.4
1908	94.6	98.6	97.2	90.5	77.7	81.2	69.2	92.3	86.2	89.6	82.9	99.3
1909	103.5	97.2	93.7	115.5	81.5	84.8	78.2	96.8	87.8	81.6	89.9	87.2
1910	102.5	116.3	96.1	98.8	82.2	84.5	77.8	92.7	94.9	82.0	101.1	86.4
1911	121.9	151.3	135.4	114.5	84.0	87.6	82.7	90.5	95.9	96.0	97.4	88.9
1912	128.8	139.8	152.6	130.5	90.8	95.7	91.5	89.7	94.8	99.5	93.2	95.7
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1914	116.9	108.4	107.9	133.5	102.4	113.2	89.4	95.8	107.8	114.8	105.2	110.9
1915	199.1	209.8	176.9	222.1	134.8	175.5	101.4	114.2	134.0	125.3	139.6	120.6
1916	196.4	219.7	199.7	205.3	158.4	175.1	142.9	153.6	161.5	160.5	161.7	162.6
1917	322.8	332.1	221.3	407.2	223.8	266.6	158.2	186.9	218.4	221.0	215.5	228.9
1918	427.1	497.5	529.9		224.9	276.8	157.7	204.8	240.2	258.7	227.8	281.2
1919	399.5	505.4	442.4	378.5	237.3	250.4	189.6	270.1	284.1	305.3	281.7	269.3
1920	380.5	424.1	356.1	426.6	270.9	246.9	243.3	507.8	387.4	336.1	404.1	392.4

H = TPI index feedings stuffs, H1 = hay, H2 = straw, H3 = oats
I = TPI index hides and skins, I1 = hides, I2 = calfskin, I4 = goatskin
J = TPI index timber and wood , J1 = saw timber, J2 = wood, J3 = firewood

Table A2-5. Price indices of manufactures of wood and textiles

Annual averages. 1913=100.

Year	K	K2	K5	K6	K7	L	L2	L3	L4	L5	L6	L7
1777						1.34				1.80	1.52	1.14
1778						1.35				2.04	1.43	1.14
1779						1.32				1.89	1.40	1.14
1780						1.32				1.76	1.46	1.14
1781						1.42				1.77	1.57	1.27
1782						1.43				1.92	1.62	1.24
1783						1.46				1.99	1.60	1.26
1784						1.42				1.89	1.61	1.23
1785						1.34				1.76	1.72	1.13
1786						1.31				1.73	1.83	1.06
1787						1.45				2.03	1.83	1.20
1788						1.57				2.40	1.91	1.28
1789						1.68				2.28	1.96	1.44
1790						1.90				2.30	2.12	1.69
1791						1.93				2.17	2.02	1.80
1792						1.87				1.99	1.76	1.81
1793						1.85				1.92	1.72	1.81
1794						1.83				1.88	1.67	1.81
1795						1.93				2.06	1.68	1.91
1796						1.96				2.36	1.74	1.89
1797						1.73				2.33	1.67	1.56
1798						1.84				2.18	1.61	1.77
1799						1.94				2.17	1.62	1.92
1800						2.33				2.41	2.33	2.25
1801						2.41				2.51	2.57	2.27
1802						2.36				2.31	2.55	2.26
1803						2.44				2.36		2.29
1804						2.89				2.66		2.76
1805						3.11				2.72		
1806						3.57				3.11		
1807						3.33				2.89		
1808												
1809												
1810						5.68				4.55		
1811						24.1				25.3		
1812						27.4				23.5		
1813												
1814												
1815	258.2	110.7				97.9				123.7		109.8
1816	320.3	158.5				125.5				123.7		139.9
1817	297.3	134.1				141.1				136.0		169.7
1818						115.2				89.0	137.4	94.9

K = TPI index manufactures of wood, K2 = wooden barrels, K5 = mechanical pulp,
K6 = chemical pulp, K7 = paper
L = TPI index of textiles, L2 = cotton goods, L3 = wool, L4 = woollen goods, L5 = hemp,
L6 = flax, L7 = linen goods

Table A2-5. Price indices of manufactures of wood and textiles

Annual averages. 1913=100.

Year	K	K2	K5	K6	K7	L	L2	L3	L4	L5	L6	L7
1819						125.5				108.7	151.4	115.6
1820						135.2				117.8	138.9	
1821						144.8				118.7	145.7	
1822	249.1	109.9				163.5				148.2	217.9	163.4
1823	281.6	132.2				152.1				134.2		149.7
1824	248.2	110.7				116.4				103.2		102.5
1825	213.1	96.3				97.2				84.9	118.4	91.7
1826	191.1	86.6				93.8				92.0	121.3	86.6
1827	193.4	88.8				94.3				105.3	108.1	87.1
1828	182.1	82.7				96.4				110.9	112.5	89.1
1829	175.9	80.8				95.1				104.0	125.7	86.2
1830	167.6	75.6				94.4				106.1	123.2	85.0
1831	165.2	75.6				96.5				108.8	131.9	85.3
1832	177.8	82.9				97.7		58.7		102.0	142.3	84.3
1833	192.3	90.4				93.8		55.6		87.8	127.4	86.6
1834	187.3	86.8				94.0		60.1		76.3	120.5	80.3
1835	182.1	84.4				93.1		61.1		71.2	135.0	79.0
1836	167.8	76.3				91.9		59.1		69.4	131.6	75.0
1837	169.5	79.7				89.2		58.3	94.1	76.5	114.4	81.5
1838	166.0	77.5				90.2			100.6	78.5	104.4	84.0
1839	160.4	73.5				94.8			113.6	88.5	114.5	79.1
1840	161.9	74.6				97.7		66.0	120.9	91.4	119.0	75.2
1841	160.1	77.3				94.8			125.7	84.3	114.2	71.0
1842	158.7	78.0				86.1			100.6	80.6	110.8	65.7
1843	153.7	75.2				81.3			94.1	76.4	107.1	60.3
1844	152.5	74.8				80.2			94.1	74.2	102.9	61.5
1845	152.9	74.4				81.0			97.3	72.7	107.4	63.9
1846	155.4	75.6				80.2			94.1	76.7	109.7	62.8
1847	154.2	75.0				79.8		52.7	91.2	81.3	127.2	65.8
1848	142.3	66.5				76.4		49.3	85.3	82.9	122.5	60.3
1849	139.1	64.4				80.1		48.8	102.2	81.7	115.8	61.1
1850	145.1	67.9				82.7	120.5	50.6	112.1	78.8	111.5	61.2
1851	144.5	66.5				82.8	117.7	56.0	105.1	81.1	111.8	60.8
1852	145.4	66.6				77.9	107.9	53.2	92.4	79.4	109.8	58.2
1853	155.7	72.3				79.4	95.3	54.3	101.4	83.3	108.3	54.4
1854	165.5	77.2				92.4	114.9	61.3	103.4	131.6	117.8	63.6
1855	190.0	91.0				95.6	100.9	65.9	114.9	127.9	133.3	61.2
1856	210.4	103.1				87.7	100.9	58.7	108.5	97.6	121.9	62.3
1857	193.6	95.5				86.0		58.1	104.5	95.3	115.1	67.0
1858	169.1	74.9				79.2		48.9	91.1	88.9	111.8	67.9
1859	182.0	83.6				81.8	78.5	52.6	98.6	91.6	116.2	67.6
1860	205.5	99.1				86.5	98.1	57.6	103.2	97.2	121.0	66.8

K = TPI index manufactures of wood, K2 = wooden barrels, K5 = mechanical pulp,
K6 = chemical pulp, K7 = paper
L = TPI index of textiles, L2 = cotton goods, L3 = wool, L4 = woollen goods, L5 = hemp,
L6 = flax, L7 = linen goods

Table A2-5. Price indices of manufactures of wood and textiles

Annual averages. 1913=100.

Year	K	K2	K5	K6	K7	L	L2	L3	L4	L5	L6	L7
1861	205.8	93.3				85.2	78.5	57.1	100.1	97.6	121.5	69.2
1862	187.9	86.3				91.2	112.1	61.3	112.4	101.2	124.4	68.6
1863	173.0	80.4				100.3		67.2	126.4	110.4	135.5	69.2
1864	163.8	74.2				105.7	134.5	71.2	129.9	111.8	148.2	78.6
1865	184.4	85.9				105.4	117.7	72.9	138.1	102.3	152.0	73.0
1866	191.4	88.3				103.4	122.2	71.4	129.0	106.1	147.3	76.2
1867	194.6	84.1			259.1	99.7	123.5	69.9	119.7	108.0	135.8	71.8
1868	185.7	80.0			259.1	97.8	113.9	64.7	111.6	113.9	135.1	68.8
1869	188.6	81.6			388.6	94.7	98.9	63.7	97.7	110.5	131.2	65.3
1870	191.4	84.6			388.6	90.9	93.4	58.4	96.0	106.2	134.4	71.0
1871	175.4	74.3			388.6	90.7	94.4	63.6	94.4	100.0	142.8	73.3
1872	208.5	89.6			224.5	100.1	112.8	78.9	115.1	101.7	147.0	71.0
1873	208.1	87.9			224.5	97.6	102.9	78.5	122.9	102.4	148.1	64.9
1874	212.7	94.8			215.9	96.1	105.6	78.5	119.2	103.3	151.1	63.3
1875	209.5	96.4			215.9	91.2	102.8	70.5	107.2	102.4	148.7	61.8
1876	194.0	88.2			215.9	84.8	93.7	73.0	101.4	101.7	145.8	66.7
1877	194.6	89.3			194.3	79.5	90.2	83.8	75.8	101.9	146.4	60.4
1878	180.8	79.1			194.3	76.3	87.9	69.1	79.1	98.4	146.6	57.8
1879	167.7	71.4			194.3	76.7	86.9	64.7	86.5	86.0	146.6	55.6
1880	151.1	70.9			161.9	81.4	86.9	77.4	92.6	80.2	144.8	55.4
1881	154.6	80.5			161.9	79.2	86.4	70.1	91.7	74.6	139.3	52.0
1882	150.1	75.8			151.1	78.3	82.4	67.8	91.9	78.9	141.3	52.2
1883	148.1	68.0			151.1	73.1	83.2	64.3	79.3	88.7	152.7	51.0
1884	142.3	71.2			134.9	73.3	83.2	59.9	82.0	90.2	135.6	53.8
1885	131.6	70.3			113.3	68.8	83.2	50.2	75.8	91.0	140.6	64.5
1886	126.5	74.2	126.4	152.7	118.7	69.9	78.1	58.3	75.6	88.0	145.9	64.5
1887	120.7	75.3	117.7	147.6	118.7	69.7	74.0	64.3	72.8	81.7	144.8	64.4
1888	120.1	74.1	117.8	146.3	118.7	69.2	75.2	70.9	67.8	79.7	144.8	64.5
1889	118.0	75.8	114.8	140.0	118.7	70.7	76.4	77.9	67.7	77.7	144.8	64.4
1890	109.2	72.3	91.9	136.8	118.7	70.9	76.6	81.5	67.7	75.3	144.8	61.0
1891	110.2	68.9	96.6	133.6	113.3	67.2	72.8	75.4	64.8	74.1		61.0
1892	105.9	71.6	102.5	120.9	97.2	65.6	71.3	75.5	64.5	70.8		61.0
1893	113.0	68.6	118.6	127.3	97.2	64.3	71.3	68.9	62.7	72.1		62.8
1894	104.1	65.2	109.9	107.5	97.2	62.4	67.2	65.6	62.5	75.4		62.8
1895	92.6	59.9	95.4	84.9	108.0	67.4	67.1	78.7	67.2	84.8		62.7
1896	88.1	59.1	83.4	86.2	107.9	69.4	67.0	75.4	70.6	85.2		62.8
1897	93.9	68.8	93.1	95.0	102.6	65.1	70.4	59.0	70.1	80.8		63.5
1898	90.0	71.3	86.4	86.5	108.0	67.4	74.4	62.3	75.5	88.1		58.6
1899	87.6	70.2	86.5	83.8	97.1	73.7	76.9	78.7	79.7	91.0		58.7
1900	100.2	69.3	114.3	103.8	97.2	78.4	83.3	72.2	81.6	94.2		60.3
1901	95.4	65.3	99.9	87.1	107.9	73.1	76.9	65.6	76.3	92.4		65.5
1902	83.4	64.2	85.1	76.8	91.7	75.9	76.9	72.1	79.6	100.2		60.3

K = TPI index manufactures of wood, K2 = wooden barrels, K5 = mechanical pulp,
K6 = chemical pulp, K7 = paper
L = TPI index of textiles, L2 = cotton goods, L3 = wool, L4 = woollen goods, L5 = hemp,
L6 = flax, L7 = linen goods

Table A2-5. Price indices of manufactures of wood and textiles

Annual averages. 1913=100.

Year	**K**	**K2**	**K5**	**K6**	**K7**	**L**	**L2**	**L3**	**L4**	**L5**	**L6**	**L7**
1903	78.6	70.2	74.0	75.4	85.7	81.3	82.0	75.4	81.3	86.3		60.3
1904	87.1	75.7	79.1	94.0	88.0	85.1	84.6	82.0	81.3	96.7		58.6
1905	91.9	82.4	94.8	97.1	85.8	84.3	91.4	85.3	84.5	100.6		72.4
1906	89.1	79.9	84.9	93.2	87.7	90.1	93.6	91.8	88.3	112.7		69.0
1907	98.8	79.3	118.8	96.1	89.5	91.9	96.2	88.5	91.7	108.8		67.2
1908	97.6	81.0	118.3	90.3	90.7	84.0	96.1	72.1	88.3	85.4		72.4
1909	91.2	81.9	106.9	83.3	87.8	94.1	98.7	98.4	93.1	89.0		72.4
1910	83.9	87.4	78.4	78.3	89.9	97.1	100.0	91.8	96.2	90.2		72.4
1911	87.4	92.1	92.0	79.5	89.3	96.7	100.0	91.8	95.1	96.3		79.3
1912	95.4	95.0	102.2	92.6	92.5	96.9	100.0	98.4	99.1	98.8		89.7
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0
1914	99.9	100.2	114.4	104.6	86.0	99.6	101.2	101.7	100.2	97.6		115.5
1915	128.2		136.0	121.6	126.9	119.5	109.5	157.4	120.0	122.0		151.7
1916	210.1		216.5	320.7	146.1	145.0	137.4	196.8	129.5	140.2		210.3
1917	269.0		291.3	334.4	222.6	218.6	191.0	209.9	251.7	268.3		268.9
1918	328.9		368.8	322.0	317.6	280.9	292.9	327.9	253.9	268.3		315.7
1919	316.3		393.3	295.0	285.1	314.0	301.2	360.6	303.9	396.3		262.0
1920	569.9		877.4	637.8	392.8	376.2	424.4	327.6	378.5	365.9		313.8

K = TPI index manufactures of wood, K2 = wooden barrels, K5 = mechanical pulp,
K6 = chemical pulp, K7 = paper
L = TPI index of textiles, L2 = cotton goods, L3 = wool, L4 = woollen goods, L5 = hemp,
L6 = flax, L7 = linen goods

NOTE: To benchmark the index values of flax (L6), the index value for the year 1800 has been set equal to the group average.

Table A2-6. Price indices of oils, metals and minerals

Annual averages. 1913=100.

Year	**M**	**M1**	**M3**	**M4**	**M5**	**N**	**N1**	**N3**	**P**	**P1**	**P2**	**P3**
1777	2.99	2.55	2.33	0.97		3.16	3.33	2.08	3.18	6.45	2.87	
1778	2.91	2.46	2.57	0.93		3.32	3.49	2.16	3.50	7.18	2.69	
1779	3.03	2.66	2.69	0.82		3.52	3.78	2.19	3.33	6.78	2.65	
1780	3.12	2.77	2.52	0.80		3.67	4.00	2.22	3.69	7.54	2.87	
1781	3.55	3.32	2.77	0.74		3.62	3.90	2.24	4.68	9.69	3.25	
1782	3.56	3.21	3.12	0.82		3.55	3.82	2.19	4.58	9.45	3.29	
1783	2.98	2.64	3.25	0.68		3.46	3.68	2.20	3.87	7.84	3.47	
1784	2.97	2.66	3.25	0.64		3.57	3.85	2.21	2.83	5.62	3.12	
1785	3.23	2.94	3.10	0.69		3.32	3.45	2.21	2.73	5.32	3.53	
1786	2.78	2.53	2.99	0.56		3.39	3.56	2.21	2.63	5.10	3.59	
1787	2.66	2.36	3.23	0.57		3.47	3.69	2.20	2.87	5.66	3.32	
1788	2.79	2.41	3.48	0.68		3.46	3.71	2.17	2.73	5.35	3.32	
1789	2.71	2.34	3.47	0.66		3.72	4.14	2.15	2.54	4.88	3.59	
1790	2.65	2.25	3.39	0.68		3.81	4.35	2.11	2.93	5.72	3.59	
1791	2.50	2.12	3.50	0.62		3.95	4.52	2.17	3.16	6.23	3.59	
1792	2.52	2.16	3.07	0.64		4.07	4.45	2.45	3.01	5.91	3.49	
1793	2.47	2.10	2.73	0.68		4.15	4.45	2.60	3.35	6.71	3.06	
1794	2.48	2.07	2.93	0.74		4.03	4.45	2.38	3.88	7.85		
1795	2.95	2.47	3.20	0.91		4.14	4.62	2.38	4.60	9.42	3.52	
1796	3.37	2.96	3.29	0.86		4.16	4.84	2.21	5.01	10.24		
1797	3.52	3.16	3.67	0.78		4.12	4.55	2.43	4.74	9.61		
1798	3.52	3.21	3.86	0.69		4.22	4.45	2.72	4.19	8.28		
1799	3.69	3.34	3.86	0.78		4.46	4.45	3.23	4.78	9.48	4.78	
1800	3.86	3.37	3.86	0.89		4.32	4.45	2.92	5.98	12.02		
1801	5.05	4.46				5.35	5.51	3.61	10.72	21.00		
1802	5.02	4.31				5.15	5.32	3.45	5.60	11.31		
1803	5.22	4.26				5.46	5.32	4.14	4.59	9.23		
1804	4.98	3.88				5.77	5.44	4.67	5.50	11.06		
1805	4.79	3.59				6.55		4.52	6.30	12.66		
1806	4.71	3.26				7.87		4.65	6.11	12.30		
1807	4.57	3.25				9.46		4.77	6.35	12.76		
1808	4.32	3.16				11.72		5.35	13.70	27.86		
1809	7.44	5.46				15.13		6.81	23.36	47.09		
1810	11.99	8.42				19.70		8.92	24.69	51.16		
1811	14.6	10.4				30.7		20.1	29.1	59.0		
1812	19.8	15.3				48.0		45.5	21.9	44.4		
1813	28.5	16.9				70.1		82.7	36.8			
1814	52.6	43.4				87.6		95.6	81.2			
1815	82.5	71.1	226.9			122.2		153.7	169.6	388.6		
1816	114.3	103.4	283.7			159.6		202.3	220.8	442.2		
1817	157.0	143.2	255.3			184.2		184.8	252.5	593.0		
1818	207.3	226.4		42.7		205.7	223.6	151.7	172.8	348.7		

M = TPI index oils and fats, M1 = cod liver oil, M3 = tallow, M4 = tar, M5 = petroleum
N = TPI index metals, N1 = iron, N3 = copper,
P = TPI index minerals, P1 = salt, P2 = coal, P3 = tural ice

Table A2-6. Price indices of oils, metals and minerals

Annual averages. 1913=100.

Year	**M**	**M1**	**M3**	**M4**	**M5**	**N**	**N1**	**N3**	**P**	**P1**	**P2**	**P3**
1819	215.8	230.8		42.7		247.5	257.3	160.5	166.4	337.8		
1820	226.3	243.3		58.7		268.8	282.1	167.3	166.8	328.3		
1821	211.5	215.0		61.8		290.8	319.4	177.0	203.3	412.5		
1822	209.6	215.4	198.6	61.4		301.9	343.4	176.1	278.7	573.4		
1823	147.5	136.7	184.4			281.3	323.4	153.7	234.2	453.6		
1824	113.7	104.3	170.2			216.9	228.9	131.3	205.5	424.6		
1825	93.8	84.7	148.0	27.0		214.2	230.9	127.4	164.7	319.5		
1826	96.8	93.9	124.0	30.5		226.8	238.8	145.9	150.6	298.3		
1827	115.7	108.6	135.2	40.0		232.2	243.8	151.7	136.7	268.8		
1828	144.4	147.8	153.4	43.7		225.7	230.1	155.6	146.0	288.2		
1829	200.6	218.7	176.4	45.9		214.5	211.0	159.5	151.7	300.1		
1830	190.2	203.0	168.5	49.5		209.4	204.6	158.5	159.4	317.8		
1831	202.7	226.9	150.3	54.6		196.9	191.5	152.7	172.9	347.4		
1832	208.0	224.5	143.5	69.1		182.8	174.3	145.9	190.3	385.4		
1833	180.8	178.1	165.1	66.2		175.4	167.3	138.1	166.5	332.0		
1834	139.9	126.5	177.8	64.3		172.8	161.9	136.2	129.2	251.4		
1835	144.4	135.0	163.8	60.4		177.1	173.5	128.4	108.2	208.1		
1836	165.7	161.8	142.6	68.4		185.9	182.8	136.2	126.3	251.4		
1837	163.2	162.6	131.5	65.7		188.8	183.7	133.3	126.4	251.5		
1838	161.7	162.3	117.9	68.1		180.1	173.1	134.2	134.0	267.5		
1839	150.2	142.6	144.3	69.7		180.3	170.9	129.4	130.7	261.4		
1840	142.0	134.0	124.0	69.0		179.8	173.7	116.7	115.6	220.7		
1841	133.5	121.3	131.5	68.2		174.2	166.7	118.7	101.3	190.1		
1842	137.3	125.9	126.7	63.8		166.9	157.5	121.6	103.1	189.9		
1843	137.5	130.8	111.2	63.3		158.3	149.0	116.7	96.2	177.4		
1844	143.5	140.4	106.5	61.4		139.6	130.1	108.5	94.9	177.0		
1845	144.3	139.9	123.5	60.9		151.1	142.3	111.5	96.9	181.7		
1846	124.2	110.6	143.9	62.9		170.3	162.2	118.7	134.2	259.7		
1847	122.8	109.5	160.5	62.3		167.6	158.9	123.5	123.5	238.0		
1848	120.9	108.7	174.4	61.3		158.4	150.5	111.9	103.1	194.9		
1849	135.7	124.5	155.5	59.2		153.4	145.3	112.2	94.9	177.5		
1850	157.5	152.2	139.9	57.4		152.8	143.8	112.8	83.8	157.9		
1851	173.1	172.0	122.3	57.7		153.8	144.2	115.7	88.4	165.4		
1852	177.3	174.9	134.5	58.2		156.4	142.2	140.1	92.1	174.0		
1853	169.1	165.1	142.7	62.0		152.3	136.3	144.0	103.0	198.3		
1854	174.8	162.9	172.6	76.1		162.0	144.0	149.8	100.7	192.0		
1855	215.3	203.7	190.2	94.4		182.8	165.2	154.7	90.6	170.6		
1856	213.2	204.2	169.0	87.7		197.5	182.9	154.7	98.5	183.8		
1857	229.0	232.2	169.2	81.1		206.8	195.4	151.7	86.9	156.8		
1858	186.9	181.2	149.8	74.3		190.5	181.2	136.2	72.4	128.3		
1859	171.2	160.7	157.8	76.1		186.2	176.3	136.2	79.8	143.9		
1860	159.8	149.1	141.8	77.0		178.0	169.0	128.4	78.9	142.8		

M = TPI index oils and fats, M1 = cod liver oil, M3 = tallow, M4 = tar, M5 = petroleum
N = TPI index metals, N1 = iron, N3 = copper,
P = TPI index minerals, P1 = salt, P2 = coal, P3 = tural ice

Table A2-6. Price indices of oils, metals and minerals

Annual averages. 1913=100.

Year	**M**	**M1**	**M3**	**M4**	**M5**	**N**	**N1**	**N3**	**P**	**P1**	**P2**	**P3**
1861	159.3	145.4	153.7	84.8		172.8	164.7	120.6	82.7	151.3	81.6	
1862	181.3	169.0	160.3	88.6		166.0	156.6	119.6	81.2	141.6		
1863	223.1	217.5	154.1	88.2		166.3	156.0	124.5	79.8	125.7		
1864	215.6	217.5	121.7	76.0		169.8	160.4	122.6	81.9	120.5		
1865	186.9	183.8	112.2	65.7		168.9	160.8	118.7	88.4	142.2		
1866	173.9	168.2	151.6	60.5		168.5	161.7	112.8	94.2	154.4	95.8	191.0
1867	171.3	169.1	131.6	55.5		152.0	145.1	104.7	94.0	181.4	95.8	88.6
1868	166.3	167.0	106.1	54.0		146.4	139.4	102.3	89.1	174.8	91.6	107.4
1869	175.6	174.7	106.3	63.3	293.7	139.6	132.0	101.0	84.2	166.6	85.1	95.5
1870	166.8	162.7	107.5	66.1	285.0	138.0	132.3	93.4	79.8	152.7	79.7	83.6
1871	159.0	154.7	103.1	65.1	270.4	143.4	131.2	122.6	83.1	137.1	91.6	84.6
1872	141.1	133.3	100.9	69.3	249.1	192.6	186.4	124.5	95.7	146.3	126.2	95.5
1873	145.5	131.6	130.4	92.7	238.4	199.0	194.9	120.6	102.7	167.5	122.0	153.2
1874	142.4	131.0	121.8	99.4	189.8	182.0	176.9	114.8	95.1	151.8	97.1	191.0
1875	140.5	135.2	95.1	82.2	180.9	163.3	154.8	116.7	79.0	132.1	77.9	113.6
1876	148.1	142.4	100.2	71.1	231.8	135.8	127.2	103.1	75.2	142.1	69.9	111.4
1877	135.6	126.8	106.8	72.8	220.8	117.0	107.6	97.3	73.3	137.6	69.4	79.6
1878	119.4	109.7	107.3	72.1	175.5	105.4	96.8	88.0	68.3	126.0	64.3	95.5
1879	108.1	99.6	104.0	60.4	158.1	110.2	101.3	92.4	67.1	117.8	62.4	79.6
1880	108.3	97.1	99.0	65.4	167.6	111.9	102.9	92.4	60.4	135.5	50.9	79.6
1881	125.1	122.8	93.8	67.0	160.9	116.2	107.6	90.0	60.0	151.7	50.4	69.6
1882	154.2	176.7	92.4	67.1	135.3	110.6	101.3	95.3	71.0	138.2	57.1	252.7
1883	175.2	209.0	97.6	76.2	141.1	106.1	97.7	87.6	62.9	125.4	53.4	89.6
1884	127.0	124.2	99.9	92.3	147.3	95.1	88.0	74.4	64.4	110.9	52.1	143.3
1885	106.5	99.7	93.8	80.1	135.3	92.2	87.3	57.4	57.3	109.2	49.5	69.6
1886	90.7	81.3	83.8	65.9	133.1	88.7	82.2	56.6	55.8	104.6	48.0	53.7
1887	87.1	80.8	65.4	58.0	125.7	91.3	81.4	100.8	55.8	105.4	47.5	67.6
1888	77.9	67.3	60.7	58.0	134.9	92.0	87.6	100.8	58.2	118.9	49.8	47.8
1889	81.5	67.9	75.0	88.9	133.7	92.1	90.4	73.6	62.8	123.7	55.4	59.7
1890	75.2	60.5	79.8	83.8	130.9	98.3	99.6	85.3	67.5	104.7	61.8	79.6
1891	84.4	75.2	81.2	74.7	120.7	96.1	99.7	76.6	62.4	90.8	59.3	51.7
1892	72.7	63.9	82.3	72.9	93.1	91.1	95.9	68.1	58.1	88.2	57.1	39.8
1893	65.2	56.2	84.0	72.1	74.4	87.8	91.9	65.2	61.9	89.3	59.0	95.5
1894	69.8	67.7	84.7	71.5	62.8	84.7	89.2	59.4	58.9	80.9	57.8	65.7
1895	91.9	103.9	82.0	72.2	78.6	82.9	88.0	61.6	53.5	78.4	50.5	56.6
1896	101.9	127.8	77.3	71.5	75.8	85.4	94.5	66.7	52.5	80.1	47.2	71.4
1897	77.1	81.6	69.3	69.3	65.9	87.9	99.9	69.2	51.4	80.5	47.6	50.3
1898	77.6	81.6	71.4	77.0	66.5	87.2	99.0	73.0	62.4	80.7	54.2	261.3
1899	72.7	66.8	69.4	81.0	79.2	101.3	113.0	98.3	63.6	74.2	61.7	109.2
1900	80.0	75.1	64.4	94.6	82.9	116.2	136.9	102.2	83.0	72.2	88.8	75.0
1901	79.2	76.3	64.2	94.2	78.2	97.5	107.4	97.3	77.3	71.2	86.0	62.7
1902	94.4	124.5	65.0	87.5	74.5	90.6	99.5	77.9	66.6	68.6	69.8	57.9

M = TPI index oils and fats, M1 = cod liver oil, M3 = tallow, M4 = tar, M5 = petroleum
N = TPI index metals, N1 = iron, N3 = copper,
P = TPI index minerals, P1 = salt, P2 = coal, P3 = tural ice

Table A2-6. Price indices of oils, metals and minerals

Annual averages. 1913=100.

Year	**M**	**M1**	**M3**	**M4**	**M5**	**N**	**N1**	**N3**	**P**	**P1**	**P2**	**P3**
1903	119.8	214.2	90.2	73.6	76.3	90.7	94.0	83.3	76.2	69.6	73.7	53.8
1904	98.3	134.7	78.9	73.9	78.8	90.1	92.7	83.0	77.9	68.9	70.5	58.2
1905	86.1	99.6	79.1	79.7	73.4	94.1	96.3	97.2	76.1	76.0	65.5	75.6
1906	83.3	84.8	73.7	82.0	78.3	101.1	104.0	122.1	82.2	78.8	70.1	97.3
1907	85.9	84.7	84.8	84.3	80.1	106.8	110.8	128.5	90.6	90.9	88.9	61.1
1908	83.0	75.8	94.3	79.1	86.6	94.6	97.5	87.1	88.5	79.2	83.4	107.9
1909	83.9	76.8	100.2	77.4	82.7	92.7	92.8	82.0	83.5	75.7	80.7	64.8
1910	94.5	102.1	102.9	85.2	76.5	94.5	96.8	81.4	87.4	78.2	77.6	212.1
1911	99.6	120.8	100.6	88.1	67.7	97.0	94.2	79.7	83.8	89.7	78.3	88.6
1912	88.8	85.2	102.3	93.0	81.1	101.1	101.9	98.6	99.2	95.2	100.2	85.1
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1914	96.7	91.0	93.9	100.0	97.1	103.2	96.4	99.1	96.4	105.2	96.7	77.7
1915	166.9	281.8	131.0		102.9	129.5	120.2	214.3	156.7	203.1	146.7	77.7
1916	288.1	661.5	184.0		144.8	217.8	184.3	285.7	227.0	385.7	210.7	117.6
1917	394.1	731.4	254.6		172.3	406.4	511.7	307.1	445.3	835.2	596.4	117.6
1918	581.1		504.4		222.4	509.6	671.0	385.7	507.3	1105.5	630.8	188.2
1919	437.8		293.3		183.6	315.2	409.4	217.9	364.9	561.0	424.6	282.4
1920	557.5		124.5		257.8	409.8	555.7	192.9	493.0		637.9	541.2

M = TPI index oils and fats, M1 = cod liver oil, M3 = tallow, M4 = tar, M5 = petroleum
N = TPI index metals, N1 = iron, N3 = copper,
P = TPI index minerals, P1 = salt, P2 = coal, P3 = tural ice

NOTE: The data series on tallow (M3) is discontinued after 1800; coal (P2) after 1799. To benchmark the index values of tallow and coal for the period 1777 - 1800, the index values for the year 1800 (1799 in the case of coal) have been set equal to the group averages.

Table A3. Aggregate price indices and inflation rates

Annual averages. 1913=100.

Year	**TPI**	**WPI**	**PPI**	**EXP**	**IMP**	**TT**	**Δ TPI**	**Δ WPI**	**Δ PPI**	**Δ EXP**	**Δ IMP**	**Δ TT**
1777	1.21	1.17	1.06	1.21	1.40	86.6						
1778	1.24	1.27	1.02	1.12	1.49	75.3	2.5	7.8	-3.7	-7.4	6.5	-13.9
1779	1.28	1.27	1.11	1.25	1.50	83.2	3.7	-0.4	8.4	10.6	0.7	9.9
1780	1.27	1.21	1.10	1.29	1.50	85.8	-1.3	-4.2	-0.6	3.0	-0.0	3.1
1781	1.35	1.32	1.14	1.33	1.71	78.1	6.6	8.1	3.4	3.3	12.7	-9.4
1782	1.39	1.45	1.15	1.19	1.94	61.6	2.3	9.6	1.1	-10.9	12.7	-23.6
1783	1.51	1.55	1.28	1.34	1.85	72.5	8.5	6.9	10.6	11.8	-4.5	16.3
1784	1.53	1.58	1.32	1.35	1.85	72.9	1.3	1.6	3.3	0.6	0.0	0.6
1785	1.49	1.50	1.30	1.39	1.67	83.0	-2.4	-5.0	-1.7	2.8	-10.1	12.9
1786	1.56	1.55	1.37	1.47	1.76	83.3	4.2	3.6	5.2	5.4	5.0	0.4
1787	1.59	1.57	1.38	1.53	1.73	88.3	2.4	1.3	0.8	4.4	-1.5	5.9
1788	1.57	1.51	1.36	1.58	1.65	95.8	-1.7	-4.3	-1.3	2.9	-5.2	8.1
1789	1.66	1.62	1.47	1.62	1.78	91.0	5.6	7.4	7.8	2.8	7.8	-5.1
1790	1.69	1.70	1.48	1.56	1.95	80.0	1.7	4.9	0.7	-3.8	9.2	-12.9
1791	1.57	1.55	1.41	1.50	1.63	92.5	-7.4	-9.4	-5.1	-3.8	-18.3	14.6
1792	1.49	1.51	1.33	1.37	1.59	86.1	-5.1	-2.9	-5.6	-9.2	-2.0	-7.2
1793	1.60	1.65	1.42	1.42	1.82	78.3	7.2	9.2	6.6	3.5	13.0	-9.5
1794	1.62	1.71	1.37	1.37	1.90	72.1	1.2	3.5	-3.7	-3.4	4.8	-8.2
1795	1.72	1.88	1.44	1.36	2.31	58.7	6.0	9.2	4.9	-1.3	19.3	-20.6
1796	1.63	1.72	1.40	1.38	2.14	64.4	-5.4	-8.8	-2.9	1.7	-7.5	9.2
1797	1.65	1.59	1.48	1.67	1.79	93.6	1.5	-8.1	5.5	19.2	-18.3	37.4
1798	1.67	1.66	1.48	1.57	1.87	83.8	1.0	4.7	0.3	-6.1	4.9	-11.0
1799	1.81	1.93	1.60	1.49	2.27	65.6	8.2	14.9	7.3	-5.4	19.2	-24.6
1800	2.14	2.40	1.89	1.57	3.00	52.4	16.8	21.8	16.6	5.5	27.9	-22.4
1801	2.50	2.74	2.17	1.92	3.69	52.2	15.4	13.4	13.9	20.2	20.5	-0.4
1802	2.24	2.35	2.04	1.93	2.77	69.9	-10.9	-15.4	-6.0	0.5	-28.7	29.2
1803	2.36	2.48	2.16	2.06	2.89	71.4	5.4	5.4	5.6	6.3	4.2	2.0
1804	2.29	2.34	2.08	2.13	2.87	74.4	-3.3	-6.0	-3.9	3.5	-0.6	4.1
1805	2.57	2.70	2.32	2.30	3.35	68.6	11.7	14.5	11.0	7.6	15.6	-8.1
1806	2.79	3.00	2.53	2.41	3.61	66.8	8.2	10.6	8.5	4.7	7.3	-2.6
1807	2.79	3.13	2.48	2.24	3.85	58.1	0.0	4.3	-2.1	-7.4	6.6	-14.0
1808	3.89	4.55	3.40	2.78	5.61	49.5	33.2	37.5	31.7	21.6	37.6	-16.0
1809	6.27	7.16	5.58	4.68	8.50	55.1	47.7	45.2	49.5	52.1	41.5	10.6
1810	7.28	7.91	6.53	6.12	9.36	65.4	14.9	10.0	15.7	26.9	9.7	17.2
1811	12.16	13.93	10.53	8.83	17.86	49.5	51.4	56.6	47.9	36.7	64.6	-27.9
1812	19.04	22.61	16.49	12.19	27.84	43.8	44.8	48.5	44.8	32.2	44.4	-12.2
1813	58.33	62.78	55.11	47.96	63.57	75.4	112.0	102.1	120.6	137.0	82.6	54.4
1814	81.82	89.57	75.48	64.18	100.14	64.1	33.8	35.5	31.5	29.1	45.4	-16.3
1815	81.01	81.51	75.33	75.96	91.58	82.9	-1.0	-9.4	-0.2	16.8	-8.9	25.8
1816	121.68	126.62	111.75	106.81	142.52	74.9	40.7	44.1	39.4	34.1	44.2	-10.1
1817	175.25	190.61	157.00	137.88	225.59	61.1	36.5	40.9	34.0	25.5	45.9	-20.4
1818	119.60	128.74	106.97	96.21	151.44	63.5	-38.2	-39.2	-38.4	-36.0	-39.9	3.9

TPI = total supply price index (domestic goods, imports and exports), WPI = wholesale price index (domestic goods and imports)
PPI = producer price index (domestic goods and exports), EXP = export price index, IMP = import price index,
TT = ratio of export to import price indices, Δ denotes continuously compounded annual rates of change

Table A3. Aggregate price indices and inflation rates

Annual averages. 1913=100.

Year	**TPI**	**WPI**	**PPI**	**EXP**	**IMP**	**TT**	**Δ TPI**	**Δ WPI**	**Δ PPI**	**Δ EXP**	**Δ IMP**	**Δ TT**
1819	122.63	124.43	112.06	113.42	142.61	79.5	2.5	-3.4	4.6	16.5	-6.0	22.5
1820	108.15	111.43	98.37	96.77	127.89	75.7	-12.6	-11.0	-13.0	-15.9	-10.9	-5.0
1821	98.33	103.08	88.62	84.56	120.68	70.1	-9.5	-7.8	-10.4	-13.5	-5.8	-7.7
1822	114.33	117.09	103.19	103.90	140.52	73.9	15.1	12.8	15.2	20.6	15.2	5.4
1823	107.97	111.28	98.59	97.10	127.58	76.1	-5.7	-5.1	-4.6	-6.8	-9.7	2.9
1824	91.52	89.83	85.61	91.06	96.42	94.4	-16.5	-21.4	-14.1	-6.4	-28.0	21.6
1825	68.57	70.48	62.44	62.28	80.83	77.0	-28.9	-24.3	-31.6	-38.0	-17.6	-20.4
1826	79.80	81.85	71.70	73.42	101.69	72.2	15.2	15.0	13.8	16.5	23.0	-6.5
1827	86.74	91.13	77.25	75.14	114.79	65.5	8.3	10.7	7.4	2.3	12.1	-9.8
1828	75.28	78.94	65.97	65.39	104.03	62.9	-14.2	-14.4	-15.8	-13.9	-9.8	-4.1
1829	76.33	80.19	66.28	65.64	107.81	60.9	1.4	1.6	0.5	0.4	3.6	-3.2
1830	80.74	83.00	71.63	73.13	106.83	68.5	5.6	3.4	7.8	10.8	-0.9	11.7
1831	87.53	91.42	76.18	76.14	123.96	61.4	8.1	9.7	6.2	4.0	14.9	-10.8
1832	83.43	86.15	72.69	74.99	117.82	63.6	-4.8	-5.9	-4.7	-1.5	-5.1	3.5
1833	76.39	78.73	67.77	69.12	100.94	68.5	-8.8	-9.0	-7.0	-8.2	-15.5	7.3
1834	71.06	72.59	63.63	65.98	90.92	72.6	-7.2	-8.1	-6.3	-4.6	-10.5	5.8
1835	73.95	77.83	66.63	63.80	92.44	69.0	4.0	7.0	4.6	-3.4	1.7	-5.0
1836	76.97	80.92	69.64	66.37	94.91	69.9	4.0	3.9	4.4	4.0	2.6	1.3
1837	77.84	83.35	70.95	64.10	93.22	68.8	1.1	3.0	1.9	-3.5	-1.8	-1.7
1838	82.41	86.84	74.84	70.74	101.43	69.7	5.7	4.1	5.3	9.9	8.4	1.4
1839	80.35	85.52	71.56	67.67	105.32	64.2	-2.5	-1.5	-4.5	-4.4	3.8	-8.2
1840	76.25	80.77	67.51	65.36	100.97	64.7	-5.2	-5.7	-5.8	-3.5	-4.2	0.8
1841	68.56	71.76	60.07	61.88	92.99	66.5	-10.6	-11.8	-11.7	-5.5	-8.2	2.8
1842	69.12	71.43	61.91	64.58	89.38	72.3	0.8	-0.5	3.0	4.3	-4.0	8.2
1843	74.63	73.17	70.57	79.98	84.90	94.2	7.7	2.4	13.1	21.4	-5.1	26.5
1844	71.86	71.23	67.83	74.76	82.06	91.1	-3.8	-2.7	-4.0	-6.8	-3.4	-3.4
1845	73.55	73.92	68.33	73.91	87.12	84.8	2.3	3.7	0.7	-1.1	6.0	-7.1
1846	80.03	84.02	71.36	69.44	103.59	67.0	8.4	12.8	4.3	-6.2	17.3	-23.6
1847	92.83	100.16	84.32	73.86	116.21	63.6	14.8	17.6	16.7	6.2	11.5	-5.3
1848	76.76	78.54	71.05	73.10	92.53	79.0	-19.0	-24.3	-17.1	-1.0	-22.8	21.7
1849	72.33	72.66	67.28	71.87	86.60	83.0	-5.9	-7.8	-5.5	-1.7	-6.6	4.9
1850	71.53	71.90	66.56	71.23	85.90	82.9	-1.1	-1.0	-1.1	-0.9	-0.8	-0.1
1851	74.53	76.75	68.80	68.56	90.52	75.7	4.1	6.5	3.3	-3.8	5.2	-9.1
1852	77.91	80.54	72.53	71.36	92.79	76.9	4.4	4.8	5.3	4.0	2.5	1.5
1853	79.62	83.20	72.75	70.71	100.07	70.7	2.2	3.3	0.3	-0.9	7.6	-8.5
1854	88.84	90.02	82.03	87.13	110.40	78.9	11.0	7.9	12.0	20.9	9.8	11.1
1855	95.55	99.07	88.53	87.80	116.40	75.4	7.3	9.6	7.6	0.8	5.3	-4.5
1856	101.64	105.65	94.87	92.52	121.19	76.3	6.2	6.4	6.9	5.2	4.0	1.2
1857	93.92	94.24	88.68	95.14	109.16	87.2	-7.9	-11.4	-6.8	2.8	-10.4	13.2
1858	82.62	82.56	77.75	84.70	97.79	86.6	-12.8	-13.2	-13.1	-11.6	-11.0	-0.6
1859	81.33	83.61	75.50	76.82	99.02	77.6	-1.6	1.3	-2.9	-9.8	1.3	-11.0
1860	88.83	92.03	83.17	81.97	105.52	77.7	8.8	9.6	9.7	6.5	6.4	0.1

TPI = total supply price index (domestic goods, imports and exports), WPI = wholesale price index (domestic goods and imports)
PPI = producer price index (domestic goods and exports), EXP = export price index, IMP = import price index,
TT = ratio of export to import price indices, Δ denotes continuously compounded annual rates of change

Table A3. Aggregate price indices and inflation rates

Annual averages. 1913=100.

Year	TPI	WPI	PPI	EXP	IMP	TT	Δ TPI	Δ WPI	Δ PPI	Δ EXP	Δ IMP	Δ TT
1861	92.65	94.82	87.55	89.01	107.38	82.9	4.2	3.0	5.1	8.2	1.7	6.5
1862	91.86	94.12	86.27	87.38	108.46	80.6	-0.9	-0.7	-1.5	-1.8	1.0	-2.8
1863	90.22	91.63	84.19	88.32	108.14	81.7	-1.8	-2.7	-2.4	1.1	-0.3	1.4
1864	87.18	88.39	80.93	85.04	105.15	80.9	-3.4	-3.6	-3.9	-3.8	-2.8	-1.0
1865	86.74	87.59	80.81	85.50	104.13	82.1	-0.5	-0.9	-0.2	0.5	-1.0	1.5
1866	94.57	97.29	89.35	88.74	110.10	80.6	8.6	10.5	10.1	3.7	5.6	-1.9
1867	98.06	103.08	90.83	86.89	120.43	72.2	3.6	5.8	1.6	-2.1	9.0	-11.1
1868	102.00	108.87	95.05	85.45	123.18	69.4	3.9	5.5	4.5	-1.7	2.3	-3.9
1869	93.04	96.82	87.30	84.51	110.25	76.7	-9.2	-11.7	-8.5	-1.1	-11.1	10.0
1870	88.76	90.23	83.87	86.76	103.55	83.8	-4.7	-7.1	-4.0	2.6	-6.3	8.9
1871	90.97	92.96	86.28	87.64	105.49	83.1	2.5	3.0	2.8	1.0	1.9	-0.8
1872	92.22	95.77	86.07	84.35	111.64	75.6	1.4	3.0	-0.2	-3.8	5.7	-9.5
1873	101.45	103.01	95.73	99.43	119.09	83.5	9.5	7.3	10.6	16.4	6.5	10.0
1874	108.01	110.75	103.69	102.72	120.33	85.4	6.3	7.2	8.0	3.3	1.0	2.2
1875	100.12	102.75	96.50	94.53	110.52	85.5	-7.6	-7.5	-7.2	-8.3	-8.5	0.2
1876	97.13	97.46	94.14	97.97	106.95	91.6	-3.0	-5.3	-2.5	3.6	-3.3	6.9
1877	99.53	101.02	96.84	97.38	108.30	89.9	2.4	3.6	2.8	-0.6	1.3	-1.9
1878	87.01	88.47	83.42	85.55	97.97	87.3	-13.4	-13.3	-14.9	-13.0	-10.0	-2.9
1879	81.17	82.08	76.74	80.27	94.41	85.0	-7.0	-7.5	-8.3	-6.4	-3.7	-2.7
1880	87.64	89.67	83.33	83.50	100.64	83.0	7.7	8.8	8.2	3.9	6.4	-2.4
1881	91.34	92.90	89.32	88.34	99.46	88.8	4.1	3.5	6.9	5.6	-1.2	6.8
1882	89.71	87.89	89.78	96.35	93.27	103.3	-1.8	-5.5	0.5	8.7	-6.4	15.1
1883	87.63	83.96	88.49	98.85	89.24	110.8	-2.3	-4.6	-1.4	2.6	-4.4	7.0
1884	82.08	81.13	81.43	85.85	87.07	98.6	-6.5	-3.4	-8.3	-14.1	-2.5	-11.6
1885	75.83	76.10	74.75	75.63	80.87	93.5	-7.9	-6.4	-8.6	-12.7	-7.4	-5.3
1886	70.85	72.16	68.51	67.65	78.41	86.3	-6.8	-5.3	-8.7	-11.2	-3.1	-8.1
1887	69.29	70.66	65.72	66.08	80.01	82.6	-2.2	-2.1	-4.2	-2.3	2.0	-4.4
1888	70.62	72.10	67.76	67.28	79.86	84.2	1.9	2.0	3.1	1.8	-0.2	2.0
1889	74.08	76.24	70.81	68.91	84.47	81.6	4.8	5.6	4.4	2.4	5.6	-3.2
1890	75.48	79.01	71.53	66.84	86.76	77.0	1.9	3.6	1.0	-3.0	2.7	-5.7
1891	81.00	84.48	77.43	72.28	90.94	79.5	7.1	6.7	7.9	7.8	4.7	3.1
1892	78.47	83.38	75.61	65.96	86.07	76.6	-3.2	-1.3	-2.4	-9.1	-5.5	-3.6
1893	73.29	76.47	70.41	65.19	79.64	81.9	-6.8	-8.6	-7.1	-1.2	-7.8	6.6
1894	69.45	71.03	67.30	65.72	74.17	88.6	-5.4	-7.4	-4.5	0.8	-7.1	7.9
1895	69.47	70.35	67.60	67.62	73.91	91.5	0.0	-1.0	0.4	2.9	-0.3	3.2
1896	70.48	70.84	69.50	70.22	73.93	95.0	1.4	0.7	2.8	3.8	0.0	3.7
1897	71.24	72.10	70.68	69.66	73.18	95.2	1.1	1.8	1.7	-0.8	-1.0	0.2
1898	75.71	77.65	75.44	71.67	76.21	94.0	6.1	7.4	6.5	2.9	4.1	-1.2
1899	79.95	80.36	80.24	79.04	79.22	99.8	5.4	3.4	6.2	9.8	3.9	5.9
1900	86.72	85.89	87.18	87.96	85.73	102.6	8.1	6.7	8.3	10.7	7.9	2.8
1901	82.08	81.80	82.70	82.29	80.78	101.9	-5.5	-4.9	-5.3	-6.7	-6.0	-0.7
1902	81.41	81.58	81.76	80.30	80.70	99.5	-0.8	-0.3	-1.1	-2.4	-0.1	-2.4
1903	82.37	81.25	83.44	84.66	80.72	104.9	1.2	-0.4	2.0	5.3	0.0	5.3
1904	83.50	82.28	85.07	86.42	81.04	106.6	1.4	1.3	1.9	2.1	0.4	1.7
1905	86.40	84.38	88.22	91.30	83.58	109.2	3.4	2.5	3.6	5.5	3.1	2.4
1906	88.59	86.87	90.16	93.23	86.97	107.2	2.5	2.9	2.2	2.1	4.0	-1.9
1907	94.03	93.88	94.26	94.09	93.31	100.8	6.0	7.8	4.4	0.9	7.0	-6.1
1908	89.37	90.65	88.50	87.30	91.49	95.4	-5.1	-3.5	-6.3	-7.5	-2.0	-5.5
1909	88.07	90.31	86.81	83.93	90.69	92.5	-1.5	-0.4	-1.9	-3.9	-0.9	-3.1
1910	90.15	90.71	90.49	90.24	90.76	99.4	2.3	0.4	4.2	7.2	0.1	7.2
1911	92.94	94.57	92.40	89.63	94.01	95.3	3.1	4.2	2.1	-0.7	3.5	-4.2

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Table A3. Aggregate price indices and inflation rates

Annual averages. 1913=100.

Year	**TPI**	**WPI**	**PPI**	**EXP**	**IMP**	**TT**	**Δ TPI**	**Δ WPI**	**Δ PPI**	**Δ EXP**	**Δ IMP**	**Δ TT**
1912	98.20	101.74	96.27	90.39	101.77	88.8	5.5	7.3	4.1	0.8	7.9	-7.1
1913	100.00	100.00	100.00	100.00	100.00	100.0	1.8	-1.7	3.8	10.1	-1.8	11.9
1914	104.89	106.48	105.14	101.48	103.91	97.7	4.8	6.3	5.0	1.5	3.8	-2.4
1915	145.78	146.54	150.00	143.48	137.06	104.7	32.9	31.9	35.5	34.6	27.7	6.9
1916	195.91	184.99	210.03	219.43	168.75	130.0	29.6	23.3	33.7	42.5	20.8	21.7
1917	269.31	277.12	263.97	249.50	277.79	89.8	31.8	40.4	22.9	12.8	49.8	-37.0
1918	330.49	352.96	332.08	281.20	326.95	86.0	20.5	24.2	23.0	12.0	16.3	-4.3
1919	324.14	338.83	338.12	291.22	295.78	98.5	-1.9	-4.1	1.8	3.5	-10.0	13.5
1920	377.50	381.59	378.80	359.88	366.73	98.1	15.2	11.9	11.4	21.2	21.5	-0.3

TPI = total supply price index (domestic goods, imports and exports), WPI = wholesale price index (domestic goods and imports)
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