Chapter 3 - A Consumer Price Index for Norway 1516-2003

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1. Theme

This article presents a consumer price index (CPI) for Norway 1516-2003. Existing CPIs for Norway neither go that far back in time nor do they cover such a long time-span. For the period prior to 1871 a new CPI has been constructed.

The new price index is basically constructed on the basis of monthly and quarterly price registrations of 47 representative commodities in Norwegian towns and cities back to 1830. For the years 1819-1830 the CPI is constructed on the basis of 29 representative commodities with annual price observations from major Norwegian cities. Most data have been collected from Professor Ingvar Wedervang's Historical Archive on Prices and Wages at the Norwegian School of Economics and Business Administration in Bergen.

For the period previous to 1819 it is not possible to construct a CPI with the same high validity and reliability as for the period from 1819 onwards. However, we have been able to construct a CPI for Norway 1516-1819, which has been spliced with the 1819-1871 index. The new indices 1516-1871 have then been spliced with existing series from 1871 onwards.

2. Background

The historical CPI for Norway has so far covered the years from 1850 onwards. The "official" CPI, published by Statistics Norway, starts in 1919. During its first 40 years it was a cost of living index. Its statistical base was extended in 1959 when it was transformed into a CPI.[2] In

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1 The primary data used in this work are compiled from archives by three research assistants These are Tatiana Budkova, Signe Lade Sølvik and Monica Mjøs Værholm, all students at the Norwegian School of Economics and Business Administration, Bergen.
2 NOS 1978, 518-519.

addition, Statistics Norway has estimated an implicit deflator for private consumption in connection with their historical national accounts.[3] Cost of living indices have also been calculated for the capital Oslo (Kristiania) for 1850-1916, and for the major cities 1916-1919.[4]

Jon Petter Holter at the Central Bank of Norway has constructed a preliminary CPI for Norway covering the period 1835-1996. He assembled his index by splicing existing indices from Statistics Norway from 1865 onwards, with a new index calculated by himself for the period prior to 1865.[5] The Holter index 1835-1865 covers eight products, four types of grain, potatoes and three types of meat. He used annual prices for grain and potatoes published by Statistics Norway. As for meat, he used market prices on beef, mutton and pork reported in 1835, 1845, 1855 and 1865 in Oslo (Christiania). For the years between these four benchmark years, he chose linear interpolations.

According to conventional method, Holter used a Laspeyre formula. His weights were partly established on the basis of intuition and partly on empirical sources. He assumed that the consumption of grain and potatoes was reflected in proportionate use of land. His weights for meat are found on the basis of estimated weights of the winter cattle stock. Finally, he assumed that crops accounted for 70 per cent of consumption and meat for 30 per cent. With 1835 as his base year, Holter then went on to calculate a consumer price index for Norway up to 1865. The Holter index serves as a first step to establish a consistent CPI for Norway covering more than 160 years. It reflects the major long run movements in consumer prices of the period.

There are several problems connected to the Holter series. In the first place, the index 1865-1900 given by Statistics Norway, which he utilised, is not at all documented. Both its validity and its reliability are therefore dubious. Secondly, there are several shortcomings in Holter's own estimates for 1835-1865. The price data, used for grain are fairly reliable. One problem is, however, that they are product and wholesale prices rather than consumer prices. Another problem is that they only reflect prices on domestically produced crops, while a significant portion of the crops consumed was imported.[6] An even more serious problem is revealed when one reads the description of the sources. The prices are not given in nominal, but deflated figures. More precisely, they were adjusted for exchange rate fluctuations from the

3 NOS 1968, 352-353.
4 NOS 1994, 290-291.
5 Holter 1996.
6 Hodne 1975, 149-152.

par value of the speciedaler.[7] For the period 1835-1842, when the speciedaler was weak, but appreciating, this means that the prices are corrected significantly downwards, and do not mirror the nominal price fluctuations. The prices for meat only cover the capital city, Oslo. In addition, they are taken for four years only, out of a period spanning over 31 years.[8] The linear interpolations then carried out to cover the entire period neglect significant annual price variations.

Thirdly, the estimated consumer expenditure weights are found on the basis of the use of arable land, and not on consumption. Wheat and rye were basically imported, while both oat and barley to a significant degree was used as animal fodder. To give weights on meat on the basis of stocks is hardly reliable. The weights were estimated on the basis of present output and size of animals. These have changed dramatically over the last two centuries. The cattle stock did also provide different products. Pigs were used for meat, cows basically for milk, secondary for meat, bulls for meat, while sheep were basically used for the production of wool. Additionally, the relative shares of cattle stock consumption to agrarian consumption lack any empirical founding. Fish is not included at all. Fourthly, the interpolation method applied can give a misleading picture of the price movements. Prices did not change linearly, but fluctuated significantly annually and seasonally.

3. Establishing a new historical CPI

The challenge left by Jon Petter Holter is taken up in the present work. A new CPI for Norway is constructed, spanning over almost five centuries, 1516-2003. The CPI is constructed by splicing existing CPIs from 1871 onwards, with the new CPIs 1516-1819 and 1819-1871. The new indices are, like those they are spliced with, calculated according to the Laspeyre formula. This means that annual price movements are weighted by the included item's share of private consumption in the households in the base year. In order to construct this new CPI, most price data are compiled from the Wedervang Archive. Information on consumption expenditure weights are taken from research carried out by scholars in economic and social history along with surveys taken by the central administration and Statistics Norway.

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7 NOS 1915, 2*-3*.
8 NOS 1969, 530.

The Ingvar Wedervang Historical Archive on Wages and Prices

The Wedervang Archive was first established in the 1930s at the Department of Economics at Oslo University. The archive gained its name from its pioneer, Professor Ingvar Wedervang.

Most of the wage and price data in the archive were collected in the 1930s by a group of scholars under the supervision of Wedervang. The aim was to examine historical business cycles to be able to explain and forecast upturns and downturns in the economy. However, due to lack of financial support and the following German occupation 1940-1945, the project was postponed.

Wedervang moved to Bergen to take up a chair as professor at the Norwegian School of Economics and Business Administration (NHH). The archive followed him. However, it was seldom used until the 1970s and 1980s when the Department of Economic History at the NHH took up research on the basis of data from the archive.

This new activity ended in a number of publications, among them aggregated series of prices, wages and real wages, basically for the latter part of the nineteenth century.[9] In the late 1980s and 1990s the archive hosted international research on the standard of living.[10] Today it serves as a valuable source in the construction of historical national accounts for Norway.[11]

4. Method

To be able to construct a reliable CPI, we need a set of annual (t) consumer prices (p) for representative products (i). To compute an aggregated index for these products, their relative shares of consumption have to be found. These shares determine the weight each product will have in the index. The standard method for computing a CPI is to apply the Laspeyre formula. Micro indices (p_M) for all commodities (i) are constructed according to equation (1):

$$(1) \qquad p_M{}^i = p^i_t/p^i_0$$

9 Gjølberg 1974, Ramstad 1982, Lønningdal 1984, Minde & Ramstad 1986, 90-121.
10 Fischer & Nordvik 1988, 14-35, Hodne 1995, Minde & Grytten 1997, 61-82
11 Brautaset 2002, Grytten 2004.

Price indices for the consumption groups are then constructed on the basis of the micro indices. The commodities are weighted according to their relative share of total expenditures within their consumption group according to equation (2), where c denotes consumption group:

$$p_L^c = \sum(p^i_t q^i_0)/\sum(p^i_0 q^i_0) \quad (2)$$

Finally, to reach at a general CPI, the sub-indices for the consumption groups are summed up. Consumption groups are given weights according to their share of total consumption in the base year. Thus, we apply the aggregated Laspeyre formula as shown in equation (3):

$$P_L = \sum(p^c_t q^c_0)/\sum(p^c_0 q^c_0) \quad (3)$$

P_L denotes the Laspeyre price index as the sum of prices (p) in year (t) multiplied by their quantity (q) in the base year (0), divided by the sum of the corresponding prices in the base year multiplied by their quantity in that year.

The method described above is the most commonly used method when calculating historical CPIs. During the last years it has become more common to construct geometrical indices by Cobb-Douglas functions. The advantage with the latter method is that one implicitly takes substitution effects into account. In the arithmetic Laspeyre approach the real weights will change according to relative price fluctuations between the commodities. Thus, the nominal and real weights may differ significantly. Using a geometric approach will eliminate the huge annual fluctuations in real weights.

A drawback with geometric weights is that the implicitly given substitution effects are mathematical rather than empirically founded. Thus, we cannot conclude that one approach is sounder than the other. Based on the fact that the CPIs we splice our new index with are constructed on the basis of arithmetic approaches, we also use this approach here. However, we also construct two CPIs 1819-1871 by geometric approaches. Unfortunately we are not able to construct geometrical micro indices. Thus, the first of them are constructed by calculating geometrical sub-indices (p_G) for each consumption group according to equation (4), where n denotes number of commodities:

(4) $$P_G^c = \prod(p^i_t q^i_0)^{1/n} / \prod(p^i_0 q^i_0)^{1/n}$$

Substitution between the consumption groups must have been marginal, e.g. consumers did not substitute cod for skin. Accordingly, we have summed these geometric sub-indices up to an arithmetic general index P_{GA}:

(5) $$P_{GA} = \sum(p_G{}^c{}_t q^c_0) / \sum(p_G{}^c{}_0 q^c_0)$$

Finally, we calculate an index with geometric averages both on consumption group and aggregated level, by summing up the geometrical sub-indices in a geometrical index. This is done according to equation (6), where N denotes the number of consumption groups:

(6) $$P_G = \prod(p_G{}^i{}_t q^i_0)^{1/N} / \prod(p_G{}^i{}_0 q^i_0)^{1/N}$$

The choice of base year is decisive for the results, since the base decides the relative importance of the weights. To be able to a give each consumption group a weight we have investigated different reports and estimates of consumption around the middle of the periods in question. On the basis of existing sources, we have been able to construct weights both for consumption groups and for commodities within these groups in 1850. This year also seems to be one of the most representative in the period. Thus, 1850 is our chosen base year for 1830-1871.

Since we are constructing the CPI for 1819-1830 with less commodities and consumption groups than that for 1830-1871, revised weights are calculated for 1830, which is the chosen base year for 1819-1830. For the period prior to 1819 we use several base years when constructing CPI-series for different subperiods before we finally splice them into one CPI with 1750 as reference year.

5. Archival sources for prices

The bulk of the price data in the new CPI is taken from the State Archive and the City Archive of Bergen for the period 1516-1819 and Professor Ingvar Wedervang's Archive on Wages and Prices 1819-1871. Reporting more than a million observations this latter archive is one of the

richest archives on historical wages and prices in Europe. The bulk of the price data in the Wedervang Archive covers the years between 1830 and 1920, but there is also a fairly comprehensive coverage back to 1819. Thus, for the period 1819-1920 it is possible to find consistent annual prices on several commodities. Some prices, as for grain, even go back to the 17th and 18th century. However, they are not annual and their reliability is lower than for those collected from 1819 onwards.

Most price data from the State Archive are appraisal prices taken in Western Norway. In the City Archive of Bergen we have derived price data from merchant houses in Bergen. Most of the data in the Wedervang Archive was collected from official reports and investigations, local reports on prices reported to the central administration, from institutions, private business archives, price current[12] and research on prices carried out by scholars. In most cases the price series cover several decades. They are taken monthly, quarterly or annually in different towns and cities. Different price series report similar commodities and enable us to cross check the data. They are reported both on disaggregated and different aggregated levels in respect to time and location. In many cases both market and product prices are reported along with import prices and some export prices. Experts on historical prices have concluded that the reliability of the price data is very good.[13]

6. Commodities and consumption groups

We have been able to establish consistent annual consumer price series for of up to 21 commodities 1666-1819, 29 commodities representing eight consumption groups 1819-1830, and 47 commodities representing nine consumption groups 1830-1871. For the years prior to 1666 we have more random observations for grain. The chosen consumption groups and commodities 1819–1871 are listed in table 2 in the appendix of the article.

On the basis of surveys we can conclude that for the period up to 1666 the products represented, i.e. grain, accounted for about 20 per cent of total consumption. From 1666 the commodities should indicate the price movements of more than half of the total consumption. For the period 1819-1830 the consumption groups in the new price index should represent 80

12 Price currents are agreed catalogue prices decided by suppliers of goods. Market prices may deviate from the price currents, e.g., due to negotiated rebates.
13 Minde & Ramstad 1986, 100-112.

per cent of private consumption at the time, and from 1830 onwards, 90 per cent.[14] For the years 1516-1666 the reliability of the price index must be considered moderate. For the period 1666-1819 it is fairly good. The 1819-1830 index is even better. Finally, for 1830-1871, the reliability must be considered good.

The only major consumption groups missing from 1819 onwards, are those connected to services. These were of minor importance at the time. However, some products within the established consumption groups are missing. One such important product is housing. Nevertheless, arguable prices on wood give an indication on the long-term development of rental prices as it mirrors prices on material for building and construction. And in fact, some sources do not necessarily split between wood for building and construction and wood for fuel. This means that the prices on commodities within the consumption groups' chosen should be fairly representative for the general consumer price development in Norway 1819-1871. The data for interest rates on government bonds reported in Chapter four in this book and the data for house prices in reported in Chapter nine could potentially shed some light on the likely development in the housing component of CPI. This challenge is left for future work.

7. Prices 1516-1666

The price data for this first period are scarce, and they cover grain only. In 1888 the Norwegian economist T.H. Aschehoug published his work on Norwegian prices on grain since the discovery of America. His data were later included in the Wedervang Archive.[15] From 1516-1640 Aschehoug basically collected random price observations from state institutions. He compiled prices of rye, barley, oat and maslin from the Citadel in Bergen, official accounts from the county of Akershus and church accounts. The bulk of the data was taken in cities Bergen and the Christiania-area (Oslo). In addition Bergen and Christiania were the two major import ports, handling more than half of the rye imported to Norway. From 1641 Aschehoug used appraisal prices for Christiania and Akershus collected by public servants.

For some periods prior to 1641 there are significant lacunas in the price material. Aschehoug convincingly argues that grain prices in Norway and Denmark followed each other

14 Minde 1983, 47-51, Grytten & Minde 1998, 52-54.
15 Aschehoug 1888, 81-116, W155.

closely. This is also shown empirically. Thus, we apply grain prices for Denmark, collected by Falbe-Hansen and Scharling as indicators for the price movements of grain in Norway, where Norwegian data are missing.[16]

8. Prices 1666-1819

For the period 1666-1819 the number of price observations are significantly higher. It is for this period possible to come up with an annual price index. From 1666-1709 we basically use appraisal prices collected in several parishes in Western Norway. In most cases the vicars were responsible for the data collection. The observations were submitted to the bishop's office in Bergen, and summarised there. During the years 1666-1709 we trace price information for 7-21 commodities from these sources kept at the State Archive in Bergen.[17] However, none of these were collected at a permanent basis, and the coverage varies almost annually. Thus, we have to construct several sub-indices and splice these, to obtain one consistent annual CPI for 1666-1709.

From 1709 onwards, we basically use price data from merchants at the central Norwegian market place at the time, i.e. Bryggen in Bergen. The data are partly taken from merchant accounts and partly from price courants, reporting prices on traded goods between the northern parts of Norway and Bergen. We have compiled 18 more or less consistent price series from these sources, including grain, vegetables, beverages, colonial goods, manufacturing goods, fish, foodstuffs and skins. Some observations are taken directly from the City of Bergen Archive, some indirectly from Coldevin's work on prices in North-Norway in the eighteenth century.[18]

The sources we have used for the period up to 1819 do not allow us to construct a pure consumer price index. The appraisal prices for domestically produced goods should in many cases be considered product prices. However, the majority of domestically produced food was consumed at the farms. Thus, the product prices also reflect consumer prices. Prices

16 Falbe-Hansen 1869 and Scharling 1869.
17 The State Archive of Bergen, Bergen Domkapittelsprotokoller, 1639-1933.
18 The City Archive of Bergen, Nordfarkladder 1709-1819, A-0581 Rb 0001, Nordfaruttrekk 1712-1819, A-0581 Ra 0001, A-0597 Ra 0001, A-620 Ra 0001Bergens Pris-Courant for Nordlandshandlerne 1739-1818 and Coldevin 1938.

of imported goods more often reflect wholesale or consumer prices. The same apply for prices according to the price currents.

Another problem with most of the price data before 1819 is that most prices are reported only once or twice a year. For the period 1815-1819 prices were to a significant degree collected and reported monthly. However, this was a period of financial and monetary chaos, which makes it more difficult to interpret the data. According to notations made in the old currency, the *rigsdaler*, there was a significant inflation in 1816 and 1817. According to the notations made in the new currency, the *speciedaler*, there was deflation in these years. The notations in the new currency have been used in this work.

9. Prices 1819-1830

Private archives from merchant houses are important sources for consumer prices prior to 1830. In this work prices on refined sugar, plain sugar, salt, vinegar, rice, peas, rye, rye flour, barley, barley flour, fresh cod (round fish) and stockfish are compiled from such sources now kept at the Wedervang Archive. We use prices from merchant houses located in Tromsø, Oslo, Stange, Bergen, Trondheim, Grundset, Kristiansand, Ringsaker, Fredriksvern, Akershus, Fredrikstad, Kongsberg and Halden.[19] Some institution prices are also included, like prices paid for commodities bought by the Central Hospital in Christiania and the Garrison Hospital in Bergen.[20]

The geographical distribution also seems satisfactory, since the merchants and institutions in the archive were located in all major districts of the country, some in the major cities, some in smaller towns, and some even in rural areas. Admittedly, the coverage is poorer for the first years than for the last years. However, the data still give us a fairly good indication of annual price movements every year 1819-1830.

In addition to the merchant prices, the Wedervang Archive also holds a significant number of price data on fish and fish products 1818-1830.[21] These are prices collected by the Norwegian Inspector of Fisheries during the last part of the nineteenth and first part of the twentieth century, Fredrik Meltzer Wallem. Wallem collected an impressive number of fish

19 The Wedervang Archive, files W 051, W 210 and W 217.
20 W 217.
21 The Wedervang Archive, file W 397.

prices from different sources, spanning over significant parts of the nineteenth century. His data contain both exports, product and consumer prices. Most prices are taken from Norwegian ports, and the bulk of these from Bergen. For the period up to 1830, Wallem also collected price data from Stavanger, Trondheim, Kristiansund and Tromsø, along with some price data from merchant houses. His price observations start in 1818 and include cod, coalfish, clipfish and stockfish. The prices reported by us, are Wallem's calculated averages for each item. The prices basically stems from market prices reported by civil servants, price courants from fish markets and commodity bourses and private merchant archives. The prices reported by civil servants, bourses and fish markets were in principal collected each month or even more frequently. Some prices were recorded seasonally and some of the prices in the merchant archives even randomly. However, the bulk of the prices were collected at a regular basis. They probably constitute the most reliable existing price series for Norway 1819-1830.

One problem with Wallem's prices is that they are adjusted for exchange rate fluctuations from the official par silver value of the Norwegian speciedaler. We have readjusted these back to nominal prices by using exchange rate notations of the speciedaler.[22]

The final source for price data 1819-1930 is the Bergen Price Courant for the major market seasons.[23] These report prices of about 60 commodities traded between Bergen and the rest of the country, basically North-Norway and other towns and cities North of Bergen. They mirror the price level in the northern, middle and western parts of the country, and to a degree also the southern and the coastal districts of the eastern part of Norway. About 15-20 of these commodities can be part of a CPI. Some of the data were originally collected once a month, and then included in this courant. The bulk of the data, however, originates from the two major market seasons in Bergen during spring and autumn. The data reflect the officially agreed prices set by all privileged merchants from Bergen engaged in trade during the hectic market seasons. This source basically reports prices of fish and fish products, grain, colonial goods, beverages and skins.

22 Chapter 7 in this book.
23 The Wedervang Archive, file W 270.

10. Prices 1830-1871

Most price data for 1830-1871 are taken from consistent series of data collected by civil servants in Norwegian towns and cities. One major source is called ”Market prices in Norwegian towns”.[24] Market prices for 15 commodities were collected quarterly by the local magistrates' office in 40 towns and cities all over the country. The commodities reported were rye, wheat, barley, oat, potatoes, peas, flax, hemp, salt, iron, spirits, tar, wool, herring and stockfish (dried cod). 13 of these 15 commodities were basic consumer goods at the time. Iron and tar were not. Thus, these two are omitted here.

Data exist for all commodities every year, except from wool, where some lacunas exist. However, these lacunas can be filled with data from other sources in the Wedervang Archive.[25] We also find lacunas in the data for several towns. Nevertheless, the coverage must be considered reasonably good for most years, and satisfactory for the rest. The quarterly reported data were collected at the same time in every town, more precisely in the middle of the first month of every quarter. They have been summed up and annual averages are calculated for each item in every town and city. Thereafter, aggregated national averages are computed on an annual basis.

These price data must be considered some of the most valid and reliable for our purpose. In the first place, they report market prices. Secondly, they are taken from all major towns and cities. Thirdly, they are reported quarterly. Fourthly, they were collected by the town magistrate offices, assessed by them and assessed and assembled by county, and finally by departmental civil servants. The data were collected on the basis of a departmental circular from January 1816, instructing the local public servants how and where the prices should be collected and on which commodities.[26] Wedervang's staff collected data from these local reports in the 1930s. They left out most of the period before 1832. From then on, we have consistent data sets. Thus, we conclude that the data reported in ”Market prices from Norwegian towns” must be highly relevant and reliable for our purpose. The persistent records of these data in the Wedervang Archive basically came to a halt in 1871.

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24 The Wedervang Archive, file W 272.
25 The Wedervang Archive, files W 139, W 269, W 271 and W 383.
26 Sircular from 4th Department dated January 20th 1816 to all executive county public servants, kept at the Wedervang Archive, W 272.

A second important source from the Wedervang Archive is ”Market place prices on retail goods”, where annual prices on 24 commodities are reported.[27] These are rye, wheat, barley, oat, potatoes, oat flour, rye flour, oatmeal, veal, beef, mutton, pork (denoted bacon), butter, eggs, grouse, wood, hay, salt, sugar, coffee, spirits, malt, peas and tallow. Of these hay cannot be considered a consumer good, and is not included. The bulk of the price data covers the period 1830-1913. Prices were basically collected monthly or quarterly and reported annually by calculating averages for each town represented in the data set. Data for some months are lacking.

Price data were reported consistently for the four major cities in Norway, the capital city Oslo, Bergen, Trondheim and Stavanger. More sporadic data are taken from Levanger, Kongsberg and Drammen. The prices reported were basically market place prices. These were in principle recorded monthly, but in some cases quarterly. Local civil servants or local commodity bourse officers took the records. They were reported to the town magistrates' office or the bourse offices.

The coverage of the data is very good. The series are consistent, despite some lacunas for some cities. There are at least some observations on each product from minimum one city almost every year between 1830 and 1880. Market place prices also represent consumer prices. Compared to local price courants and other sources of consumer prices taken at the time, they also seem reliable.[28] Thus, we conclude that they are valid and reliable. In some cases they can be used to close existing lacunas. In addition, the ”Market place prices on retail goods” cover more products, and these excess commodities are added to our list.

A third important source of data is price courants.[29] The relevant courants in the Wedervang Archive are basically prices reported in the price courant for Bergen. Some observations are also made for other major cities, as Oslo, Trondheim, Kristiansund, Aalesund, Bodø and Tromsø. Prices on a significant number of products are reported in these courants. They cover various time spans. However, the bulk of the data starts in 1830 or 1861 and ends in the early nineteen hundreds. We have compiled prices for herring, cod, stockfish, clipfish, fish oil, buckskin, goatskin and calfskin, wheat, rye, barley and their respective kinds of flour, butter, milk, rice, malt, beer, tobacco, salt, sugar, spirits, hemp and flax from this source.

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27 The Wedervang Archive, file W 269.
28 W 269
29 The Wedervang Archive, files W 271, W 383.

Prices were recorded monthly or quarterly. Most observations for Bergen are consistent over time. As for the other cities and towns, the price courants are more sporadic. Thus, these prices are basically used to fill in gaps and to establish prices for consumer goods not covered by other sources in the Wedervang Archive. Official price mediators at Bergen Commodity Bourse collected the prices. There were strict instructions for those monitoring this work. A number of observations had to be included in the reported prices each month. Thus, they seem reliable. The market in Bergen was also a meeting point for traders from all over Western and Northern Norway, and thus, the prices seem representative for larger parts of the country. The price courants from other towns and cities were more sporadic. However, for some products they seem fairly consistent.

A fourth important source is "Retail and market place prices" from the capital city, Oslo. Market place prices on consumer goods were collected monthly from 1848 onwards up to 1919. Though some prices lack for several products in the 1850s. We have utilised price data for Oslo from several files in the Wedervang Archive.[30]

We have basically used the price data reported solely from Oslo as supplement to existing prices, to fill in gaps, and to a limited extent to establish additional price series. We have utilised prices on vegetable oil, beer, vinegar, refined sugar, rice, wheat flour, eggs, milk, cream, grouse, beef, veal, mutton, pork, cod and firewood from birch, spruce and pine.
These data are market place prices, and were collected by the measurement office of the capital. They were taken on a monthly basis, but in some cases more seldom. Some prices for other major cities and towns are also included in parts of the material. These price series are considered very reliable.[31] Because of their limited geographical coverage, we mainly use them as supplements to other sources.

Fifthly, the bulk of our prices on fish from 1830 onwards, are taken from two files in the Wedervang Archive.[32] One reports retail prices on fish and fish products from merchant archives from Bergen, Trondheim, Kristiansand, Kristiansund and Trondheim.[33] This file also contains price data for 1819-1830, and is already described above. The other file is a better

30 The Wedervang Archive, files W 128, W 139, W 206, W 220, W 275, W 276, W 383 and W 396.
31 Minde & Ramstad 1986, 102.
32 The Wedervang Archive, files W 051 and W 397.
33 W 051.

source. It contains data collected by the Norwegian Fishery Inspector of the last decades of the nineteenth century, Fredrik Meltzer Wallem.[34]

Wallem's prices are built on a significant amount of observations for each year. The bulk of Wallem's data are taken from Western and Northern Norway. Bergen, the central port for the fish industry, was his most important source. Prices were also included from other important fishing ports, as Egersund, Stavanger, Haugesund, Aalesund, Kristiansund, Bodø, Tromsø, Vadsø and Vardø. In addition, we have supplemented some consumer prices on fish from other sources already mentioned.[35]

Reliable consumer prices for herring are more difficult to find in Wallem's material. However, we have already compiled consumer prices for herring from the major files on market prices.[36] This data series report prices on herring in the major Norwegian cities 1830-1831 and in most Norwegian towns from 1832 onwards. Thus, we consider this series both valid and reliable.

Together these data enable us to construct valid and reliable annual price series for herring, cod, coalfish, stockfish and clipfish for every year 1830-1871. Most price observations are taken monthly or even in some cases weekly. And every reported price observation is the average of several observations in the very same port, city or town. Wallem's prices are considered reliable.[37] As long as we apply his consumer prices added with consumer prices on fish products from non-ports, they should also be valid in our case.

11. Readjusting for exchange rate fluctuations

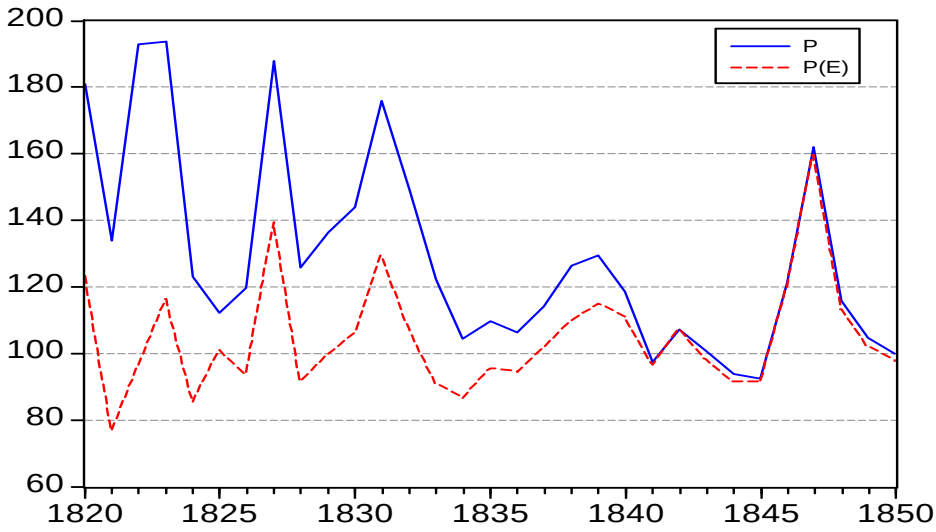
As already mentioned, there is a significant drawback both with Wallem's price data and with some of the other market prices reported by magistrates and commodity bourses. In the nineteenth and early twentieth century there was a tendency of reporting deflated prices instead of nominal prices. More precisely, prices were often adjusted for exchange rate fluctuations. The most common way of doing this before 1874 was to adjust prices for exchange rate fluctuations from the par silver value of the currency. For the period of investigation in this work, this

34 W 397.
35 W 269, W 272, W 220, W 383.
36 W 269, W 271 and W 272.
37 Brautaset 2002, 63-71.

applies to the years 1819-1842, when the Norwegian speciedaler fluctuated significantly from the official par value.

To account for this source of error in our data sets, we have to readjust Wallem's and other relevant price observations and price series back to their current values. This is done by using exchange rate quotations.[38] In the entire period 1819-1842 the market value of the speciedaler was far below the official par value. Thus, the price observations are readjusted with this factor. More precisely, they are inflated with the difference between the market rate and the par value. The effect of this readjustment is illustrated in Figure 1 where we show prices on grain and flour calculated with and without readjusting for exchange rate fluctuations.

Figure 1. Prices on grain and flour with and without readjustments for exchange rate fluctuations. P denotes the readjusted price and P(E) the deflated price on grain and flour.



12. Base years

To be able to construct a final CPI the different commodities must be weighted together in the index. According to the Laspeyre approach, the weights should be established on the basis of

38 Chapter 7 in this book.

their share of total consumption in the base year. We then need to choose representative base years for the periods. Next, we will have to find the weights of each item in the base years.

For the period 1830-1871 we aim at finding a representative base year towards the middle of the period, i.e. around 1850. In the last years prior to 1850, both the international and the domestic economy were marked by turbulence, due to a revolutionary and contra-revolutionary wave over continental Europe. As for the years after 1850, the economy was hit by the Crimean War. Thus, 1850 seems to be the most representative year towards the middle of the period.

As for the period 1819-1830, it is more difficult to find a representative base year. The Norwegian economy was hit by a post-war recession, protectionism from its most important trading partner, the United Kingdom, huge exchange rate fluctuations and institutional chaos. None of the years previous to 1830 could be considered normal or representative years. Thus, we have chosen 1830 as the base year for the period 1819-1830.

For the years prior to 1819 it is not easy to find any representative base year. One problem is that all commodity price series have lacunas, some of them are significant. This implies that the number of items included in the index varies a lot. Thus, the price index covering the years 1516-1819 in fact consists of several indices, which are spliced together. However, on the basis of Coldevin's work we have been able to use 1750 as the main base year, with 1600, 1670, 1675, 1680, 1685, 1700, 1704 and 1790 as base years for the sub-indices.

13. Weights

To be able to establish weights for each item and consumption group, we need to map the consumption pattern of the households. We first look at Jan Ramstad's estimates of consumption 1850-1910. He reports weights for ten consumption groups. His extra group, compared to ours, was hygiene. However, this was of marginal importance, and accounted for less than three per cent in 1850. In his work meat accounted for seven per cent, fish for two, milk products and eggs 27, bread and flour 14, vegetables two, colonial goods ten, beverages and tobacco one, lighting and heating 16, and clothing and footwear 18 per cent.[39]

39 Ramstad 1982, 492.

There are problems in using Ramstad's weights. In the first place, they are drawn from a consumer expenditure survey from 1912/1913. Ramstad assumed the same fixed weights in 1850 and adjusted them by the price differences between 1850 and 1912/1913. He did not take into account the changes in consumption that took place in the more than 60-year period. It has later been shown that the pattern of food consumption changed dramatically during this period.[40] Secondly, Ramstad's survey accounts for the capital city Oslo only, where the diet was very different from e.g. Western and Northern Norway, where people consumed far more fish. As for beverages, the consumption of alcohol was reduced dramatically during the second half of the nineteenth century and the early 1900s. Teetotalism, Puritanism and the labour movement became stronger and Norwegians became increasingly more sober after having consumed close to 20 litres of pure alcohol per capita in the 1830s.[41] We conclude that Ramstad's weights cannot be taken as representative for 1819-1871.

In connection with Statistics Norway's calculations of historical national accounts for Norway, estimates were made of consumption expenditures for 1865. According to this work food accounted for 46.5 per cent, beverages and tobacco 6.5, rents, lighting and heating 19.9, durable household goods and household operation 7.5, clothing and footwear 11.0, personal health care and hygiene 1.0, travelling and transportation 1.2, lodging etc. 2,0 and finally, other consumption 4.2 per cent.[42]

Kjell Bjørn Minde has examined consumer expenditure surveys taken in 1800, 1867, 1879 and 1890. The groups reported were cereals, meat, milk and dairy products, fish, potatoes, fruit and vegetables, colonial goods, other foodstuffs and beverages, and others.[43] The accountability of the surveys varied, in particular prior to 1890. However, it is obvious that cereals and flour were the most important products, followed by milk and dairy products, meat and colonial goods. On the basis of these and the 1865-estimates we are able to arrive at reasonable weights for 1830-1871 with 1850 as base year.

The relative weights of the different consumption groups are reported in table 1. The table includes the weights for each item within the consumption group. Camilla Brautaset has calculated Norwegian exports of fish, where she also gives empirical founded indications of

40 Grytten & Minde 1998, 52-55.
41 Hodne & Grytten 2000, 278-281, has estimated the consumption of spirits in 1835 to 17,5 litre per capita compared to Statistics Norway's estimate of 1.1 litre pure spirits per adult over 15 years in 1991.
42 Bjerke 1966, 76.
43 Minde 1983, 49.

domestic consumption.[44] By drawing information from her work we find relative weights for each fish product within their consumption group. As for meat and milk, new calculations of output, input, value added and consumption for Norway have been made.[45] We apply these figures to find weights for each item within their respective consumption groups.

After having established weights for 1850, we are able to extrapolate these back to 1830. This can partly be done by drawing on production and consumption information from established work on agriculture and fisheries, on public consumption surveys, and assuming the same trends 1830-1850 as 1850-1865. Two important sources in this matter are the contemporary work by Anton Martin Schweigaard and Martin Braun Tvethe. In 1840 and 1848 these two scholars established estimates for the size of the Norwegian economy around 1835 and 1845.[46]

However, some important modifications are made. Since rent, lighting and heating are represented with two commodities only, this group's share of the consumption basket is reduced from 20 to 15 per cent. Since we have good coverage for different fish products, their share is adjusted upwards from ten to 15 per cent.

The weights for 1819-1830 with 1830 as base year are also reported in table 1. Weights for each item are reported in table 2 in the appendix.

For the years prior to 1819 it is not easy to find any representative weights. One problem is that all commodity price series have lacunas, some of them are significant. This implies that the number of items included in the index varies a lot. Thus, the price index covering the years 1516-1819 in fact consists of several indices, which are spliced together. It is, however, clear that the typical consumption basket did not change significantly during the sixteenth, seventeenth and eighteenth century. For the first 150 years we only have price data on grain, and thereafter for staple consumer goods.

In his work on prices in the eighteenth century, Coldevin suggests different weights for the commodities.[47] We base our weights on his estimates. However, since the number of items varies significantly the actual weights differ a lot within the entire time span.

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44 Brautaset 2002, 97-114.
45 Grytten 2004, 47-76.
46 Schweigaard 1840, Tvethe 1848.
47 Coldevin 1938, 206-220.

Table 1. Weights of consumer expenditure for consumption groups 1819-1871.

Consumption groups 1819-1871	Weight of total 1819-1830	1830-1871
A. Fish and fish products	0.15	0.07
B. Milk and milk products	0.15	0.14
C. Meat	-	0.07
D. Crops and flour	0.25	0.18
E. Vegetables	0.08	0.07
F. Colonial	0.05	0.05
G. Beverages and tobacco	0.05	0.05
H. Rent, lighting and heating	0.15	0.21
I. Clothing	0.15	0.16
A-I. Total	1.00	1.00

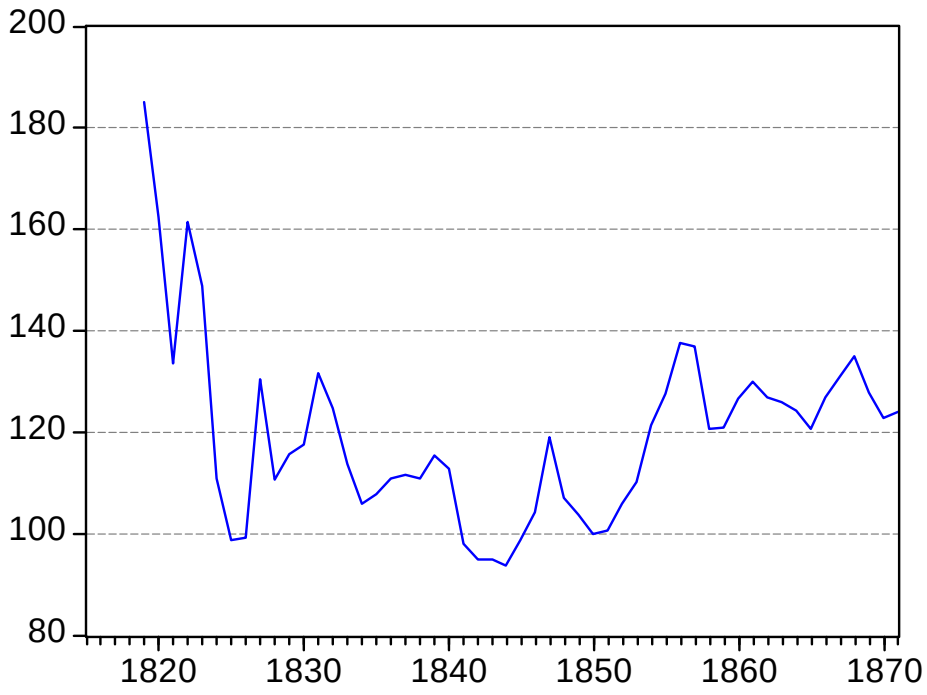
14. CPI for Norway 1819-1871

We are now in a position to construct a CPI 1819-1871. We first construct 47 micro indices 1830-1871. We sum these up to nine sub-indices and one general CPI. We then proceed with the construction of a CPI for 1819-1830. First we establish 29 micro indices. Then we summarise them into eight consumption group indices, and finally one general index. By splicing the index 1819-1830 with that for 1830-1871 we establish a continuous CPI.

The general CPI 1819-1871 is shown in Figure 2 below. Despite huge fluctuations, prices came down dramatically between 1819 and 1844. Most of the fall in prices came before 1842. During 1819-1842 prices fell by about 50 per cent. At the same time the Norwegian speciedaler appreciated by about 100 per cent. In other words, the fall in prices and the appreciation of the speciedaler were symmetric 1819-1842. From 1845 prices rose until 1856 and

thereafter stabilised. This picture is well in line with the picture of consumer price developments in other countries during the same period.[48]

Figure 2. CPI for Norway, general index 1819-1871 (1850=100).



15. Geometric indices 1819-1871

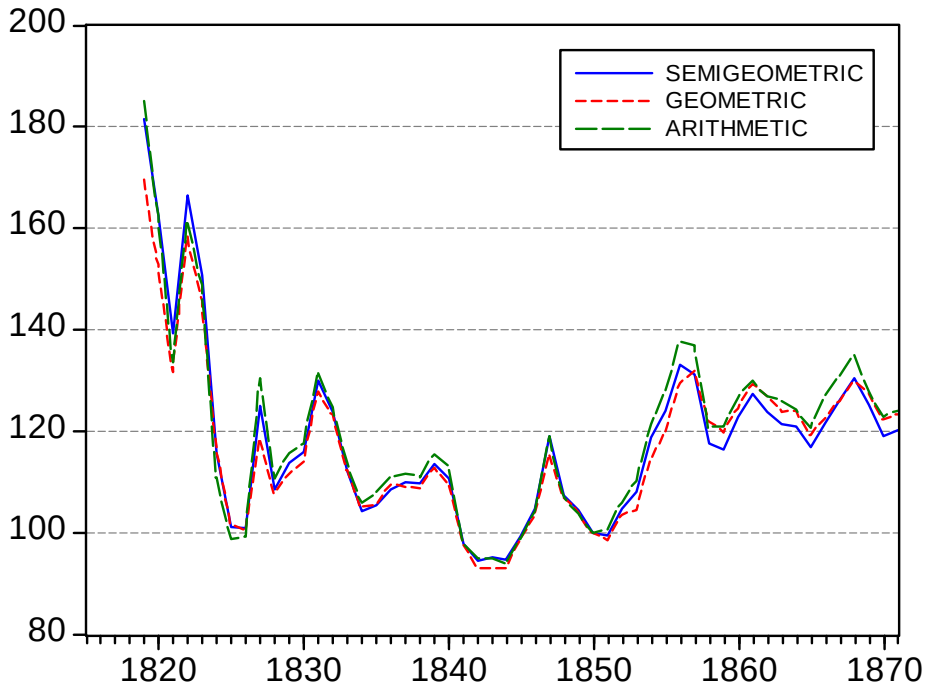
To be able to throw light on the substitution problem we have also computed the CPI for Norway 1819-1871 as a semi-geometric index (Semi-∏) and as a geometric index (∏).

In the Semi-∏ we first found micro indices and thereafter constructed sub-indices for the consumption groups by geometric averages of the micro indices within the consumption groups. Given, marginal substitution between consumption groups we calculated a general index as an arithmetic average of the geometric sub-indices.

48 Scholliers & Zamagni 1995, 203-266, Wagemann 1935.

Assuming that cross-consumption group substitution took place, it would also be of interest to compute a geometric index (∏), i.e. to calculate geometric averages of the geometric consumption group indices. Both these alternatives are compared to the traditional full arithmetic approach in Figure 3. As shown, the deviations between the series are modest, except for the first years of the period in question. According to the geometric approach prices did not fluctuate as significant as indicated by the arithmetic series. In particular the deflation period 1819-1825 is adjusted downwards by using the geometric approach. The same accounts for the strong inflation in 1827.

Figure 3. CPI for Norway 1819-1871 (1850=100). Arithmetic and geometric indices

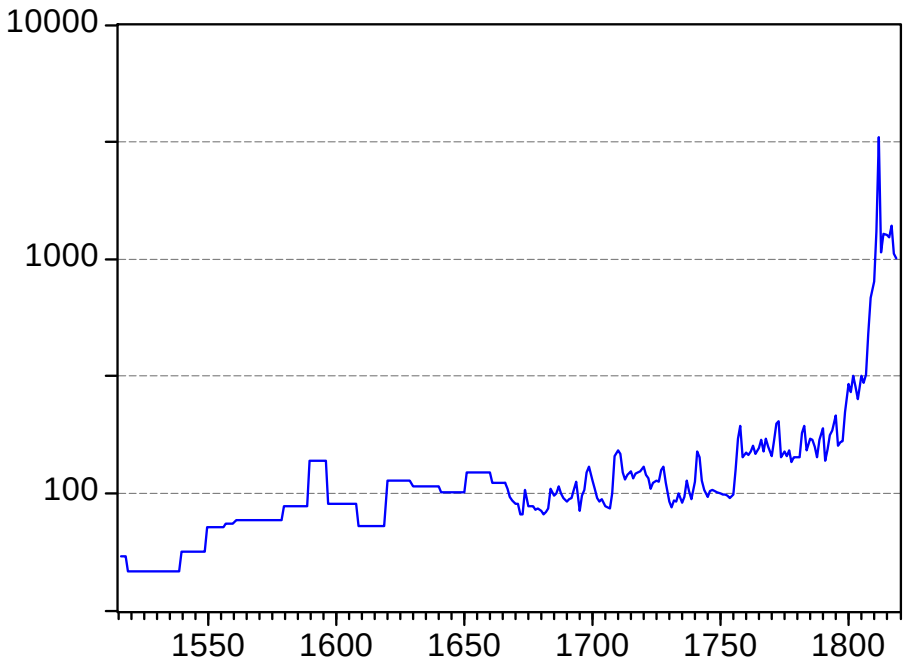


16. CPI 1516-1819

On the basis of the price data 1516-1819 and the relative weights suggested by Coldevin, it has been possible to construct a series of minor price indices each covering periods of three to twenty years. Different baskets of commodities are included in each series. However, types of grain, butter and fish are represented in most of these sub-indices. By splicing them, we obtain one continuous series 1516-1819. Some lacunas for the period up to 1641 are filled by extrapolating by Danish price data as argued above. From 1666 we have annual price data, and thus a continuous annual price index. The prices reflect both wholesale and consumer prices, which were quite similar in many cases.

The CPI for Norway 1516-1819 is reported in Figure 4. The index is presented with a semi-logarithmic scale.

Figure 4. CPI for Norway 1516-1819. Semi-logarithmic scale (1750=100).



17. CPIs from 1871 onwards

By splicing the new CPIs with similar indices we arrive at an annual CPI for Norway from 1516 to present. In 1982 Jan Ramstad constructed a cost of living index for working class families in Oslo 1850-1910.[49] Using a Laspeyre formula, he adopted weights derived from the 1912/1913 consumption expenditure survey for Oslo. The weights represent the reported average consumption of the lowest income group in the study. The index does not include house rents, which Ramstad was unable to find reliable sources on. Travel and cultural activities were of negligible portions, and were left out. Nevertheless, his sample of 55 products represents 77 per cent of the total consumption expenditure for working class families in Oslo.[50]

Ramstad used price data from the Wedervang Archive. He managed to construct price series for 55 commodities in ten consumption groups annually. For some years, in particular the first two decades of the period covered by the index, price data were lacking. Lacunas were closed by interpolations and extrapolations.

A significant problem regarding Ramstad's index is his choice of linear interpolations and extrapolations. Thus, price movements were smoothed. Another problem is that Ramstad's index covers Oslo only. Thirdly, Ramstad assumed a fixed consumption basket. Despite shortcomings in Ramstad's work for 1850-1870, his index from the 1870s onwards, gives a valid picture of the price development. Hence, we splice it with ours from 1871 onwards to 1901.

In the historical national accounts for Norway, an implicitly given price index for private consumption is reported back to 1865.[51] The index has never been documented. By comparing the figures of the historical national accounts deflator for private consumption with that for Sweden, we find very high correlation.[52] We cannot exclude the option that the CPI for Norway 1865-1900 is a revised version of a Swedish deflator for private consumption. Hence, it cannot be considered reliable, and is not used here.

On the basis of consumption among working class families the Statistical Office of Kristiania (Oslo) calculated a price index back to 1901. The weights of the different products were computed in connection with the consumption survey of 1912/1913. The number of

49 Ramstad 1982, 158-238.
50 Statistical Office of Kristiania 1915.
51 NOS 1968, 352-353.
52 Lindahl 1937, 21-46, Johansson 1967.

products included was limited, and varied significantly. The prices and weights were taken from Oslo exclusively. However, this index has been considered fairly reliable by Statistics Norway, and it is published as the standard cost of living index for Norway 1901-1916. Hence, we splice it with Ramstad's index in 1901.

In 1916 the Ministry of Social Affairs started the calculation of a cost of living index. In principle, their index applied for the entire country. The base year was 1914, and the weights were derived from the survey of consumption in six major cities of the country in 1912/1913, i.e. Oslo, Bergen, Trondheim, Kristiansand, Drammen and Hamar. The price data were taken from up to 16 towns, the number of commodities was around 60, mainly related to food and fuel.[53] The numbers of towns, products and product categories were increased significantly after Statistics Norway took over monitoring the cost of living index in 1919, running from 1920. We splice this index by the one from the Statistical Office of Kristiania (Oslo) in 1916.

As for 1920-1960, Statistics Norway monitored a cost of living index, which dates back to 1919. Again, the first weights were drawn from the consumption survey taken in 1912/1913. As mentioned, the survey included working class families in six major cities. The price data were taken in towns from entire country. The 1912/1913 weight bases were used up to 1929. The consumption weights were revised according to a survey taken in 1927/1928. In 1949 the survey was replaced by one from 1947/1948, reporting consumption in working class households in 31 towns and industrial centres. Prices were reported from a representative set of shops and plants all over the country. During the next years significant changes took place in the pattern of consumption. Thus, the weights were again revised on the basis of a new survey among working class households in 27 towns and industrial centres in 1951/1952. These weights were kept until 1960, when the cost of living index for working class households was substituted by a consumer price index for households in general, on the basis of new consumption expenditure surveys from 1959 and later.[54]

To sum up, Statistics Norway's cost of living index was calculated from price data taken in a representative number of shops and plants from towns and urban centres all over the country. In 1919 prices were recorded from 16 towns. The following year the number increased to 26. It reached 31 in 1928, 53 in 1949, and finally 100 towns and densely built-up

53 NOS 1978, 518-519.
54 NOS 1994, 292.

areas in 1959. The number of items reported was 120 in 1920, 180 in 1928, some 340 in 1949, and around 700 in 1959. The original weights of the different product categories from 1912-1913 were changed two times based on consumption surveys in 1927-1928 and 1947-1948.[55] We have spliced Statistics Norway's cost of living index 1919-1960 with the corresponding index by the Ministry of Social Affairs in 1919.

Finally, in 1959/1960 the cost of living index for working class households was replaced by Statistics Norway's consumer price index (CPI) for all households. In this index as well, the calculations are made according to the Laspeyre formula. The weight bases have been ascertained through family budget surveys. Statistics Norway's CPI covered average consumption in private households in the whole population as ascertained through the large-scale family budget survey of consumer expenditure in 1958. Special studies were undertaken during the preceding years relating to the consumption of farmers, fishermen and pensioners. Then, the weight bases were revised through extensive consumer expenditure surveys held in 1967 and 1973. From 1974 annual consumer surveys have been taken.[56] The main purpose has been to give descriptions of the consumption of private households in order to update the weights assigned for the consumer price index.

Since 1967 the surveys have covered all private households, i.e. persons living in the same dwelling and eating at least one meal together daily. Consumption expenses have been registered by means of detailed accounting and interviews. The net sample size has varied from 1.000 to 1.500 households annually.

The CPI 1960-1969 had 1959 as base year. For 1968-1975, 1968 was the base. 1974-1979 had 1974 as is base, and 1978-1982 1978. From 1982 onwards, the weights have been found on the basis of consumer expenditure surveys of periods of three years, i.e. three year moving averages. They are now updated annually. At the turn of the twentieth century Statistics Norway replaced its arithmetic CPI with a geometric CPI.

The survey holds data from a set of approximately 1.000 representative commodities. These have been selected according to their importance in average household consumption. Their corresponding prices are collected from a representative sample of stores within retail trade and service establishments. In sum, the survey comprises 40.000 to 45.000 observations

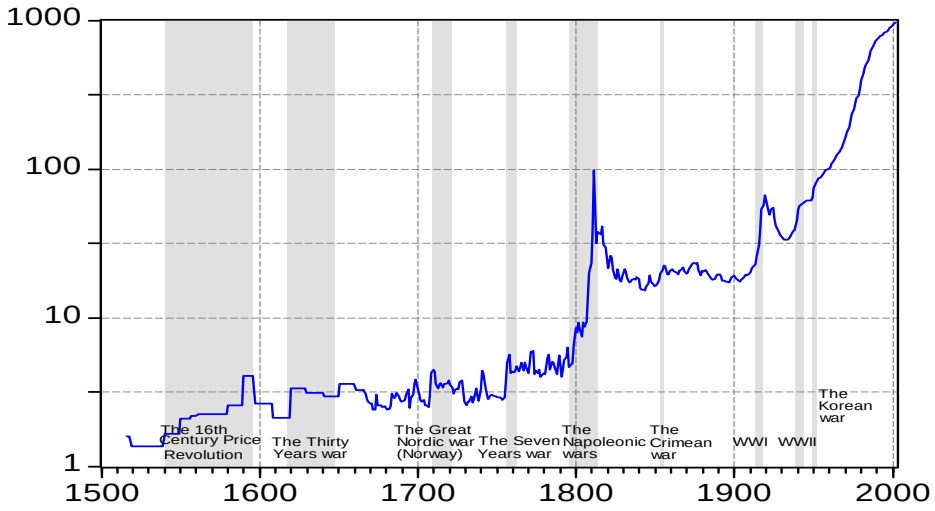
55 NOS 1978, 519.
56 NOS 1994, 289-292.

per month.[57] Statistics Norway's consumer price index 1960 to present is spliced with their cost of living index in 1960.

18. CPI for Norway 1516 to present

By splicing the new consumer price index 1516-1819 and 1819-1871, the Ramstad index 1871-1901, Statistical Office of Christiania's index 1901-1916, the Ministry of Social Affair's index 1916-1919, Statistics Norway's index 1919-1960 and Statistics Norway's index from 1960 onwards, we finally arrive at an annual CPI for Norway 1516 to present. This CPI is reported in Figure 5 (1960 set as reference year). The graph reveals two distinct features, one in the short and one in the long run.

Figure 5. CPI for Norway 1516-2003, semi-logarithmic scale (1960=100)



In the first place, with the exception of World War I and its aftermaths, pre-twentieth century short run prices fluctuated significantly more than twentieth century short run prices. Secondly, in the long run prices stepped up in the sixteenth century; they were more stable in the seventeenth century and increased in the eighteenth century. After the hyperinflation under

57 NOS 1994, 293.

and just after the Napoleonic Wars and the distinctive depression until the speciedaler reached par silver value in 1842, long-run prices stayed remarkably stable during the nineteenth century. This gives an indication of financial stability during the heydays of the silver and gold standards 1842–1914. In fact, due to the long nominal depression 1873-1896 prices in 1900 and even as late as 1913 were quite similar to those around 1830.

From 1914, the twentieth century was characterised by inflation, with the exception of the interwar period. After the Second World War prices increased steadily until the 1970s. Inflation then increased its pace until the late 1980s, when the inflation rate retarded.

19. Conclusions

Until now there has not been a consistent, valid and reliable price index for Norway previous to the 1870s. Thus, the present article offers a new CPI for Norway 1516-1871. This consists of two indices. The most valid and reliable, covering the period 1819-1871, reflects market or consumer price data from Norwegian towns and cities compiled and reported in the Wedervang Archive at the Norwegian School of Economics and Business Administration in Bergen, Norway.

The Wedervang Archive contains rich data sets on wages and prices. We have been able to construct price indices for 29 consumer commodities 1819-1830 and 47 commodities 1830-1871. The index and its corresponding sub-indices have been constructed according to the Laspeyre formula. This means that we have constructed consumption expenditure weights for two base years: 1830, covering the period 1819-1830; and 1850, covering the period 1830-1871. Weights are given for consumption groups and for commodities within these groups. The weights are estimated on the basis of former research in economic and social history, consumer expenditure surveys and consumption figures in the historical national accounts for Norway.

By using a geometric approach in the construction of the CPI, we conclude with alternative price series. With the exception of the period 1819-1927, when huge price fluctuations allowed for significant substitution effects, the CPI constructed by a traditional arithmetic approach and the alternative geometric approaches are well in line.

The price data necessary to compute the CPI 1516-1819 are basically taken from the State Archive of Bergen and the City Archive of Bergen. They are partly appraisal prices

partly market prices collected from merchants and price courants. The new CPI for Norway 1516-1871 has been spliced with existing CPIs and cost of living indices from 1871 onwards. We then obtained a national CPI 1516-2003.

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Table 2. Consumption expenditure weights 1819-1871.

Commodities	Weight		Commodities	Weight	
	1819-1830	1830-1871		1819-1830	1830-1871
A. Fish and fish products	*0.15*	*0.08*	*E. Vegetables etc*	*0.08*	*0.07*
1. Herring	0.25	0.20	24. Potatoes	-	0.70
2. Stockfish	0.15	0.10	25. Peas	0.70	0.15
3. Clipfish	0.08	0.10	26. Rice	0.30	0.15
4. Cod	0.35	0.40			
5. Coalfish	0.17	0.20	*F. Colonial goods*	*0.05*	*0.05*
			27. Raffinade	0.35	0.30
B. Milk products and eggs	*0.15*	*0.14*	28. Sugar	0.35	0.25
6. Butter	0.45	0.40	29. Coffee	-	0.30
7. Cream	-	0.10	30. Salt	0.30	0.10
8. Milk	0.55	0.40	31. Vinegar	-	0.05
9. Eggs	-	0.10			
			G. Beverages and tobacco	*0.05*	*0.05*
C. Meat and meat products	-	*0.07*	32. Spirits	0.50	0.35
10. Grouse	-	0.05	33. Malt	0.20	0.10
11. Beaf	-	0.35	34. Beer	-	0.25
12. Veal	-	0.15	35. Tobacco	0.30	0.30
13. Mutton	-	0.30			
14. Pork	-	0.15	*H. Rent, lighting and heating*	*0.15*	*0.20*
			36. Pinewood	-	0.15
D. Grain and flour	*0.25*	*0.18*	37. Whitewood	-	0.10
15. Rye	0.07	0.05	38. Birchwood	-	0.30
16. Wheat	-	0.05	39. Tallow	0.60	0.25
17. Barley	0.15	0.10	40. Fish oil	0.40	0.15
18. Oat	0.18	0.10	41. Veg. oil	-	0.05
19. Rye flour	0.15	0.15			
20. Oat flour	0.15	0.10	*I. Clothing*	*0.15*	*0.16*
21. Barley flour	0.15	0.10	42. Wool	-	0.35
22. Wheat flour	-	0.25	43. Flax	0.35	0.25
23. Oatmeal	0.15	0.10	44. Hemp	0.15	0.10
			45. Buckskin	0.15	0.10
			46. Goatskin	0.20	0.10
			47. Calfskin	0.15	0.10

Sources, Minde 1982, 49, Bjerke 1966, 76, Ramstad 1982, 492 and Grytten 2004, 73-76.

Table 3. CPI for Norway 1819-1871. Group A. Fish and fish products (1850=100).

	1. Herring	2. Stockfish	3. Clipfish	4. Cod	5. Coalfish	A. All
1819	184,7	163,0	278,6	179,2	160,0	184,0
1820	173,2	168,9	260,1	162,2	144,0	171,8
1821	162,2	172,9	245,5	161,7	140,7	167,7
1822	182,3	172,5	268,0	174,5	154,2	181,3
1823	158,1	164,8	256,7	129,6	113,3	150,3
1824	105,0	106,8	186,3	82,5	86,5	101,4
1825	85,0	82,8	150,0	48,7	85,4	77,7
1826	87,6	82,5	131,1	55,8	81,1	78,5
1827	115,0	108,4	154,9	82,8	89,2	102,2
1828	94,0	79,9	144,0	53,4	87,4	81,0
1829	84,0	79,3	133,5	72,9	72,8	82,0
1830	105,0	86,2	153,8	98,8	72,3	99,0
1831	110,8	85,5	202,8	122,7	54,7	111,0
1832	102,6	86,1	194,2	126,4	59,7	111,1
1833	109,3	97,7	197,8	125,6	54,4	112,5
1834	107,9	107,0	166,8	123,1	73,8	113,0
1835	100,9	92,7	149,2	119,9	83,5	109,1
1836	104,4	92,9	162,9	93,1	96,2	103,0
1837	95,6	85,7	134,4	59,0	88,5	82,4
1838	102,6	90,9	152,1	102,5	102,8	106,4
1839	105,8	87,2	168,5	129,4	97,1	117,9
1840	107,0	104,2	230,3	149,3	80,4	130,6
1841	104,1	98,4	168,8	144,7	71,4	119,7
1842	110,5	92,3	158,9	118,4	79,3	110,4
1843	106,1	100,0	167,3	129,1	76,6	114,9
1844	92,4	110,6	170,9	119,2	76,6	109,6
1845	89,8	121,2	165,5	148,5	66,7	119,4
1846	111,4	96,5	132,7	96,8	73,3	98,6
1847	106,1	89,1	149,1	77,3	79,9	91,9
1848	111,1	100,0	141,8	74,1	96,7	95,4
1849	105,8	110,6	149,8	106,4	120,1	113,8
1850	100,0	100,0	100,0	100,0	100,0	100,0
1851	91,5	91,6	87,3	72,7	78,1	80,9
1852	95,9	86,2	105,5	81,1	66,1	84,0
1853	107,6	82,5	96,7	62,2	48,0	73,9
1854	116,3	86,2	93,5	81,1	63,1	86,3
1855	118,1	107,6	146,0	64,8	48,0	84,5
1856	123,0	118,6	129,8	90,7	69,1	99,5
1857	136,7	129,3	129,8	116,9	90,1	118,0
1858	118,1	120,3	162,2	124,6	96,1	120,9
1859	119,2	94,1	151,3	121,5	93,7	115,7
1860	115,5	106,1	210,9	134,5	108,1	130,2
1861	121,3	130,4	162,2	130,3	102,1	126,1
1862	108,5	138,4	170,9	141,2	114,1	131,9
1863	107,9	157,0	177,5	155,5	123,1	141,9
1864	114,9	157,7	186,2	155,6	122,5	144,1
1865	115,5	133,4	157,8	158,6	126,1	140,9
1866	123,9	119,6	129,8	120,8	91,9	116,4
1867	128,3	128,6	129,8	119,7	90,1	117,4
1868	122,4	120,3	113,5	112,4	84,1	109,6
1869	112,8	123,9	174,5	165,0	132,1	144,8
1870	110,5	133,9	194,5	160,9	126,1	144,5
1871	122,7	178,1	189,1	162,2	132,1	152,6

Sources, W 051, W 139, W 270, W 271, W 272, W 396 and W 397.

Table 4. CPI for Norway 1819-1871. Group B. Milk products and eggs (1850=100).

	6. Butter	7. Cream	8. Milk	9. Eggs	B. All
1819	185,2		203,5		193,3
1820	160,1		189,5		174,5
1821	140,4		159,9		149,6
1822	162,1		184,6		172,8
1823	132,6		138,2		134,3
1824	117,9		124,6		120,4
1825	88,4		131,4		110,9
1826	91,9		130,1		111,8
1827	123,8		138,0		130,3
1828	125,5		118,9		120,7
1829	95,5		98,9		96,4
1830	110,5	90,9	92,3	92,3	99,5
1831	120,2	97,0	100,0	95,4	107,3
1832	110,5	90,9	92,3	91,5	99,4
1833	102,6	87,9	92,3	91,5	95,9
1834	92,1	83,3	84,6	90,8	88,1
1835	116,7	97,0	100,0	94,6	105,8
1836	121,9	100,0	100,0	94,6	108,2
1837	115,8	95,5	100,0	94,6	105,3
1838	101,8	87,9	92,3	93,8	95,8
1839	124,6	103,0	107,7	97,7	113,0
1840	122,8	98,5	100,0	96,9	108,7
1841	98,2	89,4	92,3	96,2	94,8
1842	89,9	83,3	84,6	95,4	87,7
1843	103,5	97,0	100,0	98,5	100,9
1844	101,8	93,9	92,3	97,7	96,8
1845	107,9	98,5	100,0	100,0	103,0
1846	109,2	98,5	100,0	100,0	103,5
1847	122,8	104,5	115,4	101,5	115,9
1848	114,0	103,0	107,7	100,8	109,1
1849	109,6	101,5	107,7	100,8	107,2
1850	100,0	100,0	100,0	100,0	100,0
1851	111,4	101,5	107,7	100,8	107,9
1852	114,0	101,5	107,7	100,8	108,9
1853	116,7	103,0	107,7	100,8	110,1
1854	129,8	104,5	115,4	103,1	118,8
1855	133,8	103,0	115,4	102,3	120,2
1856	153,5	106,1	123,1	103,1	131,5
1857	159,6	104,5	130,8	103,8	137,0
1858	138,6	86,4	115,4	102,3	120,5
1859	149,1	87,9	123,1	93,8	127,1
1860	143,0	92,4	123,1	90,8	124,7
1861	138,2	110,6	115,4	90,0	121,5
1862	128,1	104,5	107,7	80,8	112,8
1863	122,4	101,5	100,0	87,7	107,9
1864	132,9	103,0	107,7	78,5	114,4
1865	133,8	103,0	107,7	83,8	115,3
1866	143,9	104,5	115,4	70,0	121,2
1867	135,5	101,5	107,7	77,7	115,2
1868	138,2	101,5	107,7	76,9	116,2
1869	139,0	101,5	107,7	79,2	116,8
1870	139,5	98,5	115,4	73,8	119,2
1871	137,7	92,4	107,7	79,2	115,3

Sources, W 269, W 270, W 271, W 272, W 275, W 276 and W 396.

Table 5. CPI for Norway 1819-1871. Group C. Meat and meat products (1850=100).

	10. Grouse	11. Beef	12. Veal	13. Mutton	14. Pork	C. All
1819						
1820						
1821						
1822						
1823						
1824						
1825						
1826						
1827						
1828						
1829						
1830	78,3	105,9	116,3	88,4	101,9	100,2
1831	91,7	111,8	122,0	97,7	113,0	108,2
1832	88,3	114,7	123,4	102,3	109,3	110,2
1833	85,0	108,8	120,6	93,0	103,7	103,9
1834	133,3	105,9	119,1	90,7	100,0	103,8
1835	80,0	97,1	100,7	88,4	96,3	94,0
1836	70,0	150,0	107,8	120,9	114,8	125,7
1837	83,3	141,2	107,1	100,0	109,3	116,0
1838	85,0	120,6	90,1	81,4	100,0	99,4
1839	58,3	147,1	110,6	114,0	114,8	122,4
1840	58,3	141,2	117,0	111,6	111,1	120,0
1841	63,3	105,9	97,2	86,0	92,6	94,5
1842	65,0	85,3	92,2	74,4	83,3	81,8
1843	46,7	83,8	84,4	67,4	79,6	76,5
1844	66,7	100,0	86,5	74,4	87,0	86,7
1845	95,0	102,9	95,7	100,0	100,0	100,1
1846	91,7	100,0	85,8	81,4	88,9	90,2
1847	108,3	111,8	96,5	102,3	103,7	105,3
1848	91,7	129,4	96,5	114,0	114,8	115,8
1849	105,0	105,9	93,6	90,7	103,7	99,1
1850	100,0	100,0	100,0	100,0	100,0	100,0
1851	70,0	105,9	92,2	95,3	105,6	98,8
1852	105,0	117,6	133,3	104,7	118,5	115,6
1853	65,0	120,6	93,6	97,7	133,3	108,8
1854	88,3	147,1	101,4	127,9	142,6	130,9
1855	59,2	152,9	106,4	127,9	140,7	131,9
1856	91,7	161,8	114,2	144,2	146,3	143,5
1857	106,7	170,6	107,8	158,1	155,6	152,0
1858	115,0	158,8	111,3	144,2	135,2	141,6
1859	101,7	155,9	112,1	132,6	133,3	136,2
1860	83,3	150,0	102,8	93,0	127,8	119,2
1861	100,0	157,4	117,7	89,5	155,6	127,9
1862	79,2	158,8	127,0	110,5	155,6	135,1
1863	70,8	161,8	83,7	125,6	124,1	129,0
1864	83,3	145,6	128,4	118,6	120,4	128,0
1865	75,8	132,4	80,9	111,6	113,0	112,7
1866	75,8	154,4	92,2	120,9	140,7	129,1
1867	93,3	157,4	90,8	117,4	140,7	129,7
1868	109,2	167,6	103,5	134,9	150,0	142,6
1869	84,2	164,7	102,8	140,7	157,4	143,1
1870	100,0	161,8	104,3	130,2	157,4	139,9
1871	92,5	157,4	102,1	133,7	144,4	136,8

Sources, W 128, W 269, W 272 and W 275.

Table 6. CPI for Norway 1819-1871. Group D. Grain and flour (1850=100).

	15. Rye	16. Wheat	17. Barley	18. Oat	19. Rye flour	20. Oat flour	21. Barley flour	22. Wheat flour	23. Oat meal	D. All
1819	199,1		290,8	242,5	194,2	202,1	230,0		260,4	224,7
1820	163,6		231,2	195,4	159,5	169,8	180,2		205,7	180,9
1821	140,3		141,2	139,0	136,8	138,7	140,5		140,9	133,9
1822	169,2		240,9	234,3	149,7	182,9	216,1		191,4	193,0
1823	177,1		249,7	212,3	157,9	189,2	220,5		191,4	193,7
1824	103,4		150,2	146,4	98,2	135,4	132,5		114,8	123,1
1825	75,2		142,7	139,1	81,9	128,3	122,8		102,9	112,3
1826	106,6		149,0	131,8	97,1	123,7	134,3		119,6	119,7
1827	136,3		240,0	248,9	124,0	180,0	189,0		210,5	187,9
1828	133,2		113,0	161,1	120,5	114,9	121,4		148,3	125,7
1829	131,6		168,4	168,4	119,3	120,5	121,7		155,5	136,5
1830	133,2	125,8	217,6	168,4	122,8	114,9	122,2	134,4	157,9	143,8
1831	168,1	143,5	280,9	229,0	140,4	132,6	150,9	156,3	201,4	176,0
1832	168,2	152,4	154,8	138,6	152,0	141,4	110,0	153,1	166,7	149,3
1833	133,1	122,9	111,7	107,2	133,7	119,7	90,0	134,4	114,3	122,1
1834	117,2	98,3	92,9	90,2	113,9	94,2	80,0	115,6	99,8	104,4
1835	116,9	94,7	103,8	100,7	112,0	103,2	99,3	112,5	125,0	109,6
1836	114,2	90,8	115,1	113,7	99,0	115,0	110,6	100,0	124,0	106,3
1837	114,2	99,8	117,2	125,5	107,8	132,0	120,0	109,4	129,4	114,2
1838	131,8	118,2	133,1	139,9	119,3	139,0	133,7	118,8	136,1	126,3
1839	131,4	144,0	135,6	137,9	121,8	140,2	134,9	118,8	147,7	129,5
1840	119,3	137,4	121,3	129,4	109,6	112,9	110,0	109,4	149,2	118,6
1841	114,5	110,7	100,0	96,1	95,2	84,6	85,0	90,6	114,3	97,3
1842	119,3	120,1	104,6	92,2	111,1	87,0	87,0	109,4	118,7	107,3
1843	117,9	101,1	107,1	97,4	102,2	100,0	96,2	93,8	109,3	100,9
1844	104,1	95,1	111,3	100,0	85,8	97,8	94,1	81,3	116,1	93,9
1845	111,5	91,5	104,6	90,2	86,3	86,8	83,5	84,4	118,1	92,4
1846	150,0	125,9	126,8	111,8	121,6	105,3	101,2	118,8	132,4	121,1
1847	175,0	155,8	172,8	158,2	163,7	139,4	134,1	159,4	182,4	162,1
1848	117,6	112,6	124,7	116,3	109,9	107,2	109,6	115,6	129,0	115,9
1849	98,0	104,3	107,1	98,7	101,8	106,7	107,1	106,3	112,7	104,7
1850	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
1851	112,2	103,4	105,4	115,7	93,6	113,8	120,0	109,4	100,5	105,7
1852	132,8	105,3	125,9	119,0	98,2	119,5	125,0	118,8	123,4	115,5
1853	146,3	122,4	138,9	126,8	133,3	109,5	97,4	139,1	136,6	131,5
1854	168,9	150,2	149,8	143,8	126,3	109,1	123,0	165,6	148,2	145,4
1855	174,7	156,0	159,4	150,3	133,3	143,9	152,5	190,6	157,7	159,5
1856	189,2	168,6	184,9	166,0	142,7	162,0	147,4	212,5	177,3	174,3
1857	148,6	143,4	165,7	149,0	117,0	107,3	132,5	159,4	162,9	144,7
1858	126,4	117,1	139,3	130,1	99,4	112,2	102,0	106,3	144,1	115,1
1859	122,6	111,3	133,9	137,9	102,3	118,8	102,2	109,4	124,5	114,5
1860	136,1	128,6	151,9	158,8	122,8	130,0	97,4	121,9	143,7	129,6
1861	148,0	140,6	160,7	160,1	135,3	140,9	132,8	137,5	166,6	144,7
1862	156,4	140,4	149,0	141,8	141,8	130,6	131,0	143,8	141,9	142,6
1863	139,5	118,8	133,1	130,7	126,7	101,3	113,0	137,5	121,9	128,8
1864	124,3	108,5	127,6	126,8	107,1	100,1	108,0	103,1	122,5	112,7
1865	119,9	102,8	162,8	122,9	112,6	95,9	100,2	96,9	123,6	114,4
1866	137,5	116,7	149,0	142,5	126,6	116,8	120,1	118,8	145,5	129,8
1867	167,2	144,0	166,9	145,8	164,6	123,4	132,5	118,8	161,5	147,1
1868	195,9	154,5	189,5	171,9	178,6	161,3	127,4	156,3	182,9	168,4
1869	155,1	129,5	172,8	160,1	142,9	155,2	118,0	115,6	141,5	138,1
1870	136,1	115,2	141,4	136,6	128,8	117,9	94,0	106,3	135,0	122,0
1871	135,1	120,3	140,2	135,9	128,7	134,0	97,4	121,9	136,1	126,4

Sources, W 210, W 213, W 219, W 269, W 270, W 271, W 272, W 383, W 396, Bergen Domkapittelsprotokoller.

Table 7. CPI for Norway 1819-1871. Group E. Vegetables etc (1850=100)

	24. Potatoes	25. Peas	26. Rice	E. All
1819		186,0	236,7	154,9
1820		158,4	210,0	133,9
1821		117,1	190,0	107,0
1822		151,5	221,7	132,8
1823		172,2	230,0	145,9
1824		151,5	223,3	133,2
1825		144,6	186,7	121,0
1826		137,7	181,7	116,2
1827		165,3	190,0	132,9
1828		137,7	180,0	115,8
1829		110,2	193,3	104,0
1830	84,0	116,9	164,5	101,0
1831	90,3	133,0	201,4	113,4
1832	89,1	145,5	166,7	109,2
1833	79,8	126,2	114,3	92,0
1834	66,4	119,0	99,8	79,3
1835	79,8	110,5	125,0	91,2
1836	84,9	110,5	124,0	94,6
1837	89,1	112,4	129,4	98,6
1838	95,0	115,2	136,1	104,2
1839	74,8	115,7	147,7	91,9
1840	74,8	114,3	149,2	91,9
1841	72,3	105,5	114,3	83,6
1842	79,0	106,9	118,7	89,1
1843	79,0	98,3	109,3	86,4
1844	69,7	94,5	116,1	80,4
1845	73,9	100,0	118,1	84,5
1846	89,1	119,3	132,4	100,1
1847	116,0	150,7	182,4	131,1
1848	92,4	116,3	129,0	101,5
1849	88,2	107,2	112,7	94,7
1850	100,0	100,0	100,0	100,0
1851	88,2	95,6	100,0	91,1
1852	106,7	111,6	95,0	105,7
1853	100,8	122,9	95,0	103,3
1854	85,7	149,3	105,0	98,1
1855	121,8	146,0	113,3	124,2
1856	133,6	165,0	121,7	136,5
1857	125,2	152,9	101,7	125,8
1858	105,9	149,6	110,0	113,1
1859	105,0	141,3	111,7	111,5
1860	120,2	144,1	111,7	122,5
1861	138,7	154,3	108,3	136,4
1862	120,2	148,2	106,7	122,3
1863	115,1	138,8	86,7	114,4
1864	110,9	131,7	81,7	109,6
1865	105,9	132,2	75,0	105,2
1866	116,8	141,9	80,0	115,0
1867	137,0	155,4	78,3	130,9
1868	158,0	174,4	78,3	148,5
1869	121,8	157,6	78,3	120,7
1870	116,8	144,1	75,0	114,6
1871	100,0	134,7	76,7	101,7

Sources, W 213, W 217, W 269, W 270, W 271, W 272 and W 396.

Table 8. CPI for Norway 1819-1871. Group F. Colonial goods (1850=100).

	27. Raffinade	28. Sugar	29. Coffee	30. Salt	31. Vinegar	F. All
1819	207,6	202,7		171,2		181,3
1820	184,2	179,8		155,8		162,0
1821	166,6	162,7		155,4		150,6
1822	194,4	189,8		225,6		188,0
1823	201,7	197,0		291,4		211,1
1824	192,8	188,2		216,2		184,3
1825	149,5	146,0		188,0		148,6
1826	147,4	143,9		169,2		142,0
1827	153,6	150,0		136,3		136,8
1828	164,9	161,1		164,5		152,0
1829	175,3	171,1		140,4		151,9
1830	176,3	176,6	128,2	150,4	125,1	156,8
1831	163,9	164,2	170,9	161,6	137,7	164,5
1832	158,8	159,0	190,9	165,1	132,8	167,8
1833	148,5	148,7	185,5	162,7	125,7	159,9
1834	135,1	135,3	147,3	146,8	113,1	138,9
1835	132,0	132,2	146,4	134,1	113,1	135,6
1836	145,4	145,6	138,2	134,1	125,7	141,2
1837	142,3	142,5	124,5	138,9	125,1	135,8
1838	126,8	127,0	112,7	138,1	110,9	123,0
1839	121,6	121,9	116,4	138,9	108,7	121,2
1840	117,5	117,7	110,9	119,8	104,9	115,2
1841	109,3	109,5	100,9	112,7	102,7	106,8
1842	96,9	97,1	81,8	105,6	91,1	93,0
1843	94,8	95,0	76,4	101,6	89,2	89,7
1844	95,9	96,0	74,5	99,2	90,1	89,6
1845	110,3	110,5	76,4	96,8	103,7	98,5
1846	106,2	106,4	76,4	111,1	99,8	97,5
1847	108,2	108,4	80,0	112,7	101,8	99,9
1848	106,2	106,4	80,0	109,5	99,8	98,4
1849	103,1	103,3	86,4	100,0	96,9	97,5
1850	100,0	100,0	100,0	100,0	100,0	100,0
1851	99,0	100,0	99,1	97,6	100,0	99,2
1852	96,9	90,2	89,1	95,2	100,0	92,9
1853	102,1	103,3	101,8	105,6	100,0	102,5
1854	108,2	106,6	110,9	113,5	100,0	108,7
1855	113,4	123,0	110,9	99,2	98,4	112,9
1856	127,8	150,8	108,2	100,8	96,2	123,4
1857	143,3	175,4	117,3	100,0	96,7	136,9
1858	129,9	149,2	117,3	97,6	97,3	126,1
1859	120,6	144,3	122,7	88,1	91,8	122,5
1860	122,7	144,3	141,8	89,7	88,0	128,8
1861	121,6	150,8	127,3	93,7	85,2	126,0
1862	124,7	150,8	139,1	92,9	90,2	130,6
1863	120,6	142,6	154,5	89,7	94,5	131,9
1864	118,6	147,5	152,7	90,5	99,5	132,3
1865	118,6	139,3	145,5	88,9	95,6	127,7
1866	112,4	139,3	141,8	86,5	97,3	124,6
1867	111,3	136,1	131,8	88,9	101,1	120,9
1868	110,3	137,7	121,8	91,3	102,7	118,3
1869	114,4	144,3	121,8	88,1	104,9	121,0
1870	118,6	150,8	120,0	86,5	101,1	123,0
1871	123,7	149,2	124,5	86,5	101,1	125,5

Sources, W 137, W 210, W 269, W 270, W 271, W 272, W 396 and W 397.

Table 9. CPI for Norway 1819-1871. Group G. Beverages and tobacco (1850=100).

	32. Spirits	33. Malt	34. Beer	35. Tobacco	G. All
1819	153,3	164,2		175,0	152,6
1820	128,3	146,7		165,0	132,2
1821	98,3	124,2		150,0	107,0
1822	123,3	148,3		200,0	130,6
1823	135,0	140,8		158,3	132,6
1824	116,7	100,8		133,0	104,6
1825	106,7	83,0		111,1	91,2
1826	101,7	86,0		125,0	90,2
1827	123,3	148,3		133,3	130,6
1828	103,3	105,6		111,4	100,4
1829	93,3	104,7		108,3	95,2
1830	100,0	118,6	103,0	108,3	105,1
1831	126,7	148,8	133,3	108,3	125,0
1832	120,0	139,6	127,3	108,3	120,3
1833	100,0	105,9	93,9	107,5	101,3
1834	86,7	88,6	75,8	132,5	97,9
1835	80,0	98,8	84,8	120,0	95,1
1836	80,0	106,7	97,0	127,5	101,2
1837	120,0	100,2	90,9	117,5	110,0
1838	93,3	119,9	100,0	125,0	107,2
1839	86,7	132,5	118,2	125,0	110,6
1840	73,3	118,6	106,1	100,0	94,0
1841	66,7	109,5	97,0	92,5	86,3
1842	66,7	99,0	87,9	82,5	80,0
1843	73,3	106,2	93,9	82,5	84,5
1844	60,0	104,9	93,9	82,5	79,7
1845	66,7	104,2	93,9	92,5	85,0
1846	80,0	137,7	118,2	92,5	99,1
1847	93,3	168,2	139,4	92,5	112,1
1848	86,7	126,6	115,2	105,0	103,3
1849	93,3	106,1	106,1	100,0	99,8
1850	100,0	100,0	100,0	100,0	100,0
1851	100,0	107,2	106,1	130,0	111,2
1852	100,0	126,3	115,2	100,0	106,4
1853	100,0	135,9	124,2	100,0	109,7
1854	100,0	159,0	130,3	105,0	115,0
1855	120,0	164,6	151,5	112,5	130,1
1856	133,3	180,2	160,6	120,0	140,8
1857	140,0	172,0	197,0	175,0	167,9
1858	133,3	179,1	203,0	175,0	167,8
1859	133,3	173,2	203,0	182,5	169,5
1860	133,3	194,5	206,1	182,5	172,4
1861	146,7	223,4	245,5	175,0	187,5
1862	133,3	223,4	227,3	187,5	182,1
1863	133,3	225,3	215,2	192,5	180,7
1864	126,7	234,9	224,2	187,5	180,1
1865	126,7	247,6	236,4	175,0	180,7
1866	126,7	247,6	236,4	175,0	180,7
1867	126,7	250,7	239,4	147,5	173,5
1868	140,0	282,5	269,7	142,5	187,4
1869	133,3	285,6	272,7	130,0	182,4
1870	126,7	215,8	206,1	145,0	160,9
1871	133,3	228,5	218,2	152,5	169,8

Sources, W 210, W 269, W 270, W 271, W 272, W 396 and Hodne 1978, 218.

Table 10. CPI for Norway 1819-1871. Group H. Rent, lighting & heating (1850=100).

	36. Pinewood	37. Whitewood	38. Birchwood	39. Tallow	40. Fish oil	41. Veg oil	H. All
1819				132,2	130,9		112,7
1820				130,0	125,0		109,5
1821				116,7	108,0		96,9
1822				128,8	123,3		108,3
1823				119,7	77,0		87,8
1824				110,4	61,6		77,8
1825				101,2	57,9		71,8
1826				82,8	62,8		64,0
1827				82,8	82,4		70,7
1828				87,5	92,4		76,5
1829				138,1	154,4		123,7
1830	92,7	101,4	101,8	142,7	127,1	150,0	116,8
1831	100,0	106,5	120,0	157,3	142,6	156,3	130,2
1832	98,8	105,1	120,0	161,5	136,2	148,8	129,6
1833	92,7	101,4	115,0	155,2	106,4	129,4	119,8
1834	90,2	95,2	113,1	149,0	82,7	120,8	112,7
1835	86,8	90,1	119,3	124,0	87,0	116,2	107,7
1836	98,8	102,3	121,3	122,9	107,5	110,7	113,8
1837	113,5	122,9	134,4	115,6	106,6	112,5	120,2
1838	97,0	114,2	124,9	110,4	110,7	103,1	112,8
1839	95,4	95,2	114,6	132,3	96,5	112,5	111,4
1840	94,8	97,4	106,0	130,2	87,4	117,7	107,3
1841	78,9	91,2	99,2	115,6	76,8	114,3	96,9
1842	89,3	86,8	106,6	101,6	80,6	109,6	97,0
1843	77,4	85,2	89,6	89,1	92,2	105,4	88,4
1844	87,0	103,8	100,5	84,4	98,8	94,0	94,2
1845	98,8	124,6	108,9	99,0	96,1	93,8	103,8
1846	98,2	118,8	107,5	108,3	78,5	98,5	102,6
1847	121,7	131,2	126,7	115,6	74,6	98,1	114,4
1848	99,4	126,5	106,6	126,0	68,4	101,9	106,4
1849	106,7	99,3	108,3	109,4	79,5	105,0	102,9
1850	100,0	100,0	100,0	100,0	100,0	100,0	100,0
1851	102,4	102,9	108,0	87,5	104,3	57,5	98,5
1852	111,3	112,3	118,2	101,0	104,0	73,1	107,9
1853	120,1	121,6	128,5	102,1	102,6	89,4	114,1
1854	134,6	143,3	140,7	126,0	101,7	83,1	127,7
1855	128,5	139,7	128,7	127,1	116,6	83,8	125,3
1856	152,3	157,5	148,7	122,9	126,0	81,3	136,9
1857	148,5	153,5	152,8	125,0	134,1	78,1	138,7
1858	130,6	128,4	125,5	106,3	101,2	75,0	115,6
1859	123,3	125,8	125,5	120,8	94,4	78,8	117,0
1860	119,6	149,9	132,6	119,8	95,4	83,1	121,1
1861	114,3	144,5	125,1	115,1	93,3	81,3	116,0
1862	107,6	112,8	117,8	108,3	108,1	76,9	109,9
1863	112,4	107,7	128,2	103,6	132,2	76,9	115,7
1864	111,5	105,7	128,2	84,9	136,1	79,4	111,3
1865	106,3	107,7	124,5	84,4	114,4	73,8	106,0
1866	118,8	127,4	129,7	100,0	101,4	75,0	113,4
1867	140,5	121,2	146,3	98,4	104,6	90,0	121,9
1868	117,7	120,1	140,7	78,6	102,5	91,9	111,5
1869	112,6	117,2	119,3	80,7	96,5	93,1	103,7
1870	109,9	111,3	117,7	83,3	89,7	75,0	101,0
1871	118,8	127,4	129,3	77,6	99,8	66,9	107,1

Sources, W 206, W 210, W 269, W 270, W 271, W 386 and W 396.

Table 11. CPI for Norway 1819-1871. Group I. Clothing (1850=100).

	42. Wool	43. Flax	44. Hemp	45. Buckskin	46. Goatskin	47. Calfskin	I. All
1819		284,3	199,9	144,4	184,6	111,7	200,6
1820		266,0	190,2	135,0	175,3	108,9	189,3
1821		220,8	160,3	120,7	150,8	90,0	159,8
1822		278,4	197,3	133,2	175,0	94,6	192,2
1823		261,7	180,2	119,9	161,5	74,5	176,4
1824		185,6	135,1	106,6	128,0	59,5	133,0
1825		178,2	115,8	106,6	134,4	44,8	126,7
1826		162,4	120,1	83,3	111,0	42,9	113,6
1827		155,0	139,4	79,9	121,1	44,8	115,7
1828		155,0	152,3	79,9	121,1	44,8	117,6
1829		155,0	182,3	79,9	121,1	63,2	124,7
1830	124,5	155,0	143,7	83,3	121,1	66,9	120,1
1831	129,6	161,7	152,2	83,3	110,4	70,8	124,8
1832	123,6	154,8	147,3	83,3	125,0	73,8	120,7
1833	120,3	139,4	131,3	91,7	125,0	72,8	115,7
1834	122,3	131,6	122,5	100,0	128,6	70,8	115,1
1835	119,1	141,4	117,9	100,0	128,6	60,0	114,8
1836	117,2	140,1	112,3	100,0	125,0	59,0	113,2
1837	126,9	132,3	113,1	100,0	126,5	61,0	114,9
1838	129,6	119,4	105,5	100,0	115,8	60,7	111,8
1839	126,2	120,6	113,5	100,0	114,3	70,2	112,7
1840	132,1	124,2	119,4	108,3	114,3	78,7	118,8
1841	86,0	116,5	115,9	108,3	114,3	78,7	100,3
1842	88,7	108,9	111,2	75,0	89,3	66,9	91,1
1843	102,3	106,3	106,9	83,3	100,0	80,7	97,8
1844	105,8	96,6	95,4	83,3	100,0	84,3	95,8
1845	102,3	95,8	96,8	83,3	110,7	89,8	95,1
1846	110,9	100,1	99,9	91,7	113,4	98,0	102,0
1847	105,0	108,1	99,5	91,7	125,0	98,4	101,9
1848	101,7	108,2	105,8	102,5	121,4	108,2	104,5
1849	103,2	102,7	110,4	107,5	119,6	108,2	105,2
1850	100,0	100,0	100,0	100,0	100,0	100,0	100,0
1851	107,7	97,4	99,5	100,0	114,3	109,2	102,9
1852	98,3	108,8	98,7	100,0	89,3	98,4	101,3
1853	102,3	106,5	99,0	108,3	107,1	119,0	105,9
1854	114,5	120,6	126,5	108,3	121,4	129,8	117,5
1855	118,4	133,6	151,4	108,3	100,0	149,5	126,6
1856	117,2	130,1	128,4	108,3	107,1	154,1	123,5
1857	125,4	122,2	120,3	116,7	142,9	130,5	122,8
1858	120,7	117,2	111,3	91,7	107,1	102,3	111,2
1859	119,0	116,8	103,8	91,7	107,1	118,0	111,4
1860	123,0	124,4	106,2	100,0	133,9	152,5	120,0
1861	124,2	125,1	107,5	102,5	133,9	157,4	121,7
1862	124,8	115,4	107,1	105,0	134,8	159,3	120,2
1863	127,9	127,5	116,4	112,5	138,4	167,2	127,5
1864	139,5	136,6	116,2	125,0	143,8	172,1	136,8
1865	131,1	131,3	115,5	115,0	140,2	167,2	130,0
1866	144,3	133,8	112,4	130,0	146,4	174,3	138,6
1867	138,7	131,1	115,2	125,0	142,9	168,0	134,6
1868	139,0	130,3	117,7	125,0	144,6	173,2	135,3
1869	130,4	127,5	118,5	115,0	139,3	171,4	129,5
1870	126,9	127,6	121,6	112,5	138,4	170,4	128,0
1871	128,8	124,4	104,9	112,5	133,0	167,2	125,9

Sources, W 139, W 270, W 271, W 272, W 383 and W 386.

Table 12. CPI for Norway 1819-1871 with sub-indices (1850=100).

	A. Fish & fish products	B. Milk & milk products	C. Meat & meat products	D. Grain & flour	E. Vegetables	F. Colonial goods	G. Beverages & tobacco	H. Rent, lighting & heating	I. Clothing	J. General
1819	184,0	193,3		224,7	154,9	181,3	152,6	112,7	200,6	185,0
1820	171,8	174,5		180,9	133,9	162,0	132,2	109,5	189,3	162,4
1821	167,7	149,6		133,9	107,0	150,6	107,0	96,9	159,8	133,6
1822	181,3	172,8		193,0	132,8	188,0	130,6	108,3	192,2	161,5
1823	150,3	134,3		193,7	145,9	211,1	132,6	87,8	176,4	148,8
1824	101,4	120,4		123,1	133,2	184,3	104,6	77,8	133,0	111,0
1825	77,7	110,9		112,3	121,0	148,6	91,2	71,8	126,7	98,7
1826	78,5	111,8		119,7	116,2	142,0	90,2	64,0	113,6	99,2
1827	102,2	130,3		187,9	132,9	136,8	130,6	70,7	115,7	130,5
1828	81,0	120,7		125,7	115,8	152,0	100,4	76,5	117,6	110,7
1829	82,0	96,4		136,5	104,0	151,9	95,2	123,7	124,7	115,6
1830	99,0	99,5	100,2	143,8	101,0	156,8	105,1	116,8	120,1	117,5
1831	111,0	107,3	108,2	176,0	113,4	164,5	125,0	130,2	124,8	131,6
1832	111,1	99,4	110,2	149,3	109,2	167,8	120,3	129,6	120,7	124,7
1833	112,5	95,9	103,9	122,1	92,0	159,9	101,3	119,8	115,7	113,7
1834	113,0	88,1	103,8	104,4	79,3	138,9	97,9	112,7	115,1	105,8
1835	109,1	105,8	94,0	109,6	91,2	135,6	95,1	107,7	114,8	107,7
1836	103,0	108,2	125,7	106,3	94,6	141,2	101,2	113,8	113,2	110,9
1837	82,4	105,3	116,0	114,2	98,6	135,8	110,0	120,2	114,9	111,6
1838	106,4	95,8	99,4	126,3	104,2	123,0	107,2	112,8	111,8	110,9
1839	117,9	113,0	122,4	129,5	91,9	121,2	110,6	111,4	112,7	115,5
1840	130,6	108,7	120,0	118,6	91,9	115,2	94,0	107,3	118,8	112,8
1841	119,7	94,8	94,5	97,3	83,6	106,8	86,3	96,9	100,3	97,9
1842	110,4	87,7	81,8	107,3	89,1	93,0	80,0	97,0	91,1	95,0
1843	114,9	100,9	76,5	100,9	86,4	89,7	84,5	88,4	97,8	94,9
1844	109,6	96,8	86,7	93,9	80,4	89,6	79,7	94,2	95,8	93,6
1845	119,4	103,0	100,1	92,4	84,5	98,5	85,0	103,8	95,1	98,7
1846	98,6	103,5	90,2	121,1	100,1	97,5	99,1	102,6	102,0	104,2
1847	91,9	115,9	105,3	162,1	131,1	99,9	112,1	114,4	101,9	119,1
1848	95,4	109,1	115,8	115,9	101,5	98,4	103,3	106,4	104,5	107,1
1849	113,8	107,2	99,1	104,7	94,7	97,5	99,8	102,9	105,2	103,8
1850	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
1851	80,9	107,9	98,8	105,7	91,1	99,2	111,2	98,5	102,9	100,6
1852	84,0	108,9	115,6	115,5	105,7	92,9	106,4	107,9	101,3	106,0
1853	73,9	110,1	108,8	131,5	103,3	102,5	109,7	114,1	105,9	110,2
1854	86,3	118,8	130,9	145,4	98,1	108,7	115,0	127,7	117,5	121,3
1855	84,5	120,2	131,9	159,5	124,2	112,9	130,1	125,3	126,6	127,7
1856	99,5	131,5	143,5	174,3	136,5	123,4	140,8	136,9	123,5	137,7
1857	118,0	137,0	152,0	144,7	125,8	136,9	167,9	138,7	122,8	136,7
1858	120,9	120,5	141,6	115,1	113,1	126,1	167,8	115,6	111,2	120,7
1859	115,7	127,1	136,2	114,5	111,5	122,5	169,5	117,0	111,4	120,8
1860	130,2	124,7	119,2	129,6	122,5	128,8	172,4	121,1	120,0	126,6
1861	126,1	121,5	127,9	144,7	136,4	126,0	187,5	116,0	121,7	130,0
1862	131,9	112,8	135,1	142,6	122,3	130,6	182,1	109,9	120,2	126,9
1863	141,9	107,9	129,0	128,8	114,4	131,9	180,7	115,7	127,5	125,9
1864	144,1	114,4	128,0	112,7	109,6	132,3	180,1	111,3	136,8	124,2
1865	140,9	115,3	112,7	114,4	105,2	127,7	180,7	106,0	130,0	120,7

Sources, W 051, W 128, W 137, W 139, W 206, W 210, W 213, W 217, W 219, W 269, W 270, W 271, W 272, W 275, W 276, W 383, W 386, W 396, W 397, Hodne 1978, 218 and Bergen Domkapittelsprotokoller.

Table 12. CPI for Norway 1819-1871 with sub-indices (1850=100).

	A. Fish & fish products	B. Milk & milk products	C. Meat & meat products	D. Grain & flour	E. Vegetables	F. Colonial goods	G. Beverages & tobacco	H. Rent, lighting & heating	I. Clothing	J. General
1866	116,4	121,2	129,1	129,8	115,0	124,6	180,7	113,4	138,6	126,9
1867	117,4	115,2	129,7	147,1	130,9	120,9	173,5	121,9	134,6	130,9
1868	109,6	116,2	142,6	168,4	148,5	118,3	187,4	111,5	135,3	135,0
1869	144,8	116,8	143,1	138,1	120,7	121,0	182,4	103,7	129,5	127,9
1870	144,5	119,2	139,9	122,0	114,6	123,0	160,9	101,0	128,0	122,9
1871	152,6	115,3	136,8	126,4	101,7	125,5	169,8	107,1	125,9	124,1

Sources, W 051, W 128, W 137, W 139, W 206, W 210, W 213, W 217, W 219, W 269, W 270, W 271, W 272, W 275, W 276, W 383, W 386, W 396, W 397, Hodne 1978, 218 and Bergen Domkapittelsprotokoller.

Table 13. CPI for Norway 1819-1871 with sub-indices (1850=100). Geometric approach.

	A.	B.	C.	D.	E.	F.	G.	H.	I.	General		
	Fish	Milk	Meat	Grain	Vegetables	Colonial	Beverages	Rent	Clothing	Semi-Π	Π	Σ
1819	188,9	184,9		223,6	177,5	172,8	161,8	114,6	180,2	181,5	169,5	185,0
1820	177,8	165,9		180,6	154,3	154,6	144,0	111,0	171,0	162,4	152,8	162,4
1821	173,4	142,7		136,3	126,2	144,5	120,7	97,8	145,4	139,2	131,6	133,6
1822	186,7	164,8		190,7	155,0	181,3	152,0	109,7	168,5	166,6	158,4	161,5
1823	157,9	128,9		193,1	168,3	202,4	142,5	83,7	150,1	150,7	145,8	148,8
1824	108,3	115,4		121,4	155,6	177,8	114,5	71,8	117,9	115,7	116,9	111,0
1825	84,8	102,6		107,7	139,0	143,2	98,1	66,7	108,3	101,1	101,5	98,7
1826	84,4	104,2		119,2	133,8	137,0	101,6	62,8	97,2	100,9	100,2	99,2
1827	107,4	124,5		180,0	149,9	131,0	132,8	72,0	101,0	125,0	118,5	130,5
1828	87,2	116,3		126,3	133,2	146,3	105,3	78,3	102,8	108,5	107,7	110,7
1829	86,1	92,5		136,0	123,5	144,5	100,5	127,2	114,2	113,8	111,6	115,6
1830	99,9	96,2	97,2	141,3	117,3	149,7	107,3	117,3	111,0	116,0	113,9	117,5
1831	120,8	102,7	106,6	172,7	134,3	159,2	128,4	128,4	113,0	130,1	127,8	131,6
1832	118,9	96,0	106,9	147,6	129,3	160,2	123,3	126,4	113,8	123,7	123,3	124,7
1833	123,6	93,4	101,5	117,7	104,8	153,0	101,7	115,0	110,7	112,0	112,4	113,7
1834	119,7	87,6	108,8	99,5	92,4	134,9	93,7	106,3	110,3	104,2	105,0	105,8
1835	113,7	101,7	92,2	107,2	103,3	131,1	94,7	102,7	107,4	105,3	105,5	107,7
1836	107,2	103,6	109,5	108,7	105,1	137,6	101,4	110,2	105,3	108,5	109,4	110,9
1837	89,5	101,1	106,6	116,8	109,0	134,4	106,5	117,3	106,6	110,0	109,1	111,6
1838	108,4	93,8	94,4	129,7	114,2	122,7	108,7	109,7	102,3	109,6	108,8	110,9
1839	114,3	107,8	104,4	134,4	108,5	121,1	114,1	106,9	105,6	113,4	112,7	115,5
1840	125,2	104,1	103,6	121,4	108,4	114,0	98,0	104,6	111,4	110,6	109,8	112,8
1841	112,3	94,0	87,7	98,4	95,5	106,9	90,0	94,8	102,1	97,8	97,7	97,9
1842	108,8	88,2	79,5	104,6	100,1	94,2	83,2	95,1	88,5	94,5	93,1	95,0
1843	111,9	99,7	70,8	102,5	94,7	91,0	88,2	89,4	96,0	95,1	93,1	94,9
1844	109,8	96,4	82,1	97,8	91,5	90,7	83,6	94,5	93,9	94,7	93,0	93,6
1845	112,3	101,5	98,7	94,5	95,6	98,7	88,1	103,0	96,1	99,1	98,5	98,7
1846	100,2	101,8	89,3	120,7	112,1	99,1	104,8	100,8	102,1	104,8	103,1	104,2
1847	97,3	110,7	104,4	159,4	147,2	101,5	119,3	109,4	104,1	119,1	115,4	119,1
1848	102,5	106,3	108,4	115,6	111,5	99,8	107,3	102,8	107,8	107,4	106,8	107,1
1849	117,5	104,8	99,6	104,6	102,1	97,7	101,2	100,8	108,5	104,5	104,0	103,8
1850	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
1851	83,9	105,3	92,8	107,9	94,5	99,1	110,3	91,8	104,5	99,5	98,5	100,6
1852	85,9	105,9	115,4	118,2	104,2	94,2	109,8	102,2	98,8	104,8	103,4	106,0
1853	76,2	106,9	99,1	126,9	105,6	102,5	114,0	109,8	106,9	108,1	104,5	110,2
1854	86,3	112,7	119,2	141,5	110,4	107,7	121,4	119,4	120,0	118,8	114,5	121,3
1855	89,6	112,9	111,6	156,8	126,3	108,6	135,5	119,2	125,3	124,0	119,4	127,7
1856	103,5	119,9	129,0	171,1	138,9	115,1	146,7	128,4	123,2	133,1	129,4	137,7
1857	119,3	122,7	137,0	141,5	124,9	123,3	169,7	128,8	126,0	131,1	131,8	136,8
1858	122,5	109,0	131,7	118,7	120,3	116,6	170,7	109,2	107,9	117,5	121,8	120,7
1859	114,1	110,9	125,7	117,5	118,4	111,5	171,0	109,8	109,0	116,4	119,7	120,8
1860	130,3	110,2	108,8	131,2	124,6	114,6	176,7	114,5	122,1	122,8	124,6	126,6
1861	127,8	112,2	120,9	146,5	132,3	113,3	193,7	110,3	123,8	127,3	129,3	130,0
1862	132,8	103,9	122,4	141,6	123,9	117,0	188,8	104,3	123,1	123,7	126,7	126,9
1863	141,9	102,2	108,4	124,1	111,5	117,6	187,8	108,5	130,5	121,3	123,7	125,9
1864	145,1	103,7	117,3	113,8	106,1	119,2	188,1	105,6	137,8	120,8	124,0	124,2
1865	137,2	105,6	100,5	113,8	101,6	115,4	189,8	100,2	132,3	116,9	119,3	120,7

Sources, W 051, W 128, W 137, W 139, W 155, W 206, W 210, W 213, W 217, W 219, W 269, W 270, W 271, W 272, W 275, W 276, W 383, W 386, W 396, W 397, Hodne 1978, 218 and Bergen Domkapittelsprotokoller.

Table 13. CPI for Norway 1819-1871 with sub-indices (1850=100). Geometric approach.

	A.	B.	C.	D.	E.	F.	G.	H.	I.	General		
	Fish	Milk	Meat	Grain	Vegetables	Colonial	Beverages	Rent	Clothing	Semi-$\prod$	$\prod$	Σ
1866	116,4	105,0	112,9	129,8	109,9	113,3	189,8	106,9	139,0	121,7	122,7	126,8
1867	118,2	103,6	117,1	146,0	118,6	112,4	183,0	115,0	135,8	126,2	125,9	130,9
1868	109,6	103,8	130,8	167,4	129,2	111,6	197,4	106,7	137,2	130,4	129,7	135,0
1869	139,7	104,8	125,9	142,2	114,6	113,2	191,7	102,3	132,5	125,2	127,4	127,9
1870	142,3	104,0	128,2	122,5	108,1	113,4	169,1	96,5	131,7	119,0	122,3	122,9
1871	154,7	102,1	123,5	127,0	101,1	115,0	178,4	100,2	127,1	120,3	123,2	124,1

Sources, W 051, W 128, W 137, W 139, W 155, W 206, W 210, W 213, W 217, W 219, W 269, W 270, W 271, W 272, W 275, W 276, W 383, W 386, W 396, W 397, Hodne 1978, 218 and Bergen Domkapittelsprotokoller.

Table 14. CPI for Norway 1516-2003 (1850=100).

Year	CPI	Year	CPI	Year	CPI	Year	CPI	Year	CPI
1516	9,8	1566	13,9	1616	13,1	1666	20,1	1716	21,0
1517	9,8	1567	13,9	1617	13,1	1667	19,0	1717	22,0
1518	9,8	1568	13,9	1618	13,1	1668	17,5	1718	22,2
1519	8,4	1569	13,9	1619	13,1	1669	16,8	1719	22,4
1520	8,4	1570	13,9	1620	20,6	1670	16,4	1720	23,5
1521	8,4	1571	13,9	1621	20,6	1671	16,3	1721	21,8
1522	8,4	1572	13,9	1622	20,6	1672	14,7	1722	21,0
1523	8,4	1573	13,9	1623	20,6	1673	14,8	1723	18,9
1524	8,4	1574	13,9	1624	20,6	1674	18,6	1724	20,2
1525	8,4	1575	13,9	1625	20,6	1675	15,9	1725	20,6
1526	8,4	1576	13,9	1626	20,6	1676	15,9	1726	20,4
1527	8,4	1577	13,9	1627	20,6	1677	15,9	1727	22,6
1528	8,4	1578	13,9	1628	20,6	1678	15,5	1728	23,5
1529	8,4	1579	13,9	1629	20,6	1679	15,7	1729	20,0
1530	8,4	1580	16,0	1630	19,4	1680	15,3	1730	16,7
1531	8,4	1581	16,0	1631	19,4	1681	14,7	1731	15,8
1532	8,4	1582	16,0	1632	19,4	1682	15,1	1732	16,9
1533	8,4	1583	16,0	1633	19,4	1683	15,7	1733	16,7
1534	8,4	1584	16,0	1634	19,4	1684	18,9	1734	18,1
1535	8,4	1585	16,0	1635	19,4	1685	17,7	1735	16,5
1536	8,4	1586	16,0	1636	19,4	1686	18,2	1736	17,5
1537	8,4	1587	16,0	1637	19,4	1687	19,4	1737	20,6
1538	8,4	1588	16,0	1638	19,4	1688	18,1	1738	18,5
1539	8,4	1589	16,0	1639	19,4	1689	17,3	1739	17,1
1540	10,2	1590	25,1	1640	19,4	1690	16,7	1740	20,4
1541	10,2	1591	25,1	1641	18,4	1691	17,1	1741	27,2
1542	10,2	1592	25,1	1642	18,4	1692	17,3	1742	25,9
1543	10,2	1593	25,1	1643	18,4	1693	18,6	1743	20,6
1544	10,2	1594	25,1	1644	18,4	1694	20,4	1744	18,7
1545	10,2	1595	25,1	1645	18,4	1695	15,3	1745	17,5
1546	10,2	1596	25,1	1646	18,4	1696	17,7	1746	18,5
1547	10,2	1597	16,3	1647	18,4	1697	18,7	1747	18,7
1548	10,2	1598	16,3	1648	18,4	1698	22,2	1748	18,5
1549	10,2	1599	16,3	1649	18,4	1699	23,5	1749	18,3
1550	13,0	1600	16,3	1650	18,4	1700	20,4	1750	18,1
1551	13,0	1601	16,3	1651	22,2	1701	19,0	1751	17,9
1552	13,0	1602	16,3	1652	22,2	1702	17,3	1752	17,9
1553	13,0	1603	16,3	1653	22,2	1703	16,7	1753	17,7
1554	13,0	1604	16,3	1654	22,2	1704	17,2	1754	17,3
1555	13,0	1605	16,3	1655	22,2	1705	16,0	1755	17,9
1556	13,0	1606	16,3	1656	22,2	1706	15,8	1756	22,6
1557	13,4	1607	16,3	1657	22,2	1707	15,5	1757	30,9
1558	13,4	1608	16,3	1658	22,2	1708	18,1	1758	35,0
1559	13,4	1609	13,1	1659	22,2	1709	26,1	1759	25,9
1560	13,4	1610	13,1	1660	22,2	1710	27,6	1760	27,0
1561	13,9	1611	13,1	1661	20,0	1711	26,8	1761	26,3
1562	13,9	1612	13,1	1662	20,0	1712	22,2	1762	27,2
1563	13,9	1613	13,1	1663	20,0	1713	20,8	1763	29,0
1564	13,9	1614	13,1	1664	20,0	1714	21,8	1764	26,8
1565	13,9	1615	13,1	1665	20,0	1715	22,4	1765	28,4

Sources, Bergen Domkapittelprotokoller, 1639-1833, Nordfarkladder 1709-1819, Nordfarut-trekk 1709-1819, W 051, W 128, W 137, W 139, W 155, W 206, W 210, W 213, W 217, W 219, W 269, W 270, W 271, W 272, W 275, W 276, W 383, W 386, W 396, W 397, Hodne 1978, 218, Coldevin 1938, 206-220 and Statistics Norway 2003.

Table 14. CPI for Norway 1516-2003 (1850=100).

Year	CPI	Year	CPI	Year	CPI	Year	CPI	Year	CPI
1766	30,7	1816	223,6	1866	126,8	1916	189,7	1966	776,5
1767	27,4	1817	252,7	1867	130,9	1917	235,6	1967	811,2
1768	30,9	1818	192,2	1868	135,0	1918	331,1	1968	838,3
1769	28,6	1819	182,5	1869	127,5	1919	354,0	1969	865,3
1770	26,1	1820	155,5	1870	122,5	1920	412,6	1970	958,0
1771	30,3	1821	132,4	1871	123,7	1921	382,4	1971	1016,0
1772	36,0	1822	161,4	1872	131,1	1922	320,6	1972	1089,3
1773	36,6	1823	156,1	1873	138,0	1923	301,3	1973	1172,4
1774	25,7	1824	130,6	1874	142,5	1924	330,3	1974	1282,5
1775	27,4	1825	113,2	1875	144,4	1925	336,1	1975	1431,2
1776	26,1	1826	111,9	1876	141,9	1926	285,9	1976	1562,6
1777	27,6	1827	130,8	1877	144,1	1927	256,9	1977	1703,6
1778	24,7	1828	110,0	1878	129,7	1928	239,5	1978	1842,6
1779	25,7	1829	108,3	1879	117,9	1929	229,8	1979	1931,5
1780	25,9	1830	117,2	1880	126,7	1930	222,1	1980	2142,0
1781	25,7	1831	131,2	1881	126,2	1931	210,5	1981	2433,7
1782	32,9	1832	124,7	1882	128,3	1932	206,7	1982	2709,9
1783	35,0	1833	113,7	1883	125,6	1933	204,7	1983	2937,8
1784	27,6	1834	105,8	1884	122,4	1934	204,7	1984	3121,3
1785	31,0	1835	107,7	1885	115,0	1935	208,6	1985	3299,0
1786	30,7	1836	111,0	1886	112,9	1936	214,4	1986	3536,5
1787	28,6	1837	112,0	1887	110,7	1937	229,8	1987	3845,6
1788	25,9	1838	110,9	1888	112,6	1938	237,6	1988	4102,5
1789	30,5	1839	115,4	1889	116,7	1939	239,5	1989	4289,8
1790	34,4	1840	112,5	1890	119,8	1940	280,1	1990	4465,6
1791	24,8	1841	97,7	1891	119,7	1941	328,4	1991	4620,1
1792	28,0	1842	94,9	1892	117,5	1942	347,7	1992	4726,3
1793	32,1	1843	94,7	1893	109,5	1943	357,3	1993	4834,5
1794	33,5	1844	93,4	1894	109,0	1944	361,2	1994	4904,0
1795	39,1	1845	98,5	1895	108,1	1945	367,0	1995	5025,7
1796	28,8	1846	104,2	1896	107,5	1946	376,6	1996	5083,7
1797	29,8	1847	119,3	1897	106,3	1947	378,6	1997	5216,9
1798	30,2	1848	107,2	1898	111,1	1948	376,6	1998	5334,8
1799	40,3	1849	103,7	1899	115,4	1949	376,6	1999	5458,4
1800	52,9	1850	100,0	1900	119,0	1950	396,0	2000	5628,3
1801	48,8	1851	100,7	1901	115,9	1951	459,7	2001	5800,2
1802	57,2	1852	106,2	1902	112,4	1952	500,3	2002	5876,3
1803	52,0	1853	110,6	1903	110,9	1953	509,9	2003	6020,4
1804	45,7	1854	121,7	1904	108,2	1954	533,1		
1805	57,5	1855	128,1	1905	110,9	1955	538,9		
1806	53,6	1856	138,1	1906	112,0	1956	558,2		
1807	58,3	1857	137,0	1907	117,2	1957	573,7		
1808	87,1	1858	120,6	1908	119,8	1958	600,7		
1809	123,2	1859	120,8	1909	118,4	1959	616,1		
1810	144,8	1860	126,5	1910	122,3	1960	616,1		
1811	238,0	1861	129,9	1911	124,8	1961	631,6		
1812	599,7	1862	126,7	1912	132,5	1962	666,4		
1813	194,4	1863	125,6	1913	137,5	1963	683,7		
1814	232,3	1864	123,9	1914	139,1	1964	722,4		
1815	228,9	1865	120,3	1915	159,2	1965	753,3		

Sources, Bergen Domkapittelprotokoller, 1639-1833, Nordfarkladder 1709-1819, Nordfarut-trekk 1709-1819, W 051, W 128, W 137, W 139, W 155, W 206, W 210, W 213, W 217, W 219, W 269, W 270, W 271, W 272, W 275, W 276, W 383, W 386, W 396, W 397, Hodne 1978, 218, Coldevin 1938, 206-220 and Statistics Norway 2003.

Figure 6: CPI for Norway 1819-1871. Group A. Fish and fish products (1850=100), cf. table 3.

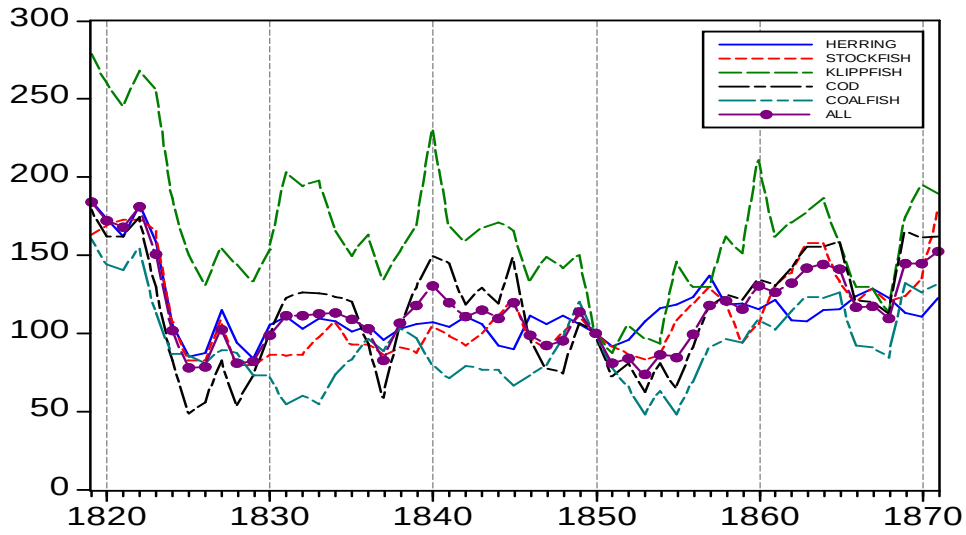

Figure 7: CPI for Norway 1819-1871. Group B. Milk products and eggs (1850=100), cf. table 4.

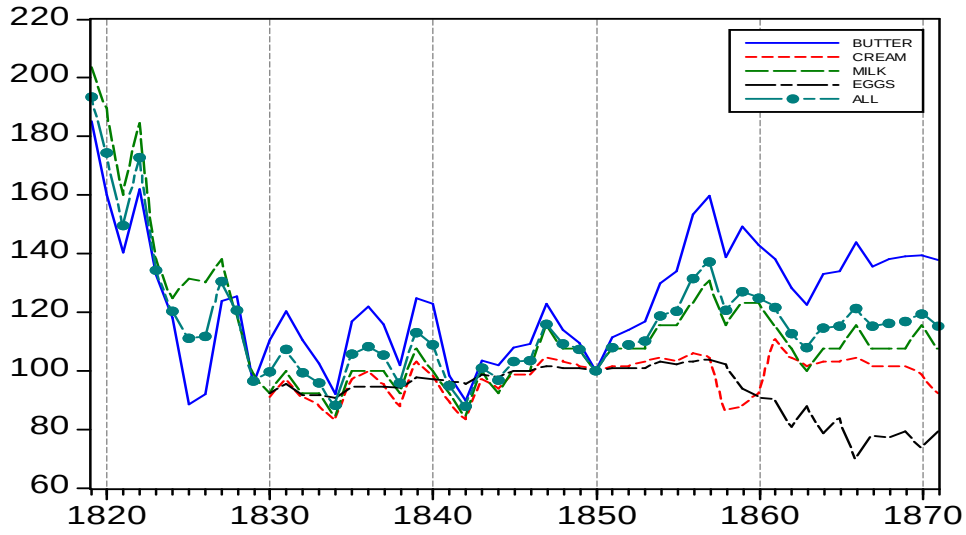

Figure 8: CPI for Norway 1819-1871. Group C. Meat and meat products (1850=100), cf. table 5.

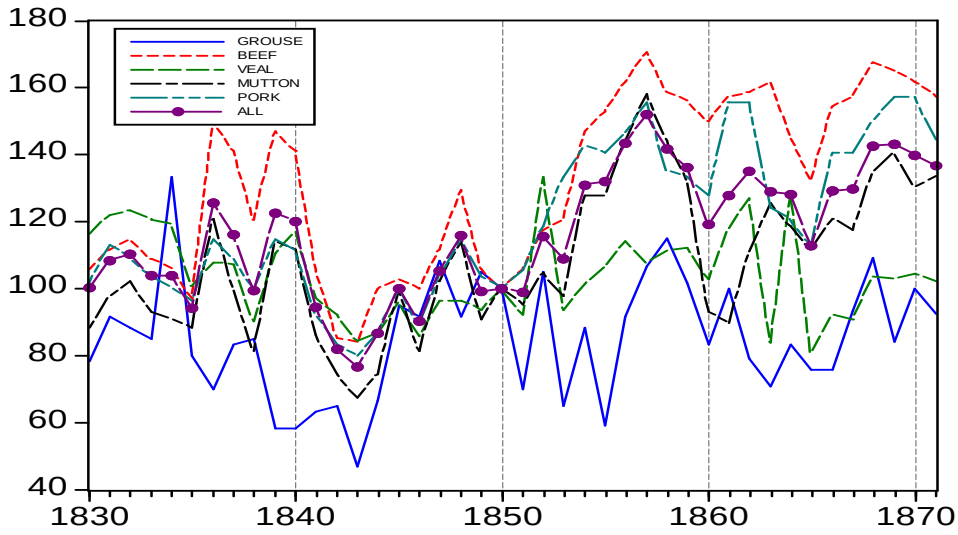

Figure 9: CPI for Norway 1819-1871. Group D. Grain and fbur (1850=100), cf. table 6.

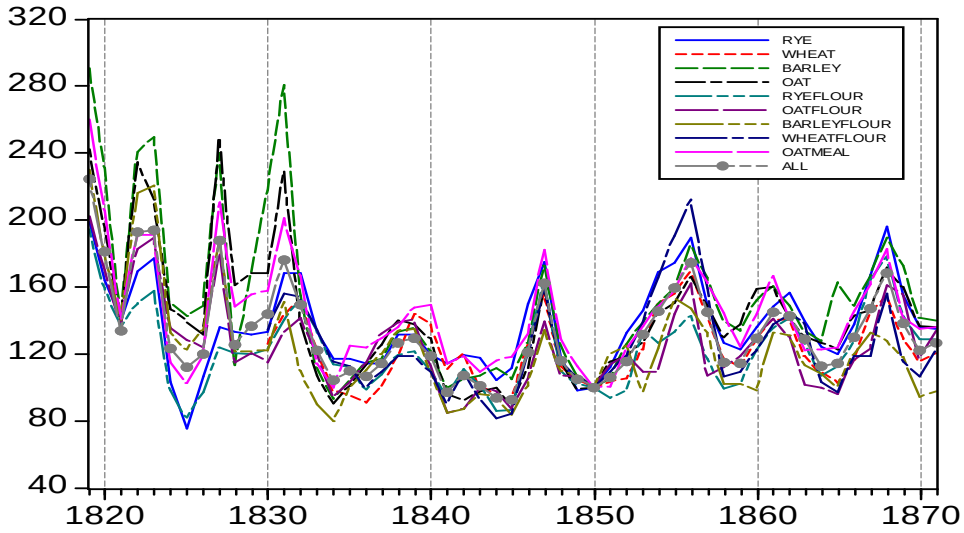

Figure 10: CPI for Norway 1819-1871. Group E. Vegetables etc. (1850=100), cf. table 7.

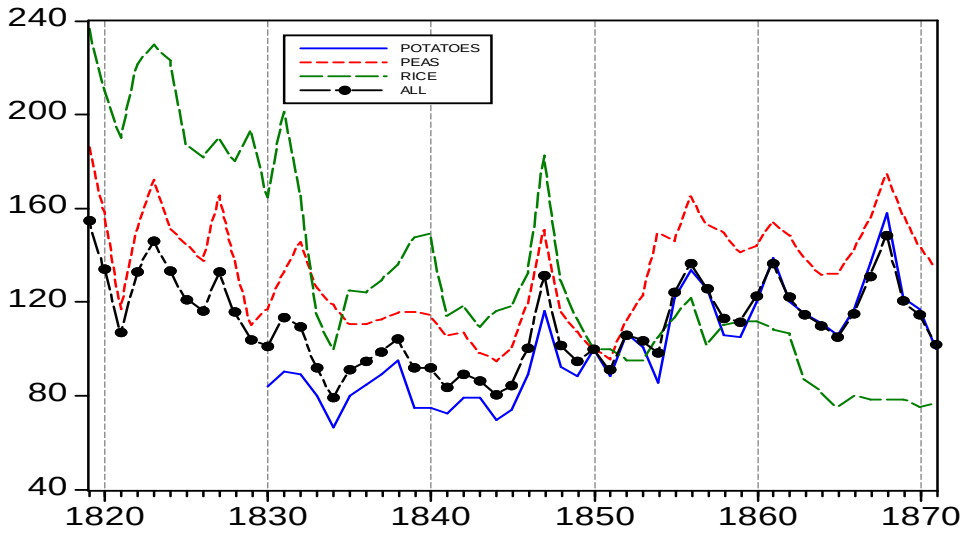

Figure 11: CPI for Norway 1819-1871. Group F. Colonial goods (1850=100), cf. table 8.

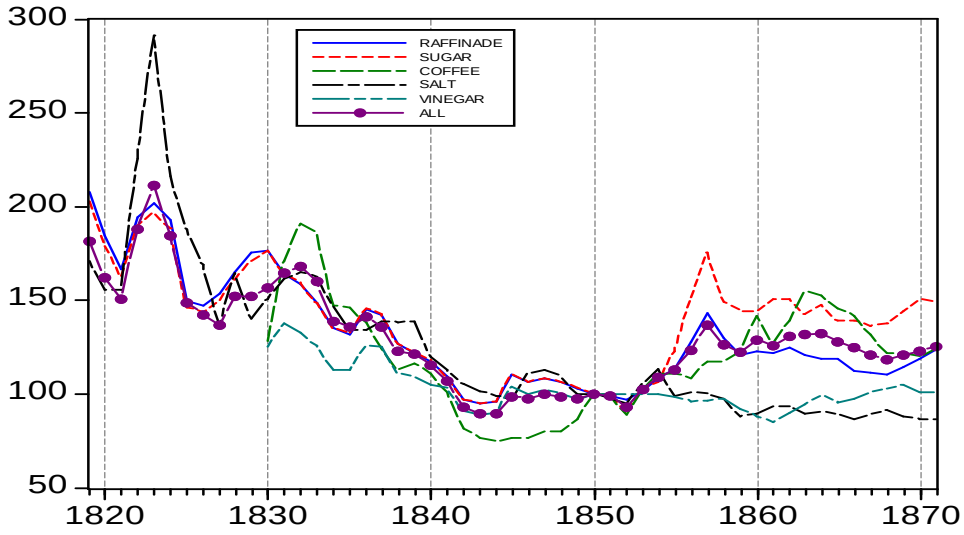

Figure 12: CPI for Norway 1819-1871. Group G. Beverages and tobacco (1850=100), cf. table 9.

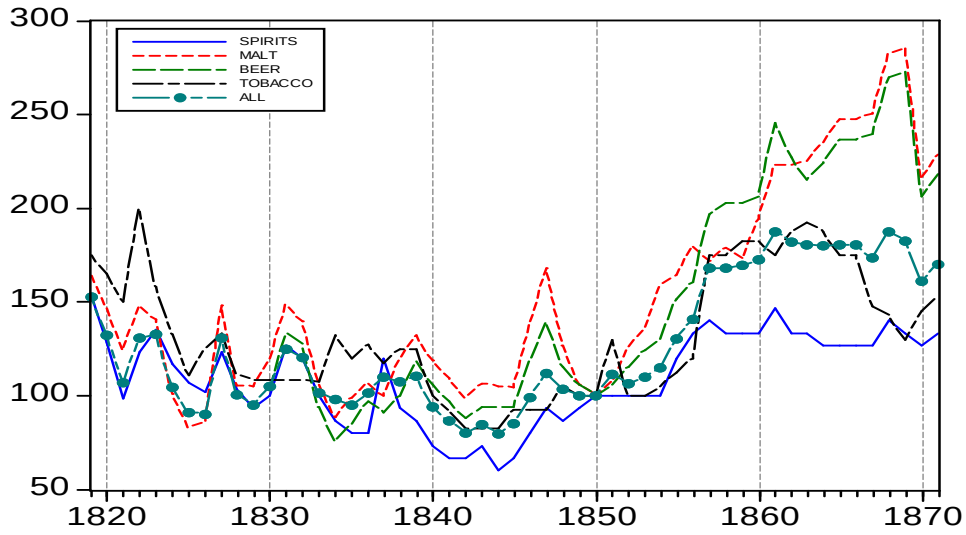

Figure 13: CPI for Norway 1819-1871. Group H. Rent, lighting & heating (1850=100), cf. table 10.

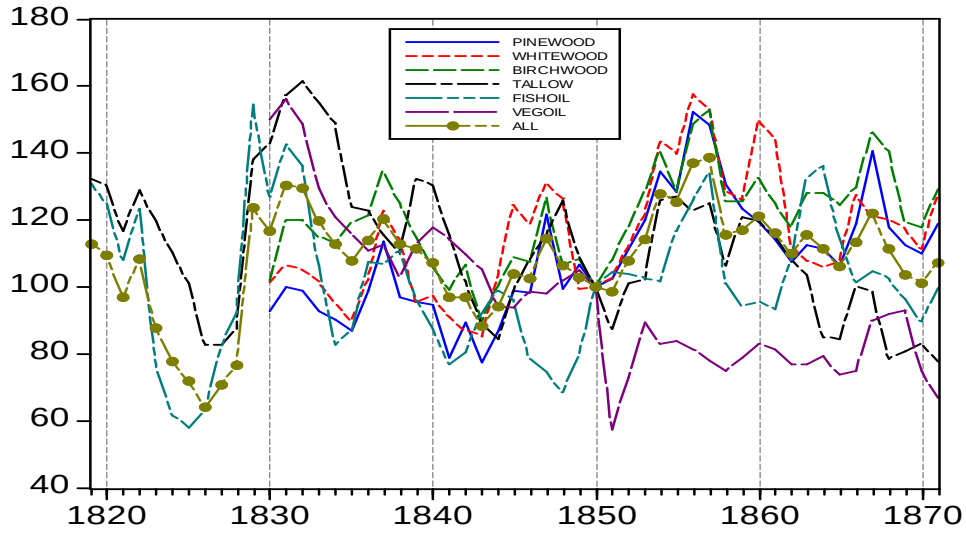

Figure 14: CPI for Norway 1819-1871. Group I. Clothing (1850=100), cf. table 11 .

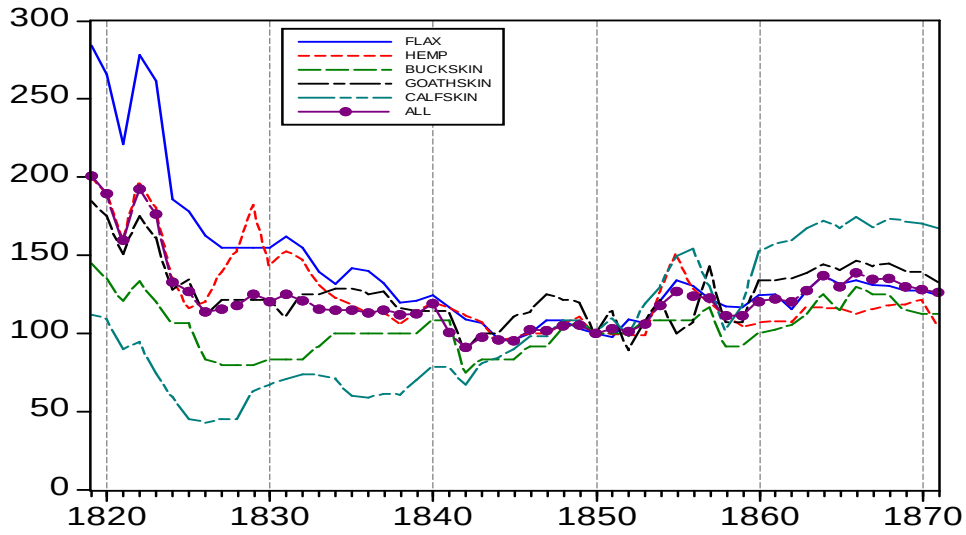

Figure 15: CPI for Norway 1819-1871 with sub-indices (1850=100), cf. table 12.